PHASE I ARCHAEOLOGICAL SURVEY FOR PROPOSED RECONSTRUCTION AND WIDENING OF KY-205 WOLFE COUNTY, KENTUCKY

STATE ITEM NO. 10-8101.100

UK-PAR PROJECT No. 14-17

KENTUCKY OFFICE OF STATE ARCHAEOLOGY
PROJECT REGISTRATION No. FY14-8150

University of Kentucky
Program for Archaeological Research
Department of Anthropology

Technical Report No. 759

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Technical Report No. 759

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ABSTRACT

At the request of the Kentucky Transportation Cabinet, staff from the University of Kentucky Program for Archaeological Research (UK-PAR) conducted Phase I field investigations for the proposed reconstruction and widening of KY-205 in Wolfe County, Kentucky. The survey corridor comprised approximately 10 km of existing and proposed rights-of-way and temporary easements on both sides of KY 205, encompassing approximately 46.9 hectares. The project area extends from the Wolfe-Breathitt county line to a point just south of the Helechawa Interchange on the Mountain Parkway. It is situated within the Red River drainage, and includes portions of land along the Red River, Rose Branch, and Tunnel Fork. Systematic Phase I archaeological survey included visual inspection of ground surfaces, shovel testing and deep auger testing. As a result of this survey effort, UK-PAR excavated 448 shovel tests (including bracketing tests to define site boundaries) in terrace and flood plain settings. Additionally, 55 deep auger tests were placed in the bottom of shovel tests to test for buried cultural deposits or paleosols. Approximately 17 hectares (30.4 percent) of the project area was sloped in excess of 20 percent, and an additional 7 hectares (12.5 percent) of the project area had been disturbed. The archaeological survey documented eight new archaeological sites (15Wo269 through 15Wo276) and fifteen isolated finds. Two previously reported sites (15Wo145 and 15Wo146) fall within the project area and were revisited during the survey.

Site 15Wo145 is on the same landforms as 15Wo146, which is located across KY 205 and slightly south of 15Wo145. The site was recorded in 1993 as a surface scatter of prehistoric artifacts measuring 50 m N-S by 60 m E-W (3,000 m^2). The 1993 assemblage included debitage and a Jacks Reef Corner-Notched point indicating a Late Woodland component. The current right-of-way corridor intersects the western margin of the defined site area. Positive shovel tests produced a revised site area of 3,150 m^2. The current artifact assemblage includes 17 debitage; none was temporally diagnostic. However, one shovel test placed at the edge of the terrace revealed a possible cultural feature or midden preserved below plow zone as a lens of very dark gray silt loam containing small flecks of charcoal, sparse reddened sandstone gravel, and flakes. The presence of possible intact subsurface features indicates high research potential for 15Wo145, especially regarding Late Woodland use of this locality. If the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo145 that will be impacted by widening of KY 205.

Site 15Wo146 is on the same a high terrace landform as 15Wo145. The site was initially reported in 1993 and was defined by a surface scatter of prehistoric artifacts that included biface fragments, an abrader, and a possible Middle to Late Woodland Lowe Flared Base projectile point. The current work confirmed a site area of about 130 m N-S by 60 m E-W (6,160 m^2). Shovel testing produced only seven flakes, but one shovel test showed a possible feature preserved below plow zone as a thick zone of dark grayish brown silt containing abundant reddened sandstone and charcoal. The presence of possible intact subsurface features within the right-of-way corridor indicates high research potential for 15Wo146, especially regarding Middle to Late Woodland use of the locality. If the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo146 that will be impacted by widening of KY 205.

Site 15Wo269 is a temporally unassigned prehistoric habitation without mounds situated on a terrace. A surface scatter defined the site boundaries, which measures only 20 m N-S by 5 m E-W (100 m^2); one shovel test was positive. The site assemblage includes five pieces of debitage and one temporally nondiagnostic biface fragment. No intact subsurface cultural features or midden was observed. Given the low artifact density, lack of subsurface cultural deposits, and lack of temporally diagnostic artifacts, the research potential of 15Wo269 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo270 is a scatter of refuse associated with a late-19th to early-20th century farmstead. An extant barn is nearby, and the site is situated on a terrace . The locations of positive shovel tests defined a site area measuring 135 m NE-SE by 15 m NW-SE (1,600 m^2); the site likely extends farther southeast outside the survey corridor. Artifacts (n=103) include unidentified nail fragments, brick fragments, amethyst container glass, aqua container glass, brown container glass, clear container glass, a horseshoe fragment, and the foil and cellophane wrapper from a cigarette package. Datable objects included the amethyst glass (1880-1914), and two embossed brewery logos on brown container glass fragments (Hoster Brewery, 1836-1913; Bartholomay Brewing, 1852-1934). Additionally, many bottle fragments appear to be made by automatic machines (20th century in age). No intact cultural midden or features were identified during shovel testing. The relatively high artifact count largely reflects a single deposit of brown container glass (79 of 80 pieces). Apart from this deposit, artifact density is generally low. The materials are interpreted as a secondary trash deposit. Due to the relatively recent age of the artifacts, overall low artifact density, absence of any indication of foundations or other architectural remains, and lack of intact deposits, the research potential of 15Wo270 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo271 represents refuse from a late-19th to early 20th century farmstead. The site is situated in a pasture and is bisected by a local road. It measures 110 m N-S by 15 m E-W (1,480 m^2) and the site may continue east outside the survey corridor. The artifact assemblage (n=29) includes unidentified nail fragments, mortar fragments, ironstone, porcelain, whiteware, brown container glass, clear container glass, light green container glass, melted glass, coal slag, and fence wire. The container glass indicates modern automatic machine manufacture. Ironstone and whiteware are generally diagnostic of the mid-19th century through early 20th century, but one porcelain with a blue willow pattern is 20th century in age. Artifacts appear to be differentially distributed within the general site area. North of the road only container glass and fence wire were recovered, likely representing accumulation of roadside trash along KY 205. South of the road was a deposit of burned historic ceramics, container glass, nail fragments, and mortar. One shovel test produced almost all of this material, and several artifacts were recovered from a dark grayish brown lens of soil. The shovel test also showed that the burned deposit was impacted by more recent activities. The artifact distribution suggests that 15Wo271 represents multiple processes of refuse accumulation, including occasional roadside discard and trash disposal and burning. Evidence of subsurface cultural deposits was restricted to the burned soil lens identified in a single shovel test. Although nail and mortar fragments were recovered, no other evidence of architectural remains was noted, and these objects probably represent redeposited trash, rather than structural remains in place or near their original contexts. There was no evidence of a structure at this location on archival maps of the project area. Given the relatively recent age of the artifact assemblage, evidence of disturbance, and absence of structural remains, the research potential of 15Wo271 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo272 is a scatter of late 19th to early 20th century refuse associated with a historic farmstead, along with a single prehistoric artifact. The site measures about 50 m N-S by 15 m E-W (700 m^2), and it may continue east of the survey corridor. A variety of artifacts (n=33) were recovered, including wire nail fragments, a late machine-cut nail fragment, unidentified nails, brick fragments, light bulb glass, clear container glass, modern brown beer bottle glass, a milk glass, and an undecorated ironstone sherd. More than half of the artifacts derive from a single broken light bulb. The milk glass fragment, late machine-cut nail, and ironstone generally indicate late-19th to early 20th century use; the light bulb and beer bottle glass are considered modern. A single piece of Boyle angular shatter also was recovered. No evidence of intact subsurface cultural deposits was observed, and many of the artifacts were recovered from a swale in which artifacts may be redeposited. Given the low artifact density, lack of intact cultural deposits, and evidence for poor site integrity, the research potential of 15Wo272 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo273 is a scatter of late 19th to early 20th century refuse derived from a historic farmstead . The site was defined by a surface scatter of artifacts in a tobacco patch adjacent to a

standing barn, with a residential structure just outside the project area. Neither structure is depicted on archival maps dating to 1937, so it is possible that the structure and barn post-date deposition of artifacts at 15Wo273. The artifact scatter measures 6 m E-W by 30 m N-S (180 m^2); the site may continue west outside the survey corridor. Artifact density was relatively high, with 79 items were recovered. These include various kinds of container glass of various tints, refined earthenware, coarse earthenware, window glass, and a few other artifacts. Diagnostic attributes on the container glass indicate 20th century automatic machine molding, and maker's marks used from 1929 to the 1960s were observed. The ceramic assemblage included Bristol slip and Bristol-Albany slip stoneware, soft paste porcelain, ironstone, and whiteware. Collectively the ceramics indicate a late 19th to early 20th century age range. Shovel testing did not reveal subsurface cultural features or midden. Though there is relatively high artifact density, the assemblage likely dates to the late 19th to 20th century. Given the relatively recent age of the artifacts and the lack of evidence for subsurface cultural deposits, the research potential of 15Wo273 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo274 is a light-density scatter of mid-19th and early 20th century refuse, along with two prehistoric artifacts. The site is in a cultivated tobacco plot on a terrace. The site measures 80 m N-S by 10 m E-W (800 m^2), and it likely extends east across the terrace surface, outside the survey corridor. The historic artifact density was low (n=12) and included a porcelain doorknob, glass marble, container glass, ceramics, along with a biface fragment and flake fragment. Albany-slip stoneware, ironstone, whiteware, amethyst glass, and selenium glass indicate a late 19th to early 20th century age range. A single shovel test revealed no evidence of subsurface cultural features or midden. Given the low artifact density and the lack of evidence for intact subsurface cultural deposits, the research potential of 15Wo274 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo275 is a prehistoric open habitation without mounds situated on a small high terrace. The site measures about 40 m N-S by 5 m E-W (200 m^2) and may continue west outside the survey corridor. The artifact assemblage includes only five pieces of debitage. The site has been previously impacted by installation of a water main. Local informants reported collecting artifacts form the site, but none of the shovel tests showed evidence of intact subsurface deposits or produced temporally diagnostic material. Given the low artifact density, the lack of temporally diagnostic artifacts, prior disturbance, and lack of subsurface deposits, 15Wo275 has low research potential. Consequently, UK-PAR recommends no further archaeological work on the part of 15W0275 that lies within the survey corridor.

Site 15Wo276 is an artifact scatter associated with a historic farmstead and also includes two prehistoric artifacts. The site is situated in the flood plain, which runs along its eastern edge. The site measures about 55 m N-S by 10 m E-W (550 m^2), and it may extend west outside the surveyed corridor. Historic artifact density was low (n=11), and included unidentified metal, clear container glass, and a clay pipe stem fragment of a detachable (reed) stem pipe. This fragment could not be conclusively dated, but the ribbing along its barrel is compatible with ribbed and effigy head examples from the mid and late 19th century. Prehistoric artifacts include a biface thinning flake and a flake fragment. No intact subsurface cultural deposits or features were encountered, and two shovel tests had highly mottled soils suggesting artificial fill and disturbance. Additionally, a water main runs along the eastern edge of the site. The low artifact density, evidence for previous site disturbance, and generally nondiagnostic nature of the artifact assemblage indicate that 15Wo276 has low research potential. Consequently, UK-PAR recommends no further archaeological work.

In addition to these ten sites, UK-PAR also identified fifteen isolated finds. The isolated finds collectively produced 9 prehistoric debitage and 23 historic artifacts. Bracketing shovel or auger tests were all negative, and no evidence of subsurface cultural features or midden were found at any of these locations. These locations do not meet the current OSA criteria for archaeological sites. The research potential is extremely low for all isolated finds, and no additional archaeological work is recommended at any of them.

UK-PAR also documented one nonsite locality. A modern and active cemetery is situated 200 m northwest of the hamlet of Rosefork. This cemetery was not shown on the right-of-way plan provided by KYTC. We refer to this plot as the New Flinchum cemetery to distinguish it from the Flinchum cemetery located near the southern terminus of the project area. The New Flinchum Cemetery contains recent burials, and the earliest death date recorded on a monument was 1997. This cemetery does not represent an archaeological resource. However, the proposed temporary easement does overlap the eastern edge of the cemetery plot. UK-PAR recommends avoiding the cemetery as well as establishing a buffer zone around the cemetery.

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CHAPTER 1
INTRODUCTION

At the request of the Kentucky Transportation Cabinet (KYTC), archaeologists from the University of Kentucky Program for Archaeological Research (UK-PAR) performed a Phase I survey of proposed expansion and realignment of the east and west rights-of-way of KY-205 in Wolfe County, Kentucky (Figure 1.1). The survey corridor comprised existing and proposed rights-of-way and temporary construction easements on both sides of KY-205. This survey corridor follows the existing course of KY-205 for about 10 km and encompasses approximately 46.9 hectares of land, including proposed borrow and fill areas. The project area extends from the Wolfe-Breathitt county line northward to just south of the Helechawa Interchange on the Mountain Parkway. The purpose of this work was to identify any archaeological resources within the proposed project area and to assess their potential eligibility for nomination to the National Register of Historic Places (NRHP).

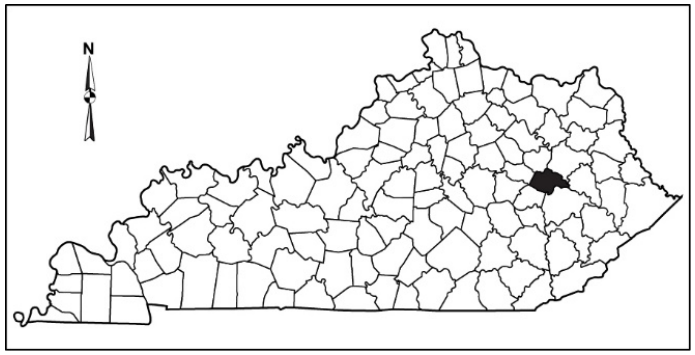

Figure 1.1. Location of Wolfe County, Kentucky.

The survey was conducted in compliance with provisions of the National Historic Preservation Act of 1966 (as amended), the National Environmental Policy Act of 1969, Procedures of the Advisory Council on Historic Preservation, Executive Order 11593 (Protection and Enhancement of the Cultural Environment), and the Kentucky Heritage Council's *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (Sanders 2006).

The project was carried out under the supervision of UK-PAR director Dr. Steven Ahler. Field work was directed by Gregory J. Maggard, with field assistance from Christopher M. Gunn, Monica L. Chism, Leslie Combs, Sophia Jamaldin, Claiborne Sea, and Michelle Massey. Field work was conducted between 21 and 30 July 2014 and required 400 person-hours to complete. Christopher M. Gunn is the primary author of the technical report. Tiffany Little and Christopher M. Gunn completed the historic artifact analysis, and Gregory Maggard completed the analysis of prehistoric materials. Hayward Wilkirson prepared the figures for the report, and Steven Ahler edited the report.

PROJECT AREA DESCRIPTION

The project area is situated within the Gorge Section of the Upper Kentucky/Licking archaeological management area (Pollock 2008:12). Wolfe County lies within the Cumberland Plateau, at the western edge of the Eastern Kentucky Coal Field (McGrain and Currens 1978:75). The area under consideration lies within the Red River drainage, and includes portions of land along the Red River, Rose Branch, and Tunnel Fork. The valley system becomes narrower and steeper from north to south, rising from the flood plain of the Red River at Helechawa to the headwaters of Tunnel Fork at the Wolfe-Breathitt county line. The project corridor lies within the Cannel City (1966, revised 1993) and Lee City (1965) U.S.G.S. 7.5" topographic quadrangles (Figures 1.2 and 1.3).

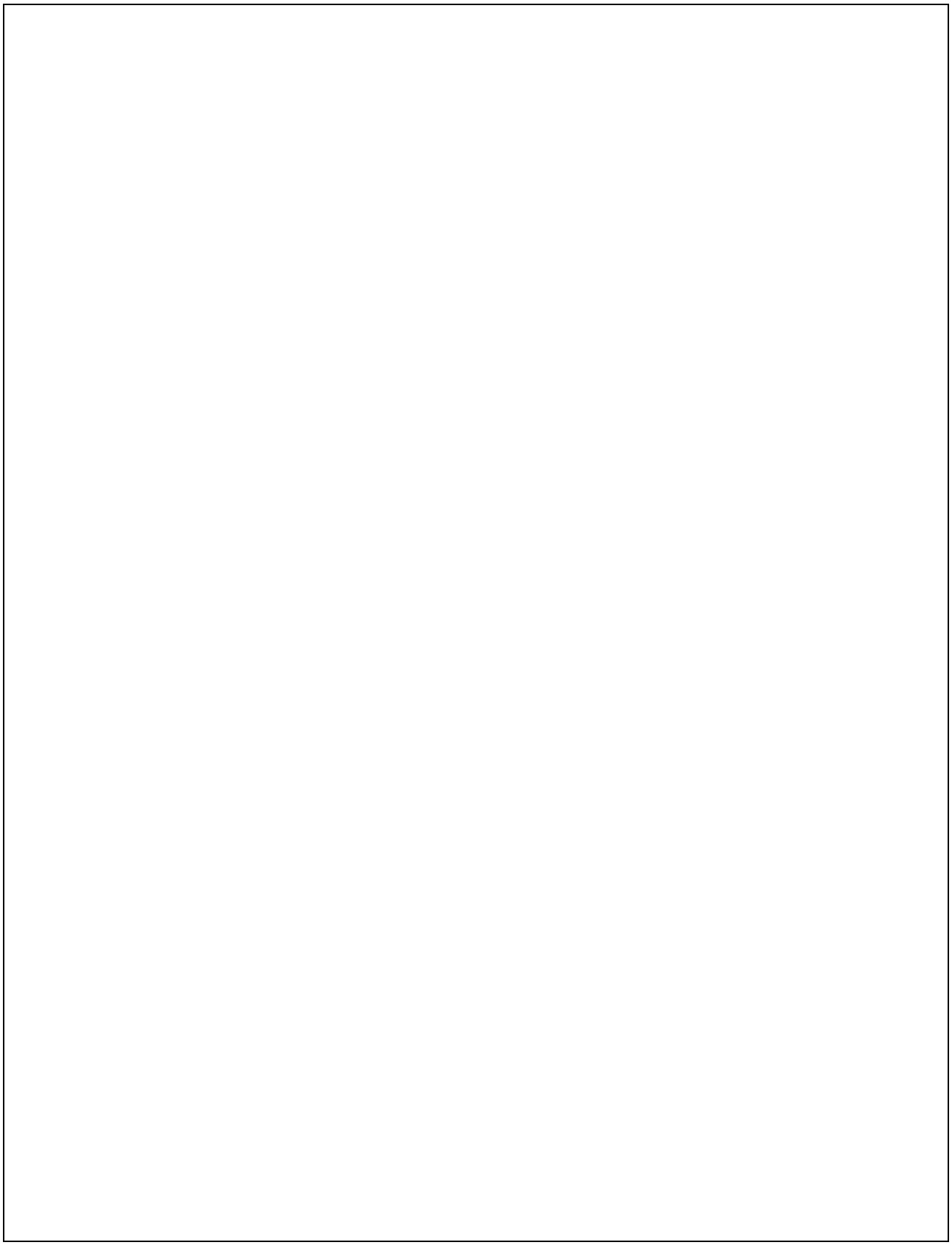

Figure 1.2. KY-205 Project Area Alignment and Archaeological Sites Shown on the USGS 7.5' Cannel City, KY (1966, revised 1993) and Lee City, KY (1965) Topographic Quadrangles. The location of a nonsite locality is also indicated.

Figure 1.3. KY-205 Project Area Alignment and Isolated Finds Shown on the USGS 7.5' Cannel City, KY (1966, revised 1993) and Lee City, KY (1965) Topographic Quadrangles.

At present, the flood plain and terraces of the valley floor are used for cultivation of corn, soybeans, and tobacco. Agricultural fields were more common in the northern portion of the project area, where the valley is wider and flatter. As the valley narrows upstream and to the south, more of the project area incorporates land with excessive slope or land that has been graded to create level house lots. Approximately seven hectares (12.5 percent) of the project area showed disturbance through recent modification, and an additional 17 hectares (30.4 percent) of the project area was sloped in excess of twenty percent.

Based on the detailed plans of the proposed rights-of-way (ROW) and construction easements provided by KYTC, the project area included 32,810 linear feet (10.0 km) of existing and proposed ROW and associated temporary construction easements. The project area encompasses approximately 46.9 hectares of land that was examined during the survey. Due to the linear shape of the project corridor, archaeological survey was most effectively accomplished by excavation of transects of shovel tests oriented parallel to the proposed ROW corridor.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

As a result of this survey effort, UK-PAR crew excavated 448 shovel tests (including bracketing tests to define site boundaries) in terrace and flood plain settings. Additionally, 55 deep auger tests were placed at the base of shovel tests to test for buried cultural deposits or paleosols. The archaeological survey documented eight previously unknown archaeological sites, and fifteen isolated finds within the project area. Two previously reported sites, 15Wo145 and 15Wo146, lie partially within the project area and were revisited during the survey. Finally, one non-site locality is discussed due to its potential impact by a proposed temporary construction easement (Figures 1.2 and 1.3). These cultural resources are briefly described below, with sites then isolated finds described from north to south.

Site 15Wo270 is located just south of the northern terminus of the project corridor, on the east side of KY-205. The site represents refuse associated with a late-19th to early-20th century historic farmstead. The survey corridor traverses the western edge of the farm lot, and examined the area around a standing barn structure and the bottom of a mown lot adjacent to KY 205. Two standing structures were located outside the right-of-way, to the east. The site is situated on a terrace. A total of ten shovel tests, including radials, were excavated at the site, and eight contained historic artifacts. The distribution of artifacts defined site boundaries that measure 135 m NE-SE by 15 m NW-SE (1,600 m^2). Artifacts (n=103) recovered from the site include unidentified nail fragments (n=2), brick fragments (n=1), amethyst container glass (n=1), blue tint container glass (n=1), brown container glass (n=80), clear container glass (n=16), a horseshoe fragment (n=1), and the foil and cellophane wrapper from a cigarette package (n=1). Datable objects included the amethyst glass (1880-1914), and two embossed brewery logos on brown container glass fragments (Hoster Brewery, 1836-1913; Bartholomay Brewing, 1852-1934). Additionally, many bottle fragments showed vertical mold seams consistent with automatic machine manufacture in the 20th century. No intact cultural midden or features were identified during shovel testing. The relatively high artifact count for this site largely reflects a deposit of brown container glass in a single shovel test (79 of 80 pieces). Apart from this deposit, artifact density is generally low across the site. Due to the relatively recent age of the artifacts, overall low density of artifacts across the site, and lack of intact subsurface deposits, the research potential of 15Wo270 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo269 is located on the west side of KY-205, roughly 80 m southwest of 15Wo270. The site is situated on a terrace. The site represents a temporally unassigned prehistoric habitation without mounds. The field containing the site was planted in corn at the time of survey. Artifacts were observed on the surface over an area of 20 m N-S by 5 m E-W (100 m^2). Three shovel tests were excavated along the margin of the corn field, and one was positive. The surface collection and shovel test produced an assemblage of five pieces of debitage and one biface midsection fragment. Reduction stage categories include a cortical flake (n=1), biface thinning flake

(n=2), flake fragment (n=1), and shatter (n=1). Chert types included Haney, Boyle, and Breathitt. The latter is possibly locally available, while the two former types are available along the Red River further downstream in Powell County. No intact subsurface cultural features or midden were observed in shovel tests. Given the low artifact density, lack of subsurface cultural deposits, and lack of temporally diagnostic artifacts, the research potential of 15Wo269 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo271 is located on the east side of KY-205. The site consists of refuse from a late-19th to early 20th century historic farmstead. The site is situated in the lower end of pasture that was fallow at the time of the survey. The site boundaries were determined by the spatial extent of artifacts recovered in shovel tests, which covered an area 110 m N-S by 15 m E-W (1,480 m^2). Five positive shovel tests produced an assemblage of 29 artifacts. These included unidentified nail fragments (n=3), mortar fragments (n=4), ironstone (n=1), whiteware (n=9), brown container glass (n=2), clear container glass (n=6), green tint container glass (n=1), melted glass (n=1), coal slag (n=1), and fence wire (n=1). The container glass presented few diagnostic attributes, but those that were present pointed towards modern automatic machine manufacture. Ironstone and whiteware are generally diagnostic of the mid-19th century to modern times. However, some of the whiteware was decorated with a blue printed Willow pattern that is relatively recent in age. In short, although the late 19th century date is possible for the artifacts recovered at this site, they are more probably 20th century in age. The assemblage shows some spatial segregation across the site. The portion of the site north of the road produced only container glass (n=8) and fence wire (n=1). These objects potentially represent the accumulation of refuse along KY-205 through occasional discard. The south side of the road contains a deposit of burned historic ceramics, container glass, nail fragments, and mortar fragments. One shovel test produced almost all of this material (n=19), and additionally revealed a dark grayish brown lens of soil that contained several burned artifacts. The vertical distribution of artifacts in this shovel test suggested, however, that the burned deposit was impacted by more recent activities. Historic artifacts comparable to those in the burned zone were recovered from plow zone, and a recent metal food tin was encountered just above the burned lens. Taken together, the distribution of artifacts suggests that 15Wo271 essentially represents discreet processes of refuse accumulation – occasional roadside discard and focused trash disposal through burning. Evidence of subsurface cultural deposits was restricted to the burned soil lens and artifacts identified in a single shovel test. Although nail and mortar fragments were recovered, no other evidence of architectural remains (such as brick or building stone) was noted on the surface or in shovel tests. These objects probably represent redeposited items, rather than structural remains. No evidence of a structure could be located at this location on archival maps of the project area. In sum, the artifact assemblage from this site is probably 20th century in age, and primarily comes from a single burned trash deposit that shows evidence of recent disturbance. Given the relatively recent age of the artifact assemblage, the poor state of preservation of the artifacts in the burned soil zone, and evidence of recent disturbance, the research potential of 15Wo271 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo272 is located on the east side of KY-205 south of the northern terminus of the project area. The site includes a scatter of late 19th to early 20th century refuse associated with a historic farmstead and a prehistoric artifact. The site was defined on the spatial extent of artifacts recovered in four positive shovel tests, delimiting an area 50 m N-S by 15 m E-W (710 m^2). A variety of materials (n=33) was recovered, including wire nail fragments (n=2), a late machine-cut nail fragment (n=1), unidentified nails (n=5), brick fragments (n=1), clear glass that likely came from a light bulb (n=17), clear container glass (n=2), modern brown beer bottle glass bearing an Anheuser-Busch paper label and embossed logo (n=4), a milk glass container fragment (n=1), and an undecorated ironstone sherd. Importantly, over half of the artifacts resulted from the shattering of a single light bulb, in turn, inflating the apparent artifact density at the site. The milk glass container fragment, late machine-cut nail, and ironstone are generally indicative of late-19th to 20th century dates. In addition to the historic materials, a single piece of angular shatter made from Boyle chert was recovered. It was not temporally diagnostic. No evidence of intact subsurface cultural deposits were encountered in shovel tests. Further, many of the artifacts were recovered

from a swale on the south end of the site in context with modern plastic and polystyrene foam container fragments. This suggests that the site has overall poor contextual integrity. Given the low artifact density, lack of documented intact cultural features, and evidence for poor site integrity, the research potential of 15Wo272 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo273 is located in the west right-of-way corridor. The site consisted of a late 19th to early 20th century scatter of refuse associated with a historic farmstead. The site was defined by a surface scatter of artifacts in a tobacco patch adjacent to a standing barn. The barn, at the northern edge of the site, is associated with a residential structure that is outside the project area. Neither structure is depicted on archival maps of the project area dating to 1937. It is therefore possible that the structure and barn are not related to the deposition of artifacts at 15Wo273, and that the field previously extended to the north. The scatter of artifacts extended the length of the field, and to the edge of right-of-way corridor, an area measuring 6 m E-W by 30 m N-S (180 m^2). Artifact density at the site was relatively high. Seventy-nine artifacts were recovered, including various kinds of container glass (n=49), refined earthenware (n=14), coarse earthenware (n=3), window glass (n=5), and a few other artifacts (n=8). Blue tint, bright green, brown, clear, and green tint container glass were recovered. Several diagnostic attributes were observed in the glass assemblage, including vertical seams consistent with 20th century automatic machine molding, and maker's marks used from 1929 to the 1960s. Some glass embossed with "RECYCLE" was clearly modern. The ceramic assemblage included Bristol slip and Bristol-Albany slip stoneware, soft paste porcelain, ironstone, and whiteware. Although decorated and molded examples of porcelain and whiteware were present, the pieces were not temporally diagnostic at a level that was more specific than the general production ranges for their respective wares. The coarse earthenware is the most temporally diagnostic ceramic on the site, and its late 19th to early 20th century production date range likely parallels the age of the refined earthenwares. An age estimate was made for the small assemblage of window glass, which returned a date of 1928. This date falls outside the date range best estimated by the Moir regression formula, and is unreliable. Most (n=68) of the artifacts from 15Wo273 were collected from the surface, but a few were recovered from the single shovel test excavated at the site. This shovel test did not reveal subsurface cultural features or midden. The assemblage consists of artifacts that likely date to the 20th century with a smaller admixture of late 19th century items. Given the relatively recent age of the artifacts and the lack of evidence for subsurface cultural deposits, the research potential of 15Wo273 is thought to be low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo274 is located in the east right-of-way corridor along KY-205 on the south side. The site consists of a light-density scatter of mid-19th and early 20th century historic refuse and a prehistoric isolated find. The site is presently situated in a cultivated tobacco plot that is situated on a terrace. The site was defined on the basis of the surface distribution of artifacts, which extended over an area measuring 80 m N-S by 11 m E-W (860 m^2). However, the site likely extends further to the east across the surface of the terrace. The overall density of artifacts was low, and included a porcelain doorknob (n=1), glass marble (n=1), container glass (n=4), ceramics (n=6), and a biface fragment and flake fragment made from Paoli chert. The biface fragment was not temporally diagnostic. Diagnostic historic artifacts included Albany-slip stoneware, ironstone, whiteware, amethyst glass, and selenium glass. Considered together, these historic artifacts suggest a late 19th to early 20th century date for the historic debris. A single shovel test was excavated at the margin of the tobacco field. It produced no artifacts and revealed no evidence of subsurface cultural features or midden. Given the low artifact density and the lack of evidence for intact subsurface cultural deposits, the research potential of 15Wo274 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo145 is east of KY 205on a high terrace. The site is closely associated with 15Wo146, which is located across KY 205 and slightly south of 15Wo145. The site was recorded in 1993 as a surface scatter of prehistoric artifacts measuring 50 m N-S by 60 m E-W (3,000 m^2). The 1993 assemblage included debitage and a Jacks Reef

Corner-Notched point indicating a Late Woodland component. The current right-of-way corridor intersects the western margin of the defined site area. Six shovel tests were excavated within the site area, and four were positive. The positive shovel tests defined a revised site area of 3,150 m^2. The artifact assemblage included 17 pieces of debitage, representing partial cortical flakes (n=1), interior flakes (n=4), biface thinning flakes (n=4), flake fragments (n=7), and shatter (n=1). Chert types included Paoli (n=3), Boyle (n=4), and Breathitt (n=10). None of the current assemblage was temporally diagnostic. One shovel test placed at the edge of the terrace revealed a possible cultural feature or midden preserved below plow zone. Between 23 and 31 cm depth was a lens of very dark gray (10YR3/1) loose silt loam containing small flecks of charcoal, sparse reddened sandstone gravel, and some flakes. The presence of possible intact subsurface features, as well as the recovery of additional artifacts from shovel tests, suggests that there is potential for this site to yield additional information about Late Woodland use of this locality. The research potential is therefore considered to be high. If the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo145 that will be impacted by widening of KY 205.

Site 15Wo146 is west of KY 205 on a high terrace. The site is positioned on the same landform as 15Wo145, which is located directly across KY 205 and slightly north of 15Wo146. The site initially reported in 1993 and was defined by a surface scatter of prehistoric artifacts that included biface fragments, an abrader, and a possible Middle to Late Woodland Lowe Flared Base projectile point. UK-PAR examined the eastern edge of the site where the proposed right-of-way corridor intersects the site area. The site measures about 130 N-S and 60 m E-W, with a total area of 6,160 m^2. The UK-PAR work documented five positive shovel tests, producing an assemblage of seven flakes. These included a partial cortical flake, to biface thinning flakes, two flake fragments, and two pieces of shatter. Boyle (n=3), Haney (n=2), Paoli (n=1), and St. Louis (n=1) chert types were found. None of the debitage was temporally diagnostic. One shovel test placed at the edge of the terrace showed a possible feature. Between 20 and 55 cm below surface was a zone of dark grayish brown (10YR4/2) silt. This zone contained abundant reddened sandstone and charcoal, but no flakes were recovered. The presence of possible intact subsurface features within the right-of-way corridor, as well as the recovery of additional artifacts from shovel tests, indicates high research potential for 15Wo146. This site may yield additional information about the Middle to Late Woodland inhabitants of the locality. Consequently, if the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo146 that will be impacted by widening of KY 205.

Site 15Wo275 is located in the western right-of-way corridor north of the Wolfe-Breathitt county line. The site is a prehistoric open habitation without mounds, and it is situated on a small high terrace. The site boundaries were established by the distribution of artifacts recovered in shovel tests, resulting in a site measuring approximately 40 m N-S by 5 m E-W (200 m^2). The artifact density was low, consisting of five pieces of debitage. These included a biface thinning flake, three flake fragments, and one piece of shatter. Paoli (n=3), Boyle (n=1), and Breathitt (n=1) chert types were present. The site has been previously impacted by installation of a water main along the northwest side of the site. Additional impacts included artifact collecting by local residents. None of the shovel tests contained evidence of intact subsurface deposits or produced temporally diagnostic material. Given the low artifact density, the lack of temporally diagnostic artifacts, prior disturbance, and lack of subsurface deposits, 15Wo275 has low research potential. Consequently, UK-PAR recommends no further archaeological work.

Site 15Wo276 is located in the western right of way corridor north of the Wolfe-Breathitt county line. The site comprises refuse from a historic farmstead and a prehistoric isolated find. The site is situated in the flood plain, which runs along its eastern edge. Materials were recovered in four positive shovel tests spanning a distance of approximately 55 m N-S by 10 m E-W, (550 m^2). The density of material was low (n=11), and included unidentified metal (n=7), clear container glass (n=3), and a fragment of a clay pipe bowl (n=1). The pipe bowl fragment was originally part of a detachable (reed) stem pipe, and the end that would have accommodated the reed stem remains; the bowl is missing.

This fragment could not be conclusively dated, but the ribbing along its barrel is stylistically compatible with ribbed and effigy head examples from the mid and late 19th century. Other historic artifacts from the site could not be dated. Prehistoric artifacts included a biface thinning flake and a flake fragment recovered from one shovel test. No intact subsurface cultural features were encountered in shovel tests, but two shovel tests at the southern end of the site presented highly mottled soils suggesting artificial fill deposition. Additionally, a water main runs along the eastern edge of the site. The low artifact density, evidence for previous site disturbance, and generally nondiagnostic artifact assemblage suggest that site 15Wo276 presents low research potential. Consequently, UK-PAR recommends no further archaeological work.

In addition to the eight newly identified sites and two revisited sites, UK-PAR also identified fifteen isolated finds. From north to south along the project corridor these include IF1 (a single piece of unidentified metal), IF2 (a single prehistoric flake, modern container glass, and an iron nut), IF3 (a single cortical flake), IF4 (a single piece of prehistoric shatter), IF5 (a single prehistoric flake and two pieces of unidentified metal), IF6 (two pieces of field tile), IF7 (two pieces of prehistoric debitage), IF8 (one prehistoric flake and three pieces of modern container glass), IF9 (a single piece of Bristol sliped stoneware), IF10 (one piece of milk glass, one piece of whiteware, and one piece of clear container glass recovered from a cultivated plot), IF11 (one piece of container glass, aluminum pull tab, one piece of stoneware, and one piece of whiteware recovered from a cultivated plot), IF12 (four rusted nail fragments), IF13 (a single prehistoric flake), IF14 (single piece of glass tableware), and IF15 (a single prehistoric flake). Bracketing radials placed around the shovel tests that produced these artifacts were negative, and no evidence of subsurface cultural features or midden were found at any of these locations. These locations do not meet the current Kentucky Office of State Archaeology criteria for assignment of archaeological site numbers. The research potential is extremely low for all isolated finds, and no additional archaeological work is recommended at any of these locations.

Finally, we note the presence of a nonsite locality situated 200 m northwest of the hamlet of Rosefork. Here, UK-PAR staff examined a cemetery plot that was not indicated on the right-of-way plan provided by KYTC. We refer to this plot as the New Flinchum cemetery to distinguish it from the Flinchum cemetery, located near the southern terminus of the project area. The New Flinchum cemetery contained recent burials, is well maintained, and the earliest death date recorded on a monument was 1997. This cemetery does not represent an archaeological resource. However, a proposed temporary easement does overlap the eastern edge of the cemetery plot. UK-PAR recommends avoiding the cemetery during construction, along with a buffer zone around the cemetery perimeter.

CHAPTER 2
ENVIRONMENTAL SETTING

This chapter provides a detailed background on the environmental setting of the project area, including information on the physiography, geology, soils, climate, flora, and fauna in the Wolfe County area. In general, and when possible, this information is provided with a historical perspective that provides information on how the environmental setting has changed in the time that the project area has been inhabited by humans.

PHYSIOGRAPHY

Wolfe County is situated in the Cumberland Plateau, and lies within the western extent of the Eastern Kentucky Coal Field (McGrain and Currens 1978:75). The topography is dissected, with narrow river valleys that typically exhibit 250 to 300 feet of relief. The Red River is the principal drainage for the county, and it runs through the northern portion of the survey area examined here. Two tributaries of the Red River, Rose Branch and Tunnel Fork, drain the upper reaches of the project area. Elevations in the project area drop from south to north, decreasing from 1,093 feet at the Wolfe-Breathitt County line to 961 feet at Helechawa. The project area is located on portion of both the Cannel City, KY (1966, revised 1993) and Lee City, KY (1965) USGS 7.5' topographic quadrangles (see Figure 1.2). These topographic maps illustrate the general landscape characteristics described above.

GEOLOGY

The geology of the project area is described on the Cannel City, KY (Sable 1978) and Lee City, KY (Post and Johnson 1963) geologic quadrangles. The project corridor mainly is positioned on valley floors, which are underlain by Quaternary alluvium. These sediments consist of silt, sands, clays, and gravels derived from adjacent members of the Lower and Middle Pennsylvanian Breathitt Formation. Underlying bedrock in the project area is almost entirely composed of the Breathitt Formation. This formation consists of interbedded sandstones, siltstones, shale, flint clay, and coal zones. The Breathitt Formation is also a source of chert utilized by Kentucky's prehistoric inhabitants.

SOILS

Soils in the project area consist primarily of well-drained silt loams that are classified in the Grigsby-Orrville complex or Rowdy-Grigsby complex. Grigsby-Orrville complex soils occur in the northern portion of the project area, and extend southward approximately to the line between the Cannel City, KY and Lee City, KY topographic quadrangles. These soils are frequently flooded, and consists of loam and fine sandy loam soils situated on flood plains that are essentially flat (Soil Survey Staff 2014). Rowdy-Grigsby complex soils occupy the remainder of the valley floor, and consist of deep well drained silt loam, loam, and find sandy loam soils derived from sedimentary rocks. These soils are only occasionally flooded, and are associated primarily with stream terraces exhibiting 0 to 6 percent slope.

A minor proportion of the survey area included soils on steep slopes classified in the Shelocta-Gilpin complex and Latham-Gilpin-Alticrest complex. Shelcota-Gilpin complex soils occur on mountain sides with 20 to 65 percent slope and consist of deep well-drained clayey colluvium derived from shale and siltstone. Latham-Gilpin-Alticrest complex soils occupy ridge crests with 20 to 65 percent slope, and also consist of a clayey residuum derived from the weathering of shale and siltstone.

CLIMATE

The climate of Wolfe County is temperate. The wintertime average temperature is 36 degrees F, and the summer average temperature is 74 degrees F. Total rainfall for the year is approximately 46 inches. Approximately 55 percent of the yearly rainfall total falls between April and September. During the winter, average snowfall totals almost 17 inches (Hayes 1993:2-3).

With minor fluctuations, this humid continental climatic pattern has been present in Kentucky since approximately 5000 years before the present. During the Pleistocene Epoch, however, when prehistoric peoples first began to settle in Kentucky, the presence of immense glaciers north of the Ohio River created much colder climatic conditions that encouraged the development of coniferous forests in some areas and tundra vegetation in others. As the glaciers receded at the end of the Pleistocene, a global warming trend began, and prairie grasslands expanded into western Kentucky. Temperatures reached their maximum during the Hypsithermal Interval (ca. 8500 to 5000 years ago), which affected vegetation communities and human settlement patterns in many regions. After 5000 years ago climatic conditions moderated to approximate their present state (Delcourt and Delcourt 1981, 1985; Martin 1958).

FLORA AND FAUNA

Wolfe County is part of the larger Western Mesophytic Forest regime (Braun 2001). The forest associations found in this region are the oldest and most complex of the deciduous forests in central Kentucky. The Western Mesophytic forest is dominated by oak and hickory trees that grow alongside walnut, sugar maple, ash, and beech with some populations of elm, hackberry, coffee-tree, basswood, sycamore, willow, and cedar (Braun 2001).

Local fauna consists mostly of small mammals, such as the cottontail rabbit, opossum, and squirrel. Other fauna currently residing in the area include raccoon, turkey, striped skunks, muskrats, minks, red foxes, eastern chipmunks, woodchucks, white-tailed deer, and a variety of waterfowl. Historic records suggest animals formerly common in east-central Kentucky, but now considered absent or rare, include bison, elk, wolf, mountain lion, black bear, river otter, beaver, and passenger pigeon (Shelford 1963).

CHAPTER 3
BACKGROUND RESEARCH AND SURVEY PREDICTIONS

This chapter summarizes the regional prehistory and history of central Kentucky as well as the basic information on the history of Wolfe County. Additionally, this chapter covers the previous archaeological research conducted within a 2-km buffer zone of the project area and historic map review undertaken prior to field work, and the predictive model drawn from that research.

PREHISTORIC CONTEXT

The prehistoric cultural chronology of the eastern United States is divided into a series of periods that broadly correspond to major shifts in subsistence and procurement strategies, social organization, and settlement patterns. These periods, the Paleoindian, Archaic, Woodland, and Late Prehistoric, are linked to distinct material culture styles, especially in projectile point morphology and in later times, ceramic vessel form and decoration. The periods presented below form a general framework for discussing the prehistoric chronology of the study area. This discussion also provides the basis to place materials recovered during this project into the broad contexts of Kentucky's past.

PALEOINDIAN PERIOD

The Paleoindian period is the earliest period for which there is undisputed evidence of human occupation in Kentucky, and dates to approximately 9,500 – 8,000 B.C. Earlier (pre-Clovis) Paleoindian remains have been found in South and North America, including the Topper Site, Cactus Hill, Big Eddy, and Meadowcroft Rockshelter sites in South Carolina, Virginia, Missouri, and Pennsylvania, respectively. The proximity of these early sites suggests that pre-Clovis materials eventually may be found in Kentucky, but Clovis materials are so far the earliest documented archaeological culture in Kentucky (Maggard and Stackelbeck 2008:114). The characterization of Paleoindians as highly mobile, relatively homogenous big game hunters has become increasingly seen as too general, and much more regional diversity is apparent in Paleoindian assemblages today (Maggard and Stackelbeck 2008:109-113). Some of this diversity may be related to temporal variation, and serves as the basis to define Early, Middle, and Late periods within the general Paleoindian time period.

The Early Paleoindian period is associated with the Clovis archaeological culture, dating to roughly (9,500 – 8,800 B.C.). Long, bifacially worked and fluted points are perhaps the most diagnostic element of Clovis lithic assemblages, but large bifaces, blades produced from polyhedral and conical cores, gravers, and end scrapers made from either blades or flakes also constitute parts of the stone technology (Maggard and Stackelbeck 2008:116; Boldurian and Cotter 1999; Haag 2004; Sanders 1990). Evidence of bone and ivory components of Clovis technology also exists, but these are rare in the Eastern United States (Dunbar and Webb 1996; Redmond and Tankersly 2005). Although a few Clovis sites with dense artifact deposits have been identified in Kentucky, most sites are small and contain subsets of the more general Clovis tool assemblages (Maggard and Stackelbeck 2008:118, 121). The relationship of these differences in site size and tool assemblages to Clovis adaptive and strategies is not clear. While it is clear that Clovis people did hunt mega-fauna and other large game animals, their adaptation likely was generalized and included smaller game and other natural resources (Maggard and Stackelbeck 2008:121-122).

The Middle Paleoindian period (ca. 9,000 – 8,500 B.C.) is associated with the retreat of the Pleistocene glaciers, the replacement of spruce and pine forest with hardwoods, and the extinction of mega-fauna species in Kentucky (Anderson et al. 1996; Delcourt and Delcourt 1981). These profound environmental changes are paralleled by changes in the lithic technology towards increasingly specialization and regional diversification in tool form (Maggard and Stackelbeck 2008:122). Cumberland and Gainey

points, limaces, and spurred end scrapers appear during this period, and are accompanied by a variety of flake tools (Maggard and Stackelbeck 2008:122-123; Justice 1987). These tools were produced with more localized, and sometimes poorer quality, raw materials. Unfortunately, the relationship between these technological and environmental changes during the Middle Paleoindian period are likely related, but only a general interpretation of increasing exploitation of smaller and more regionalized plant and animal resources is possible with the available data (Maggard and Stackelbeck 2008:123, 126).

The Late Paleoindian period (8,500 – 8,000 B.C.) represents the continuation of diversification and regionalization in artifact styles and forms, as well as the continuation of climatic shifts that began in the Middle Paleoindian period. Projectile points generally fall into two stylistic clusters, the Lanceolate Plano (Kentucky Lanceolate and Agate Basin types) and Dalton (Beaver Lake, Quad, and Dalton types). These points are increasingly made with lower quality materials that are locally available. Late Paleoindian lithic assemblages also include beveled and backed bifaces, unifacial scrapers produced on flakes, adzes, drills, and other retouched flake tools (Maggard and Stackelbeck 2008:126, 128). Likely, these shifts in tool technology reflect increasing detailed familiarity with particular areas that accompanied a 'settling in' to specific environments.

ARCHAIC PERIOD

The Archaic period of the Eastern United States (8,000 – 1,000 B.C.) presents interesting interpretive challenges. On the one hand, Archaic peoples continued to settle in to their local environments, as evidenced by the wide range of hunted and gathered foods. On the other hand several experiments in changing subsistence strategies and social differentiation are evident by the end of this time period. These factors, as well as changing artifact styles, are used to divide the Archaic period into Early, Middle, and Late sub-periods.

Early Archaic period (8,000 – 6,000 B.C.) hunter-gatherers were highly mobile and rarely used sites for long periods. Diagnostic projectile points from this period include Kirk, LeCroy, Hardin Barbed, Palmer, and MacCorkle, among others (Jefferies et al. 2005:14; Justice 1987). Projectile points and other tools were manufactured with non-local cherts that Early Archaic peoples procured directly (Jefferies 2008:203). Early Archaic sites commonly contain hearths, but little else in the way of features or middens. These data concerning raw material exploitation and site structure, combined with the typically low artifact density at such sites suggests that Early Archaic peoples were likely organized into small, highly mobile bands that exploited relatively large territories (Jefferies 2008:203). These territories included both river-bottoms settings and uplands, the latter being exploited more intensively during the Early Archaic period than in subsequent sub-periods of the Archaic (Jefferies et al 2005:15).

During the Middle Archaic period (6,000 – 3,000 B.C.) several important changes are indicated by increasingly specialized tool assemblages as well as an increase in the use of formal and informal ground stone tools. At a general level, this differentiation indicates that a wide variety of resources were exploited during this period, and may additionally indicate new technologies for processing plant resources, especially hickory nuts but also starchy seeds (Jefferies 2008:203, 206, 209). Many archaeologists find it useful to designate early and late facets to the Middle Archaic period. Early Middle Archaic (6,000 – 4,500 B.C.) sites are distinguished primarily by new projectile point types, such as Eva and Morrow Mountain (Justice 1987). In eastern and central Kentucky, Morrow Mountain, Big Sandy II, and Matanzas points appear during the early Middle Archaic, but also persist into the late Middle Archaic. These points are found typically in small sites, suggesting that Early Archaic adaptive strategies emphasizing small, highly mobile bands persist in this part of the state (Jefferies 2008:208). In contrast, late Middle Archaic (4,500 – 3,000 B.C.) sites in western Kentucky, especially in the region of the Green River, undergo significant changes during this time. Many of these changes were related to shifting plant communities during the Hypsithermal, which appear to have affected the western portion of the state more than the eastern part (Jefferies 2008:208). Densities of artifacts increase, new point types occur (e.g. Big Sandy II, Godar, Matanzas), and substantial middens accumulate.

These changes suggest that some sites in certain rich resource areas were utilized as base camps, either for extended periods, or regularly over long periods of time (Jefferies 2008:208; Jefferies et al. 2005). Burials found at some larger late Middle Archaic sites suggest that social organization was constituted by egalitarian principles in which statuses were achieved (Jefferies 2008:209; Nance 1986).

The Late Archaic (3,000 to 1,000 B.C.) witnessed the continuation of Middle Archaic trends of regional differentiation in adaptation and site structure. More Late Archaic site have been identified in Kentucky than Middle Archaic sites, but many of the later sites are smaller and were used less intensively than some Middle Archaic sites (Jefferies 2008:210). At the same time, some Late Archaic sites, especially those found along the Green River, provide evidence of increasing social complexity. Exotic shell and copper grave goods suggest nascent status differentiation (Jefferies 2008:210; Marquardt and Watson 2005). Despite these differences, Late Archaic subsistence patterns were similar to those of the Middle Archaic. Hunting and gathering activities targeted a wide variety of local terrestrial and aquatic resources, with deer and hickory nuts acting as dietary staples (Scarry 2003). Wild starchy seeds, such as goosefoot, marshelder, and chenopodium, gained more prominence in Late Archaic diets, and there is evidence that some Late Archaic people were experimenting with the cultivation of squashes (Ison 1988; Jefferies 2008:209-210; Smith and Cowan 2003; Watson 1985). These diverse subsistence strategies are mirrored in a wide variety of straight-, expanding-, and contracting-stemmed points that date to the Late Archaic (Justice 1987).

WOODLAND PERIOD

The Woodland period (1,000 B.C. – A.D. 1,000) is recognized, on the one hand, by continuity with many of the adaptations of the Late Archaic period, but, on the other hand, was a time of important technological and social innovation in the eastern United States. These innovations include the introduction of pottery and the bow and arrow, population increase, an increased reliance on native domesticates and corn, and the ritual, construction, and exchange activities associated with Adena and Hopewell ceremonialism. Changes in these aspects of culture are used to define three broad sub-periods, the Early Woodland (1,000 – 200 B.C.), the Middle Woodland (200 B.C. – A.D. 500), and the Late Woodland (500 – 900/1000 A.D.)

One of the hallmarks of the Early Woodland (1,000 – 200 B.C.) period is the appearance of ceramics. In Kentucky, pottery becomes widespread between 600 – 400 B.C., and early types have cordmarked, plain, or fabric-impressed surfaces (Anderson and Mainfort 2002:5; Applegate 2008:342-343). Other technological shifts during the Early Woodland period include the replacement of grooved stone axes with groundstone celts and a preference for bone beamers over chipped stone hafted end scrapers (Applegate 2008:343). Several straight, expanding, and contracting stemmed projectile points are diagnostic of this period (Applegate 2008:343). Despite these changes, Early Woodland subsistence remains suggest continuity with Late Archaic hunting and gathering strategies. However, starchy seeds are exploited in higher proportions relative to nuts, signaling the beginning of trends towards increased reliance on plant husbandry in Woodland diets (Applegate 2008:344; Fritz 1988; Gremillion 2002). Although corn is first introduced in the Early Woodland period, it does not become a significant component of Woodland diets until the end of the Late Woodland period.

Early Woodland habitations are small and dispersed across the landscape, occurring in upland and flood plain settings. Although habitation sites were small and non-nucleated, they were used long enough for middens to accumulate and for other features and artifact clusters to form (Applegate 2008:344). Additionally, Early Woodland peoples made use of rockshelters and cave vestibules. Caves were of particular importance for mineral exploitation during the Early Woodland, with Mammoth Cave and Salts Cave providing evidence for the most intensive Early Woodland gypsum, selenite, mirabilite, and epsomite mining activities in the eastern United States (Crothers et al. 2002:511-513).

By the middle of the Early Woodland (*circa* 500 B.C.), and continuing into the Middle Woodland period, central Kentucky becomes the center of the earthworks and special use buildings, mortuary programs,

and trade networks that form the core of Adena ceremonialism (Clay 1991). When Adena traits first appears, ritual sites are located at boundaries between two territories, and are marked by an absence of coherent spatial patterning in the placement of graves, activity areas, and sub-mound structures associated with ritual locations (Applegate 2008:352). By the time Adena ceremonialism ceases (*circa* 250 A.D.), the types of structures associated with ceremonial sites are much more diverse and their spatial patterning is more complex. In conjunction with the lower number of burials in late Adena mounds, these factors suggest increasing social status differentiation, regional coherence of social and labor organization, and the development of group and territorial boundaries (Applegate 2008:352-355; Clay 1991). Although Hopewell or Hopewell-related sites exist in northeastern Kentucky (e.g. Camargo, Amburgey, Rogers, and Old Fort Earthworks), most Hopewell materials occur sporadically in Early and Middle Woodland sites in Kentucky (Applegate 2008:356-361).

The Middle Woodland period (200 B.C. to A.D. 500) is generally recognized as having early (200 B.C. – A.D. 250) and late (250-500 A.D.) sub-periods. These divisions are based on chronological trends in ceramic vessel form and surface treatment as well as copper, mica, and shell trade goods and exotic cherts associated with the Hopewell Interaction Sphere (Applegate 2008:346; Caldwell 1964). The latter group of artifacts becomes scarce after 350 A.D. in Kentucky (Applegate 2008:367). Early Middle Woodland ceramic forms include conoidal and barrel-shaped forms with bases ranging from flat to conoidal. Diagnostic surface treatments include plain, cordmarked, fabric impressed, and cord-wrapped dowel-impressed surfaces. Late Middle Woodland traits include subconoidal or sub-globular jars with fabric-impressed or plain exteriors. Additionally, complicated stamped, rocker stamped, and brushed ceramics are diagnostic of the late Middle Woodland (Applegate 2008:245-346). Triangular and triangular-lanceolate projectile point forms, such as Copena, are diagnostic of the Middle Woodland. Broad corner notching distinguishes early Middle Woodland points, while expanding stems and shallow side-notching are late Middle Woodland traits (Applegate 2008:346; Faulkner 1969; Kline et al. 1982; Railey 1990:251). Additionally, non-utilitarian groundstone objects such as pipes, gorgets, and discoidals become more common during the Middle Woodland.

Settlement and subsistence patterns shift slightly during the Middle Woodland period, with a somewhat greater reliance on starchy and oily seeds and an increased focus on flood plains. By the late Middle Woodland, settlement patterns also shift, with settlement hierarchies developing in western Kentucky, and nucleated settlements developing in the eastern part of the state (Applegate 2008:346-347). Despite these shifts in subsistence and settlement, Middle Woodland social organization is typically interpreted as tribal and lacking hereditary transference of leadership (Anderson and Mainfort 2002:10).

During the Late Woodland period (400/500-900/1,000 A.D.), regional patterns in the archaeological record indicate distinct cultural traits exist to the east and west of the Falls of the Ohio River (Pollack and Henderson 2000:613). These cultural differences are paralleled by differences in the timing of the onset and termination of Late Woodland. The Late Woodland is argued to begin and end slightly earlier in the western Kentucky (400-900 A.D.), while the Late Woodland in the eastern part of the state is dated from 500 to 1,000 A.D. (Applegate 2008:347; Kreisa and Stout 1991). In addition to these chronological divisions, archaeologists have also found it useful to distinguish between early Late Woodland (400/500 – 800 A.D.) and terminal Late Woodland (800 – 900/1,000 A.D.) sub-periods.

The material culture of the early Late Woodland exhibits continuity with the Middle Woodland, and a lack of Hopewell-related materials and artifact styles distinguished these two sub-periods from one another. Early Late Woodland pottery exhibits subconoidal and sub-globular jars with cordmarked or plain surfaces. Angular shoulders are common in Newtown phase materials. Vessel lips are typically flattened, and are occasionally notched diagonally or perpendicularly. Lithic types from the early Late Woodland commonly belong to the Lowe cluster, although Copena points are occasionally found (Applegate 2008:348). Terminal Late Woodland ceramic assemblages exhibit more diversity in rim/lip treatment, and collared rims, simple castellations, carinations, and collared rims are found throughout the state. In the western part of the state, vessels become clearly differentiated into serving, storage, and cooking forms and red-filmed surface

treatments make their appearance. Lithic assemblages are distinguished primarily by the presence of small triangular points that are true arrowheads (Applegate 2008:348; Kreisa and Stout 1991:141; Pollack and Henderson 2000:622).

These changes in technology do not pattern in direct manners with settlement and subsistence remains, however. Sites below the Falls of the Ohio are more dispersed in the early Late Woodland than they were in the Middle Woodland. At this time, there is more evidence for nut exploitation than corn cultivation (Kreisa and Stout 1991:143; Pollack and Henderson 2000:633). By the terminal Late Woodland, greater use of flood plains is apparent, and a settlement hierarchy emerges. Site size and investment in public facilities define the levels of the settlement hierarchy (*ibid.*). Upstream from the Falls of the Ohio, the inverse trajectory is apparent. Greater nucleation is observed in the early Late Woodland, while terminal Late Woodland sites are smaller, more dispersed, and do not exhibit a settlement hierarchy (Pollack and Henderson 2000:633-634). Small burial mounds may be present in early Late Woodland villages in the eastern part of the state, but these are lacking in all parts of Kentucky by the terminal Late Woodland (*ibid.*). Additionally, warfare may have become more prevalent in the Late Woodland in response to population pressure and competition for land. Although they are dispersed, the number of Late Woodland sites increases and they become dispersed on the landscape as well. Pollack and Henderson (2000:634) suggest that these shifting settlement patterns would have created more contiguous territories in upland areas, and may have led to increased competition over more wooded hunting territories that became accessible with the adoption of the bow and arrow.

LATE PREHISTORIC PERIOD

The Late Prehistoric period in Kentucky encompasses two archaeological cultures - Mississippian and Fort Ancient - that occupied the western and southern, and the central and northeastern parts of the state, respectively. Although these groups had a common subsistence strategy based in the cultivation of maize and other native domesticates and the gathering of wild foods and hunting, distinct differences existed in social organization and sociopolitical complexity. The Late Prehistoric period comprises the centuries between 1,000 and 1,700 A.D. Here we discuss the Fort Ancient cultural tradition, as the project area is within the geographic extent of the Fort Ancient cultural tradition.

The Fort Ancient period is divided into Early (1,000 – 1,200 A.D.), Middle (1,200 – 1,400 A.D.), and Late (1,400 – 1,750 A.D.) subperiods (Henderson 2008:741). The changes in archaeological materials that demarcate these subperiods are related to interaction with Mississippian peoples, yet Fort Ancient peoples continue to exhibit distinct systems of settlement, status differentiation, and sociopolitical organization. The critical distinction between Mississippian and Fort Ancient peoples is the continuation of tribal organization in the latter, while the former evolved more complexly integrated chiefdoms (Henderson 2008:747-749; Pollack and Henderson 1992b). Fort Ancient tribal formations become more complex over time as settlements became larger and increasingly larger kin groups coalesced into the same settlements (Henderson 2008:745). These settlements were generally small and dispersed, and typically were situated along flood plains and terraces in major drainages, and were located apart from ceremonial locations and stone mounds. From the Early Fort Ancient to the Late Fort Ancient period, settlement size grows, and domestic structures increase in size from single nuclear family habitations to multi-family residences after 1,200 A.D. Long-term interaction with Mississippian peoples is suggested by the introduction of maize as a dietary staple; shell tempering and some vessel appendage styles into the upper Ohio Valley around 1,000 A.D.; the introduction of many more vessel forms into ceramic assemblages after 1,400 A.D.; and the circulation of trade items, first from the Southeastern Ceremonial Complex motifs and, later, catlinite pipes associated with Calumet Ceremonialism (Henderson 2008:747; Pollack et al. 2002a). Likewise, European glass, copper, and silver trade goods and arms became important status markers by the end of the Late Fort Ancient period (Henderson 2008:749). These materials were adapted to suit the needs of local Fort Ancient culture, rather than signaling an acculturated population (Henderson and Pollack 2001:177).

In Kentucky, the final segment of the prehistoric era is known as the Contact Period. It begins when the first indirect effects of European presence were felt by Native American cultures in the area (ca. AD 1540), and continues to the signing of the Greenville Treaty in 1795 (Henderson et al. 1986:1). During this period, Europeans traded goods such as firearms, glass, metal tools, trinkets and cloth, first indirectly and after the 1730s directly to the indigenous inhabitants (Henderson et al. 1986:2). In return, native peoples provided the Europeans with animal hides and information about the expanding frontier environment that was important for survival, such as aboriginal hunting methods, the uses of native materials for shelters and canoes, and the uses of native plants for nourishment and medicinal cures (Henderson et al. 1986:2).

Europeans that moved to the Ohio Valley and Kentucky invaded the territories of the Chickasaw and Shawnee (Schenian and Mocas 1993). The Shawnee, who struggled with early Kentucky settlers more than any other tribe, probably numbered no more than three or four thousand by 1750 (Harrison and Klotter 1997). Many Shawnee and other indigenous groups left Kentucky by the end of the 1700s. Those who remained were absorbed into the culture of the new Commonwealth of Kentucky, although some kept alive the memories of their traditional ways of life.

HISTORIC CONTEXT

European exploration and settlement of Kentucky began in earnest after the end of the French and Indian War. Before this time, the French and the British had explored part so of Kentucky from the west and the east, respectively. Marquette and Joliette explored the far western reaches of the state in 1673, and the French established several forts on the northern side of the Ohio River by the mid-eighteenth century (McBride and McBride 2008:906). Concurrently, the British made increasing forays into the Upper Ohio Valley, and by 1749, if not earlier, established a trading house at Lower Shawneetown (McBride and McBride 2008:907). The economic ambitions of French and British traders involved them with several Native American groups, including the Iroquois, Cherokee, and Shawnee, among others. Conflict between French and British territorial and financial aspirations eventually came to a head in the French and Indian War (1754-1763), which resulted in the French abandoning the upper and central Ohio River valley, and the British gaining control of all lands east of the Mississippi (McBride and McBride 20098:908-909).

Between the French and Indian War and the American Revolutionary War (1775-1783), "Long Hunters" from Virginia and North Carolina made forays into Kentucky, exploring many of the river drainages and buffalo traces in the eastern and central part of the state (McBride and McBride 2008:209). The information they gathered was particularly useful to land speculators who, spurred on by British acquisition of large pieces of Cherokee lands, facilitated the founding of frontier settlements in Kentucky. Initial settlements were concentrated primarily in the Bluegrass Region, with Harrodstown (Harrodsburg) and Boonesborough established in 1775. Warring conflict with Native Americans, particularly the Chickasaw and Shawnee, forced many early settlers to live in or near stations such as Fort Logan for protection (McBride and McBride 2008:911; O'Malley 1986; Schenian and Mocas 1993). The Revolutionary War also exacerbated tensions between early settlers and the Shawnee, who were initially allied with the British. Several settlements were attacked and abandoned during the War (McBride and McBride 2008:911).

The period between the Revolutionary War and the Civil War marked a period of growth in Kentucky. Statehood was conferred in 1792, and in 1818, the Jackson Purchase expanded the territory of the state to its present size (McBride and McBride 2008:917, 920). During this time, agricultural exports of tobacco, hemp, and other products, became leading commodities linking Kentucky with the growing national economy. Likewise, industrial production of salt, iron, gunpowder, and coal provided several commodities that were shipped throughout the country (McBride and McBride 2008:913-920, 924, 927). Improvements to transportation facilitated the growing agricultural and industrial economies in Kentucky. River towns, including Paducah, Louisville, Henderson, Newport, Covington, and Bowling Green were very important in this respect. The success of the steamboat and the construction of canals on the Green Barren, Kentucky, and

Ohio rivers made river travel and transport much more feasible (McBride and McBride 2008:922). Additionally, construction of overland roads and railroads facilitated the movement of goods and people in the (McBride and McBride 2008:915-918, 920, 923). Population grew also during this time, increasing from approximately 8,000 in 1782 to 1,144,967 in 1860. This latter figure includes 225,483 slaves, or, roughly 20 percent of the population of the state. Several contrasting factors affected slave life in Kentucky. On the one hand, slaves played a smaller role in the agricultural economy of Kentucky than they did in states further south. On the other hand, the lack of feasibility in rural large-scale slaveholdings made the separation of slave families much more prevalent. Conditions for urban slaves were no less difficult, and segregation and policing of both slaves and free African Americans became increasingly harsh in the decades leading up to the Civil War. These conditions spurred many Kentucky slaves to risk escape to northern states via the Underground Railroad (Hudson 2002; McBride and McBride 2008:925-927; Smartz 1999).

The events of the Civil War directly affected the land and people of Kentucky, but the state emerged relatively unscathed due to the lack of sustained major military engagements. Kentucky attempted to remain neutral at the start of the war, but failed due to a lack of support from US and Confederate governments, and divided sentiments at home. Both the CSA and the USA quickly established recruiting centers on the northern side of the Ohio River and on the southern side of the Tennessee border, and by August of 1861, the Union established Camp Dick Robinson to recruit Kentuckians. By the end of the year, the Union controlled the northern half of the state, and the CSA controlled the southern portion. Few major battles occurred within the state during the course of the war. Union victories at Fort Henry and Fort Donelson in Tennessee made the Confederate foothold in Kentucky so tenuous that they abandoned the central and western parts of the state. With the notable exception of the Battle of Perryville in 1862, fighting was largely reduced to the famous raids of John Hunt Morgan and Nathan Bedford Forest against Union positions, and guerilla activity in the Appalachians. Union occupation in Kentucky was supported by series of garrisons, forts, and supply depots. Their strong presence facilitated the end of slavery in Kentucky by providing jobs and safety for runaways and impressed laborers, freedom through enlistment and the creation of African American fighting units after 1864, and freedom for enlisted men's families in 1865 (McBride and McBride 2008:928-934).

In the decades following the Civil War, the population of Kentucky rose, with dramatic increases in urban areas. These increases in urban population were connected to increasing transportation efficiency provided by railroads and urban rail systems, automobiles, and, to a limited extent, bicycles. These transportation technologies also increased communication between the various cultural landscapes within Kentucky. Telephones contributed to this process as well. Despite these advances, urbanization was fraught with health and social problems. At one level, many of these problems, such as sanitation and overcrowding are associated simply with the increasing populations. On the other hand, many social and health problems were exacerbated by efforts to isolate poor, often newly freed African American, populations within urban spaces. Urbanization also had the effect of creating rural hamlets on which freed African American resided as they engaged in wage labor on farms. The economy of the state remained focused on agricultural and commodity production, with tobacco, timber, and coal gaining increased importance after the Civil War. However, tobacco and coal production experienced boom and bust cycles that further exacerbated social problems. Tobacco boom price cycles spurred increases in tenant farming, which lead to decreases in land ownership and migration from rural areas during bust cycles. Boom cycles in coal production led to the creation of nucleated communities of laborers tied to this industry. The same is to some extent true for timber production as well. When coal markets failed, several of these company towns, and their parent coal companies, also failed as money, laborers, and service providers located elsewhere. Decreases in the number of people employed in agricultural and commodity industries were amplified by the widespread development of mechanized production at the beginning of the 21st century (McBride and McBride 2008:368-386).

Wolfe County was formed in 1860 out of portions of Breathitt, Owsley, and Powell Counties. Early settlers were present by the 1760s, with many families originating from Lee and Tazewell counties in Virginia. These included, among others, the Rose family. In 1810, a water mill was established on Lacy Creek near Hazel Green, which was incorporated in 1856 (Kleber 1992:962). The population of Wolfe County grew considerably with the establishment of the Swan-Day Lumber Company in 1898 and the

extension of a narrow gauge rail line connecting Campton to Powell County in 1907 and a north-south line that connected Helechawa and Lee City to Breathitt and Morgan counties in 1901. These transportation routes also supported the establishment of several resort hotels and a mineral water operation. Hotels near Campton and Hazel Green were in operation from the last decade of the 19th century through the early part of the 20th century (Kleber 1992:962).

PRE-FIELD RESEARCH AND SURVEY PREDICTIONS

In order to assess the archaeological potential of the project area, a search of several databases was made to determine the extent of previous research both within and near the project area. This search included examination of USGS geological and topographic maps, highway maps of Wolfe County, state archaeological site forms, and reports on file for survey projects conducted within two kilometers of the project area.

Wolfe County is included within the Gorge Section of the Upper Kentucky/Licking Management Area (Pollock 2008:12). Archaeological site density for this section is generally high, and the most common site types are prehistoric open habitations without mounds, historic farmstead/residences, and rock shelters (Stackelbeck and Mink 2008). Previous archaeological work in the section and management area has been irregularly distributed, with most surveys and sites deriving from both systematic and nonsystematic surveys within the Daniel Boone National Forest, and from a variety of cultural resource management projects.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

A records request submitted to the Kentucky Office of State Archaeology (FY14-8150, preformed 1 July 2014) indicated that two sites (15Wo145 and 15Wo146) were located within the project area. An additional eight sites were located within two kilometers of the project area. The records review also indicated that nine archaeological projects had been previously conducted within two kilometers of the project area. One of these surveys overlaps a small portion of the southern terminus of the current project area. Systematic surveys conducted are discussed below in chronological order, along with sited identified during each survey.

In 1988, staff of the Kentucky Transportation Cabinet performed a Phase I investigation along a 4.9 mile (7.9 km) portion of KY 205 in advance of proposed road construction activities (Deiss 1988). Part of this survey area extended to the Wolfe-Breathitt county line, and slightly overlaps the southern end of the current project area. Field methods included visual inspection and surface collections, systematic subsurface testing, and local informant interviews (Deiss 1988:22). Subsurface investigation involved the placement of shovel test on a 25 m interval. Excavated soils were trowel-sorted for artifacts (Deiss 1988:25-26). Shovel tests were placed in areas with low surface visibility and also were used to document soil profiles and attempt to recover additional artifacts at sites identified through surface inspection. When sites were identified, the testing interval was decreased to 6.1 m and four parallel transects of ten probes each were excavated across the area over which artifacts were recovered from the surface (Deiss 1988:26). These methods identified eleven sites, three of which were older than 50 years in age and assigned site numbers.

Site 15BR21 lies within 2 km of the project area, and consists of a low density scatter of prehistoric lithic debitage and tools. The artifact assemblage included 12 flakes representing various stages of reduction. Additionally, a single projectile point was recovered that was assigned to the Late Woodland period. Overall, the site was not deemed eligible for nomination to the NRHP, and no further work was recommended (Deiss 1988:43-46).

In February of 1992, archaeologists with Cultural Resource Analysts, Inc. preformed a Phase I archaeological survey of a proposed mining operation between Lindon Fork and Straight Creek (Hand 1992).

This project area encompassed approximately 605.42 acres of upland terrain. Field methods involved intensive pedestrian survey that included shovel testing (Hand 1992:7). Shovel tests were placed at a 15 m interval, and excavated soils were trowel sorted for artifacts. The survey identified one previously undocumented prehistoric rock shelter. This site lies outside of the 2 km buffer surrounding the present project.

In 1996, Richard and Nancy Stallings (1996) conducted a Phase I survey of two water tank locations. Although a report of this work was submitted, it is now missing from the OSA library. However, this work did not identify any sites located within 2 km of the present project area.

In December of 1999, archaeologists with Cultural Resource Analysts, Inc. preformed a Phase I archaeological survey of a proposed extension of the Mountain Parkway in Morgan and Magoffin counties (Hand 2000). The survey corridor extended 15.5 miles (25 km) and averaged 300 feet wide. The western terminus of their project area was near Helechawa, northeast of the current project corridor. Survey methods involved intensive pedestrian survey and shovel testing. Shovel tests were placed on a 20 m interval, and all excavated soils were trowel-sorted. Additionally, auger tests were placed on a 40 m interval in flood plain settings. Soils recovered during auger testing were screened for artifacts (Hand 2000:7-9). No archaeological sites were identified during this project.

In October of 2003, archaeologists with Cultural Resource Analysts, Inc. preformed a Phase I archaeological survey of a proposed lumber plant southeast of Lee City (Davies and Niquette 2003). The survey area consisted of a parcel encompassing 2.3 ha (5.7 acres) of land. At the time of the survey, the project area had been cleared and strip plowed. Field methods consisted of systematic surface collection supplemented with excavation of two shovel tests to document soil profiles within the project area. Soils from shovel tests were screened through ¼-inch hardware mesh (Davies and Niquette 2003:8). No artifacts were collected and no archaeological sites were identified.

In August of 2008, archaeologists with McGraw, Inc. performed a Phase I investigation of a proposed 185.3-acre coal mining area (McGraw 2008). Field methods included intensive pedestrian reconnaissance that included shovel testing of level areas at a 20 m interval. All soils from shovel tests were screened through ¼-inch hardware mesh (McGraw 2008:4). No archaeological materials or sites were identified during this project (McGraw 2008:4).

In December of 2010, archaeologists with Wilbur Smith Associates conducted a Phase I investigation of a proposed cellular tower location in Wolfe County (Daugherty 2010). The project included a 0.5-acre plot for the tower location and a construction easement and access road corridor totaling an additional 2.63 acres. Field methods involved an intensive pedestrian reconnaissance that included shovel tests placed at a 20 m interval. Soils recovered from shovel tests were screened through ¼-inch hardware mesh (Daugherty 2010:3.1). No archaeological materials or sites were identified during this project.

In July of 2011, archaeologists with Apogee Environmental and Archaeological, Inc. conducted a Phase I survey of a 3-acre tract to be affected by the construction of a proposed slaughterhouse west of Helechawa (Winterhoff 2011). Field methods involved an intensive pedestrian reconnaissance that included shovel testing. Shovel tests were placed at a 20 m interval and excavated soils were screened through ¼-inch hardware mesh (Winterhoff 2011:20). These survey efforts identified one historic archaeological site – 15Wo243. This site is located in the lot of a modern mobile home, but the recovered materials most likely pertain to occupation of a house that previously stood on this lot. The house was indicated on 1937 and 1955 county highway maps, and the remains of the structure were observed west of the project area. Historic artifacts included aqua and clear glass, a machine-cut nail, brick fragments, and a penny minted in 1920. Soils in positive shovel tests were mottled, suggesting recent disturbance, and other portions of the survey area had been graded for the placement of the mobile home (Winterhoff 2011:26). Given the evidence for site disturbance and the relatively small artifact assemblage (eight artifacts total), the site was deemed ineligible for nomination to the NRHP and no further work was recommended (Winterhoff 2011:29).

In July of 2012, archaeologists with Apogee Environmental and Archaeological, Inc. conducted a Phase I survey of 1.3 acres to be impacted by the construction of a proposed mine maintenance area along Eighth Branch in Wolfe County (Winterhoff 2012). Field methods involved an intensive pedestrian reconnaissance that included shovel testing. Shovel tests were placed at a 20 m interval and excavated soils were screened through ¼-inch hardware mesh (Winterhoff 2012:11). The survey identified a single collapsed above-ground historic structure, but no historic of prehistoric archaeological remains were identified. No archaeological sites were identified and no further work was recommended for the project are (Winterhoff 2012:14).

In addition to these surveys and archaeological sites recorded in reports of field work, eight additional archaeological sites were identified during background research in the OSA site files. Two of these sites – 15Wo146 and 15Wo146 – were identified by Transportation Cabinet archaeologists, but no mention of an accompanying report of field work is made on the site forms. The remaining six sites were identified during recent Phase I archaeological survey by Cultural Resource Analysts, Inc. for proposed widening of the Mountain Parkway. However, the report of this work has not been completed. Preliminary site forms dated to 2013 were provided for review by the OSA. Information gleaned from site forms is summarized below.

Site 15Wo145 is a prehistoric open habitation without mounds located on a high terrace located at the confluence of Rose Branch, Greenbriar Branch, and Trent Fork (site form on file at Kentucky OSA). The site was identified by James Hixon in 1993 during a surface reconnaissance of the landforms adjacent to the KY 205 bridge over Rose Branch. Site 15Wo145 is located on the east side of the highway and is in close proximity to 15Wo146. The latter site is located on the same high terrace, on the west side of KY 205. Site 15Wo145 was defined on the basis of a moderate density scatter of artifacts recovered from the surface of an agricultural plot. Materials extended from the edge of the high terrace to the north, covering an area of approximately 1,500 m^2. Artifacts consisted of 27 pieces of lithic debitage, a projectile point, and a hafted end scraper. The projectile point was similar to a Jacks Reef Corner-Notched, and, on this basis, the site was dated to the Late Woodland period. No ceramics were recovered from the site. No subsurface evaluation of the site was made. Hixon did not make an assessment of the significance or National Register eligibility of the site.

Site 15Wo146 is a prehistoric open habitation without mounds located on the same high terrace as 15Wo145. It is located on the west side of KY 205 just north of the bridge over Rose Branch. Like 15Wo145, the site was identified by James Hixon during surface reconnaissance of an agricultural plot. The site consisted of a low-density scatter of prehistoric materials distributed across an area of approximately 7,500 m^2. A total of 23 artifacts were recovered, including fifteen pieces of debitage, one abrader, four biface fragments, two utilized flakes, and one projectile point. The projectile point is of the Lowe Flared Base type, and suggested a Middle to Late Woodland date for the site. No subsurface evaluation of the site was made. Hixon did not make an assessment of the significance or National Register eligibility of the site.

Site 15Wo250 is a mid-19th to mid-20th century historic farmstead and prehistoric isolated find. All artifacts were recovered from shovel tests, which produced a moderate density of historic materials. Although artifact analyses were incomplete, the presence of machine-cut nails and whiteware suggested the proposed date range. Container glass, bricks, metal, and other ceramics were also recovered. Additionally, a single prehistoric flake was recovered from one shovel test. Other remains included three possible stone piers and a standing barn. Archival maps dating to 1889 depict a house in this location. However, no trace of the actual structure remains, and no evidence of subplow zone features was recovered in shovel tests. The site was deemed ineligible for NRHP nomination and no further work was recommended.

Site 15Wo254 is a mid- to late-20th century historic farmstead and prehistoric isolated find. Historic artifact density was relatively low, and included whiteware, wire nails, and container glass. Above-ground architecture includes a standing residence and three outbuildings. PVA records indicate that the house was constructed in 1938. Additionally a single Early Archaic bifurcated base point was recovered. All materials

were recovered from shovel testing at the site, but shovel testing did not reveal any subplow zone features. Given the relatively recent dates for the historic assemblage and the lack of integrity for the prehistoric isolated find, the site was deemed ineligible for nomination to the NRHP and no further work was recommended.

Site 15Wo255 is a prehistoric open habitation without mounds, dated to the Late Archaic period. The site was identified during systematic surface collection of a plowed agricultural field, supplemented by shovel testing. These efforts resulted in an assemblage of 16 prehistoric lithic artifacts, including one biface fragment, two projectile point fragments, and 13 pieces of debitage. Although the artifact analysis was incomplete, the biface is stylistically similar to Late Archaic hafted bifaces, thus dating the site. No evidence of intact subplow zone features was observed in shovel testing, suggesting that the materials at this site lack depositional integrity. The site was not nominated for the NRHP and no further work was recommended.

Site 15Wo256 is a prehistoric open habitation without mounds accompanied by a scatter of historic refuse. The site was identified from a surface scatter of artifacts in a plowed agricultural field, but it is unclear if supplemental shovel tests contained any material. The lithic assemblage was small, comprising three pieces of debitage. Additionally, a small assemblage of historic debris was also identified. Although a complete analysis of the materials from this site was pending, it was thought that the historic materials are 20th century in age and represent a scatter of refuse. No evidence of subplow zone features was identified. Given the lack of diagnostic materials and the lack of site integrity, the site was deemed ineligible for nomination to the NRHP and no further work was recommended for the site.

Site 15Wo257 is a late-19th to mid-20th century cemetery. The earliest monument in the cemetery bore a date of 1894, and other monuments indicate continued use into the mid-20th century. All marked monuments were associated with the Kash family. However, six of the headstones were plain concrete markers bearing no inscriptions. At the time that the preliminary site form was filed, archival research had not been completed, and without this information, it was unclear whether the cemetery was eligible for nomination to the NRHP. Avoidance of the location was recommended.

Site 15Wo260 is a historic cemetery dating to the early- to mid-20th century. The cemetery contained at least nine graves, five of which were marked. The fence surrounding the cemetery encloses an area that may contain additional unmarked graves. The earliest inscription dated to 1912. Archival research on the cemetery's occupants had not been completed when the preliminary form was filed, and it was not clear if the cemetery would be eligible for nomination to the NRHP. However, the cemetery is located fully within the proposed right-of-way and avoidance was recommended.

HISTORIC MAPS

Several historic map resources were located that provide information about the historic use of the project area. The Rand McNally (1924) transportation atlas depicts the course of the Ohio & Kentucky Railway Company rail line running through the project area (Figure 3.1). This line was constructed between 1899 and 1901, and it provided rail services for cannel coal and timber as well as passengers. The line remained in operation until 1933 (Berea College Hutchins Library 2014). The *Highway and Transportation Map of Wolfe County* (Kentucky Highway Department 1937) indicates that the present course of KY-205 is essentially the same as the former rail bed (Figure 3.2). This map also depicts several residential and commercial structures along the valleys. Although structures are distributed throughout the corridor, most structures form groups at named village and town locations. Notable among these are Helechawa, Lee City, Rosefork, and a small cluster of structures, including a store, north of Rosefork. Unfortunately, this map is of insufficient precision to determine whether these structures fall within the project corridor. Review of the Cannel City, KY (USGS 1965, revised 1993) and Lee City, KY (USGS 1965) 7.5" topographic quadrangles indicates that much of the early 20th century occupation of the project area disappeared by the mid-1960s. Many of the buildings south side KY-191 at its intersection with KY-205 were removed, probably to make

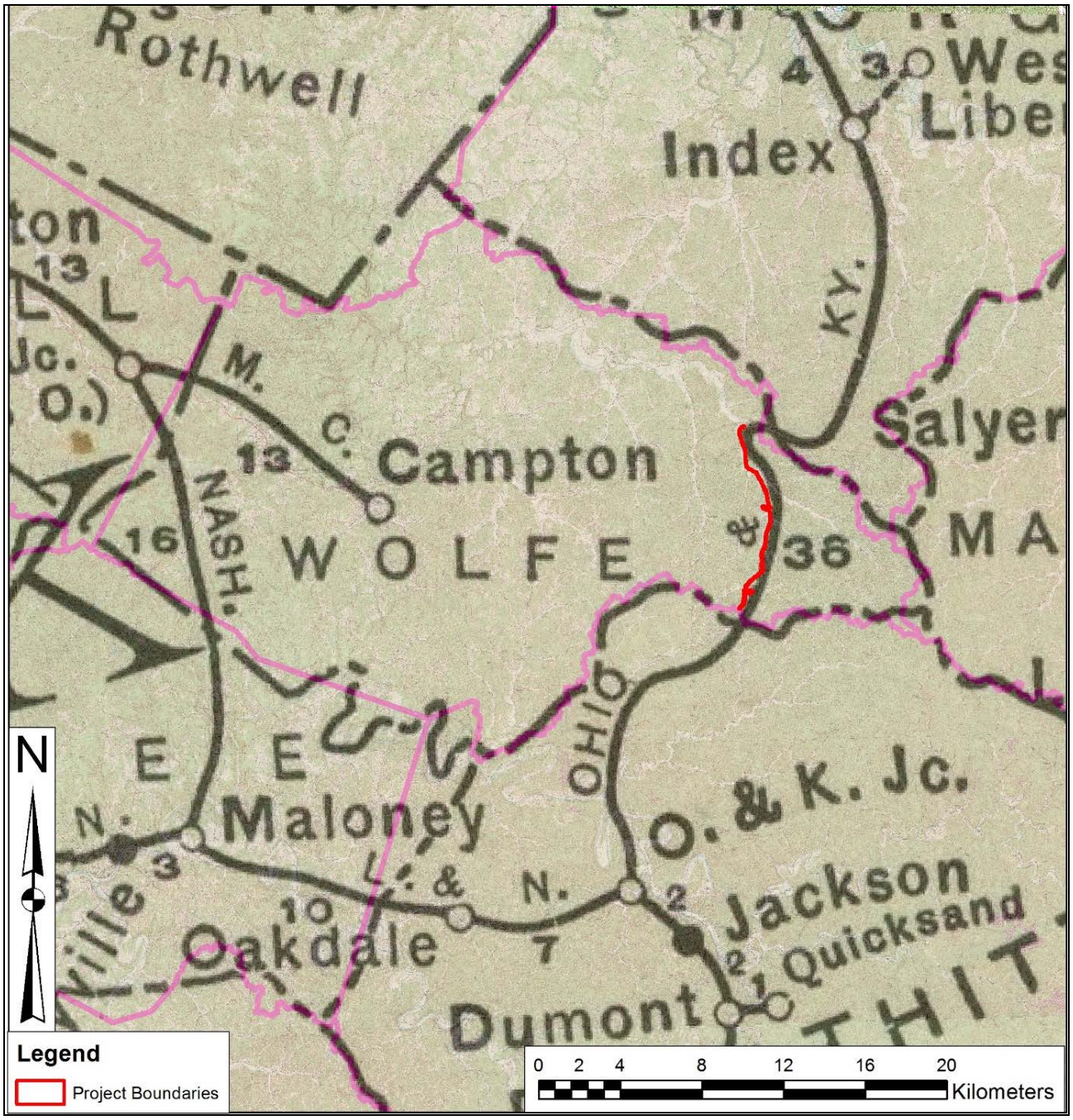

Figure 3.1. Relationship of Ohio & Kentucky Rail Line to Project Corridor.

way for the Helechawa Interchange of the Mountain Parkway. Likewise, several structures in and north of Rosefork were demolished by the late 1960s.

ARCHAEOLOGICAL RESOURCE POTENTIAL AND SURVEY PREDICTIONS

The review of archival sources, including surveys and previously identified sites, archival maps, and historical information about Wolfe County, suggests that both prehistoric and historic archaeological resources should be expected in the project area. Prehistoric remains in the project area and its surroundings indicate use of the region during the Archaic and Woodland periods. Further, the research indicates that two

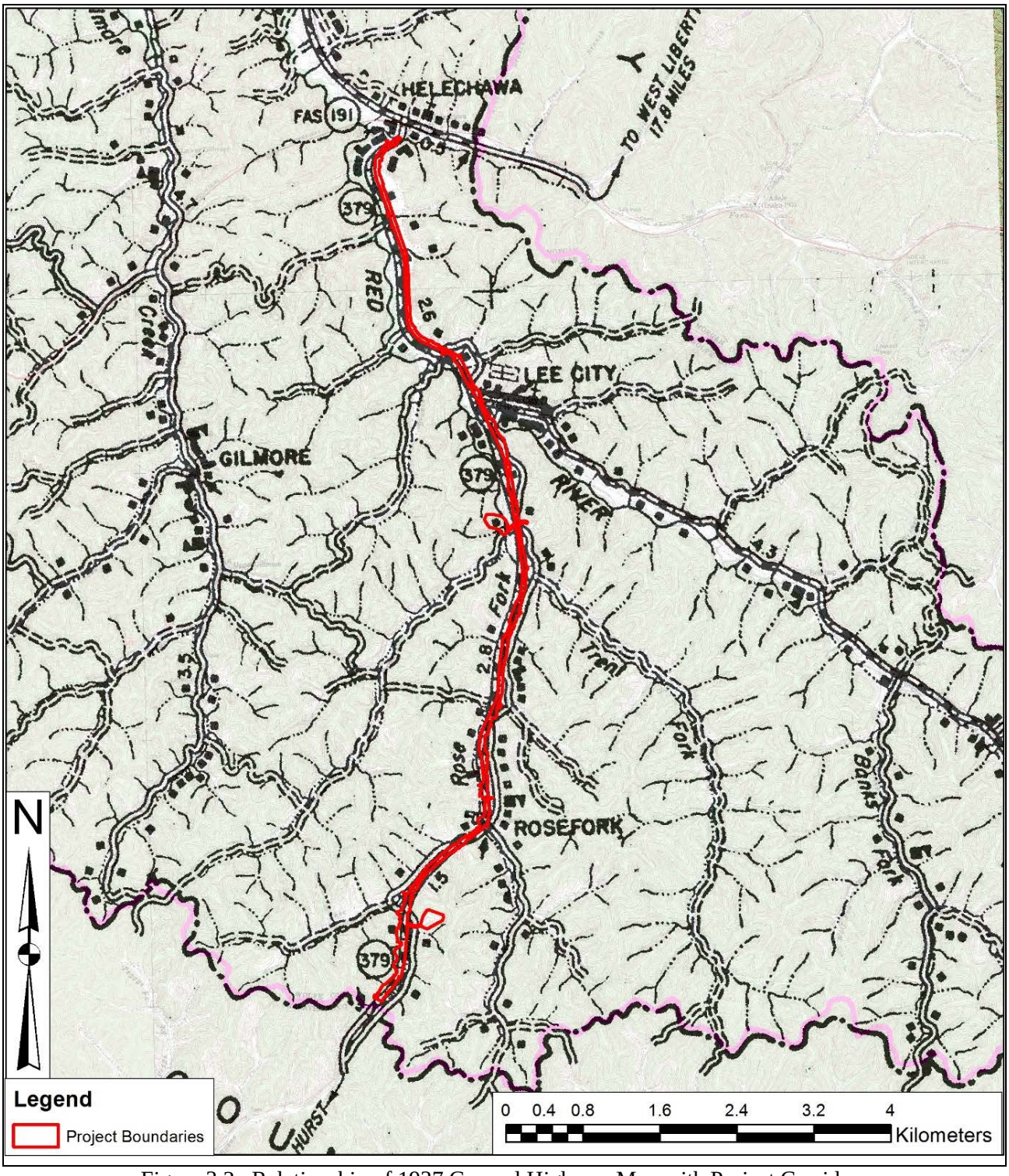

Figure 3.2. Relationship of 1937 General Highway Map with Project Corridor.

previously identified prehistoric sites dated to the Woodland period – 15Wo145 and 15Wo146 – lie on the same topographic landform at the confluence of Rose Branch with two of its tributaries. The proposed project corridor crosses several similar topographic localities, and there is thus a high likelihood that the survey will recover Middle Woodland or Late Woodland artifacts.

The historical research suggests that Wolfe County was occupied, albeit sparsely, during the early

and mid-19th century, and that settlement density increased during the late 19th and early 20th centuries as rail lines provided easier access to markets for coal and timber and opening the region to tourism. Likewise, historic maps suggest that the construction of the Ohio and Kentucky rail line through the project corridor served as a magnet for settlers. Likely, late-19th and early 20th century remains will be encountered.

CHAPTER 4
FIELD AND LABORATORY METHODS

The purpose of this survey was to identify any archaeological resources within the area to be impacted by the proposed widening and realignment of KY 205 in Wolfe County. The area under consideration included an examination of two corridors paralleling the existing route of KY 205, and which included existing and proposed rights-of-way and all proposed temporary easements. The corridors were each approximately 10 km long, and averaged approximately 20 m wide. Any identified resources were assessed for their potential eligibility for listing on the National Register of Historic Places (NRHP). The first section below describes the field methods used to locate and assess cultural resources within the project area. The second section discusses the laboratory and analytical methods used to evaluate the materials recovered from the various archaeological resources identified in the field survey.

FIELD METHODS

Field survey was conducted by intensive pedestrian reconnaissance that included visual inspection, systematic shovel testing, and use of a bucket auger for deep soil examination. Choice of survey method was dictated by current land use, evidence of previous ground disturbance, and ground slope. Figure 4.1 depicts the current land use in the project area, indicating areas that were subjected to shovel and auger testing and those that were subjected to visual inspection due to good surface visibility, ground slope, stream action, or extensive human modification. The ten sections of Figure 4.1 are arranged from north to south through the project area and together provide a complete and continuous depiction of landforms and survey methods.

Shovel testing was employed in areas where ground visibility was less than fifty percent and ground slope was less than twenty percent. Shovel tests were excavated on a 20 m interval until cultural materials were encountered. When prehistoric or historic artifacts were found, the sampling interval was decreased to 10 m. Additionally, a 10 m interval was used to examine the portions of sites 15Wo145 and 15Wo146 that fell within the project corridor. All soils from shovel test were screened through ¼-inch hardware mesh to ensure consistent recovery of materials. In practice, shovel testing was employed primarily in fallow agricultural plots where grass and other field vegetation obscured the ground surface. Most of the shovel tests excavated in this survey were concentrated in the northern portion of the survey area as the Red River valley in this portion of the project area was comparatively flat and wide. Much of this area had been cultivated in the recent past or was currently under cultivation. As the valley narrowed and increased in elevation to the south, the corridor increasingly traversed mountainsides with slopes greater than 20 percent, and areas that had been artificially leveled to accommodate residential structures.

A 10-cm diameter bucket auger was used to assess deeper soil profiles throughout the project area. Augers were placed at the base of shovel tests, and almost all reached the full depth permitted by the auger handle, approximately 160 cm. In the northern part of the project area, soils are frequently flooded, and augers were placed at an approximately two hundred meter interval in these soils. The upper reaches of the drainage were irregularly flooded, and auger testing was performed in these soils at approximately one hundred meter intervals. Soils from auger tests were treated in the same manner as those from shovel tests; they were screened for artifacts and the series of soil strata were recorded for all auger tests.

Agricultural fields planted in corn, tobacco, or soybeans and smaller garden plots were encountered within the survey area. These areas had surface visibility greater than fifty percent, and were subjected to visual inspection. Members of the survey crew walked along field rows at intervals of 3 meters or less and inspected the ground surface for artifacts. All observed artifacts were collected, and the spatial extent of these materials was used to define field site boundaries. At least one shovel test was placed adjacent to visually inspected fields to document soil profiles. In a few instances, the steep cut banks of the Red River and Rose Fork were visually inspected for artifacts and evidence of buried cultural strata.

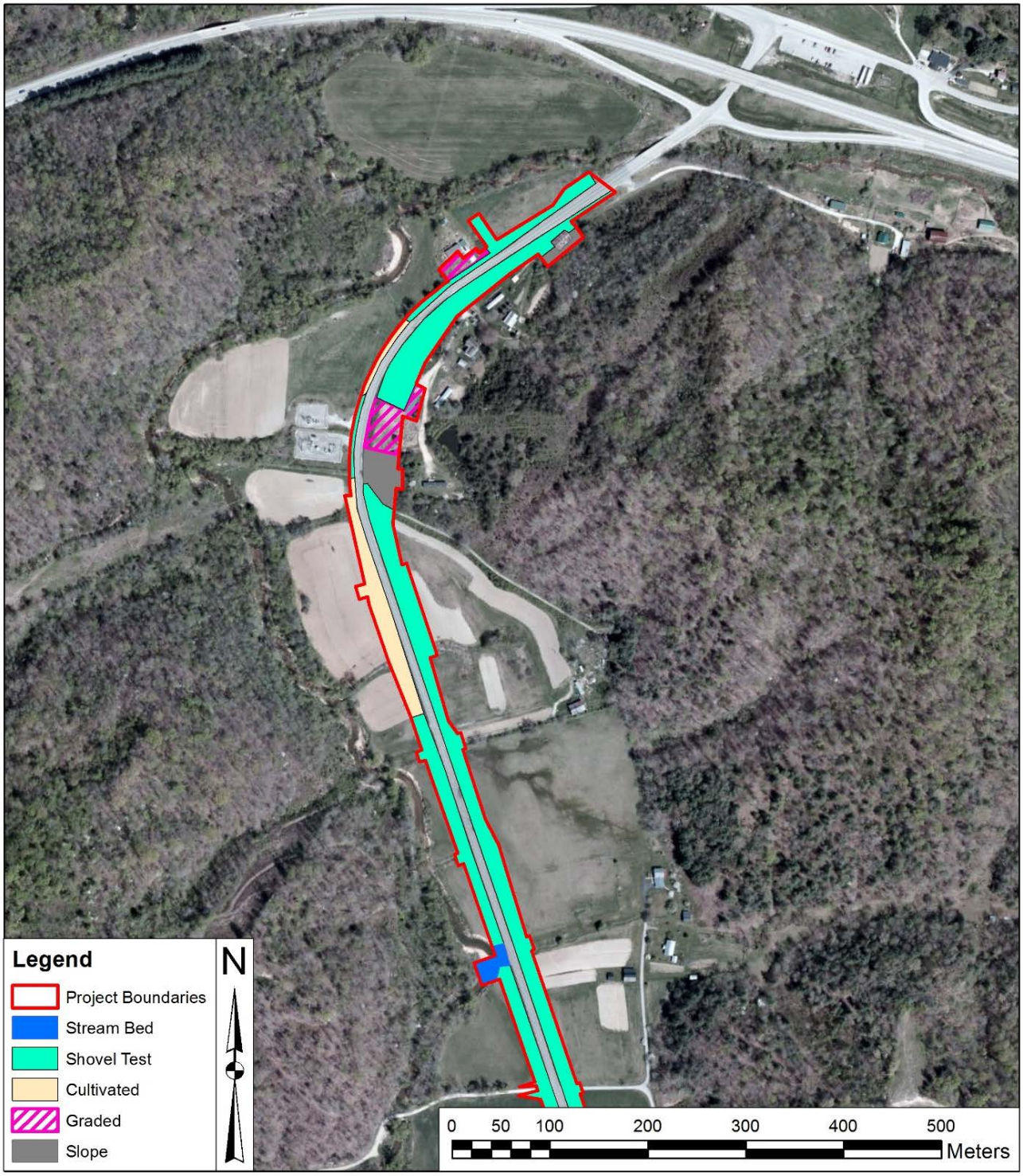

Figure 4.1. Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

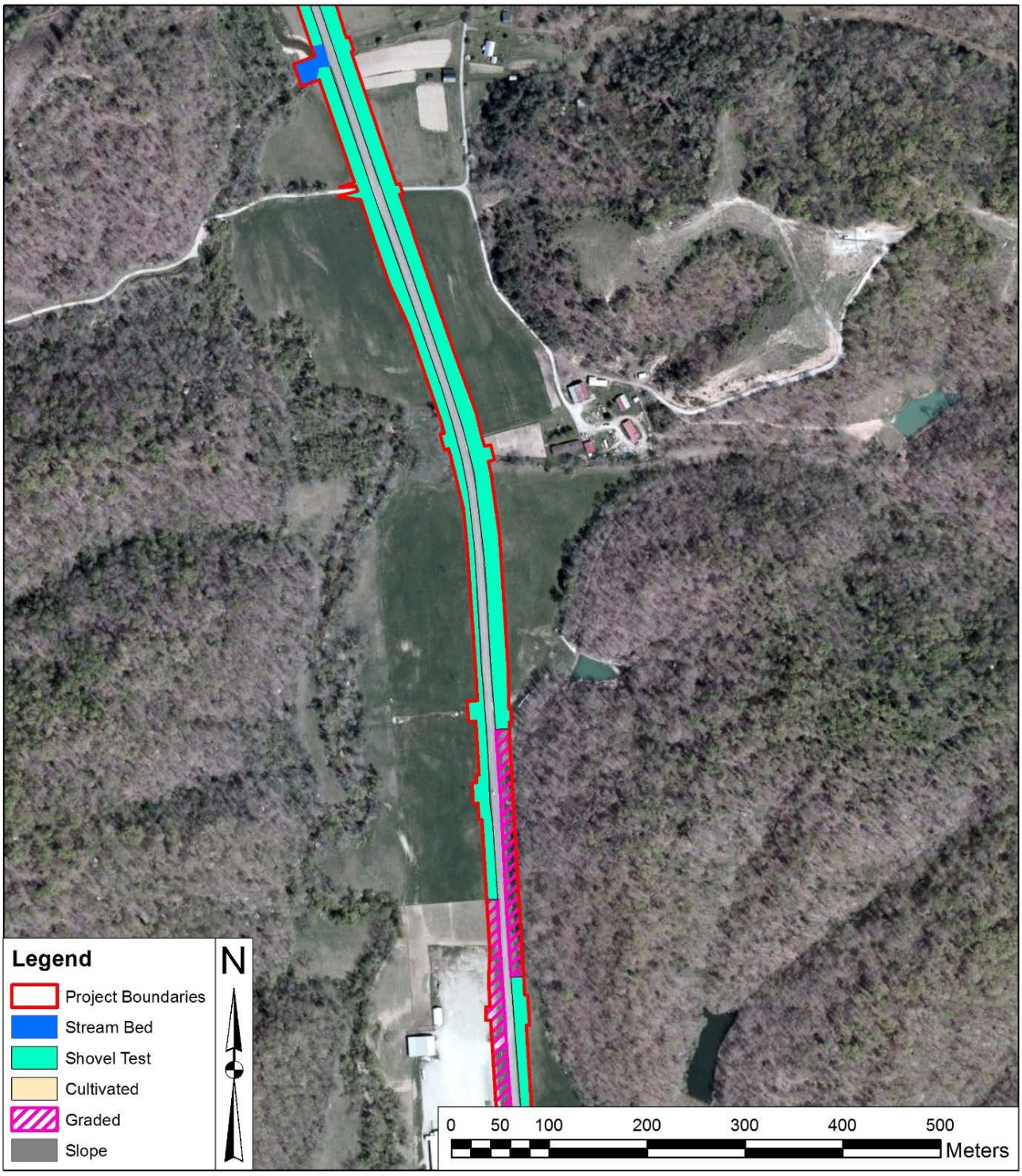

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

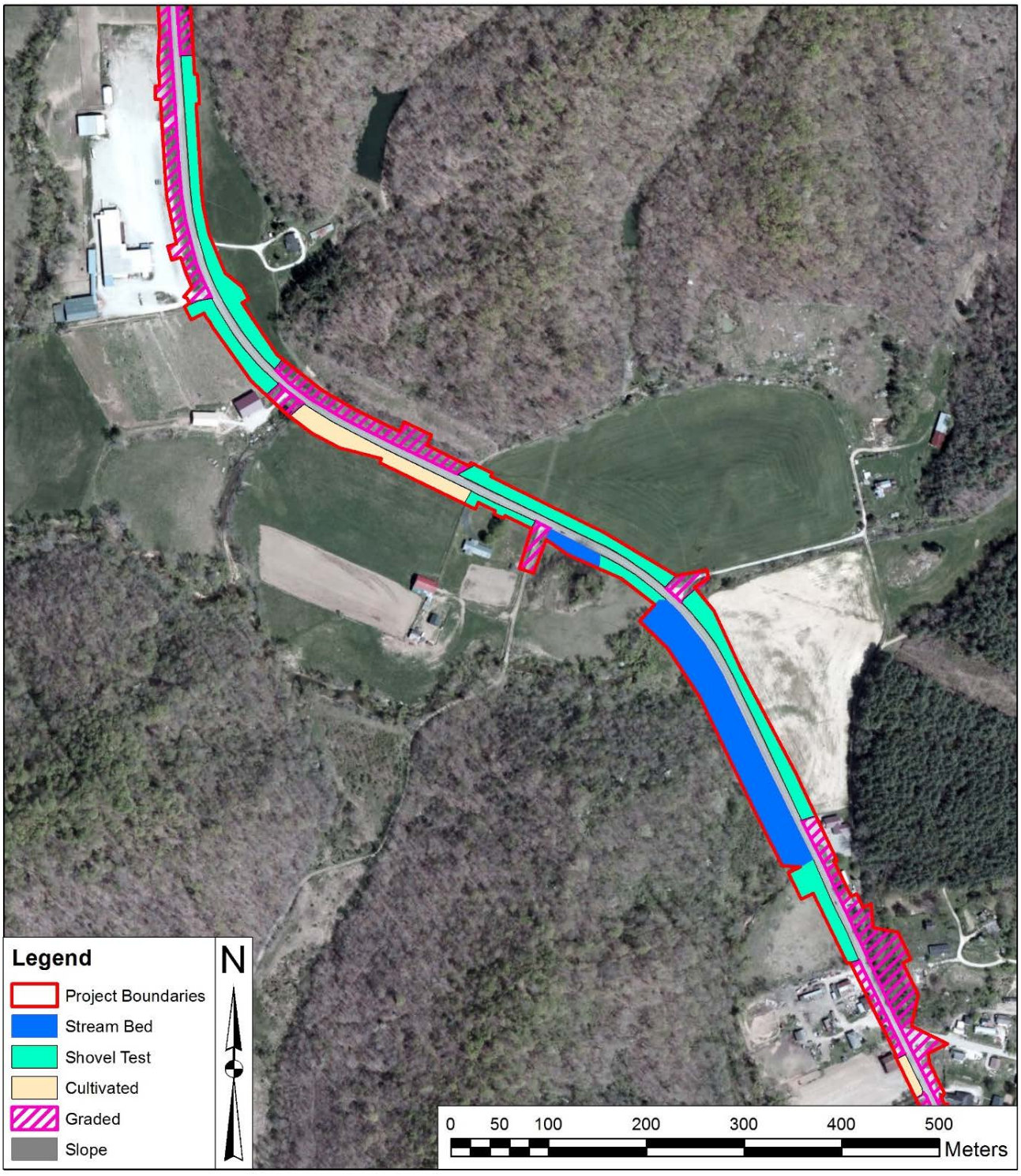

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

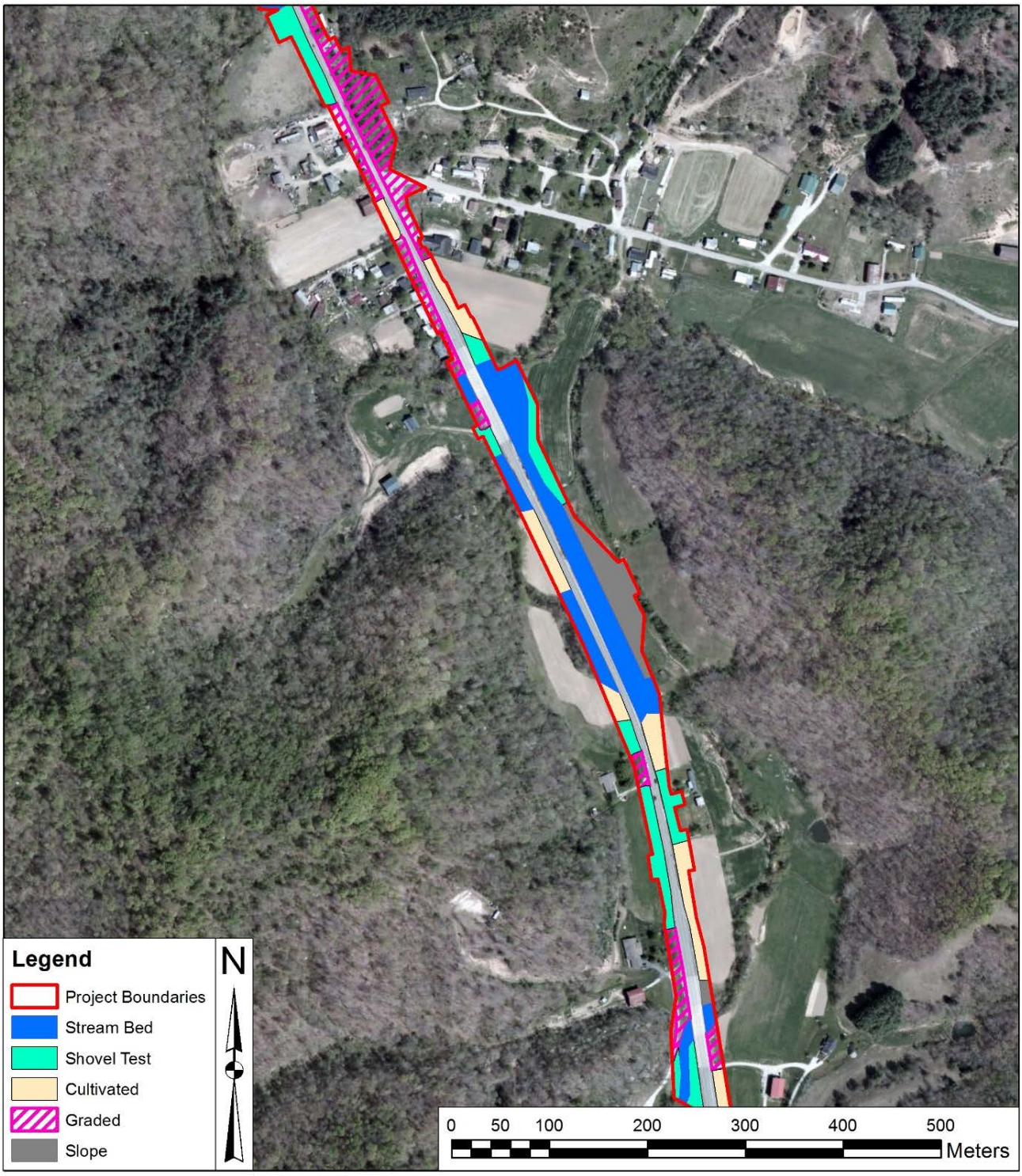

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

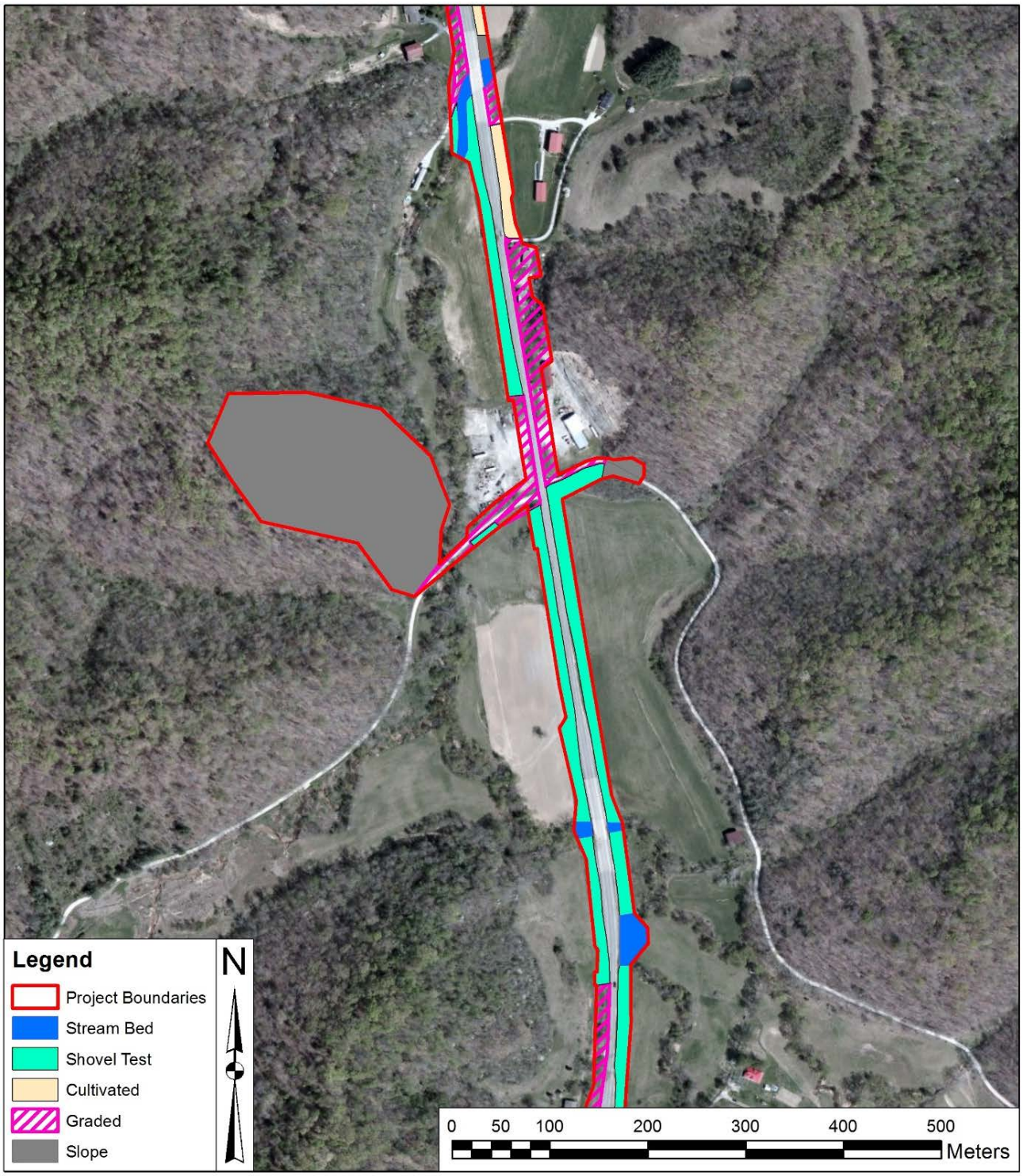

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

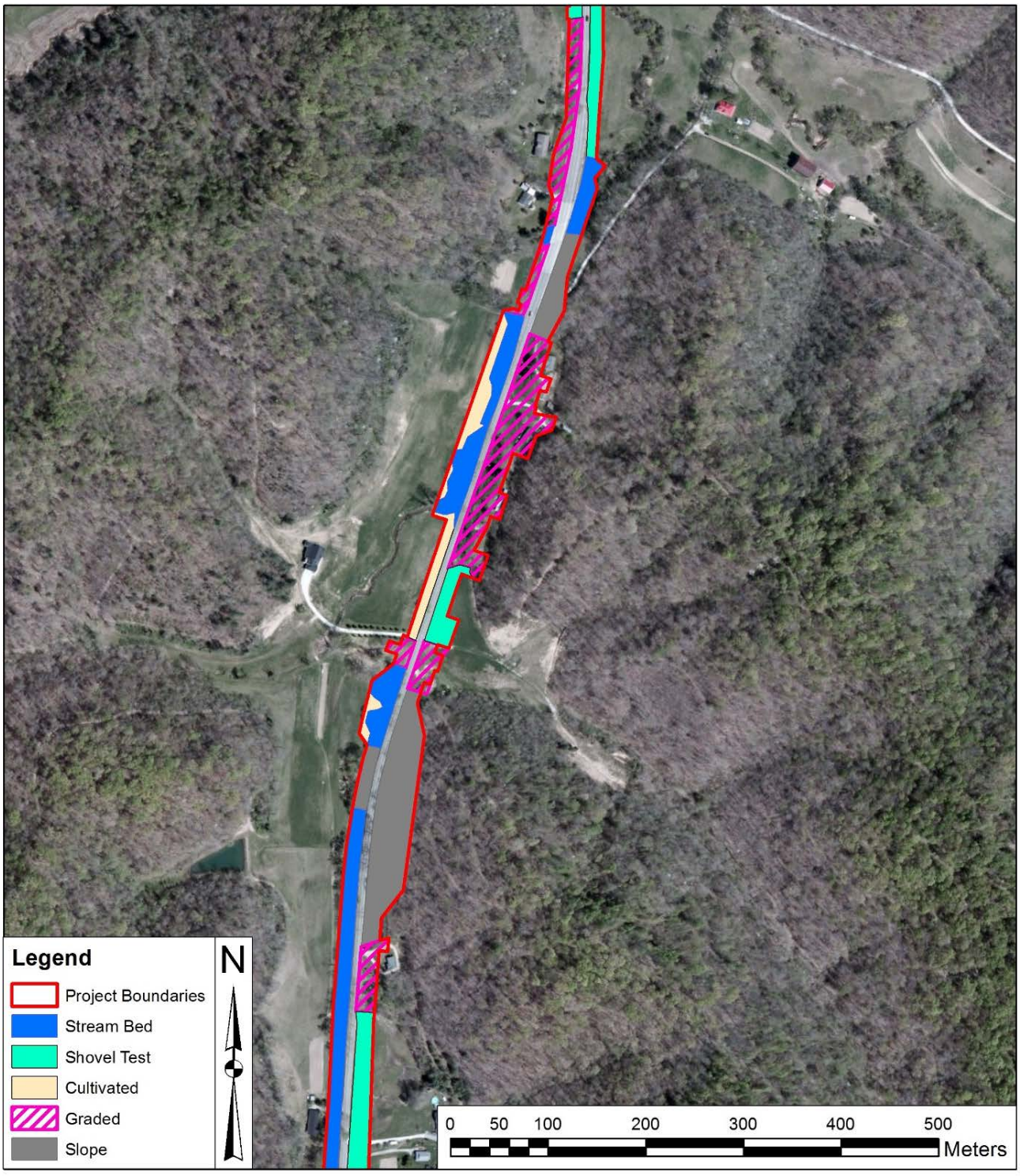

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

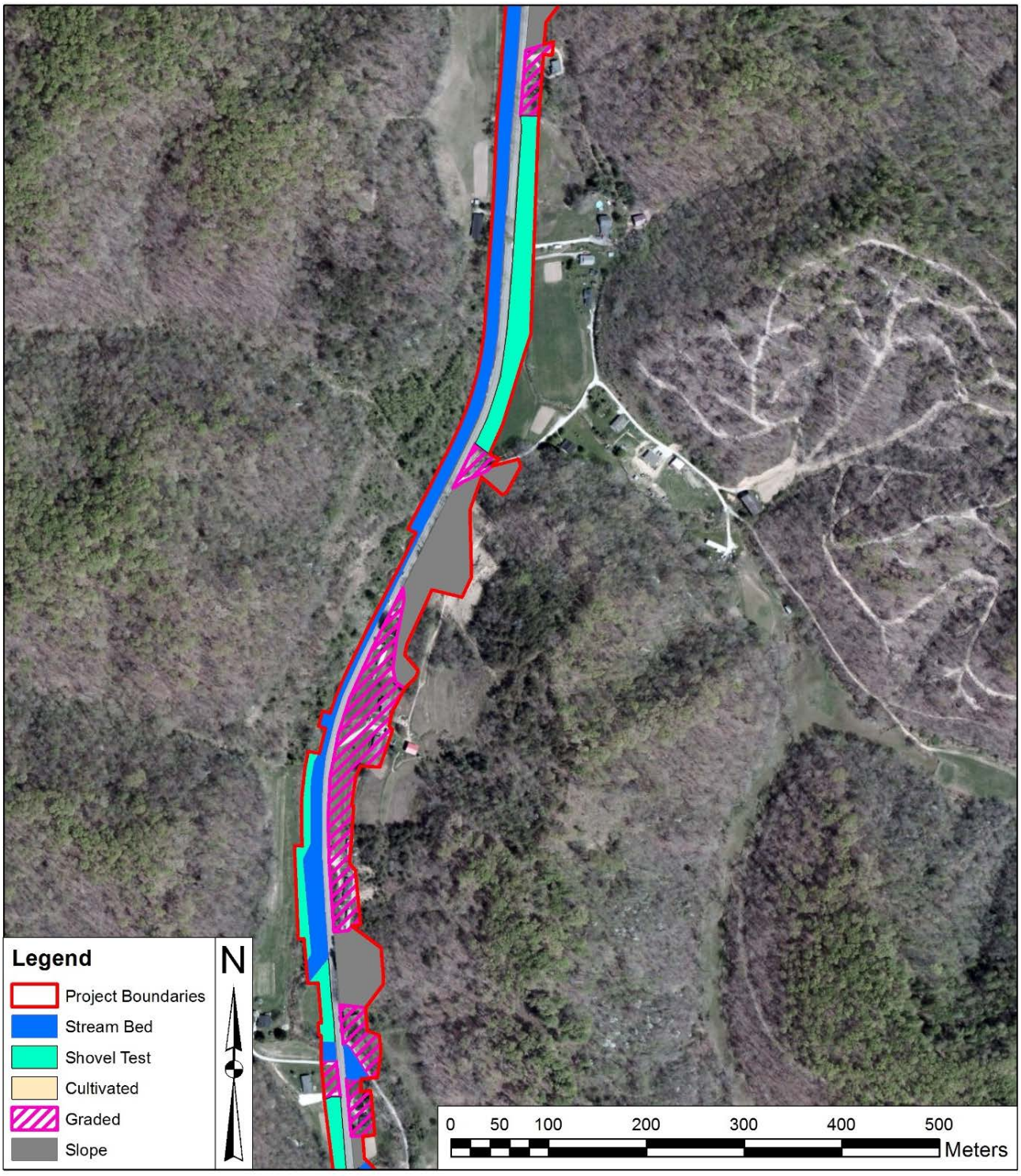

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

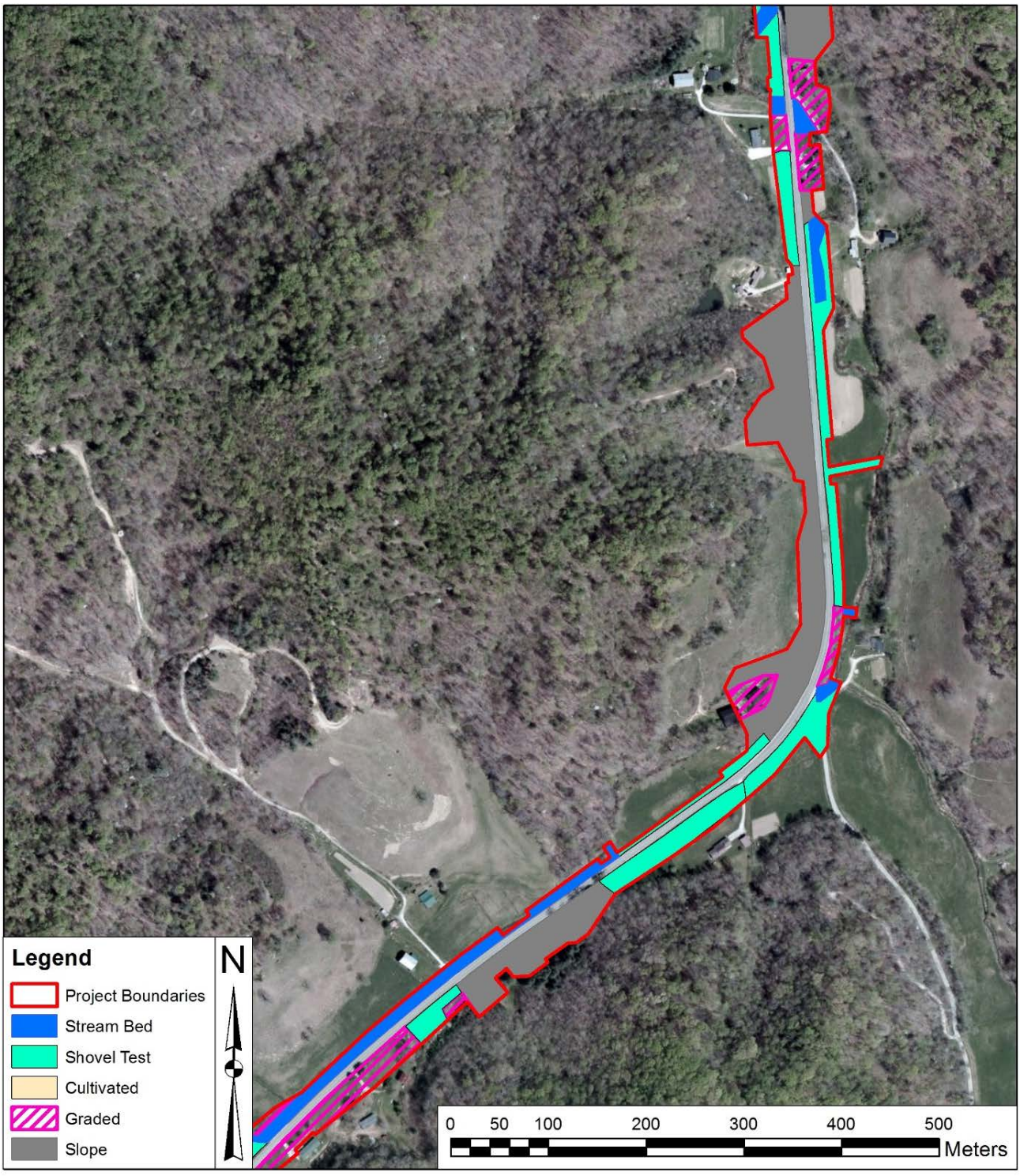

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

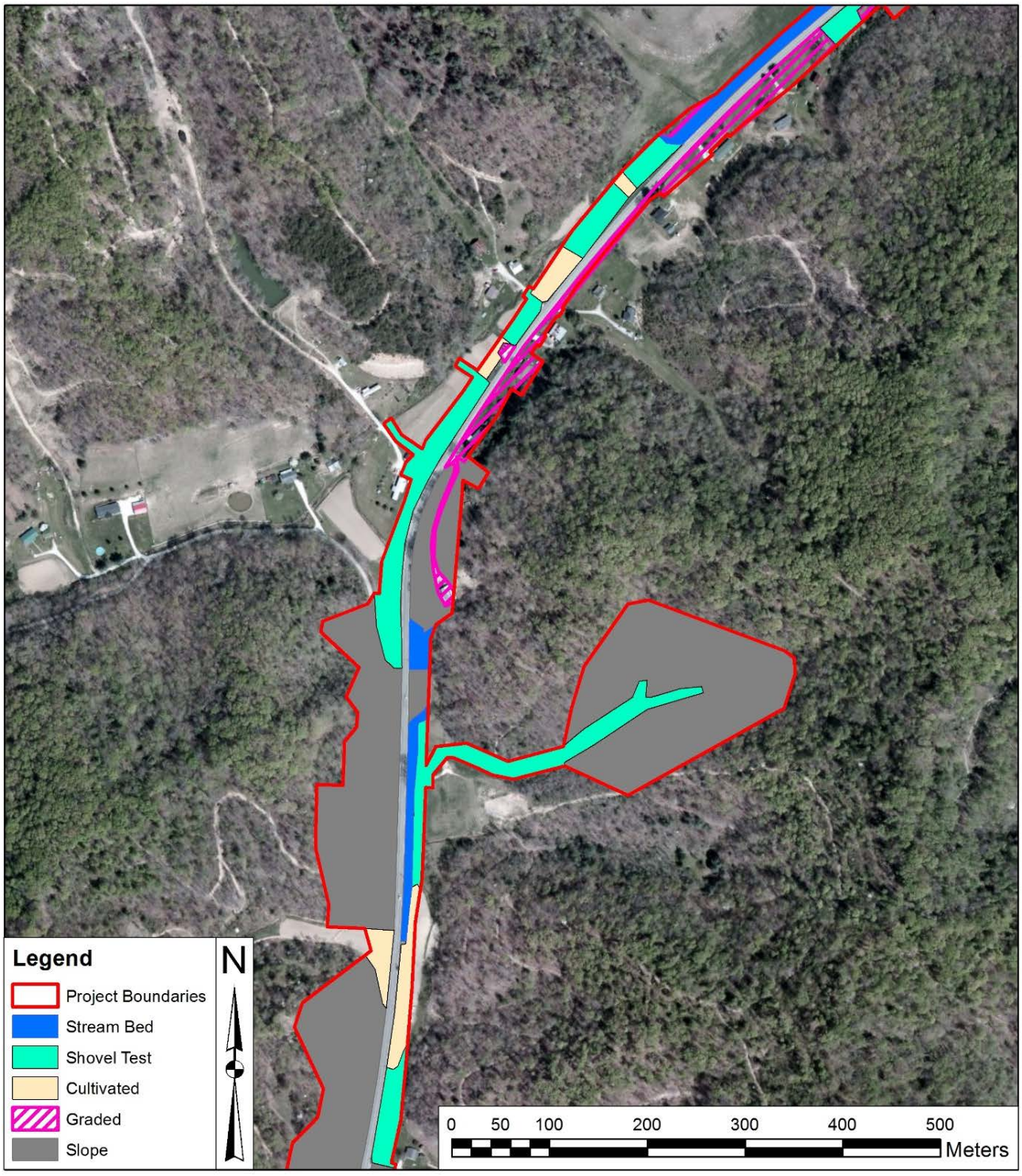

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

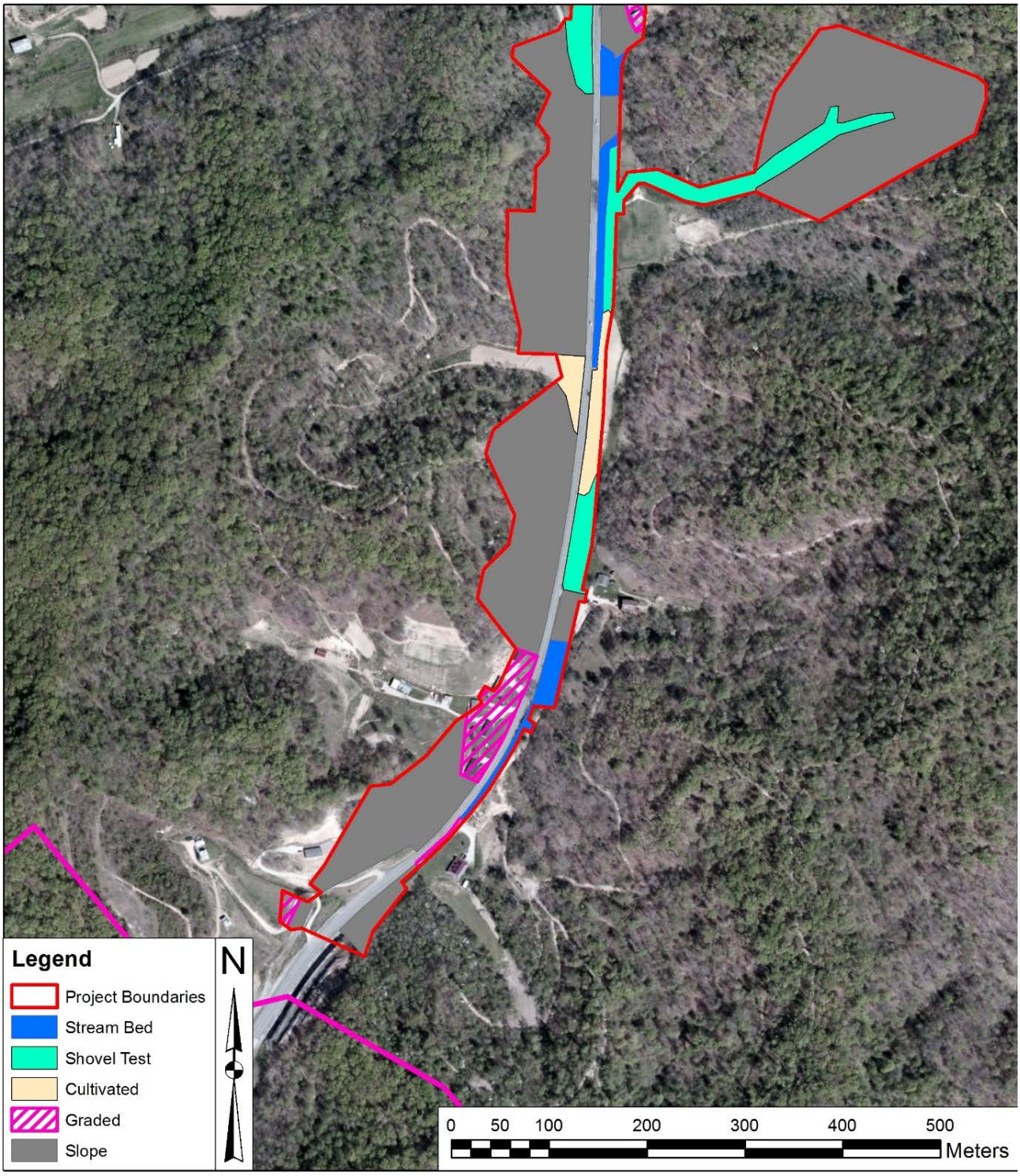

Figure 4.1 (cont.). Map of the Project Area Indicating Land Use, Land Modification, and Survey Methods.

Some portions of the project area were not subjected to systematic shovel or auger testing because they were either extensively modified by human activities, or they naturally had slopes exceeding 20 percent. At several locations, bulldozers had been used to cut away portions of toe slope to accommodate residential locations, or less frequently the road bed. These kinds of modification were easily identified, and were visually inspected for archaeological resources. In other locations, house lots had been graded to either

lower or raise land elevations to create level areas for houses and trailers. Typically, fill was brought in to raise houses out of flood-prone areas next to waterways. Mottled soils indicative of fill were noted on shovel test forms, but no augers were placed in shovel tests displaying such soil profiles. Additionally, several houses had also installed septic drainage fields below front lawns, and these drain fields were not shovel tested.

In addition to areas impacted by recent human modification, some areas were excluded from systematic shovel testing due to natural processes. In the southern part of the survey corridor, the valley narrowed considerably, bringing steep mountainsides closer and into the project corridors. Additionally, both of the large construction easements consisted primarily of highly sloped land. Sloped areas within the corridor or in the easements were visually inspected for archaeological resources, but were not shovel tested or augered. Additionally, the streambeds of Rose Fork and Tunnel Branch created disturbances in several locations in the southern portion of the project area. These areas were only visually inspected for archaeological resources.

The results of the shovel and auger testing revealed generally similar series of soils in the lower (northern) and upper (southern) portions of the project area. Specific soil profiles and the results of the field work are described in detail in Chapter 6.

LABORATORY METHODS

Artifacts were washed, catalogued, and analyzed at the laboratory facilities of UK-PAR in Lexington, Kentucky after completion of the field work. Following washing, the artifacts were separated into major material classes (e.g., historic ceramics, container glass) for more detailed description, identification, and analysis. Following analysis, an inventory was assembled using UK-PAR's standard descriptive typologies for prehistoric and historic artifacts. The following discussion of analytical methods describes only the artifact classes and categories represented in the project assemblage.

PREHISTORIC ARTIFACTS

Prehistoric artifacts were recovered throughout the project area at both exclusively prehistoric sites and as isolated finds. All prehistoric artifacts are classified as chipped stone, and both debitage and modified items (tools) are present. No prehistoric ceramics or ground stone artifacts were recovered. Analysis of prehistoric lithic artifacts involved a typological classification of chipped stone materials that focused on identifying the production trajectory and stage of reduction (Andrefsky 1998; Collins 1975; Odell 2003). In addition to morphological classification and assignment to reduction stages, the raw material type was identified for all chipped stone artifacts. Gregory Maggard analyzed the prehistoric lithic artifacts recovered from the survey.

Debitage

The production of stone tools involves the reduction of a larger piece of raw material to achieve a final desired tool form. The material that is removed during the production of tools, debitage, exhibits characteristics that indicate at what point in the reduction process it was produced. The reduction process typically results in production of flake debris that has attributes characteristic of the stage of reduction.

Cortical Flakes

Also called primary flakes, cortical flakes represent the initial stage of lithic reduction. An obtuse platform with no lipping, a pronounced bulb of percussion, and a significant amount of cortex on the dorsal surface (more than 50 percent) typically characterize this flake type.

Partial Cortical Flakes

Also called secondary flakes, partial cortical flakes are also considered to represent early stages of reduction that involve removal of cortex from cores and tool blanks and preparation of cores and blanks for subsequent thinning and shaping. Attributes of partial cortical flakes include an obtuse-angled or right-angled platform that shows no lipping on the ventral surface, a noticeable bulb of percussion, and presence of cortex on less than 50 percent of the dorsal surface (including the platform as part of the dorsal surface).

Interior Flakes

Interior flakes, sometimes referred to as tertiary flakes, exhibit 1) an identifiable platform that lacks evidence of flake scars, 2) a bulb of force on the ventral surface, and 3) no cortex on the dorsal surface and/or platform. These flakes are produced in intermediate stages of core or biface reduction. Large interior flakes may serve as blanks for production of tools, including small dart points, scrapers, or cutting tools.

Biface Thinning Flakes

Biface thinning flakes are flakes that have: 1) an identifiable platform, often with two or more distinct facets or flake scars, 2) a diffuse bulb of force on the ventral surface, 3) no cortex on the dorsal surface or platform, 4) a platform that forms an acute angle (ca. 45 to 60°) between the platform and the dorsal surface, and 5) a lip, or hook-like protrusion at the ventral edge of the platform. Biface thinning flakes are produced in the later stages of biface production and during biface maintenance and sharpening.

Flake Fragments

Broken flakes or flake fragments are pieces of flakes that lack either an identifiable platform or a bulb of force. However, the specimen is still identifiable as a flake by its relative thinness, the presence of dorsal flake scars, and a smooth ventral surface. Broken flakes also lack cortex, and this indicates that many were produced later in the manufacturing process, in intermediate or late stages. Flake fragments that have cortex on the dorsal surface were placed into primary or secondary flake categories based on the amount of cortex visible, and were not included in the broken flake category.

Angular Shatter

Shatter is a fragment of chert that has been culturally modified but lacks attributes that would allow it to be classified into any other debitage category. Angular shatter can be produced at any stage of reduction but is more likely a by-product of early stages.

Modified Chipped Stone Tools

Lithic chipped stone artifacts that show evidence of modification, either through use or by intentional shaping of the item, are considered tools. This general class of chipped stone tools can be further divided into a variety of specific categories based on the morphology of the artifact, location of the modification, presence or absence of intentional shaping, and the degree to which the artifact has been modified. These attributes also reflect the reduction stage of the tool, and the reduction stages represented in modified items can be compared to the range of reduction stages represented in debitage to more fully assess the types of activities conducted at sites and possible site function. The chipped stone artifact categories that commonly occur on prehistoric sites include unifacial tools of various shapes and functions, cores, and bifacial tools. Only bifaces were recovered during the project reported here.

Bifaces are modified chipped stone tools that show evidence of intentional shape or edge modification by removal of flakes from both aspects of the specimen. Assessment of the degree of modification allows bifacial tools to be placed into various stages of production that reflect the degree of refinement of the tool and its placement along a reduction stage continuum (Collins 1975, Odell 2003). Biface stages that are commonly recognized include rough, thick, thin, and finished (hafted) bifaces in order of sequential reduction. In the current assemblage, only a thick biface and the basal portion of a hafted biface were represented.

Thick Biface

Thick or Stage 2 bifaces show complete removal of cortex and the beginning of regularized shaping of the artifact. However, the bifacial edge is still sinuous in both plan and profile, and the tool is comparatively thick.

Hafted Biface

Hafted or finished or Stage 4 bifaces exhibit evidence of a hafting element. These represent the final stage in bifacial reduction and are commonly known as projectile points. Finished bifaces are refined and regular in appearance, and are generally symmetrical in plan, profile, and cross-section. The shape and manufacturing attributes of the haft element can be used to further classify the hafted biface or fragment into temporally sensitive types. Justice (1987) was used as a standard typological reference for morphological classification into previously defined types.

Cortex

For all debitage types and tools that exhibit cortex, the type of cortex was also identified. Nodular cortex is identified by its thick, granular, and often chalky rind and is indicative of extraction of chert raw materials from a primary geologic source location, such as residual weathered bedrock or bedrock outcrops. Water-worn cortex exhibits a thin, smooth, and often brown rind that has been smoothed by tumbling in streams. Water-worn cortex is indicative of extraction of chert raw material from secondary deposits such as gravel bars or ravines that are downstream from the primary source locations. A third type, designated subcortex, is very thin but is not water-worn. This type of cortex may be present along interior bedding planes and natural fracture zones of chert nodules or chunks. Its presence is not informative of extraction of chert from either primary or secondary deposits.

Raw Material Types

Chert forms in sedimentary rock strata and exhibits specific ranges of variation that allow analysts to identify the geologic formations from which the chert originated. Below, the characteristics exhibited by the raw materials recovered in this project area are described. Potential source locations of chert-bearing geological strata are also identified.

Boyle Chert

Boyle chert is present in the Middle Devonian aged dolomites of the Boyle Formation of central and eastern Kentucky, and occurs as nodules and discontinuous layers (Meadows 1977:102). The nodules are large and blocky, and can be found eroding out of its parent dolomite in a clayey soil environment (Schlarb et. al 2009: 40). While, these nodules often exhibit a white, chalky primary cortex, stream transported cobbles frequently exhibit a smooth, polished brown cortex (Schlarb et. al 2009: 40). The interior color is highly variable, with a mottled mixture of tan, blue, yellow, gray, and different shades of brown (Schlarb et. al 2009: 40). Boyle chert can range from earthy to waxy in appearance, and is generally opaque, but can be translucent (Schlarb et. al 2009). This material also can be highly fossiliferous, containing bryozoans, brachiopods, corals, crinoids, and echinoderms (Vento 1982). Boyle chert outcrops abundantly near the confluence of the Red River and Lulbegrud Creek in northern Estill County, approximately 60 km downstream from the current project area (Meadows 1977).

Newman Limestone Cherts

Newman Limestone is known to outcrop along the western boundary of the Eastern Coalfields (Applegate 1996; Meadows 1977). It also crops out near the Pine Mountain overthrust of southeastern Kentucky (Schlarb et. al 2009:40). The Mississippian-age Newman Limestone contains several chert-bearing members, including Haney, Paoli, and St. Louis. Each of these limestone members contains a subtype of Newman chert (Schlarb et. al 2009:40).

Haney chert can be distinguished by its high content of oolites, which can be observed by the naked

eye (Schlarb et. al 2009:41). Oolites are spheroidal or ellipsoidal bodies that are usually calcareous or siliceous in composition and are suspended within the chert matrix (Schlarb et. al 2009:41). According to Meadows (1977:109), other than its oolitic appearance, Haney chert is essentially the same as Paoli chert, but more translucent. Additionally, some specimens of Haney chert do not appear to be highly oolitic (Schlarb et. al 2009:41). Haney chert varies in color from white and buff, to tan, brown, and dark-brown (Vento 1982). This material also may contain brownish and grayish banding, or stripes. Haney chert is of high quality and fractures with ease (Schlarb et. al 2009:41). Haney chert is present between the north and middle forks of the Red River and increases its presence heading westward into central Powel County. These outcrops are approximately 40 km downstream from the current project area. Haney chert can be found throughout the majority of the Red River Gorge in varying degrees (Meadows 1977).

Paoli chert occurs as irregularly shaped and elongated nodules, and in thin discontinuous beds (Meadows 1977:108). This material is nonfossiliferous and highly silicified. Paoli is a colorful and variegated chert, sometimes displaying lines and swirls of red, brown, orange, yellow, and tan. It is vitreous and shiny, and can be semi- translucent. Paoli chert is a very high quality knapping material (Schlarb et. al 2009:41). Paoli chert is present between the north and middle forks of the Red River, near the confluence of the Red River and Cane Creek, and along the North Fork of the Red River though decreases its presence heading westward into central Powel County. These outcrops are approximately 40 km downstream from the current project area. Paoli chert can typically be found alongside Haney chert throughout the majority of the Red River Gorge in varying degrees, though is most prominent in eastern Powell county (Meadows 1977).

St. Louis chert occurs in nodular and tabular form (Vento 1982), and Meadows (1977:107) describe the green nodules as being almost perfectly spherical in shape, often quite large in diameter, and very dense. Because of these qualities, St. Louis chert generally requires considerable force to fracture (Schlarb et. al 2009:41). Nodules of St. Louis chert can be found in the basal strata of limestone cliffs (Schlarb et. al 2009:42). In addition, this chert type can be found scattered in alluvial streambed and terrace deposits (Schlarb et. al 2009:42). St. Louis chert ranges in color from white to red to differing shades of green, with the latter being the most predominant (Vento 1982). St. Louis Green chert outcrops abundantly in southeastern Powell County, between the confluence of headwaters that form the South fork of the Red River, as close as 34 km from the current project area (Meadows 1977).

Breathitt Chert

In eastern Kentucky, Pennsylvanian-age Breathitt chert (also known as Flint Ridge or Morse), outcrops in eastern Breathitt County and southwestern Magoffin County in the upper Breathitt formation (Vento 1982). Breathitt chert ranges in color from gray to bluish-gray, very dark gray, and olive (Schlarb et. al 2009:42). This material occurs in nodular and tabular form, and is microcrystalline to crypto crystalline in structure. It is highly siliceous and contains monaxon sponge spicules (Vento 1982). The current project area is surrounded by Breathitt geological formation. Breathitt chert would have been a primary source material and easily obtained.

HISTORIC ARTIFACTS

The historic artifact identification system used by UK-PAR includes both functional and temporal dimensions. At the most general level, material is classified according to functional group, which would include the Kitchen, Architecture, Furniture, Personal, Activities, Transportation, and Unassigned groups for this particular project. Subsumed within groups are artifact classes including, for example within the Kitchen group, Ceramic Cooking/Storage, Ceramic Tableware, Glass Tableware, and Container Glass. Within those classes specific artifact forms are also indicated. Temporally significant attributes, including both decorative elements and technological attributes, are also described (e.g., ironstone, stoneware, or decal printed). An additional descriptive level is provided that includes artifact-specific information such as glass color, vessel part, or maker's mark description. Each artifact category is further recorded by count. Once this information is entered into a computerized database or spreadsheet program such as Microsoft Excel, the results of

analyses can be filtered, sorted, and tabulated into selected inventory subsets or presented as a comprehensive inventory arranged by context. The specific artifact groups and classes represented in the current historic assemblage are further described below.

Kitchen Group

Artifacts assigned to the Kitchen Group reflect activities conducted in and around domestic kitchens, including preparation, consumption, and storage of foods. As such, a variety of materials and artifact types are included in the kitchen group, including ceramics (bowls/plates for food consumption, bowls and crocks for food storage and preparation), and glass (tableware and container glass). The most commonly recovered classes of Kitchen group artifacts are container glass and ceramic tableware.

Ceramics

Ceramic artifacts recovered from the project area include both refined ceramics and coarse ceramics. Within groups the ceramics were sorted by ware type and decorative features. Earthenwares in general are characterized by a clay body which is not totally vitrified in firing; they are porous and require a glaze to become impermeable to moisture. Many commonly available clays can be utilized to produce earthenwares, and earthenware bodies can be white, red, buff, or gray depending on the iron content of the clay and its source (Beazley 1989). Typically, refined earthenwares are made with white clay bodies. Stonewares are characterized by a clay body that is vitrified and nonporous. Stoneware bodies are also found in a variety of colors, however only buff colored stonewares were recovered from the project area. Porcelain is a heavily vitrified or fully vitrified white bodied ceramic used for expensive wares and for certain industrial products.

Porcelain

Porcelain is defined by a dense, vitrified body that is impervious to liquid and translucent. It is commonly divided into the categories of hard paste, soft-paste, and bone china. Hard-paste or true porcelain is made from a recipe including kaolin and feldspar. When fired, its glaze fuses to the body, creating a durable, smooth, and easily cleaned surface. A broken fragment of hard-paste looked at in cross-section appears glassy throughout, revealing no apparent dividing line between glaze and body (Ramsey 1947). Its surface tint is variously described as white, pale gray, or bluish (Ramsey 1947, Majewski and O'Brien 1987). Soft-paste porcelain is fired at a lower temperature and, as compared to hard paste, is more granular in texture, much softer, and more susceptible to sudden temperature changes. It presents a clearly defined glaze line when examined in cross-section. Its surface is variously described as ivory white, cream, or milky. Various recipes were used for soft paste porcelain, common components including glass frit and soapstone (Majewski and O'Brien 1987, Ramsey 1947, Bacci 1996, Owen 2002). Bone china is a hybrid between hard and soft-paste porcelain with a composition including bone ash (Collard 1967, Owen 2002). It has a flinty cross-section, very similar to hard-paste, and a bright white paste color, although broken edges can discolor after prolonged exposure to the soil (Majewski and O'Brien 1987, Miller 1991). Its surface color, at least in 19th century English examples, is ivory or cream-colored, and so, in that regard, it resembles soft-paste (Magid 2008, Majewski and O'Brien 1987). Porcelain vessels were rarely sold undecorated until the mid-20th century, however nearly all types of painted and printed decoration are found on porcelain wares (Majewski and O'Brien 1987).

Porcelain manufacture has a long history. Chinese export porcelain, the original hard-paste, was sold on the American market primarily in the form of table and tea wares. Pieces exported during the late 18th and early 19th century were typically painted in underglaze blue, a lesser number in a variety of overglaze colors. Many types of refined earthenware decoration mimicked these handpainted patterns. In America Chinese export porcelain is found throughout the 17th and 18th century (Hume 1970). During the early 19th century Chinese export porcelains were largely replaced by English and European porcelains (Collard 1967, Tolson et al. 2008). English and European porcelains began to be developed during the mid-18th century. Prior to the 1790s these porcelains were soft paste varieties. In 1794 Josiah Spode developed bone china and by the early 19th century this variety dominated the English industry (Mankowitz 1953). Despite its popularity in England, porcelain was less common in the United States prior to 1850 (Miller 1980, Miller 1991).

American production of porcelain began in the mid-18th century, but quantities of American porcelain were limited until the late 19th century (Owen 2007, Gates and Ormerod 1982).

Refined Earthenware

Whiteware and ironstone are the only two classes of refined ceramics represented in the current assemblage. Both whiteware and ironstone are commonly accepted classifications of refined earthenwares that have been created by archaeologists for purposes of analysis. These ware names stem largely from the construct of 20th century analysts seeking to classify quantities of sherds that were lacking decoration. The potters who produced the wares generally categorized them by method or style of decoration. In general, manufacturers either did not use the terms employed by archaeologists or assigned to them a different meaning (Kowalsky and Kowalsky 1999). Analysts who classify sherds by ware type based on subtle differences in glaze color are therefore engaged in a dubious enterprise. Archaeologists at the Maryland Archaeological Conservation Laboratory have suggested that undecorated refined earthenware sherds might better be classified as "decoration and date unknown." Rather than engage in unproductive arguments over ware types, analysts should instead concentrate on decorative technique and design, a subject more adequately addressed in period literature and capable of providing more refined and accurate site occupation dates (Maryland Archaeological Conservation Laboratory 2011). With this discussion in mind, definitions of the represented refined earthenware types, as commonly accepted for purposes of archaeological research, are given below, with an emphasis on the types of decoration employed on them.

Whiteware is a refined earthenware with a white paste and a clear or faintly blue tinted glaze. Whiteware was developed around 1820, although it did not become popular in America until the 1830s (Hume 1970). Whiteware is still produced today. Whiteware was developed from an earlier refined ware called pearlware by many pottery manufacturers all around the same period of time. Pearlware is distinguished by a blue tint in the lead glaze which disguised the yellow discoloration caused by impurities in the lead. Whiteware is the result of clarifying the glaze, reducing and eventually eliminating the blue tint (Mazrim 2007). It was available in a range of both tableware and teaware vessel forms. Whiteware decorations popular during the mid-19th century (1830s-1850s), included shell-edge, and straight-edge decorated, hand-painted, sprig hand-painted, cut sponge, transfer-printed, and flown colors (primarily blue). Transfer prints popular during this time period typically featured romantic, scenic, or floral designs (Williams 1978). Decal printing is an alternate method for printing on ceramics developed during the 1890s and is still in use today.

Ironstone is a refined earthenware with a white body and clear glaze, the paste of ironstone is more highly vitrified than whiteware and its predecessors. Ironstone, also known as white granite, was introduced onto the American market in the 1840s. Ironstone is still produced today. Decoration types commonly found on ironstone include hand painting, transfer printing, decal printing, and flown colors. These decorative types are also often found on whitewares. However, by the 1850s white ironstone with simple paneled or embossed floral and geometric decoration had come to dominate the market (Weatherbee 1996, Mazrim 2007). In general whiteware is differentiated from ironstone by the degree of paste vitrification.

Coarse Ceramics

Coarse ceramic types can be divided between coarse earthenwares and stonewares. Coarse earthenwares are fired at a lower temperature than refined ceramics and typically have red or brown paste colors. They are porous and require glazes in order to hold water or other liquids. Stonewares are fired at a higher temperature and are partially vitrified and nonpermeable. Both coarse earthenwares and stonewares are used for utilitarian vessels.

Stoneware is common on late 18th- to early 20th-century sites in Kentucky. Stoneware is a durable ware that was produced at a high firing temperature from clays that yielded a white, red, buff, or gray paste (Mazrim 2007). American stoneware production became widespread by the second quarter of the 19th century, and the stoneware recovered from the project area was likely to have been produced regionally. Ovoid jars and jugs were popular early forms; straight-sided jars became more popular by the mid-19th

century (Beazley 1989). Vessels were typically glazed by adding salt to the kiln during firing, creating an impervious surface with an "orange-peel" texture. Albany slip, a dull to shiny chocolate brown, was also commonly employed on mid- and late 19th century stoneware. Bristol slip, an opaque cream colored glaze came into use in 1884, and is often used in combination with Albany slip. Typically in cases where both types of glaze are used the Albany slip is on the vessel interior with Bristol slip on the exterior (Mullins 1988).

Container Glass

Glass containers (bottles, jars, etc.) are included in this category. These materials were sorted by color and by manufacturing type when possible. Bottle finishes were hand-applied prior to about 1840. Rough-applied finishes date from about 1840 to 1870, while tooled finishes date from about 1870 to 1903 (Baugher-Perlin 1982). Machine-manufactured bottles date after 1903 when the Owens automated glass process was introduced (Deiss 1981). Machine-made bottles can be recognized by lips that have seams or by bases displaying suction scars; earlier lip finish types lack seams. Standardized screw threads typically date from after about 1919 (Deiss 1981).

Many of the colors found in container glass are the result of the addition of chemicals used over specific spans of time, but identification of color tints is subjective, and the use of color as a temporal diagnostic is often of dubious value. True amethyst glass was produced from the 1840s into the 1880s. Clear glass that tints amethyst through solarization dates from about 1880 to 1914; the amethyst color in this case derives from the use of manganese in the glass formula (Society for Historical Archaeology 2011). Clear glass produced with a soda-lime formula superseded leaded glass by 1860 (Stelle 2001). Selenium, or straw colored glass was used from 1910 until the 1930s as a cheaper alternative to soda-lime glass. Selenium glass reacts to ultraviolet light by developing a faint yellow color. Aqua glass, in shades of blues and green, is common from the 1820s to 1930s. The color of the glass is caused by natural iron impurities in the sand used to manufacture the glass. Some aqua glass with a more pronounced blue tint was manufactured with the addition of cobalt to the glass mixture. Bright green is exclusively found in 20th century contexts. Milk glass is an opaque glass made by adding various substances to the glass mixture. Milk glass was used for cosmetic and toiletry bottles and jars between 1870 and the mid-20th century (Society for Historical Archaeology 2011). Brown, or amber, glass has been in common use from the early 19th century into the present. During that period its most common use has been in the manufacture of beer bottles (Society for Historical Archaeology 2011).

Sherds of container glass may be marked to identify a commercial product, a container manufacturer, or both. Some of these methods, such as embossing or silk-screening, are temporally diagnostic. Embossing on glass has a long period of use, beginning in the 1700s, with letters carved into a mold (Baugher-Perlin 1982). By the late 1850s, plate molds were developed for embossing, which increased the availability of embossed bottles (Fike 1987:5; Pullin 1986:355). The advent of paper labeling led to a general decline in embossing by around 1920 (Fike 1987). Also developed during the 1920s, "applied color labeling" became common after 1930. This process created a heat-hardened printed label on the exterior surface of containers (Society for Historical Archaeology 2011).

Table Glass

Table glass, including tumblers and stemware, is differentiated from container glass by the use of presses or plungers in the manufacturing process. This creates an open mouth on the vessel, and there are no constricted closures. The rim may be modified through a variety of treatments (grinding, fire polishing, etc.), and there is considerable variation on the types of molds used to produce the external surface. However, color and use of silk screening, embossing, and painting as decorative techniques generally parallel have the same periods of use as for container glass.

Architecture Group

Artifacts in this category are materials commonly used to construct buildings, as well as relatively

permanent materials placed in structures to enhance their use. The most commonly recovered items in the architecture group are nails and window glass.

Nails

Hand-wrought nails have been present in North America since initial European settlement (Nelson 1968). Hand-wrought nails are manufactured entirely by hand and do not include any elements of machine-manufacture. Special-purpose hand-wrought nails and spikes continued to be made into the late 19th century, but general-purpose hand-wrought nails began to be replaced by machine-cut nails with hand-finished heads between 1790 and 1810 (Nelson 1968). Machine-cut nails with machine-made heads first appeared in 1805 (Nelson 1968). From 1790 until about 1830, machine-cut nails may show a slight constriction just below the head, forming a noticeable shoulder. Combination hand-made/machine-cut nails and machine-cut nails with shoulders are classified as early machine-cut nails. After the 1830s machine-cut nails taper evenly from the base of the head to the tip; these are considered late machine-cut nails. Machine-cut nails are still in use, but they were widely replaced by wire nails in the 1880s (Mansberger 1981, Nelson 1968).

Window Glass

At the turn of the 19th century, flat (window) glass was produced by one of three methods—crown, cylinder, or casting (Lorrain 1968). Crown technique involved spinning a blob of glass attached to the end of a metal rod. The flat glass was allowed to cool and was then cut into the desired shape for windowpanes. Crown glass manufacture continued in production until about 1820 (Stelle 2001). From about 1820 to 1920, the cylinder method of flat glass production was used. A blob of hot glass was formed into a cylinder by swinging the glass, and then it was cut down its long axis and reheated, forming a flat piece of glass (Stelle 2001). Straight distortion lines are characteristic of the cylinder method. Pane glass refers to flat glass typically less than 3 mm thick produced by the crown or cylinder methods. Production of flat glass by casting creates plate glass, which is made by rolling the hot glass on a flat surface of sand, after which the glass is ground and polished. Typically plate glass measures more than 3 mm in thickness. The 1903 invention of the cylinder glass machine and the implementation of the continuous sheet process in 1917 (Deiss 1981) made flat window glass more affordable and of standardized thickness.

Color and thickness of window glass can be temporally informative, but a statistically robust sample is needed to produce an accurate date (Moir 1987). However, the general trend is for window glass thickness to increase through time. Moir (1987) developed a regression formula to estimate construction and repair dates from mean glass thickness data. That formula is used in the present analyses, with the understanding that it is best applied to construction activities that date between about 1810 and 1920, and that a relatively large sample size is needed for high confidence in the statistical analysis. Individual specimens or sample sizes less than 30 are not generally acceptable for use with the Moir regression formula, and all dates derived from its use have a statistical error of plus or minus 7 to 10 years.

Building Materials

Building materials is a category encompassing a wide variety of materials used for construction of buildings. Brick and mortar structures are common in Kentucky, and these materials have been used in the region since the 18th century.

Furniture Group

Artifacts in the Furniture group include household furnishings and hardware associated with these furnishing. Examples would include mirrors, lamps and lamp parts, trunk hardware, pull knobs or casters for furniture. For the present sample, Furniture group artifacts include incandescent light bulb glass, a terra cotta flower pot rim, and a porcelain doorknob.

Personal Group

Artifacts in the Personal Group include items associated with clothing and personal belongings.

Examples include buttons, toys, keys and coins. Personal items recovered from the project area include marbles, milk glass ointment or cosmetics containers, a ceramic smoking pipe, and the foil and cellophane wrapper from a cigarette package. Marbles are made from stone, ceramic, or glass. Stone and ceramic marbles are found in America since the colonial period. Ceramic marbles are less common after the end of the 19th century. Glass marbles were initially handmade after 1852 and after 1910 they were made by machine (Carskadden and Gartley 1990).

Activities Group

The Activities group includes items that were necessary to provision the operation of farmsteads, but were not directly related to the domestic structure (i.e. Furniture, Kitchen, and Personal Groups). Activities items found in the project area included wire fence fragments, an iron nut, and field drainage tile.

Transportation Group

Artifacts in the Transportation Group include items associated with transportation. Examples include car parts and horseshoes. A fragment of a horseshoe was recovered from the project area, as well as the lamp globe from an automobile headlight.

Unassigned Group

Materials are placed in the Unassigned group when their function and artifact category cannot be determined. This group most commonly includes small fragments of corroded metal or unique objects. Unassigned objects recovered from the current project included melted glass, coal slag, and various pieces of corroded metal.

CURATION

All artifacts recovered during this survey project were prepared for curation according to the standards of the University of Kentucky's William S. Webb Museum of Anthropology and are curated at that facility. A copy of this report and all field notes, artifacts, and photographs pertaining to this study is curated at the William S. Webb Museum of Anthropology, Lexington, Kentucky, according to the standards outlined in 36 CFR Part 79 *Curation of Federally-Owned and Administered Archaeological Collections.* All artifacts were washed and placed in inert, labeled plastic bags. These bags were then placed in acid-free boxes for storage. Materials and records are available for inspection by qualified researchers upon written request.

CHAPTER 5
DESCRIPTION AND ANALYSIS OF MATERIALS RECOVERED

This chapter provides detailed descriptions and analyses of the cultural materials recovered during the Phase I survey of the KY-205 project area. The purposes of the materials recovered chapter are to present an overview of the temporal and functional classification of the artifacts recovered from the project using the classification schemes discussed in the previous chapter, and to present substantive interpretations of these materials as they relate to the historic or prehistoric occupations of the identified sites.

PREHISTORIC ARTIFACTS

A small assemblage (n=49) of prehistoric lithic artifacts was recovered from the project area. Primarily, these artifacts represented debitage (n=47) associated with the manufacture and maintenance of stone tools. Additionally, two non-diagnostic biface fragments were recovered. Although the lithic assemblage from the project area was not temporally diagnostic, it indicates that a wide range of activities involving the manufacture, curation, and use of stone tools took place in the project area.

Table 5.1 presents the results of the classification of the lithic assemblage into reduction stage categories. Stages represented include cortical flakes (n=2), partial cortical flakes (n=2), interior flakes (n=5), biface thinning flakes (n=10), flake fragments (n=17), and shatter (n=11). Flake fragments comprise the largest category of debitage, roughly 34.7 percent of the total lithic assemblage. However, a large part of the assemblage also consists of biface thinning flakes (20.4 percent), shatter (22.5 percent), and interior flakes (10.2 percent). Cortical flakes and partial cortical flakes are present, and each represent 4.1 percent of the total assemblage.

The assemblage exhibits a pattern of increasing frequency of flake counts associated with sequential stages through the reduction sequence. This kind of pattern is expected when the entire range of reduction activities takes place. Further, this pattern is reflected in the assemblages of three of the four prehistoric sites identified in the project area. Sites 15Wo269, 15Wo145, and 15Wo146 each exhibit both early stage (cortical or partial cortical flakes) and intermediate to late stage (interior flakes, biface thinning flakes, flake fragments) debitage classes. The absence of cortical flakes at these sites presents the possibility that cores were at least partially reduced elsewhere before being transported to these sites. However, it is also possible that the small samples of material gathered at these sites simply did not capture cortical flakes, which may be relatively low in proportion even when the entire range of lithic reduction is represented. The debitage assemblage from 15Wo275 includes only intermediate to late stage debitage and may reflect a more limited set of activities performed at that site.

Table 5.2 describes the chert raw materials encountered in the project area. A variety of Pennsylvanian and Mississippian age cherts were utilized, included Breathitt, Boyle, Haney, Paoli, and St. Louis. Breathitt (n=14), Paoli (n=13), and Boyle (n=12) were utilized in roughly equal proportion within the project area, and together represent 79.6 percent of the raw material types. Haney (n=8) chert represents 16.3 percent of the total assemblage, and St. Louis (n=2) was used sparingly within the area. The assemblage from 15Wo145 exhibits a preference for Breathitt chert. This preference is not exhibited in other sites in the project area, which utilized Boyle, Breathitt, Haney, and Paoli at similar rates. Likewise, the cherts recovered from isolated finds exhibit the gamut of raw material types identified for the project area as a whole. As noted in Chapter 4, the Breathitt Formation underlies the project area, and these chert can be considered local to the project area. However, Breathitt chert is generally of lower quality than the Mississippian cherts (Haney, Paoli, St. Louis) and the Devonian Boyle chert. These other higher-quality chert types are available in the Red River Gorge, approximately 30-60 km from the project area. The high proportions of relatively nonlocal but also higher-quality chert material suggests that the Red River Gorge area was regularly visited by project area inhabitants, during which times these cherts were obtained.

Table 5.1. Prehistoric Lithic Debitage and Tool Categories. All isolated finds are combined.

Category	15Wo269	15Wo272*	15Wo274*	15Wo145	15Wo146	15Wo275	15Wo276*	IF-Total	Total
Cortical Flake	1							1	**2**
Partial Cortical Flake				1	1				**2**
Interior Flake				4				1	**5**
Biface Thinning Flake	2			4	2	1	1		**10**
Flake Fragment	1		1	7	2	3	1	2	**17**
Shatter	1	1		1	2	1		5	**11**
Biface Fragment	1		1						**2**
Total	**6**	**1**	**2**	**17**	**7**	**5**	**2**	**9**	**49**

* Indicates prehistoric isolated finds at a primarily historic site.

Table 5.2. Chert Raw Material Types. All isolated finds are combined

Raw Material	15Wo269	15Wo272*	15Wo274*	15Wo145	15Wo146	15Wo275	15Wo276*	IF-Total	Total
Boyle	2	1		4	2	1		2	**12**
Breathitt	1			10	1	1		1	**14**
Haney	3				2		1	2	**8**
Paoli			2	3	1	3	1	3	**13**
St. Louis					1			1	**2**
Total	**6**	**1**	**2**	**17**	**7**	**5**	**2**	**9**	**49**

* Indicates prehistoric isolated finds at historic sites.

Table 5.3. Artifact Categories by Raw Material Type.

	Breathitt	Boyle	Haney	Paoli	St. Louis	Total
Cortical Flake			1		1	**2**
Partial Cortical Flake				1	1	**2**
Interior Flake	2	3				**5**
Biface Thinning Flake	5	2		3		**10**
Flake Fragment	6	4	4	3		**17**
Shatter	1	3	2	5		**11**
Biface Fragment			1	1		**2**
Total	**14**	**12**	**8**	**13**	**2**	**49**

Table 5.3 shows the distribution of raw material types among reduction stage and other artifact categories. Boyle, Breathitt, Haney, and Paoli chert types are well represented in intermediate and late stage debitage types. Also, Haney and Paoli cherts were used to manufacture the two biface fragments recovered in the project area. Early stage debitage was relatively uncommon in the project area, but cortical and partial cortical flakes were produced from Haney, Paoli, and St. Louis nodules. St. Louis chert, the least commonly used raw material, is only represented in early stage debitage. This observation is somewhat counter-intuitive, given the earlier discussion of chert quality and availability. However, the sample is very small, especially for the St. Louis chert, so deriving patterns of chert raw material usage is approached only tentatively. It can be said with more confidence that regardless of raw material type, the prehistoric inhabitants of the project area appear to have employed a full range of lithic reduction/tool production stages, with a stronger emphasis on intermediate and late stages of manufacture.

HISTORIC ARTIFACTS

Two hundred ninety-five historic artifacts were recovered during the KY-205 archaeological survey. These historic artifacts are assigned to six functional groups—Kitchen, Architecture, Furniture, Personal, Activities, and Transportation. Additionally, a few artifacts could not be identified beyond material type and were placed in an Unassigned group (Table 5.4). Historic artifacts are assigned to functional groups in order

Table 5.4. Historic Artifacts Recovered from the KY-205 Survey. All isolated finds are combined.

	15Wo270	15Wo271	15Wo272	15Wo273	15Wo274	15Wo276	IF-total	Total
Kitchen Group								
Container Glass								
Clear	16	6	2	22	1	3	10	60
Bright green				5			1	6
Brown	80	2		11			2	95
Amethyst solarized	1				1			2
Blue tint	1			4			1	6
Green tint		1		4			1	6
Milk			1		1			2
Selenium solarized					1			1
Tableware Glass								
Clear patent glass bowl rim				1				1
Green bowl rim							1	1
Milk glass, base				1				1
Ceramics								
Whiteware, undecorated		5		6	1		3	15
Whiteware, blue printed		3						3
Whiteware, molded edge		1		1				2
Whiteware, brown decal				1				1
Whiteware, polychrome				1				1
Ironstone, undecorated		1	1	1	3			6
Porcelain				3				3
Stoneware, Bristol slip				2				2
Stoneware, Bristol/Albany				1			1	2
Stoneware, Albany slip					2		1	3
Architecture Group								
Nails, unidentified	2	3	5				7	17
Nails, late machine-cut			1					1
Nails, wire			2					2
Brick fragments	1		1					2
Mortar fragments		4						4
Window glass				5			1	6
Furniture Group								
Glass bulb fragments			17					17
Terracotta flower pot				1				1
Porcelain doorknob					1			1
Personal Group								
Marble, glass				1	1			2
Cigarette pack	1							1
Cosmetics jar, milk glass				1			1	2
Pipe bowl, detachable stem						1		1
Activities Group								
Fence wire		1						1
Field drainage tile							2	2
Iron nut							1	1
Transportation Group								
Automobile headlight lamp glass				1				1
Horseshoe fragment	1							1
Unassigned								
Melted glass		1						1
Coal slag		1						1
Unidentified metal				1		7	3	11
Historic Artifact Total	**103**	**29**	**30**	**74**	**12**	**11**	**36**	**295**

to facilitate site interpretation (South 1977), such as use of a site as a domestic residence, outbuilding, trash dump, or other function. Such interpretations are particularly useful for the current project. Discussion of the survey assemblage is organized by functional group, ordered by the abundance of artifacts in each group (most to least).

A temporal analysis of a historic assemblage generally includes estimation of manufacture dates from ceramic vessels and other temporally sensitive artifacts, terminus post quem (TPQ) assessment, and measurement of window glass thickness to help establish chronology. In the current project, the emphasis was of necessity on general ceramic types, as few of the ceramics or container glass artifacts had temporally sensitive decoration that would provide a narrow date range for manufacture. Mean ceramic dates (South 1977:217) could not be calculated due to the very small number of decorated ceramics recovered and the nonspecific styles of the decoration. Additionally the technique of mean ceramic dating is less accurate when used for assemblages dating after 1900 due to resurgences in the popularity of older decorating styles such as transfer printing. As will be discussed below, the likely date ranges for many of the artifacts span the late 19th and early 20th centuries, further calling into question the reliability of applying mean ceramic dating as a useful technique for this assemblage. When limited to artifactual remains, the most accurate age estimates for sites are derived from a composite of known date ranges of temporally sensitive artifacts including but not limited to Kitchen group ceramics, nails, container glass, and window glass. Moir (1987) developed a regression formula for chronological dating of window glass based on thickness. The formula accuracy is dependent on an adequate sample size (at least 30 items), and it works best on glass manufactured after 1810 and before 1915 (Moir 1987:80). Temporal interpretations are offered when appropriate in the following sections that describe specific artifact groups and categories, but in most cases these interpretations are of necessity general, rather than specific.

KITCHEN GROUP

The Kitchen functional group includes artifacts relating to the preparation, service, consumption, or storage of food. This functional group is the most numerous from this survey, with 219 items recovered (Table 5.4). This group comprises three general categories of artifacts, including ceramics (n=38), container glass (n=178), and table glass (n=3) related to the service or storage of food and drink.

Container Glass

Container glass fragments (n=178) are of various hues (solarized amethyst, blue tint, green tint, bright green, brown, clear, milk glass, and straw). More than half of the recovered glass artifacts were brown glass (n=95). Brown glass has been used from the early 19th century until the present to contain beer and other liquids which alter chemically when exposed to sunlight (Society of Historical Archaeology 2011). The next most common glass color is clear glass (n=60) which like brown glass provides only a very general temporal range indicating manufacture between the mid-19th century and modern times.

Blue (n=6) and green (n=6) tinted glass was used between 1820 and the 1930s as an alternative to more expensive clear glass. The blue tinted container glass is most often, but not exclusively, associated with canning jars. Green tinted glass continued to be used in the soft drink industry into the 20th century. Bright green, or "7 Up" glass (n=6) dates exclusively to the 20th century. Milk glass (n=2) is an opaque glass which was commonly used for cosmetic, decorative, and toiletry containers from 1870 until the mid-20th century (Society of Historical Archaeology 2011). Solarized amethyst glass (n=2) and straw colored selenium glass (n=1) were both recovered. Amethyst glass dates from 1880 until 1914, and selenium glass was produced from 1914 through the mid-1930s.

Although many of the container glass fragments are not temporally diagnostic, some exhibit diagnostic attributes related to manufacturing techniques or closure type. The most common indicator of manufacturing technique was faint vertical mold seams on bottles produced using automatic machines (n=14). Early machine-made bottle seams (1905-1920) are typically thicker and more rounded than the ones observed in this assemblage (Society for Historical Archaeology 2014). This suggests that these pieces were produced after 1920, and are possibly modern. In addition to single vertical seams, horizontal seams from a three-piece mold were observed on one bottle fragment. Three-piece molding was introduced in 1893 and persisted into the early 20th century. Diagnostic closure types include a crown cap finish (n=1) and threaded

Figure 5.1. Beer Bottle Fragments with Identifiable Brewery Logos. Left is a bottle from the Hoster Brewing Co.; right is a bottle from the Bartholomay Brewing Company. Both are from 15Wo270.

screw cap finishes (n=4). Crown caps were patented in 1892, and significant production of bottles with this finish began between 1894 and 1899 (Society for Historical Archaeology 2014). Although it is not clearly identified as such, the crown finish in the assemblage is likely machine made, thus dating to the 20th century. Threaded finishes were observed on both fruit jars and other container glass. All threads were external and continuous. Although external threaded enclosures on canning jars were invented in 1858, the examples in this assemblage are from machine-made jars, and date to late 19th century at the earliest.

Two pieces of brown glass had fragmentary remains of paper labels and two were embossed with the word "RECYCLE". Although a specific date range could not be established, they were evidently recent. Other datable embossing included maker's marks and company logos. Two bottle bases were stamped with marks from the Owens-Illinois Glass Company; these marks were used from 1929 to the 1960s.

Finally, fragments of two beer bottles bore embossed lettering that identified their brewery of origin, with two different brewery logos identified. The Hoster Brewing Co. of Columbus, Ohio (Figure 5.2, left) was originally founded in 1836 as the L. Hoster Brewing Co., and became the Hoster-Columbus Associated Brewers Co in 1904 (Ohio Breweriana 2005). The company closed in 1919 when the state of Ohio passed prohibition (Ohio Breweriana 2005). The second logo (Figure 5.2, right) identifies the Bartholomay Brewing Company of Rochester, New York. This brewery was founded in 1852 and operated until national prohibition in 1920. It remained open but nonproducing until it permanently closed in 1934 (Tavern Trove 2014).

Taken together, these attributes of manufacturing process, bottle finish, and embossing suggest that the container glass assemblage primarily reflects late-19th to mid-20th century activities. However, there is also a definite admixture of modern refuse deposition. This mixture of more modern materials is understandable, given that all site and isolated find locations are adjacent to an active highway, where trash is often casually discarded.

Ceramics

A small assemblage of refined earthenware and coarse earthenware ceramics (n=38) was recovered from the project area. These included porcelain (n=3), whiteware (n=22), ironstone (n=6), and stoneware (n=7). Most ceramics recovered were body sherds (n=25), with a smaller number of bases (n=8) and rims (n=5). In general, the ceramics were highly fragmented and only a few fragments could be analyzed beyond the general level of ceramic ware type.

Figure 5.2. Selected Decorated Ceramics from the KY-205 Project Area. Left is ironstone rim with molded edge from 15Wo271; center is Willow pattern porcelain rim from 15Wo273; right is brown transfer print body sherd from 15Wo273.

All of the porcelain recovered from the project area were soft paste varieties manufactured in England, Europe and America from the 19th century into the present (Table 5.4). Porcelain was rarely sold undecorated; however body sherds from edge-decorated wares often appear undecorated. Decorated sherds include a body sherd with molded relief decoration and a blue transfer-printed rim sherd (Figure 5.2, left). The pattern on the sherd is the distinctive border used on Willow pattern tableware. The Standard Willow pattern is one of the earliest named transfer printed patterns and it was designed to mimic the hand-painted Chinese export porcelains. It was produced from 1795 to 1830, and there was a resurgence in the 20th century (Brennan 1982, Miller et al. 2000). Examples of transfer printed Willow pattern on porcelain typically date to the 20th century, and the specimen recovered from 15Wo273 is an example of the 20th century style.

Whiteware is the most common refined earthenware type recovered from the project area (Table 5.4). Undecorated whiteware (n=15) and whiteware with simple relief decoration (n=2) dominate the assemblage. Production dates for undecorated or molded-edge whiteware span from 1820 to the present. A small number of decorated whiteware sherds were recovered. These included blue-printed (n=3), brown decal (n=1), and polychrome (n=1) varieties. The polychrome whiteware sherd was, unfortunately, too small to determine style and motif of the hand-painted decoration. Due to the lack of identifiable pattern, this polychrome sherd only can be dated to the broad range of production dates for undecorated whiteware. The blue transfer-printed sherds were formerly part of a saucer. Transfer printing generally dates from 1830 until 1860 although transfer printing continues to the end of the 19th century. A single brown decal whiteware sherd dates between 1890 and 1920.

All of the ironstone recovered in the project area was either undecorated or decorated with a molded rim (Figure 5.2, right). Like the relief decoration found on whiteware, molded edges are not styles which can be accurately dated. General production dates for ironstone range from 1840 to the present.

Coarse ceramics are typically used for storage and preparation of food, and other purposes outside public view. Coarse ceramics are divided between stonewares and coarse earthenware. Only buff paste stoneware was recovered from the project area. The stoneware assemblage contains examples of both Albany slip and Bristol slip, with both used on a few sherds. Albany slip (n=2) is a brown clay glaze that was in use from 1800 until the 1920s. Bristol slip (n=2) is a white or cream colored glaze which came into use in 1884 and continued to be popular until the 1920s. These two glazes were commonly combined by using Albany slip on the interior and Bristol slip on the exterior. Two examples of these were recovered, and they date to the Bristol slip production range.

The ceramic assemblage presents some of the earliest potential dates for the historic artifact assemblage, as both the refined and coarse earthenware types were produced in the early 19th century. However, soft porcelain, ironstone, and whiteware continue to be produced into modern times. Although there are few pieces of refined earthenwares with diagnostic decorations, they exhibit decorations that were employed no earlier than the late 19th century. This is likewise true of the Bristol slip on stoneware. Thus, these surface treatments suggest at earliest a late 19th century age for the ceramic assemblage. Terminal dates for most of the assemblage are probably in the early 20th century, as suggested by the end of production dates for Albany and Bristol slips on stoneware and the brown decal decorated whiteware sherd. The Willow pattern porcelain also suggests that some of the assemblage originates in the 20th century. From the perspective of vessel function, a full range of food preparation/storage and service is suggested by the coarse and refined earthenwares. These are consistent with disposal of refuse derived from domestic occupations.

Table Glass

Table glass is used in table settings and in a decorative environment. Table glass forms include tumblers, pitchers, decanters and vases. Three fragments of table glass were identified in the survey assemblage. One artifact is a heavy leaded glass body fragment that is molded with deep vertical ridges. This fragment most likely was part of short, wide decorative container, such as a candy dish or serving bowl. Leaded glass is still commonly used for tablewares. This less brittle variety of glass lends itself well to cutting, pressing, etching and enameling, all popular glass decoration techniques (Deiss 1981). Another fragment is a small piece of a thin-walled green bowl. The thin walls of this rim fragment suggest that the piece was intended for display rather than active table service. The final piece of table glass was made of slightly translucent milk glass. Although the form of this piece could not be confidently identified, it likely originated from saucer, plate, or other open form. Apart from a general production range for milk glass (late-19th to mid-20th century), none of the table glass was temporally diagnostic.

ARCHITECTURE GROUP

The Architecture functional group includes artifacts related to the construction and maintenance of buildings. A total of 32 artifacts was assigned to the Architecture group, including nails (n=20), brick fragments (n=2), flat glass (n=6), and mortar fragments (n=4).

Nails

Nails were the most numerous artifacts in the architecture group. The preservation of metal artifacts in the project area was poor due to acidic soil conditions. This rendered the majority of the nails unidentifiable (n=17) and resulted in the complete lack of whole nails in the assemblage. A single late machine-cut nail fragment was recovered, dating from the 1830s to the 1880s. During the 1880s late machine-cut nails were largely replaced by wire nails (n=2), which are still used today.

Building Materials

Building materials are represented by brick fragments (n=2) and mortar fragments (n=4). Brick and mortar structures have been common in Kentucky since the 18th century. This wide range of production dates is not particularly useful for assessing ages of individual sites.

Window Glass

Flat (window) glass can be temporally sensitive. Thickness is generally inversely correlated with age; the older the date of manufacture, the thinner the pane glass. This correlation is regular enough to provide estimated dates of manufacture from thickness measurements using a linear regression formula (Moir 1987). However, this method of assigning date ranges works best when there is a statistically robust

Figure 5.3. Milk Glass with Greek Key Decoration from 15Wo273.

sample (more than about 30 items from a given context), and for glass manufactured between about 1810 and 1920. In all, this project recovered only six flat glass fragments, ranging from 2.15 mm to 3.53 mm thick. Five of the fragments were from 15Wo273, and their average thickness is 2.56 mm. Applying this average to the Moir regression formula yields an age estimate of 1928. Although this age estimate accords well with the late 19th and early 20th century dates suggested by other artifacts from the site, the age estimate is problematic for two reasons. First, the mean thickness was derived from a small sample (n=5); second, the age estimate is of 1928 is outside the date range that the Moir formula predicts most reliably (1810-1920).

FURNITURE GROUP

The Furniture group contains household furnishings and hardware associated with these furnishings. Nineteen Furniture group artifacts were recovered, including one porcelain door knob, seventeen clear glass fragments from a light bulb, and one terracotta flower pot rim. These items are consistent with late 19th to 20th century occupation of the project area.

PERSONAL GROUP

The Personal group includes items associated with clothing and personal belongings such as musical instruments, toys, and smoking pipes. Six Personal group artifacts were recovered. Glass marbles (n=2) were handmade from the 1850s until 1910 when they began to be made by machine. Handmade marbles in very good condition can be distinguished by a small pontil mark on either pole of the marble. Unfortunately, the manufacturing process of the recovered examples could not be determined.

Two fragments of milk glass ointment or cosmetics jars were found. One of these (Figure 5.3) bore a Greek key motif in bas-relief, but information about the potential date range of this motif could not be found. As noted above, milk glass was most commonly produced during the late 19th to mid-20th century.

Figure 5.4. Reed Pipe Stem Fragment from 15Wo276.

Two other Personal items relate to tobacco consumption. One object consisted of the foil liner and cellophane wrapper from a cigarette package. Foil wrappers were initially used in cigarette packaging during the early 20th century and are still in use. The second tobacco-related item was a fragment of a pipe bowl (Figure 5.4). The fragment came from a detachable, or reed, stemmed pipe bowl, and represented the stem portion bowl. One long mark on the top of the stem join indicates a mold seam. The bowl was made from a gray earthenware paste with a brown slip applied to the surface. The body of the pipe bowl is decorated with ribs that parallel the stem. This kind of surface modification could be applied to the entire pipe bowl, but was also used to decorate the 'neck' of figure-head pipe bowls. Although dating this bowl fragment is difficult due to the absence of the bowl portion of the pipe, its general stylistic attributes and shape are consistent with examples in use during the mid and late 19th century.

TRANSPORTATION GROUP

The Transportation group includes artifacts relating to travel and various means of conveyance. Two artifacts were assigned to the Transportation group. The first is a fragment of a horseshoe. Horses continued to be used for transportation and farming in rural Kentucky until the Second World War when they were largely replaced by motor vehicles. Horses continue to be associated with recreation and sports to the present day. The second object is a piece of glass from an automobile headlight. It is likely that this specimen is modern.

ACTIVITES GROUP

The Activities group contains items related to the operation of a residence or farm, but not directly related to the construction or provisioning of the residential structure. Four objects were assigned to this group. One piece of fence wire was recovered. No specific dates could be established for the fence wire, but it is relatively well-preserved compared to the nail assemblage. It may have been deposited more recently than the nails. Another Activities group artifact is a steel bolt. No age could be determined for this object. Finally, two pieces of field drainage tile were recovered. Field tile potentially dates from the mid-19th century to mid-20th century.

UNASSIGNED GROUP

The Unassigned group includes all artifacts that cannot be assigned to another functional group; twelve artifacts were unassigned. These include unidentified fragments of iron or steel (n=10), melted glass (n=1), and coal slag (n=1). These materials contain no temporal information.

DISCUSSION

The historic artifact assemblage contained objects assigned to the Kitchen, Architecture, Furniture, Personal, Activities, Transportation, and Unassigned functional groups. A few specific artifact types, such as whiteware, stoneware, the reed-stemmed pipe fragment, and field tile potentially date to the early to mid-19th century. However, these are association with a container glass assemblage that presents late-19th and predominantly early to mid-20th century diagnostic attributes. This suggests that in general, the historic assemblage from the project area reflects rural farm and domestic life during the late 19th and early 20th centuries.

Container glass represents the most common artifact class, and within this category, brown glass associated with beverage containers is most common. It is worth noting that the large assemblage of brown container glass recovered from 15Wo270 was derived mostly from a single shovel test, and this skews the impression of the density of material from this site. Yet even allowing for an over-representation of brown container glass, it is clear that container glass is the most common artifact class within the project area. Many of these glass fragments, no doubt, derive from beverage containers, and thus do not represent a full range of domestic activities. It is more likely that they reflect the occasional discard of refuse along KY-205, and the prevalence of container glass in isolated finds supports this interpretation. Sites containing ceramics alongside container glass, especially 15Wo271 and 15Wo273, present better evidence for actual domestic activities.

CHAPTER 6
SURVEY RESULTS

This chapter presents detailed results of the Phase I archaeological survey of the proposed widening and shoulder construction along KY-205 in Wolfe County. The proposed area of effect was examined through pedestrian survey, including visual inspection, shovel testing, and deep auger testing, by UK-PAR personnel during field work conducted on 21-30 July 2014. A total of 503 shovel and auger tests, including 42 radials, were placed within the project area. Deeper soil profiles were examined through 55 auger tests placed in the bottom of selected shovel tests. Artifacts recovered from shovel testing and surface collection resulted in definition of 8 new sites and 15 isolated finds. Additionally, shovel testing revealed probable intact subsurface features and recovered artifacts from two previously defined sites, 15Wo145 and 15Wo146.

Six soil types are present within the project area, but only two make up a significant portion of the investigated area. Rowdy-Grigsby complex soils are mapped along the KY-205 corridor beginning at approximately the dividing line between the Cannel City and Lee City topographic quadrangles, and extend south from there along valleys of the Red River, Rose Fork, and Tunnel Branch. Rowdy-Grigsby complex soils exhibit zero to six percent slope and comprise fine loamy alluvium derived from sedimentary rock. These soils are occasionally flooded.

The Rowdy-Grigsby complex soils in the project area show some variation from south to north. The soil profile for Shovel/Auger Test 165 (Figure 6.1) is representative of the portion of the soil complex that extends from the junction of the Red River with Rose Branch to the project's northern terminus. The profile shows a plow zone (Zone I) extending to 22 cm below surface, consisting of a dark brown (10YR3/3) silty sandy clay loam. Zone II consisted of a grayish brown silty sand with iron staining and mineral concretions. This zone extended from 30 cm to about 120 cm below surface. Zone III comprises a wet strong brown (7.5YR5/6) sand containing mineral concretions, extending to 150 cm below surface. Zone IV, reaching 170 cm below surface, consisted of a very wet light yellowish brown (2.5Y6/4) sand with strong brown (7.5YR5/6) streaking. The wet and very wet sediments encountered during auger testing were common throughout the project area. Generally, the depth below surface at which wet sediments were encountered decreased from north to south along the project corridor.

The narrower valleys of Rose Branch and Tunnel Fork presented a slightly different profile of Rowdy-Grigsby complex soils. Shovel/Auger Test 419 presents a representative profile for soils in this part of the project area (Figure 6.2). This test exhibits a dark yellowish brown (10YR3/4) silty loam plow zone (Zone I) that extends to a depth of 33 cm. Zone II contains a grayish brown (10YR5/2) sandy clay that extends to a depth of 120 cm. At approximately 100 cm below surface, this layer becomes wet. Zone III consisted of a very wet light gray (10YR7/1) sandy clay that extended to 170 cm below surface. In this upper part of the drainage, this light gray layer was found in almost all auger tests and ranged from sandy clay to pure clay that was in some instances streaked with strong brown clay indicative of poor drainage.

The second largest soil class consisted of Grigsby-Orrville complex soils located in the lower portion of the Red River valley within the project area. This soil class extends from the southern boundary of the Cannel City, KY quadrangle north to the Helechawa Interchange at the Mountain Parkway. Grigsby-Orrville complex soils are frequently flooded, and are composed of silty and sandy loams that form from sedimentary rocks. Shovel/Auger Test 53 (Figure 6.3) presents a typical soil profile for this soil complex. This test revealed an upper plow zone (Zone I) of brown (10YR5/3) loam that shows a diffuse transition to subsoil. The diffuse boundary was noticed at about 19 cm below surface and extended to 26 cm below surface. Subsoil (Zone II) was a strong brown (7.5YR5/6) sandy loam that extended to 46 cm below surface. Zone III consisted of very pale brown (10YR7/4) sand that lensed with strong brown (7.5YR5/6) sand. This layer extended to 170 cm below ground surface, and at 100 cm below ground surface also contained light gray (10YR7/2) sand lenses.

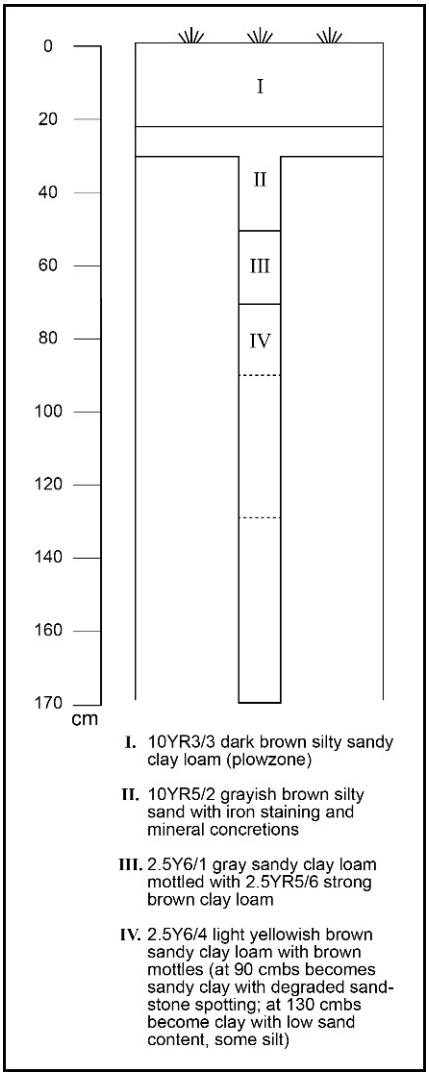

Figure 6.1. Soil Profile for Shovel/ Auger Test 53, Representative of the Rowdy-Grigsby Complex in the Central Part of the Project Area.

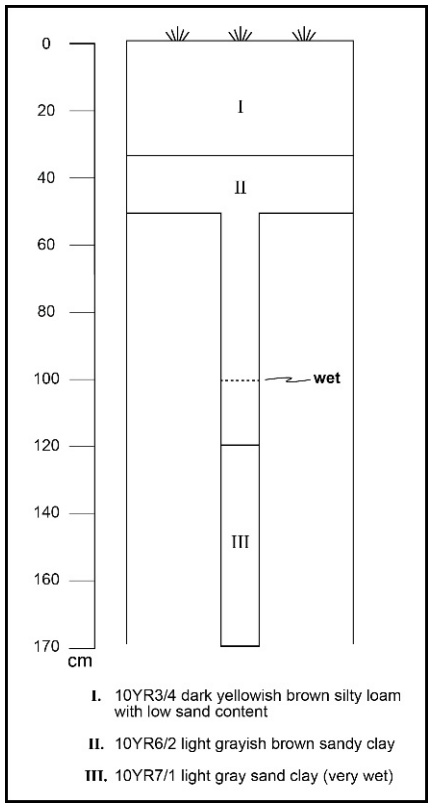

Figure 6.2. Soil Profile for Shovel/ Auger Test 419, Representative of the Rowdy-Grigsby Complex in the South Part of the Project Area.

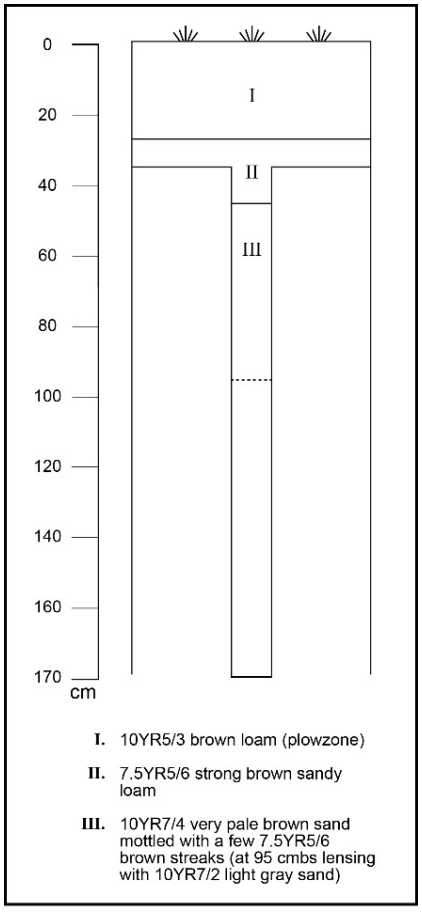

Figure 6.3. Soil Profile for Shovel/ Auger Test 165, Representative of Grigsby-Orville Complex Soils in the North Part of the Project Area.

Other soils encountered within the project area include Rowdy silt loam, Orrville silt loam, Latham-Gilpin-Alticrest complex, and Shelocta-Gilpin complex soils. These are minor constituents of the project area and are described below, when appropriate for discussion of specific site contexts.

ARCHAEOLOGICAL SITES

The KY-205 archaeological survey defined eight new archaeological sites (15Wo269 through 15Wo276). Additionally, two previously reported sites, 15Wo145 and 15Wo146, were revisited during the survey. These sites are described below in numerical order. For site locations relative to the project corridor, refer to Figure 1.2.

Figure 6.4. View of Terrace Landform at 15Wo145 (looking south).

15Wo145 REVISIT

Site Type:	Prehistoric open habitation without mounds
Landform	Terrace
Elevation	962 feet AMSL
Slope Aspect	Level
Soil Type	Rowdy-Grigsby complex, 0-6 percent slope
Dimensions	50 m NS x 60 m EW (3,150 m^2)
Distance to Water	

Site 15Wo145 was initially defined by James Hixon of the Kentucky Transportation Cabinet in November of 1993 (site form on file at the KY OSA). The site was defined on the basis of a surface scatter of lithic tools and debitage arranged across the southern edge of a high terrace (Figure 1.2). At the time of survey, corn stubble covered the surface of the terrace, and materials were distributed across an estimated area of 50 m N-S by 30 m E-W (1,500 m^2). Twenty nine artifacts were collected from the site, including 27 pieces of debitage, a hafted end scraper, and a projectile point made from Breathitt chert. The point was described as being similar to a Jacks Reef Corner-Notched point, suggesting a Late Woodland to Late Prehistoric date for 15Wo145. Hixon also noted that the lithic assemblage from 15Wo145 show a preference for Breathitt chert. Hixon noted that this site is situated on a landform very similar to the nearby 15Wo146 (see below), and that the individually described sites may reflect segments of a single larger site.

UK-PAR project personnel revisited the site on 28 July 2014 and verified its location on a high terrace (Figure 6.4). The crew examined the western edge of the site that is included within the proposed right-of-way corridor (Figure 6.5). Shovel tests were excavated at a 10-meter interval across the previously defined site boundaries. Positive shovel tests generally conform to the shape of the previously defined site boundaries, but the mapped site location has shifted to the north to conform to the terrace landform. This change is not substantive and only reflects GIS digitizing error. All positive shovel tests were on the high terrace landform with the exception of Shovel Test 295, which was on

Figure 6.5. Detailed Plan of 15Wo145 Showing Previously Mapped Boundaries and Revised Boundaries Based on Current Project.

the lower terrace. Only a slight modification of the original site size is suggested, to include this southern positive shovel test. However, the artifacts from ST295 also may have been redeposited,

Shovel Test 291 provides a representative soil profile for 15Wo145 (Figure 6.6). It shows two soil

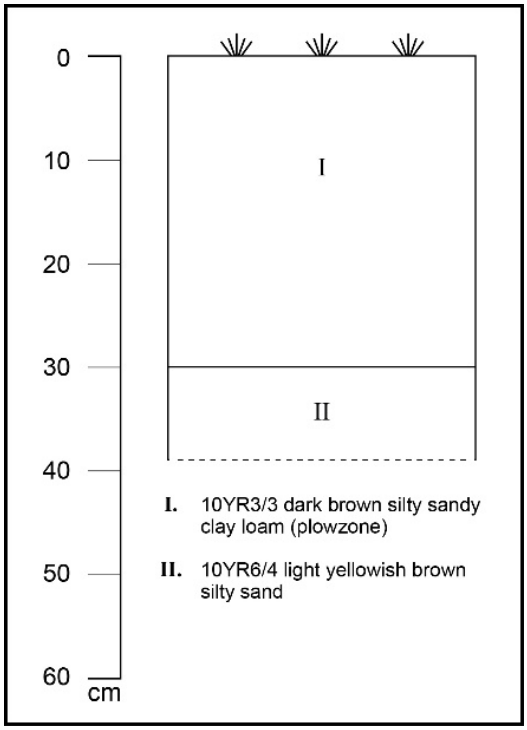

Figure 6.6. Soil Profile for Shovel Test 291 at 15Wo145.

zones comprising a plow zone and subsoil. Zone I (plow zone) extended to a depth of 30 cm below surface and consisted of a dark brown (10YR3/3) silty sandy clay loam. Zone II subsoil extended to at least 39 cm below surface and was a light yellowish brown (10YR6/4) silty sand.

Shovel Test 294, located on the edge of the high terrace, revealed a possible feature at the base of plow zone (Figures 6.7 and 6.8). The feature was encountered along the east-northeast wall of the shovel test, but does not extend into the southwest profile. The soil profile revealed in the shovel test indicates that plow zone (Zone I) extends to a depth of 23 cm below ground surface and consists of a very dark grayish brown (10YR3/2) loam. Zone II represents the possible feature, and forms a clear boundary with plow zone. It consists of a very dark gray (10YR3/1) loose silty loam containing small flecks of charcoal and sparse reddened sandstone gravel (Figure 6.5). This dark soil zone extended to a depth of 32 cm below ground surface, and was contained within a subsoil matrix of brownish yellow (10YR6/6) clay loam.

. Shovel testing at the site produced a moderate artifact density, and the assemblage consisted of 17 pieces of debitage collected from four shovel tests (ST#:290, 291, 294, and 295). Debitage included partial cortical flakes (n=1), interior flakes (n=4), biface thinning flakes (n=4), flake fragments (n=7), and shatter (n=1). Thus, a wide range of steps in the reduction and maintenance sequence are suggested by the lithic remains (Table 6.1). Additionally, raw material diversity is moderate, with Paoli (n=3), Breathitt (n=10), and Boyle (n=4) chert types present. These raw materials show a preference for locally available raw materials; the Breathitt Formation underlies the project area. Paoli and Boyle cherts are exposed in the Red River Gorge in Powell County, approximately 30 km downstream. Unfortunately, no diagnostic artifacts were recovered during the present work at 15Wo145.

The presence of possible intact subsurface features located along the edge of the terrace, as well as the recovery of additional artifacts from shovel tests across 15Wo145 suggests that there is a good potential for this site to yield additional information about the Late Woodland use of this portion of Wolfe County. The research potential is high. If the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo145 that will be impacted by widening of KY 205.

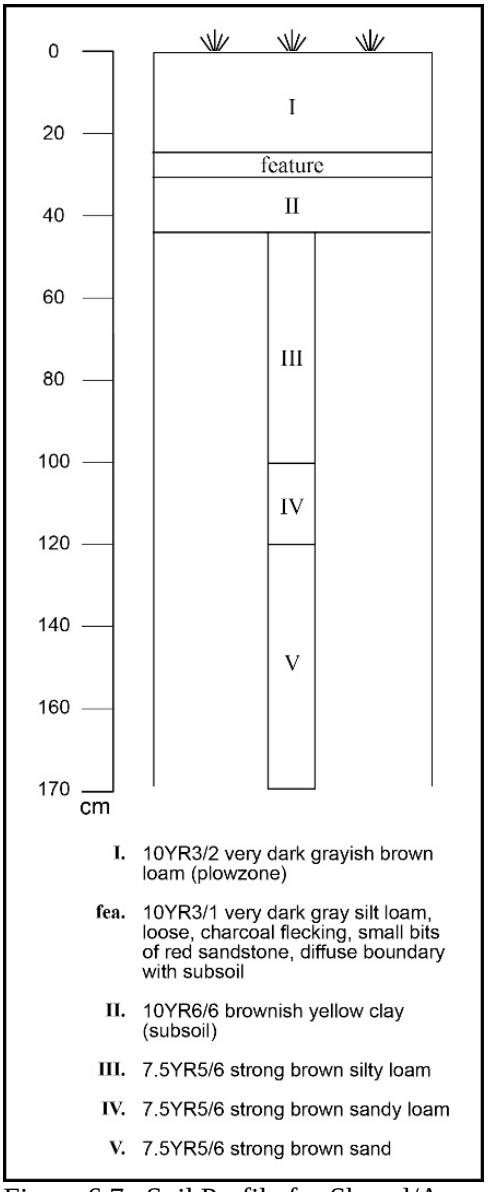

Figure 6.7. Soil Profile for Shovel/Auger Test 294.

Figure 6.8. Possible Feature in Shovel Test 294 at. 15Wo145.

Table 6.1. Prehistoric Artifacts Recovered from 15Wo145.

		Shovel Test No.				
	Raw Material	**290**	**291**	**294**	**295**	**Total**
Partial Cortical Flake	Paoli	1				**1**
Interior Flake	Boyle Breathitt		 1	 1	2	 **4**
Biface Thinning Flake	Breathitt Paoli		2 1	1		 **4**
Flake Fragment	Boyle Breathitt		 1	1 4	1	 **7**
Shatter	Paoli	1				**1**
Total		**2**	**5**	**7**	**3**	**17**

Figure 6.9. Landscape Context for 15Wo146 on High Terrace (looking south).

15Wo146 REVISIT

Site Type:	Prehistoric open habitation without mounds
Landform	Terrace
Elevation	973 feet AMSL
Slope Aspect	Level
Soil Type	Rowdy-Grigsby complex, 0-6 percent slope
Dimensions	130 m EW x 60 m NS (6,160 m^2)
Distance to Water	

Site 15Wo146 was initially defined by James Hixon of the Kentucky Transportation Cabinet in November of 1993 (site form on file at the KY OSA). The site was defined on the basis of a surface scatter of lithic tools and debitage arranged across the southern edge of a high terrace, on the west side of KY-205 (Figure 6.9). Site 15Wo145 is located on the same terrace directly across KY-205 from site 15Wo146. At the time that the site was first defined, corn stubble covered the terrace, and materials were distributed across an estimated area of 130 m E-W by 60 m N-S (6,160 m^2). Twenty-three artifacts were collected from the site, including 15 pieces of debitage, four biface fragments, one abrader, two flake tools, and a Lowe Flared Base projectile point. This point suggested a Middle to Late Woodland date for the site.

UK-PAR project personnel visited the site on 28 July 2014 and examined in detail the eastern edge of the site that is included within the proposed right-of-way corridor (Figure 6.10). Shovel tests were excavated at a 10-meter interval across the previously defined site boundaries. Positive shovel tests generally conform to the shape of the previously defined site boundaries, but the mapped site location has shifted to the north to conform to the terrace landform. This change is not substantive and only reflects GIS digitizing error. All positive shovel tests were on the high terrace landform with the exception of Shovel Test 266, which is on the lower terrace. Only a slight modification of the original site size is suggested, to include this southern positive shovel test. However, the artifact from ST266 also may have been redeposited.

Figure 6.10. Detailed Plan Site 15Wo146 Showing Previously Mapped and Revised Site Boundaries.

Shovel Test 261 provides a representative soil profile for 15Wo146 (Figure 6.11). Zone I, the plow zone, extended to a depth of 25 cm below surface and consisted of brown (10YR5/3) loam. Zone I also contained small reddened sandstone gravels that may represent fire-cracked rock. Zone II, subsoil, consisted of a light yellowish brown (2.5Y6/4) sandy loam that was excavated to 32 cm below ground surface.

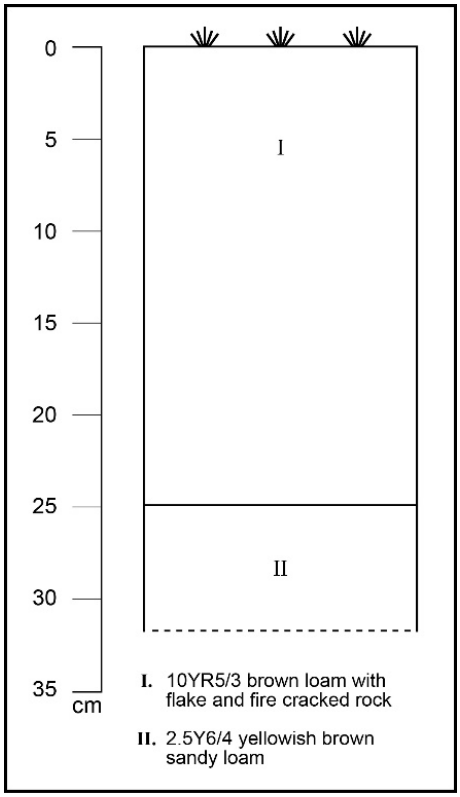

Figure 6.11. Soil Profile for Shovel Test 261, Typical of Soil Profiles Observed at 15Wo146.

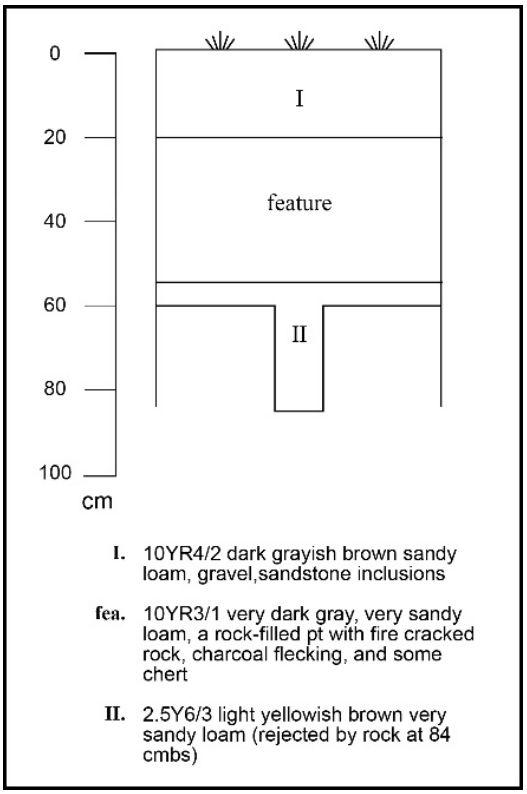

Figure 6.12. Soil Profile for Shovel/Auger Test 262 at 15Wo146 Showing Possible Feature.

Figure 6.13. Possible Feature in Shovel Test 262 at 15Wo146.

A possible subplow zone feature was identified in Shovel Test 262, located on the southern edge of the high terrace (see Figure 6.10). This feature is thus located in the same topographic setting as the possible feature encountered at 15Wo145. The feature in Shovel Test 262 was encountered at 20 cm below surface below a plow zone consisting of dark grayish brown (10YR4/2) sandy loam with gravel and sandstone inclusions (Figure 6.12). The feature fill extended from 20 cm to 55 cm below ground surface and consisted of a very dark gray (10YR3/1) very sandy loam containing charcoal and abundant oxidized sandstone (Figures 6.12 and 6.13). The base of the feature extended into a light yellowish brown (2.5Y6/3) very sandy loam subsoil matrix.

Table 6.2. Prehistoric Artifacts Recovered from 15Wo146.

		Shovel Test No.				
	Raw Material	**259**	**261**	**262**	**266**	**Total**
Partial Cortical Flake	St. Louis			1		**1**
Biface Thinning Flake	Boyle	1			1	**2**
Flake Fragment	Haney		2			**2**
Shatter	Boyle Paoli			1 1		**2**
Total		**1**	**2**	**3**	**1**	**7**

Artifacts were recovered from four shovel tests across the site (ST 259, 261, 262, and 266; Table 6.2). Seven pieces of debitage were recovered, including a partial cortical flake (n=1), biface thinning flake (n=2), flake fragment (n=2), and shatter (n=2). Raw material diversity was very high, with Paoli, Breathitt, Boyle, Haney, and St. Louis types recovered (Table 6.2). The Breathitt Formation underlies the project area, and these cherts may have been procured locally. The other chert types may have been procured in the Red River Gorge, approximately 30 km downstream from 15Wo146. No diagnostic artifacts were recovered that would either support the Middle to Late Woodland date for the site or that would suggest other occupations.

The presence of probable intact subsurface features within the right-of-way corridor, as well as the recovery of additional artifacts from shovel tests indicates high research potential for 15Wo146. This site may yield additional information about the Middle to Late Woodland inhabitants of this portion of Wolfe County. Consequently, if the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo146 that will be impacted by widening of KY 205.

15Wo269

Site Type:	Prehistoric open habitation without mounds
Landform	Terrace
Elevation	952 feet AMSL
Slope Aspect	Level
Soil Type	Grigsby-Orrville complex
Dimensions	5 m NW-SE x 20 m NE-SW (100 m^2)
Distance to Water	

Site 15Wo269 was defined on the basis of a single positive shovel test and a surface scatter of prehistoric lithic artifacts encountered in a corn field in the western right-of-way corridor along KY-205 (Figure 6.14). Three shovel tests and one auger test were placed along the eastern margin of the corn field, and the remainder of the right-of-way was examined through visual inspection of field rows, which afforded good visibility (Figures 6.14 and 6.15). The majority of the artifacts recovered from 15Wo269 were recovered from the surface. Materials were recovered from an area approximately 20 m northeast-southwest by 5 m southeast-northwest. It is very likely that the site extends further to the northwest, but this area was outside the right-of-way corridor and was not examined.

Shovel/Auger Test 10 provides a representative soil profile for the site. This test exposed two soil strata and provides a representative soil profile for 15Wo269 (Figure 6.16). Zone I, the plow zone, extended to a depth of 34 cm and consisted of a brown (10YR5/3) sandy loam. Zone II consisted of a grayish brown (2.5Y5/2) loam that extends to about 90 cm below surface. Zone III was a pale brown (10YR6/3) silty loam mottled with reddish yellow (7.5YR6/6) and extended to 150 cm below surface. Between 130 and 150 cm below surface the clay content of the sediment increased markedly. Zone IV was a thin lens of brownish yellow (10YR6/6) clay between 150 and 160 cm below surface. Zone V was a brownish yellow (10YR6/6) sandy clay that extended to at least 170 cm below surface. No subsurface cultural deposits or paleosols were

Figure 6.14. Landscape Context of 15Wo269 (looking south).

Figure 6.15. Detailed Plan of 15Wo269. Also shown is Isolated Find 2, which is apparently unrelated to 15Wo269.

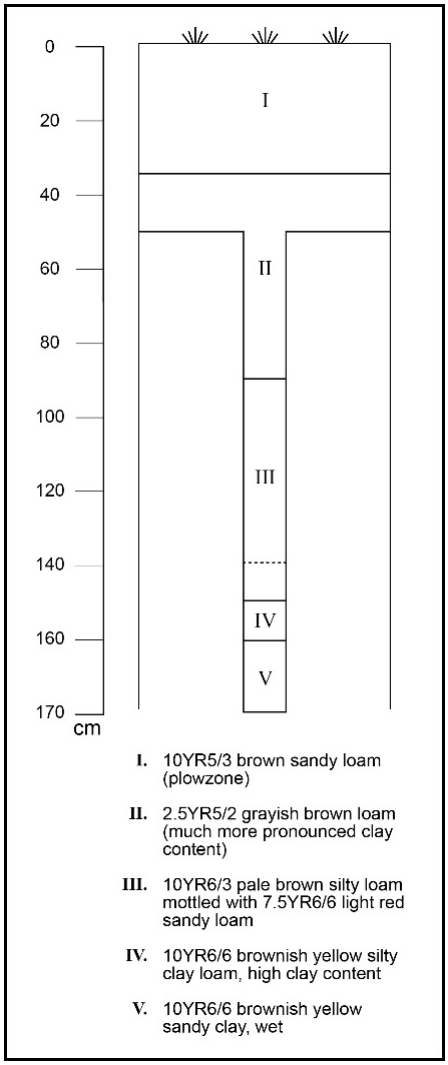

Figure 6.16. Representative Soil Profile for 15Wo269 (Shovel/Auger Test 10).

Table 6.3. Prehistoric Artifacts Recovered from 15Wo269.

		Shovel Test No.		
	Raw Material	**10**	**Surface**	**Total**
Biface Fragment	Haney		1	**1**
Cortical Flake	Haney		1	**1**
Biface Thinning Flake	Boyle		1	
	Breathitt		1	**2**
Flake Fragment	Haney	1		**1**
Shatter	Boyle		1	**1**
Total		**1**	**5**	**6**

observed during shovel or auger testing. Two other shovel tests (ST 11 and 12) were excavated in the eastern margin of the corn field, but neither produced artifacts nor evidence of cultural features.

Artifacts recovered at 15Wo269 included five pieces of debitage and one biface fragment (Table 6.3). The debitage was classified as cortical flakes (n=1), biface thinning flakes (n=2), flake fragments (n=1), and shatter (n=1). These debitage classes suggest that several stages of stone tool reduction and maintenance. Likewise, the biface fragment suggests use and discard of more formally shaped tools. The low artifact count precludes identification of more specific activities. A variety of chert types were present,

Figure 6.17. Landscape Context for 15Wo270. Also shown is standing barn in right-of-way (looking north).

including Haney (n=3), Boyle (n=2), and Breathitt (n=1). The Breathitt formation underlies the project area, and Haney and Boyle chert are available along the Red River approximately 25 km downstream from the site. The biface fragment was produced from Haney chert.

In sum, 15Wo269 represents a prehistoric open habitation without mounds consisting of a low- to moderate-density scatter of lithic debitage and tools. No temporally diagnostic materials were recovered from the site, and no age range can be assigned. No evidence of subsurface cultural deposits was encountered in the three shovel tests and single auger test placed at the site. The area examined by UK-PAR personnel, thus, appears to have low potential for contributing additional archaeological information. These findings indicate that the portion of the site included within the right-of-way is not eligible for nomination to the NRHP, and no further archaeological work is recommended. However, if the proposed right-of-way is expanded to the west, additional investigation of 15Wo269 would be warranted.

15Wo270

Site Type:	Historic farmstead
Landform	Terrace
Elevation	949 feet AMSL
Slope Aspect	Level
Soil Type	Grigsby-Orrville complex
Dimensions	135 m E-W x 15 m N-S (1,600m^2)
Distance to Water	

Site 15Wo270 was defined by a moderately dense scatter of 19th to early 20th century historic artifacts associated with a rural farmstead. Six positive shovel tests were placed near a standing barn and in the lower portion of an existing house lot (Figures 6.17 and 6.18). Materials were recovered in an area measuring about 135 m northeast-southwest by 20 m northwest-southeast. The distribution of positive shovel tests define the northeast boundaries of the site and materials were recovered from shovel tests up to the driveway marking the southwest edge of the house lot. KY-205 delimits the northwestern site boundary, and the edge of the new proposed right-of-way defines the southeastern side of the site. It is likely that other historic materials extend to the southeast, in the direction of the older house on this lot.

Figure 6.18. Detailed Plan of 15Wo270. Also shown is Isolated Find 1, which is unrelated to 15Wo270.

Shovel tests revealed two variations on soil profiles at the site, one documented near the barn and the other in the lot in front of the trailer and older house. Shovel Test 15, placed towards the northern corner of the barn, revealed three strata (Figure 6.19). Zone I extended to 17 cm below surface and was a dark brown (10YR3/3) silty clay loam. This zone potentially represents a plow zone. Zone II was a dark gray (10YR4/1) silty sandy clay loam mottled with coal and sandstone gravel that extended to 27 cm below surface. Artifacts were recovered from Zones I and II. Zone III subsoil was a dark gray (10YR4/1) silty sand mottled with a strong brown (7.5YR4/6) silty sand extending to at least 35 cm below surface.

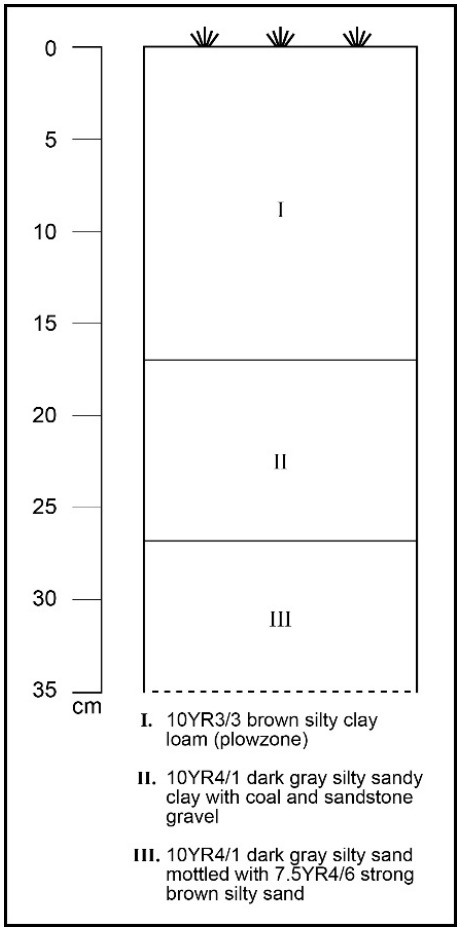

Figure 6.19. Soil Profile for Shovel Test 15 at 15Wo270, near Barn.

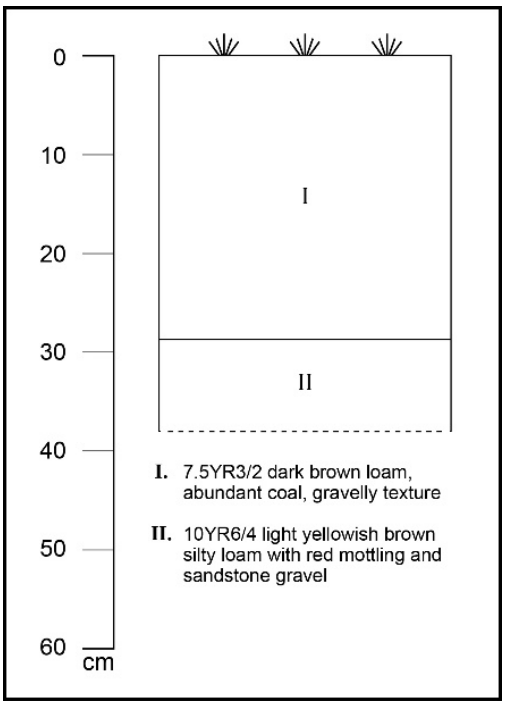

Figure 6.20. Soil Profile for Shovel Test 20 at 15Wo270, in Lot near Trailer.

Table 6.4. Historic Artifacts Recovered from Site 15Wo270.

			Shovel Test No.								
Functional Group	**Artifact Description**	**Date range**	**15**	**15n10**	**15s10**	**18**	**18n10**	**18s10**	**19**	**20**	**Total**
Architecture	Nail fragments	Undetermined	2								**2**
	Brick fragment	Undetermined						1			**1**
Kitchen	Container glass, amethyst	1880-1925	1								**1**
	Container glass, blue tint	Undetermined	1								**1**
	Container glass, brown	Mid-19th- 20th C*					1			79	**80**
	Container glass, clear	Undetermined	1	1	1	1	2	4	3	3	**16**
Personal	Cigarette foil	Early 20th C								1	**1**
Transportation	Horseshoe fragment	Undetermined				**1**					**1**
Total			**5**	**1**	**1**	**2**	**3**	**5**	**3**	**83**	**103**

Shovel Test 20, excavated on the southern end of the site in the lot near the trailer, revealed two soil strata (Figure 6.20). Zone I extended to a depth of 29 cm below ground surface, and consisted of a dark brown (10YR3/3) silty loam with abundant coal fragments and sandstone gravel. This zone contained the large majority of the bottle glass fragments revered from 15Wo270. Zone II, subsoil, consisted of a light yellow brown (10YR6/4) silty loam with red mottling and sandstone gravel.

Materials recovered (Table 6.4) were assigned primarily to the Kitchen group and consist almost entirely of container glass (n=98). Although many of the pieces were not diagnostic of a particular date range, all of the pieces that could be dated were made between the late 19th and early 20th century. These included one piece of lightly solarized amethyst glass (1880-1925), a few pieces of brown beer bottle with a

post mold base (1855-1913), brown beer bottle with molded lettering from the Hoster Brewery in Columbus, Ohio (1836-1919), and brown beer bottle from the Bartholomay Brewing Company in Rochester, NY (1852-1934; see Figure 5.1). Vertical molding seams indicative of machine manufacture were also noted on several pieces of container glass, and these support the early 20th century date range of the diagnostic beer bottles. Other artifacts included nondiagnostic nail fragments (n=2), a horseshoe fragment (n=1), a brick fragment (n=1), and fragments of cellophane and foil wrapper, likely from a cigarette package (n=1).

No subsurface features of discreet cultural deposits were encountered in shovel testing across the site. The artifacts appear to represent the accumulation of household trash and other refuse deposited at the far end of the house lot, close to KY-205, and discarded more infrequently around the barn. Given the lack of subsurface cultural features, and the relatively recent age of the historical materials, 15Wo270 presents low potential for contributing additional archaeological information. Consequently, UK-PAR recommends no additional archaeological work for the portion of the site contained within the project corridor. However, if the proposed right-of-way is expanded to the southeast, additional investigation of 15Wo270 might be warranted.

15Wo271

Site Type:	Historic farmstead
Landform	Terrace
Elevation	955 feet AMSL
Slope Aspect	Level
Soil Type	Grigsby-Orrville complex
Dimensions	15 m E-W x 110 m N-S (1,500 m^2)
Distance to Water	

Site 15Wo271 is located in fallow pasture on a terrace landform on the east side of KY-205 at its intersection with (Figures 6.21 and 6.22). The site consists of materials related to a 19th to early 20th century occupation, and likely represents refuse and a trash midden. The site was defined by the distribution of artifacts in positive shovel tests, and the site covers an area measuring about 110 m north-south and 20 m east-west. The western boundary of the site was delimited by KY-205, and the eastern boundary of the site was bounded by the right-of-way. Although it is possible that the site extends further to the east, it is not likely for reasons described below.

Historic materials were recovered from five shovel tests (ST 54, 56N10, 56, 58, and 59). These shovel tests straddle the road, with ST58 and ST59 south of the road and the other shovel tests north of the road (see Figure 6.22). Materials recovered north of the road (Table 6.5)were nondiagnostic and included clear, brown, and green tint container glass (n=8), and fragments of fence wire (n=1). Shovel Test 56 provides a representative soil profile for the northern portion of the site. It shows three soil strata (Figure 6.23), including a Zone I plow zone composed of a dark brown (10YR3/3) silty clay loam that extended to a depth of 20 cm below surface. This was underlain by Zone II, a grayish brown (10YR5/2) silty sandy clay extending to 39 cm below surface, and Zone III, a pale brown (10YR6/3) silty sandy clay that was excavated to a depth of 42 cm below ground surface.

The deposits south of the road recovered in Shovel Tests 58 and 59, are the more important deposits due to the presence of temporally diagnostic materials and the presence of a possible historic feature. Shovel Test 58 revealed three soil strata (Figure 6.24). Zone I, the plow zone, was composed of a dark yellowish brown (10YR4/4) sandy loam that extended to a depth of 39 cm below surface. A few pieces of glass were encountered in Zone I, as well as a modern metal food container. Zone II represents a possible historic feature and consists of a dark grayish brown (10YR4/2) loam that contained a deposit of historic ceramics (Table 6.5). These include undecorated ironstone (n=1), undecorated whiteware (n=5), blue printed whiteware (n=2), and an ironstone rim with molded edge (Figure 5.2, left). Several sherds from this zone

Figure 6.21. Landscape Context of 15Wo271 and Location of Main Artifact Concentration South of the road.

Figure 6.22. Detailed Plan of 15Wo271.

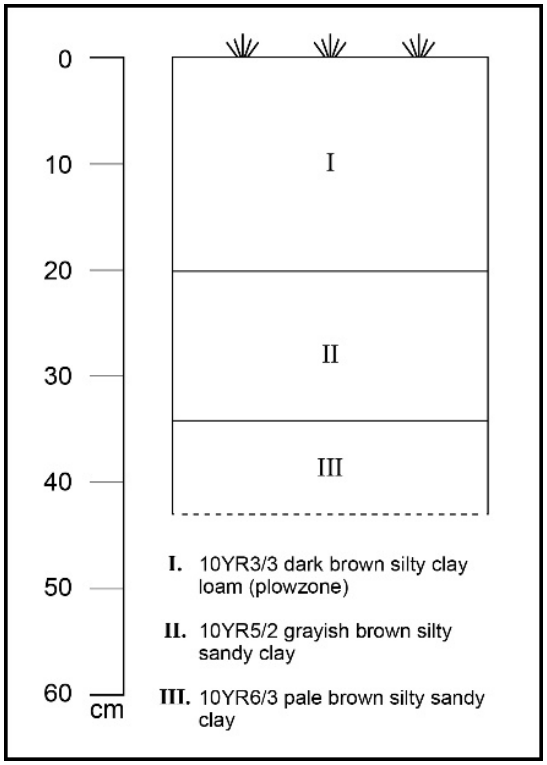

Figure 6.23. Soil Profile for ST56 at 15Wo271, North of the road.

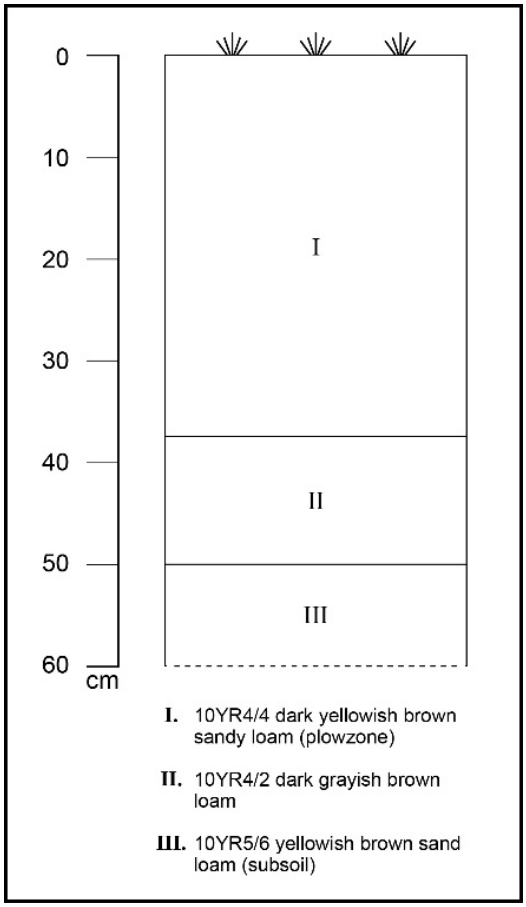

Figure 6.24. Soil Profile for ST58 at 15Wo271, South of the road.

Table 6.5. Historic Artifacts Recovered from Site 15Wo271.

			Shovel Test No.					
Functional Group	**Artifact Category**	**Date range**	**54**	**56**	**56N10**	**58**	**59**	**Total**
Architecture	Nails, unidentified	Undetermined				3		**3**
	Mortar fragments	Undetermined				4		**4**
Kitchen	Ironstone, undecorated	1840-present				1		**1**
	Whiteware, undecorated	1820-present				5		**5**
	Whiteware, molded edge	1820-present				1		**1**
	Whiteware, blue printed	1820-present				2	1	**3**
	Container glass, brown	Undetermined.	1		1			**2**
	Container glass, clear	Undetermined		5		1		**6**
	Container glass, green tint	Undetermined			1			**1**
	Glass, melted, aqua tint	Undetermined				1		**1**
Unassigned	Slag	Undetermined				1		**1**
	Fence wire	Undetermined	1					**1**
Total			**2**	**5**	**2**	**19**	**1**	**29**

were spalled and discolored from burning, and were found in association with a melted piece of glass. The date ranges for the ceramic assemblage span the early 19th to 21st century, and are only generally diagnostic. The blue-printed whiteware, however, is consistent with a late 19th to early 20th century date range. Likewise, the melted aqua glass may be indicative of early 20th century dates as fruit jars and soda bottles used this kind of glass into the 20th century. Together, the artifact assemblage from this feature is consistent with a late 19th to early 20th century date. The Zone II deposit extends to a depth of 50 cm below surface and terminates at Zone III, a yellowish brown (10YR5/6) sandy loam subsoil. Zone III was excavated to a depth

of 60 cm below surface. Although additional blue printed, burned whiteware was encountered in Shovel Test 59, no evidence of the dark soil of Zone II was observed.

Prior to the survey, a local informant related to UK-PAR staff that a log structure dating to the late 19th or early 20th century once stood on the property, but was located about 170 m northeast of the site (see Figure 6.22). This house was the former residence of the informant's mother, and was occupied at the beginning of the 20th century if not slightly before. Recently the log house was dismantled and sold, but it is visible in 2012 aerial imagery. This evidence, although indirect, also provides support for a late-19th to early 20th century date for 15Wo271.

In sum, 15Wo271 represents a scatter of historic refuse and a possible historic feature located at the intersection of the road and KY-205. The artifacts recovered at the site probably represent two sets of discard behavior. Material recovered from the northern part of the site likely results from occasional roadside discard. The southern end of the site contains a potential feature that likely represents the burning of late 19th and early 20th century refuse. Although fragments of mortar and some highly corroded nail fragments were recovered from the site, no brick or stone was recovered that would suggest architectural remains. A review of the available archival map resources did not produce evidence of a structure at this location. The burning exhibited in this deposit suggests one or more episodes related to refuse burning. This burning has degraded the integrity of the artifact assemblage by obscuring ceramic surface treatments and melting glass, and the presence of a modern tin can recovered at the top of this deposit suggests that modern activities have disturbed at least the upper part of the burned deposit. For these reasons, the site is thought to present low research potential, and is considered ineligible for nomination to the NRHP. UK-PAR recommends no further archaeological work at the site.

15Wo272

Site Type:	Historic farmstead and prehistoric isolated find
Landform	Terrace
Elevation	966 feet AMSL
Slope Aspect	Level
Soil Type	Grigsby-Orrville complex
Dimensions	15 m NE-SW x 50 m NW-SE (710 m^2)
Distance to Water	

Site 15Wo272 is located within the eastern right-of-way corridor of KY-205 (Figures 6.25 and 6.26). The site lies on a lower terrace (Figure 6.26), parallels the course of KY-205, and consists of a light scatter of late 19th to 20th century refuse and a prehistoric isolated find. The site was defined on the basis of four positive shovel tests that indicate a distribution of artifacts measuring 50 m northwest-southeast by at least 15 m northeast-southwest. The northwestern site boundary was defined by a driveway connecting KY-205 to houses to the east. On its southwestern side, the site was delimited by KY- 205, on its northeastern side by the project right-of-way, and on its southeastern end by negative shovel tests. It is not likely that the site extends farther to the northeast.

Several of the shovel tests suggest that there is poor archaeological context for the recovered artifacts. Several pieces of limestone were noted in and around Shovel Test 154E10. Probing with a trowel indicated that the rubble extended for about one meter around the shovel test, and the rubble may represent disrupted architectural remains. However, aerial imagery of this location suggests that the limestone rubble was deposited around 2004, and thus is not archaeological in age (Figure 6.26).

Shovel Test 154 provides a representative profile for 15Wo272 and consists of two strata (Figure 6.27). Zone I, the plow zone, consists of a brown (10YR4/3) silt loam mottled with a light brownish gray

Figure 6.25. Detailed Plan of 15Wo272.

Figure 6.26. Landscape Context for 15Wo272 (looking south).

Figure 6.27. 2004 Aerial Imagery of 15Wo272 Showing Rubble Pile (red arrow).

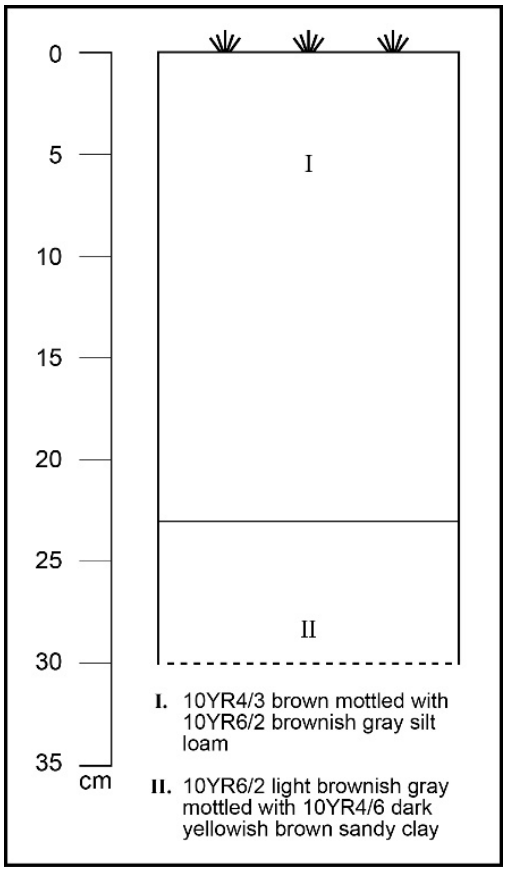

Figure 6.28. Representative Soil Profile for 15Wo272 (Shovel Test 154).

Table 6.6. Artifacts Recovered from 15Wo272.

			Shovel Test No.				
			154	**154E5**	**154S10**	**156**	**Total**
Functional Group	**Artifact Description**	**Date range**					
Lithic Debitage	Shatter, Boyle chert	Undetermined	1				**1**
Architecture	Brick fragment	Undetermined				1	**1**
	Nail fragment	Undetermined	1		2	2	**5**
	Nail fragment, wire	1880s-modern	2				**2**
	Nail Fragment, late machine-cut	1830s-1880s	1				**1**
Furniture	Glass, bulb fragment	Post-1930s			17		**17**
Kitchen	Container glass, clear	Undetermined				2	**2**
	Container glass, milk glass	Undetermined				1	**1**
	Ironstone, undecorated	1840-present	1	1			
Total			**5**	**1**	**19**	**6**	**31**

(10YR6/2) silty loam, and extends to a depth of 23 cm below surface. Zone II, the subsoil, was a light brownish gray (10YR6/2) sandy clay mottled with dark yellowish brown (10YR4/6) sandy clay. The greatest artifact density was evident in Shovel Test 156, but this was located in a low swale, so the artifacts may have been redeposited. The historic artifacts were found in a soil lens that also contained Styrofoam and plastic, and represent redeposited materials in a poor archaeological context.

A variety of materials were recovered, including, wire nail fragments (n=2), a late machine-cut nail fragment (n=1), unidentified nails (n=5), brick fragments (n=1), clear glass that likely came from a light bulb (n=17), clear container glass (n=2), a milk glass container fragment (n=1), and an undecorated ironstone sherd (Table 6.6). Additionally, pieces of modern brown container glass with an embossed Anheuser-Busch logo were collected in the field, but later discarded. The milk glass container fragment, late machine-cut nail, and ironstone are generally indicative of mid-19th to 20th century dates. In addition to the historic materials, a single piece of shatter made from Boyle chert was recovered. It was not temporally diagnostic.

In sum, 15Wo272 represents a light accumulation of late 19th and 20th century refuse and a prehistoric isolated find. None of the shovel tests indicated the presence of intact subsurface cultural deposits, and a large proportion of the objects recovered at this location were found in a redeposited context. Given these factors, 15Wo272 presents low potential to contribute further archaeological information and is not eligible for listing on the NRHP. UK-PAR recommends no further archaeological work.

15Wo273

Site Type:	Historic farmstead
Landform	Terrace
Elevation	966 feet AMSL
Slope Aspect	Level
Soil Type	Rowdy-Grigsby complex
Dimensions	10 m E-W x 30 m N-S (300 m^2)
Distance to Water	

Site 15Wo273 is located in the west right-of-way corridor of KY-205 (Figure 6.28). The site was defined by a surface scatter of historic artifacts the eastern part of a tobacco field next to a standing barn structure (Figures 6.29 and 6.30). A small number of additional artifacts were recovered from a shovel test excavated at the field margin to assess soil stratigraphy. The site measures 30 m north-south by 10 m east-west. Its northern edge is delimited by a barn, and its southern and eastern edges by the edge of the field and by adjacent roadways. The western boundary was determined by the extent of the project right of way, and the scatter of historic materials extends farther west beyond the project boundary.

Figure 6.29. Detailed Plan of 15Wo273 and 15Wo274.

Figure 6.30. Landscape Context for 15Wo273 (looking north).

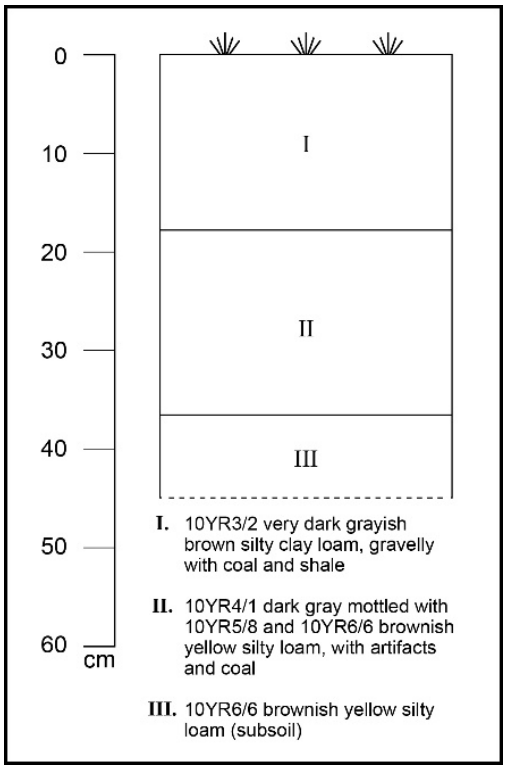

Figure 6.31. Representative Soil Profile for 15Wo273, Shovel Test 203.

Shovel Test 203 provides a representative soil profile for 15Wo273 (Figure 6.31). Zone I, the plow zone, extended to a depth of 18 cm below surface. It was a very dark grayish brown (10YR3/2) gravelly silty clay that included coal and shale fragments. Zone II, perhaps representing an older plow zone, consisted of dark gray (10YR4/1) silt loam mottled with yellowish brown (10YR5/8) and brownish yellow (10YR 6/6) silt loam. Zone II extended to a depth of 38 cm below surface. Zone III, subsoil, was a brownish yellow (10YR6/6) silt loam and was excavated to a depth of 45 cm below surface. No evidence of intact subsurface cultural deposits was encountered in the shovel test.

Table 6.7. Historic Artifacts from 15Wo273.

Functional Group	Artifact Description	Date range	Surface	ST 203	Total
Architecture	Glass, window	1928 (Moir estimate)	5		**5**
Transportation	Glass, headlight globe	Modern	1		**1**
Personal	Ointment jar, milk glass	Undetermined	1		**1**
	Glass marble	Late 19th century-present	1		**1**
Kitchen	Stoneware, Bristol slip	1884-20th century	2		**2**
	Stoneware, Bristol and Albany slips	1884-1920	1		**1**
	Ironstone, undecorated	1840-present	1		**1**
	Porcelain, undecorated	Undetermined	1		**1**
	Porcelain, blue Willow printed	Modern	1		**1**
	Porcelain, molded	Undetermined	1		**1**
	Whiteware, undecorated	1820-present	5	1	**6**
	Whiteware, brown decal	Undetermined	1		**1**
	Whiteware, polychrome	Undetermined	1		**1**
	Whiteware, molded rim	Undetermined	1		**1**
	Container glass, blue tint	Mid 19th to 20thcdentury.	1	3	**4**
	Container glass, bright green	Early-mid 20th century	4	1	**5**
	Container glass, brown	Modern	11		**11**
	Container glass, clear	20th century	17	5	**22**
	Container glass, green tint	Early-mid 20th century	4		**4**
	Tableware glass, clear	Undetermined	1		**1**
	Tableware glass, milk glass	Undetermined	1		**1**
Furniture	Terracotta flower pot rim	Undetermined	1		**1**
Unassigned	Unidentified iron	Undetermined	1		**1**
Total			**64**	**10**	**74**

The artifact assemblage from 15Wo273 consists primarily of container glass (Table 6.7). Bright green, green tint, blue tint, clear, brown, and milk glass were recovered. Diagnostic features of glass containers included evidence of machine molding and maker's marks on bottle bases. The maker's marks indicate that two of the bottles were produced by Owens-Illinois Glass Co. between 1929 and the early 1960's. Also, some canning jar rim fragments and an ointment jar rim exhibited continuous machine made threaded closures. These kinds of enclosures became common in the early 20th century. Other aspects of the container glass assemblage suggest that deposition of modern refuse is ongoing at this site. One rim from a brown bottle was consistent with a twist-off metal cap. Also, some brown container glass base fragments were embossed with "RECYCLE".

Other Kitchen Group glass included two pieces of tableware. One was a piece of clear molded leaded glass that was most likely a piece of small, shallow serving bowl. Another piece of milk table glass was recovered, but its form could not be determined.

In addition to container glass, a few (n=5) pieces of window glass were recovered. The thickness of these fragments was measured in an attempt to date the window glass assemblage using the Moir (1987) formula. The average thickness of the glass returned an estimated date of 1928.. This date is outside the range of dates predicted most accurately by the Moir regression curve, and is therefore unreliable.

The Transportation group included a piece of automobile headlight lamp glass. Glass items in the personal category that also likely date to the 20th century include a white and blue marble and milk glass ointment or cosmetics container.

The ceramic assemblage was also fairly large, and it included whiteware, ironstone, porcelain, stoneware, and terracotta. The stoneware offered the most restricted date range for the ceramic assemblage, indicating manufacture in the late 19th through early 20th centuries. Although the production of stoneware and whiteware began in the 19th century, production dates extend into the 20th century, and support a 20th century age for 15Wo273.

Figure 6.32. Portion of the 1937 *General Highway Map of Wolfe County* Showing the Location of 15Wo273.

The barn located at the northern edge of the site is associated with a residential structure that is outside the project area. Neither structure is depicted on the *General Highway Map of Wolfe County* (Kentucky Department of Highways 1937; see Figure 6.32). It is therefore possible that the structure and barn are not related to the artifact deposits at 15Wo273, and that the agricultural field previously extended farther to the north. It is likely, however, that mid-20th century occupation contributed to the materials found at the site.

In sum, 15Wo273 consists of a scatter of 20th century historic artifacts recovered from surface and plow zone of a tobacco field. A portion of this site was investigated, but the site extends further to the west beyond the project boundaries. The portion of the site examined yielded no evidence of intact cultural deposits. This information indicates that the site is not eligible for nomination to the NRHP. It is unlikely that additional work within the proposed KY-205 right-of-way would produce additional archaeological information, and UK-PAR recommends no further archaeological work at site 15Wo273. If the right-of-way should be extended farther west, additional evaluation of the site would be warranted.

Figure 6.33. Landscape Context for 15Wo274 (looking north).

15Wo274

Site Type:	Historic farmstead and prehistoric isolated find
Landform	Terrace
Elevation	962 feet AMSL
Slope Aspect	Level
Soil Type	Rowdy-Grigsby complex
Dimensions	15 m E-W x 100 m N-S (1400 m^2)
Distance to Water	

Site 15Wo274 was located in the east right of way corridor of KY-205 towards Lee City (see Figure 6.29). The site is positioned on a low terrace in an agricultural field east of KY-205 and only about 50 meters southeast of 15Wo273. The site was defined by the distribution of historic and prehistoric artifacts found on the surface of a tobacco field (Figure 6.33). One shovel test (ST202) was excavated within the site area to provide soil profile data, but it was negative for artifacts. This field occupies a low terrace , which runs along the southern edge of the field (Figure 6.29). The site extends approximately 100 m north-south and 15 m east-west. The western edge of the site is delimited by KY-205, and the northern and southern boundaries by the distribution of artifacts observed on the surface of the field. The eastern boundary was defined by the eastern extent of the project right-of-way, but the site extends further to the east.

Shovel Test 202 provides a representative soil profile for 15Wo274, and it shows two soil zones (Figure 6.34). Zone I, the plow zone, is a dark yellowish brown (10YR3/4) sandy loam that extends to about 31 cm below surface. Zone II subsoil is a dark yellowish brown (10YR4/6) sandy silt. No evidence of intact subsurface features was encountered in the shovel test.

Historic artifacts were most common, and included a variety of glass and ceramic remains (Table 6.8). Ironstone (n=3), whiteware (n=1), and Albany slipped stoneware (n=3) have long production ranges beginning in the early 19th century and continuing well into the 20th century. The glass assemblage, however, comprises amethyst and selenium solarized glass and modern clear container glass. Production dates for these kinds of glass are more consistent with a late 19th to early 20th century date, and these date ranges better characterize the historical artifacts from 15Wo274. Other historic artifacts collected included a modern glass

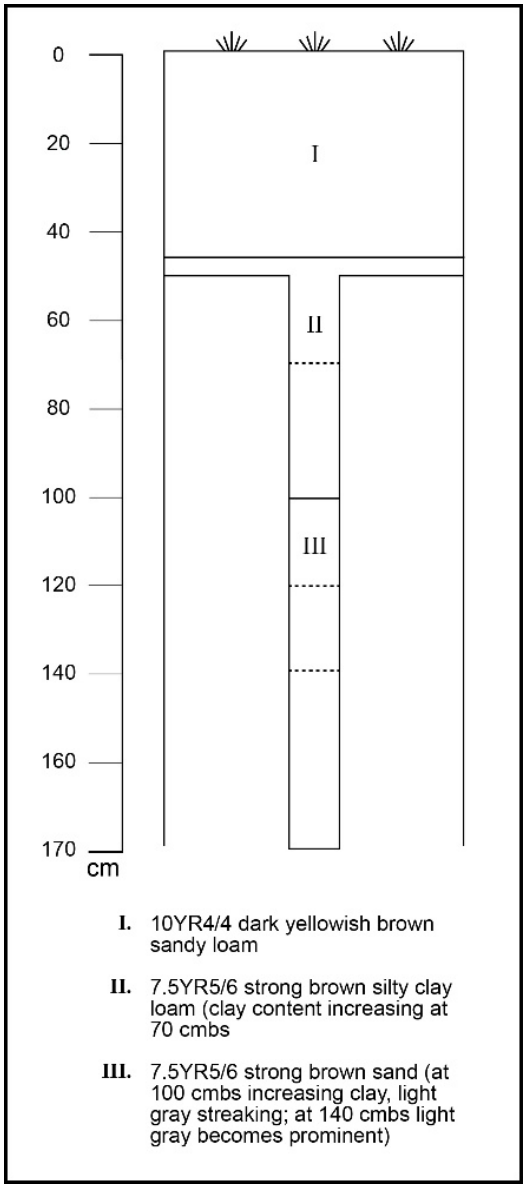

Figure 6.34. Representative Soil Profile for 15Wo274, Shovel Test 202.

Table 6.8. Artifacts Recovered from 15Wo274. All materials were recovered from the site surface.

Functional Group	**Artifact Description**	**Date Range**	**Total**
Chipped stone	Biface fragment, Paoli chert	Indeterminate	**1**
	Flake fragment, Paoli chert	Indeterminate	**1**
Kitchen	Stoneware, Albany slip	1800-1920	**2**
	Ironstone, undecorated	1840-present	**3**
	Whiteware undecorated	1820-present	**1**
	Container glass, amethyst	1880-1925	**1**
	Container glass, selenium	1910-1950	**1**
	Container glass, clear	Undetermined	**1**
	Porcelain doorknob	Undetermined	**1**
Personal	Ointment jar, milk glass	Undetermined	**1**
	Glass marble	Modern	**1**
Total			**14**

marble, a porcelain doorknob, and a fragment of milk glass.

The prehistoric assemblage from 15Wo274 included a flake fragment and a nondiagnostic biface fragment. The biface fragment likely represents the basal portion of the tool, but a distinct style and age for the haft element could not be determined. Both objects were produced from Paoli chert. These materials would be classified as a prehistoric isolated find if they had been found by themselves and not in association with the historic materials.

The results of the investigation suggest that 15Wo274 represents a surface scatter of late 19th to early 20th century historic refuse and a prehistoric isolated find. Although the site boundaries encompass a relatively small area, the site extends further to the east. Shovel testing did not identify intact subsurface features of any age, and no evidence of historic architectural remains was present on the ground surface. The results of the UK-PAR investigation suggest that further investigation of portion of 15Wo274 included within the proposed right-of-way would present low research potential. UK-PAR recommends no further work for portion of site 15Wo274 included within the proposed area of effect. However, it is worth noting that prehistoric sites in this part of the Red River drainage are located on high terraces above watercourses. There is potential for prehistoric deposits to be identified further out on the terrace, to the east of the current project boundaries. If the right-of-way were extended to the east, additional work would be recommended to further evaluate the prehistoric component

15Wo275

Site Type:	Prehistoric open habitation without mounds
Landform	Terrace
Elevation	980 feet AMSL
Slope Aspect	Level
Soil Type	Rowdy-Grigsby complex
Dimensions	5 m NW-SE x 40 m NE-SW (200 m^2)
Distance to Water	

Site 15Wo275 is located in the western right-of-way corridor north of the Wolfe-Breathitt county line (Figure 6.35). The site is a prehistoric open habitation without mounds, and is situated on a small high terrace (Figure 6.36). The site boundaries were established by the distribution of artifacts recovered in shovel tests, resulting in a site measuring approximately 40 m NE-SW by 5 m NW-SE (200 m^2). Three shovel tests were excavated within the site boundaries, and all were positive. The southeastern edge of the site is delimited by KY 205 and the northwestern edge by the project right of way. It is likely that the site extends farther northwest onto the high terrace that continues in that direction for about 40 meters (see Figure 6.35). Local informants reported collecting on this landform when it was plowed.

Shovel Test 399 shows a representative soil profile for the site (Figure 6.37). Only two zones were exposed, consisting of plow zone and subsoil. Zone I (plow zone) was a brown (10YR4/3) silty sandy clay loam that extended to a depth of 30 cm below surface. Zone II (subsoil) consisted of a light yellowish brown (10YR6/4) silty sand, and was excavated to a depth of 40 cm below ground surface. None of the shovel tests excavated at 15Wo275 presented evidence of subsurface cultural features or midden deposits. All artifacts were recovered from the plow zone. In addition to plowing, the site has been impacted on its southeastern side by the installation of a water main.

The artifact density at the site was low, consisting of only five pieces of debitage. These included a biface thinning flake, three flake fragments, and one piece of shatter (Table 6.9). Paoli (n=3), Boyle (n=1), and Breathitt (n=1) chert types were present. The Breathitt Formation underlies the project area, and this chert is locally available. Paoli and Boyle cherts are derived from the Red River Gorge, with outcrops about

Figure 6.35. Detailed Plan of 15Wo275.

Figure 6.36. Landscape Context for 15Wo275 (looking northeast).

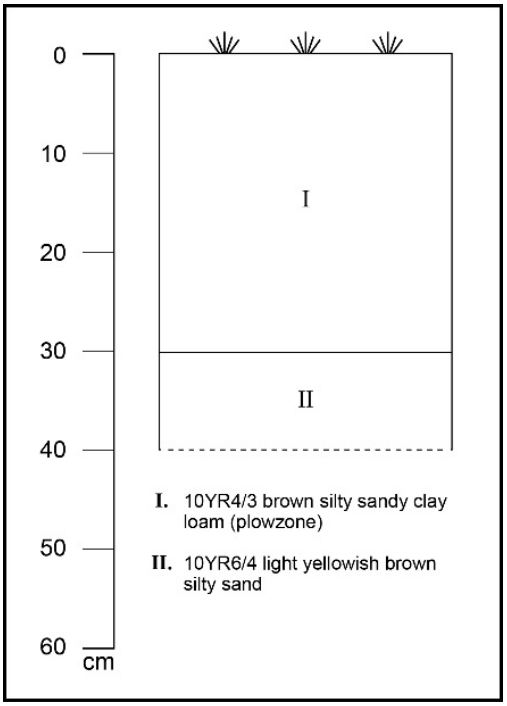

Figure 6.37. Representative Soil Profile for 15Wo274 (Shovel Test 399).

Table 6.9. Artifacts Recovered from 15Wo275. ST = Shovel Test

	Raw Material	ST 399	ST 400	ST 401	Total
Biface Thinning Flake	Paoli	1			**1**
Flake Fragment	Boyle		1		
	Breathitt			1	
	Paoli	1			**3**
Shatter	Paoli		1		**1**
Total		**2**	**2**	**1**	**5**

30 km downstream. The assemblage consists primarily of shatter and flake fragments, which makes behavioral interpretation of the assemblage very difficult. Also, the debitage assemblage was not temporally diagnostic. Reddened sandstone was observed in Shovel Test 398, beyond the northeast boundary of the site. These possibly represent fire-cracked rock but were not associated with any definite prehistoric artifacts or any evidence of subsurface cultural features. They were not collected.

The portion of 15Wo275 examined by UK-PAR presented a relatively low artifact density and produced no temporally diagnostic artifacts. No evidence for intact cultural deposits were encountered. These factors suggest that the portion of the site examined presents little potential for further research. UK-PAR recommends no further work for the portion of the site that will be impacted by the proposed construction along KY-205. However, information provided by local informants suggests that the site extends to the northwest onto the more extensive terrace. If the right-of-way boundaries expand in this direction, further evaluation of 15Wo275 would be warranted.

Figure 6.38. Landscape Context of 15Wo276 (looking north).

15Wo276

Site Type:	Historic farmstead with prehistoric isolated find
Landform	Terrace
Elevation	1062 feet AMSL
Slope Aspect	Level
Soil Type	Rowdy-Grigsby complex
Dimensions	10 m E-W x 60 m N-S (550 m^2)
Distance to Water	

15Wo276 was identified in a small pasture in the western right of way corridor of KY-205 (Figures 6.38 and 6.39). The site consists of a light-density scatter of historic materials and a prehistoric isolated find identified in from shovel tests (ST 433, ST 434, ST 435, and ST 435S10; see Figure 6.39). The site measures approximately 50 m north-south by 10 m east-west. The eastern boundary of the site is delimited by KY-205 and by a right-of-way/easement corridor for the water main that runs along the west side of KY-205. The western boundary is defined by the edge of the project right-of-way and by the steep slope of the adjacent hill slope (Figures 6.38 and 6.39). The northern and southern boundaries were defined by the distribution of positive shovel tests. Given the low density of artifacts and the evidence of site disturbance, including the water main installation and a probable fill episode in the northern portion of the site, the site is unlikely to extend outside of the boundaries as defined.

Soil profiles suggest that at least the northern half the site has been disturbed by modern activities. Shovel Test 435S10 revealed three soil strata that were highly mottled and rocky (Figure 6.40). Zone I consisted of a brown (10YR4/3) silty sandy clay mottled with grayish brown (10YR5/2). This zone contained abundant gravel and small stones, and extended to 12 cm below surface. Zone II consisted of a grayish brown (10YR5/2) silty sandy clay mottled with very dark grayish brown (10YR3/2). This stratum was very rocky and extended to 27 cm below surface. Zone III was marked by a light gray (10YR7/1) silty sandy clay mottled with brown (7.5YR5/4) sediment that contained rocks but was culturally sterile. This zone was excavated to 34 cm below surface. This profile contrasted strongly with that of Shovel Test 433, which exhibited only two soil strata. Zone I extended to 37 cm below surface and consisted of olive brown

Figure 6.39. Detailed Plan of 15Wo276.

(2.5Y4/4) sandy loam mottled with yellowish red (5YR4/6). Zone II consisted of a light olive brown (2.5Y5/4) sand mottled with yellowish red (5YR4/6). No subsurface features were observed in any of the shovel tests excavated across 15Wo276. No architectural remains were observed in shovel tests or on the ground surface. Archival map research indicated two buildings located approximately 200 m from the site, but these are not thought to be related to 15Wo276.

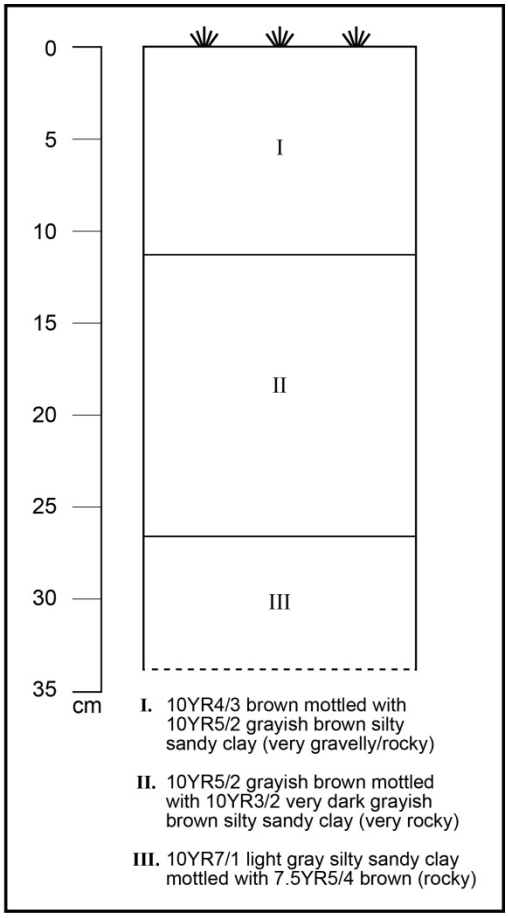

Figure 6.40. Representative Soil Profile for Northern Portion of 15Wo276 (Shovel Test435S10).

The historic artifact assemblage from 15Wo276 (Table 6.10) consisted of fragments of clear container glass, nail or bolt fragments, other metal fragments, and a portion of a detachable reed stemmed clay pipe bowl (see Figure 5.4). The container glass included a rim fragment from a threaded jar, likely a canning or other food storage jar. The rim fragment lacks a shoulder, suggesting a wide-mouthed jar, and bears a circumferential mold scar below the threads. These attributes are somewhat conflicting. On the one hand, threaded machine-made jars with wide mouths were patented by Mason in the mid-19th century. On the other hand, such jars typically have a pronounced shoulder below the rim where the jar lid sealed the container. It is probable that this rim fragment dates to the 20th century. The remaining glass fragments could not be dated. Likewise, the nail fragments were too corroded to determine if they were machine-cut or wire nails. The pipe bowl fragment is more informative. The fragment consists of the lower portion of the pie bowl and the stem section that accommodated a detachable reed stem. The slip is brown over a gray earthenware paste similar to stoneware. The body of the pipe bowl is decorated with ribs that parallel the stem. These rib designs on the stem could be associated with bowls that were similarly ribbed or with figure-head pipe bowls. Although dating of this pipe fragment is hindered by the absence of the bowl portion, it is generally datable on stylistic grounds to the mid and late 19th century. In sum, it appears that the pipe bowl fragment is much older than the rest of the historic assemblage. However, this probable 19th century pipe fragment was recovered in a context that also produced modern plastic and an aluminum can pull-tab. Intact 19th century deposits are not indicated by these contexts or by the shovel test soil profiles.

The prehistoric assemblage (Table 6.10) consisted of two small flakes recovered in Shovel Test 433. One flake was a flake fragment produced from Haney chert. The other flake represented a biface thinning flake made from Paoli chert.

Table 6.10. Prehistoric and Historic Artifacts Recovered from 15Wo276. ST = Shovel Test.

Functional Group	Artifact description	Date Range	ST 433	ST 434	ST 435	ST 435S10	Total
Lithic Debitage	Biface thinning flake, Haney chert	Undetermined	1				**1**
	Flake fragment, Paoli chert	Undetermined	1				**1**
Architecture	Unidentified metal fastener	Undetermined	1				**1**
Personal	Clay pipe stem	Mid-late 19th century			1		**1**
Unassigned	Unidentified metal	Undetermined		6			**6**
Kitchen	Container glass, clear	Undetermined		2		1	**3**
	Total Artifacts		**3**	**8**	**1**	**1**	**13**

In sum, 15Wo276 represents a light scatter of historic refuse and two fragments of lithic debitage, which would be considered a prehistoric isolated find if not found in association with the more abundant historic artifacts. The historic artifacts were recovered from contexts that suggested mixing with modern fill. Additionally, modern utility corridor construction activities had partially modified the landform through emplacement of a water main. The overall low artifact density and mixed depositional contexts suggest that additional work at 15Wo276 would not yield any significant additional archaeological information. Consequently, 15Wo276 is not considered eligible for nomination to the NRHP. No further archaeological work is recommended.

ISOLATED FINDS

During the survey of the new right-of-way and construction easement corridors to be impacted by proposed modification of KY-205, fifteen isolated finds were encountered. These finds were distributed throughout the project area and are numbered sequentially (IF 1 to IF 15) from north to south along the project area corridor (see Figure 1.3). These isolated finds represent either single prehistoric artifacts or small collections of historic material or mixed historic and prehistoric artifacts that were spatially discreet or were found in disturbed contexts. Recovered artifacts are listed in Table 6.11 for each isolated find. In all cases, shovel tests indicated no evidence of subsurface cultural deposits, and all cultural materials were recovered from plow zone. Consequently, individual shovel test profiles are not illustrated, but they are described when appropriate. In all cases, either the low artifact numbers or the poor contexts precluded assignment of archaeological site numbers. Individual Ifs are described in detail below.

ISOLATED FIND 1

Isolated Find 1 was a single piece of rusted metal recovered from Shovel Test 5 (Table 6.11). The soil profile of Shovel Test 5 showed a thin layer of dark brown (7.5YR3/2) silt loam extending to 10 cm below surface. Zone II was excavated to 23 cm below ground surface until large sandstone pieces rejected further excavation. This zone consisted of a mottled silt loam with mixed yellowish brown (10YR5/6), dark brown (7.5YR3/2) and reddish yellow (7.5YR6/8) colors. Zone II also contained a high proportion of water-worn gravel, larger pieces of sandstone, and coal. The mottled appearance of Zone II and its rockiness suggest it is artificial fill. No evidence of intact subsurface features was encountered in Shovel Test 5, and no additional artifacts were recovered in four radial shovel tests.

The low artifact count, nondiagnostic nature of the artifact, and its context within probable artificial fill suggest that Isolated Find 1 has no archaeological research potential. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

Table 6.11. List of Artifacts Recovered at Isolated Find Locations.

		IF1	IF2	IF3	IF4	IF5	IF6	IF7	IF8	IF9	IF10	IF11	IF12	IF13	IF14	IF15	Total
Functional Group	**Artifact Description**																
Lithic Debitage	Cortical flake			1													1
	Interior flake								1								1
	Flake fragment													1		1	2
	Shatter		1		1	1		1		1							5
Activities	Field tile						2										2
	Iron nut		1														1
Architecture	Nail fragments, unidentified												4			3	7
	Window glass															1	1
Kitchen	Stoneware									1		1					2
	Whiteware, undecorated								1		1	1					3
	Container glass, blue tint								1								1
	Container glass, bright green		1														1
	Container glass, brown	2															2
	Container glass, clear		6								1	1				2	10
	Container glass, green		1														1
	Table glass, green														1		1
	Table glass, milk/white										1						1
Unassigned	Unidentified iron					2											2
	Aluminum pull tab											1					1
Total		**2**	**10**	**1**	**1**	**3**	**2**	**1**	**3**	**2**	**3**	**4**	**4**	**1**	**1**	**7**	**45**

ISOLATED FIND 2

Immediately southwest of 15Wo270, historic artifacts and a single prehistoric flake were encountered in a fallow agricultural plot (Figure 1.3). This field was located across the driveways separating the house lot associated with 15Wo270 from the neighboring house lot to the southwest. Although the materials were in close proximity to 15Wo270, they were encountered in a different farm plot and were derived from a field rather than a house yard. For these reasons, these materials were designated an isolated find separate from 15Wo270.

Artifacts were recovered from two shovel tests (ST21 and ST22). The soil profile for Shovel Test 22 is representative for this location and it has two zones. Zone I, plow zone, was a brown (10YR4/3) silty clay loam that extends to a depth of 25 cm below surface. Zone II subsoil was a grayish brown (10YR5/2) silty clay mottled with brownish yellow (10YR6/6) silty clay, and it was excavated to a depth of 31 cm below surface. No subsurface features or cultural deposits were encountered at this location.

A single prehistoric flake, a piece of shatter made from Haney chert, was recovered. Historic artifacts (n=9) included an iron nut (n=1) and pieces of clear, bright green, and green tinted bottle glass. No date could be assigned to the historic material, and it likely represents primarily modern trash.

Isolated Find 2 represents a prehistoric isolated find and scatter of modern historic trash incorporated into the plow zone of an agricultural field. No evidence for intact subsurface deposits was encountered, and no temporally diagnostic artifacts were observed. These finds hold no additional research potential, and IF 2 is not considered to be eligible for nomination to the NRHP. No further archaeological work is recommended for this location.

ISOLATED FIND 3

Isolated Find 3 consisted of a single prehistoric flake recovered from a fallow agricultural field on the east side of KY-205 (Figure 1.3). This cortical flake was produced from St. Louis chert, and represents the initial reduction stages of tool manufacture. This artifact was recovered from Shovel Test 33, which revealed a soil profile consisting of plow zone and underlying subsoil. The plow zone was a brown (10YR4/3) silty clay loam that reached a depth of 19 cm below surface. Zone II subsoil was a yellowish brown (10YR5/6) silty sandy clay that was excavated to a depth of 45 cm below surface. Surrounding radial shovel tests placed to the southeast and northwest were negative for artifacts or any indication of sub-plow zone cultural features.

The low artifact density and lack of sub-plow zone features suggest that there is low to nil research potential for Isolated Find 3. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 4

Isolated Find 4 is a single prehistoric debitage fragment recovered from a fallow agricultural field on the west side of KY-205 (Figure 1.3). The specimen is a piece of angular shatter made from Paoli chert. This artifact was recovered from Shovel Test 113, which revealed a soil profile consisting of two zones. Zone I plow zone was a brown (10YR5/3) sandy loam that extended to a depth of 25 cm below surface. The shatter was recovered from Zone I. Zone II subsoil was a brownish yellow (10YR5/6) silty clay loam that was excavated to a depth of 32 cm below surface. Radials were placed ten meters to the northwest and southeast, but neither contained additional artifacts or traces of intact cultural deposits.

The low artifact density and lack of sub-plow zone cultural deposits suggest that there is little to no research potential for Isolated Find 4. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 5

Isolated Find 5 consisted of a single fragment of prehistoric lithic debitage and two pieces of unidentified historic metal recovered from Shovel Tests 136 and 136N10. These shovel tests were located in a fallow agricultural field on the west side of KY-205 (Figure 1.3). Shovel Test 136 revealed a soil profile with two zones. Zone I, representing plow zone, consisted of a dark brown (10YR3/3) silty sandy clay loam containing numerous pieces of coal and extending to a depth of 25 cm below surface. Zone II subsoil was a grayish brown (10YR5/2) silty sandy clay that was heavily mottled with mineral staining and contained small gravels. A root cast or rodent burrow was observed at the base of the shovel test. Zone II was excavated to 33 cm below surface. No evidence of intact cultural deposits was observed.

The single prehistoric artifact is a piece of angular shatter made from Haney chert, recovered from ST 136 Zone I. Historic materials include two unidentified rusted iron fragments recovered from Shovel Test 136N10. They are of undetermined function and age. The soil profile for Shovel Test 136N10 is similar to that of ST136, differing only in the depth of the plow zone (31 cm). Again, there was no evidence of intact cultural deposits.

The low prehistoric and historic artifact density and the lack of evidence for intact subsurface cultural deposits indicate low to nil research potential for Isolated Find 5. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 6

Isolated Find 6 consisted of two pieces of ceramic field tile recovered from a shovel test placed in a fallow field along the east side of KY-205 (Figure 1.3). No date could be securely assigned to these remains, and it is unclear if they reflect historic or modern activities. Both pieces were recovered from Shovel Test 146, which presented a soil profile with three zones. Zone I represents plow zone and consists of a dark brown (10YR3/3) silty sandy clay loam that reached a depth of 28 cm below surface. Zone II is a rodent burrow or root disturbance that forms part of the transition from plow zone to Zone III subsoil. Zone II was a dark grayish brown (10YR4/2) silty sandy clay that reached a depth of 33 cm below surface. Zone III subsoil was a grayish brown (10YR5/2) silty sandy clay mottled with brown (7.5YR5/4) silty sandy clay; it was excavated to a depth of 45 cm below surface. No evidence of intact subsurface cultural deposits was encountered. Radials placed to the north and south were negative.

The low artifact density and the lack of evidence of intact subsurface cultural deposits suggest that Isolated Find 6 has nil archaeological research potential. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended.

ISOLATED FIND 7

Isolated Find 7 consisted of a fragment of prehistoric lithic debitage recovered from a single shovel test placed in a fallow agricultural field in the east right-of-way corridor of KY-205 (Figure 1.3). The fragment is a piece of angular shatter made from Breathitt chert. This artifact was recovered from Shovel Test 169, which revealed a soil profile with three zones. Zone I is the plow zone and consisted of a dark yellowish brown (10YR4/4) silty sandy clay loam that extended to a depth of 25 cm below surface. Zone II is subsoil and is a grayish brown (10YR5/2) silty sandy clay that was lightly mottled; it extended to 33 cm below surface. Zone III is a light yellowish brown (10YR6/4) silty sand and excavated to 41 cm below surface. No evidence of cultural deposits or features was observed. Radials placed to the northwest and southeast did not produce additional materials or evidence of cultural deposits.

The low artifact density and lack of sub-plow zone features suggest that there is low to nil research potential for Isolated Find 7. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 8

Isolated Find 8 was located in a fallow agricultural field in the east right-of-way corridor of KY-205 (Figure 1.3). Three artifacts more than 50 years old were recovered from three shovel tests (ST 177, ST 177S10, and ST 178). Shovel Test 177 provides a representative soil profiles for this location. It showed only two zones representing plow zone and subsoil. Zone I plow zone extended to 30 cm below surface and was a brown (10YR4/3) silty loam with sandstone gravels. Zone II subsoil was a yellowish brown (10YR5/6) clay loam. No subsurface cultural deposits were encountered in any of the shovel tests.

Historic objects included a single piece of whiteware, a piece of aqua glass, and a piece of modern brown container glass. The curvature of the aqua glass suggests it was from a canning jar, in turn suggesting a very late 19th through early 20th century date. These dates accord well with the production date range for whiteware. A prehistoric interior flake made from Boyle chert was recovered in Shovel Test 177.

Given the low artifact density and the absence of intact subsurface cultural deposits, this area was best classified as an isolated find. It presents very low potential for contributing further archaeological information, and it is not eligible for nomination to the NRHP. No further work is recommended.

ISOLATED FIND 9

Isolated Find 9 consists of a single piece of historic ceramic encountered during visual inspection of a corn field located within the west right-of-way corridor along KY-205 (Figure 1.3). The ceramic is a piece of stoneware with Bristol slip on its exterior surface and Albany slip on its interior. The vessel form could not be determined from this body sherd. A date range for this kind of ceramic is from the late 19th to early 20th centuries. No other historic or prehistoric remains were observed during visual inspection of the field, despite good surface visibility. Likewise, no architectural remains were observed on the ground surface. Shovel tests were not excavated due to the good surface visibility.

The very low artifact density and lack of any architectural surface remains suggest there is very low research potential for Isolated Find 9. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 10

Isolated Find 10 is a low-density scatter of historic materials that were collected during visual inspection of a tobacco field on the east side of KY-205 (Figure 1.3). The right of way included a portion of the tobacco field measuring about 145 m north to south along KY-205, and only about 10 m wide. Three historic artifacts were recovered, including one piece of clear container glass, one piece of milk glass from a small container, and one piece of whiteware. Neither glass fragment bore manufacturing or other attributes diagnostic of a particular date range, and the date range for whiteware is very broad. The best that can be said is that it likely represents materials manufactured between the mid-19th and mid-20th centuries. No architectural remains were observed on the surface of the field, despite good surface visibility. It is probable that these object represent relatively recent roadside trash.

The very low artifact density and lack of any architectural remains suggest there is very low research potential for Isolated Find 10. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 11

Isolated Find 11 is a low-density scatter of historic materials collected during the visual inspection of a tobacco field located along the east side of KY-205 (Figure 1.3). Materials recovered included one piece of clear container glass, one pull tab from an aluminum can, one piece of stoneware with Albany slip, and one piece of whiteware. These artifacts potentially cover a wide date range. The aluminum pull-tab is likely modern trash, and the container glass bore no datable diagnostic attributes. The whiteware has a broad date range that extends from the mid-19th century to the present. The Albany-slip stoneware was more narrowly confined to the late 19th and early 20th centuries. It is likely that these materials represent a suite of trash discarded beside KY-205. The tobacco field was not subjected to shovel testing, but no architectural remains were observed on the surface, so it is unlikely that a residence or other structure is associated with the artifact scatter.

The very low artifact density and lack of any architectural surface remains suggest there is very low research potential for Isolated Find 11. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 12

Isolated Find 12 was situated in the western right-of-way corridor in an old field (Figure 1.3).

Materials were recovered from Shovel Test 318, which was located immediately north of a driveway and a former trailer lot. Aerial imagery indicates that the trailer was removed between late 2004 and mid-2006. Materials recovered in the shovel test include four rusted nail fragments. Due to corrosion, it could not be determined if the nails were machine-cut nails or wire nails. Shovel Test 318 exposed two soil zones. Zone I was a shallow lens of dark olive brown (2.5Y3/3) silt loam extending to a depth of only 3 cm below surface. Zone II was excavated to 25 cm below surface and consisted of an olive brown (2.5Y4/4) silt loam. No evidence for subsurface cultural features was encountered. One negative radial shovel test was excavated to the north. The southern radial would have been placed in a gravel driveway, and was not excavated.

The low artifact density and diversity, and the lack of evidence of intact subsurface cultural deposits indicate that Isolated Find 12 has very low to nil research potential. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 13

Isolated Find 13 was located at the edge of a soybean field in the west right-of-way corridor of KY-205 (Figure 1.3). A single flake fragment made from Paoli chert was recovered from the auger test placed in the bottom of Shovel Test 326. Shovel Test 326 revealed only two soil zones. Zone I was the plow zone, an olive brown (2.5Y4/4) gravelly sandy loam that extended to a depth of 17 cm. Zone II was a light olive brown (2.5Y5/6) silt loam that was extended from 17 to 30 cm below surface. The bucket auger placed in the bottom of Shovel Test 326 showed Zone III as a pale brown (2.5Y7/4) clay-rich silt loam mottled with brownish yellow (10YR6/6) sandy clay that extended from 30 to about 90 cm below surface. At 70 cm depth, Zone III became wet and showed mineral concretions. Zone IV, a gray (10YR6/1) clay streaked with strong brown (7.5YR5/6) clay, extended to the base of the auger test at 170 cm below surface. This layer was wet, and became very wet at a depth of 130 cm.

The flake was recovered from Zone III at a depth of 50 to 60 cm below surface. Zone III appears to represent the natural accumulation of sands and sandy loams found throughout the alluvial portions of the project area. No evidence of cultural features, in the form of organic-rich sediments, fire-cracked-rock, or charcoal flecking, was observed in Zone III sediments. Likewise, no evidence for a buried A horizon was evident in the soil profile. An auger test radial placed south of ST326 did not contain artifacts or other evidence of cultural features or buried A horizon.

The low prehistoric artifact density and the lack of evidence of intact subsurface cultural deposits suggest Isolated Find 13 has very low research potential. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 14

Isolated Find 14 is a single piece of historic table glass found in that was encountered in Shovel Test 331, placed in the low-elevation part of a pasture on the east side of KY-205 (Figure 1.3). Shovel Test 331 revealed a soil profile consisting of three zones. Zone I extended to 8 cm below surface was a brown (10YR4/3) silt loam humic layer. Zone II extended to 20 cm below surface and was a dark grayish brown (10YR4/2) silt loam mottled with yellowish red (5YR5/6) clay loam. This zone contained abundant gravel and pieces of coal, which were not collected. Other nearby shovel tests also documented this mottled layer, and it likely represents artificially deposited fill. Zone III is a subsoil of dark grayish brown (10YR4/2) sandy loam, and it was excavated to a depth of 38 cm. No evidence of buried cultural deposits was observed. Radial shovel tests placed ten meters to the north and south did not produce additional cultural materials and revealed no evidence of intact cultural deposits.

Figure 6.41. New Flinchum Cemetery (looking west).

Given the very low artifact density, evidence for soil disturbance, and lack of subsurface cultural features, Isolated Find 14 has very low research potential. This location was not assigned a site number, and it is not considered eligible for listing on the NRHP. No further archaeological work is recommended at this location.

ISOLATED FIND 15

Isolated Find 15 is a single prehistoric flake comingled with modern historic trash in a disturbed context in the western right-of-way corridor of KY-205 (Figure 1.3). A light density of modern historic materials was recovered in several shovel tests (ST360, ST361, ST362, and ST365). The historic materials included clear container glass, unidentified nail fragments, and clear flat glass. None of this material exhibited attributes that were temporally diagnostic, and all are considered modern. A single prehistoric flake fragment made from Boyle chert was recovered from Shovel Test 360.

Shovel Test 360 revealed a soil profile with three strata. Zone I extended to 7 cm below surface and was a dark yellowish brown (10YR3/4) sandy loam. Zone II was a mottled sandy loam that included soil from Zone I mixed with dark yellowish brown (10YR3/6) sandy loam; Zone II extended to a depth of 21 cm below surface. Zone III subsoil, excavated to a depth of 33 cm below surface, was a yellowish brown sandy loam. No evidence of intact subsurface cultural deposits was exposed in this or in the nearby shovel tests.

In sum, Isolated Find 15 is represented by a single flake fragment. Although historic materials were encountered in surrounding shovel tests, these materials are considered to be modern trash, likely in a redeposited roadside context. Given the low artifact density, potential for disturbance, and lack of intact subsurface cultural deposits, no site number was assigned to these materials. The remains are not eligible for nomination to the NRHP, and no further archaeological work is recommended for this location.

NONSITE LOCALITY

UK-PAR identified one nonsite locality within the project area. This is a recent and active historic cemetery, here referred to as the New Flinchum Cemetery to distinguish it from the Flinchum Cemetery located near the southern end of the project area. This cemetery is situated on a steep footslope on the west side of KY-205, about 200 m north-northwest of the hamlet of Rosefork (Figures 6.41 and 6.42). The oldest

Figure 6.42. Location of New Flinchum Cemetery and the Proposed Temporary Easement.

dated monument recorded a death date in 1997. The cemetery is bounded by a chain-link fence (Figure 6.41) and is well-maintained. Due to its recent age and active status, the New Flinchum Cemetery is not considered to be an archaeological resource, and no archaeological site number was assigned. Because the proposed temporary easement for the project corridor overlaps the eastern end of the cemetery, UK-PAR recommends avoiding the cemetery and as much of a buffer around the cemetery as feasible.

CHAPTER 7
SUMMARY AND RECOMMENDATIONS

At the request of the Kentucky Transportation Cabinet (KYTC), archaeologists from the University of Kentucky Program for Archaeological Research (UK-PAR) performed a Phase I survey of proposed expansion and realignment of the east and west rights-of-way of KY-205 in Wolfe County, Kentucky. The purpose of this work was to identify any archaeological resources within the project area and to assess their potential eligibility for nomination to the National Register of Historic Places (NRHP). The survey corridor comprised existing and proposed rights-of-way and temporary easements on along a length of KY-205 that extends from the Wolfe-Breathitt county line northward to just south of the Helechawa Interchange on the Mountain Parkway. The survey corridor extended a length of approximately 10 km, and the total area investigated measured about 46.9 hectares, including proposed borrow and fill areas. The project area is situated within the Red River drainage and includes portions of Red River, Rose Branch, and Tunnel Fork valleys. The project corridor becomes narrower and steeper from north to south, with elevations rising from the flood plain of the Red River to the headwaters of Tunnel Fork. Almost the entire project area is on terrace and flood plain landforms, with minor proportions in steeply sloped upland settings.

As a result of this survey effort, the UK-PAR crew excavated 448 shovel tests (including bracketing tests to define site boundaries) in terrace and flood plain settings. Additionally, 55 deep auger tests were placed in the bottom of shovel tests to test for buried cultural deposits or paleosols. Approximately 17 hectares (30.4 percent) of the project area was sloped in excess of 20 percent, and an additional 7 hectares (12.5 percent) of the project area had been disturbed. The archaeological survey documented eight new archaeological sites (15Wo269 through 15Wo276) and fifteen isolated finds. Two previously reported sites (15Wo145 and 15Wo146) fall within the project area and were revisited during the survey. The cultural resources are briefly described below, discussed in north-to-south order. Figure 1.2 shows the locations of sites on the Lee City, KY and Cannel City, KY 7.5' USGS topographic quadrangle maps.

Site 15Wo270 is located just south of the northern terminus of the project corridor, on the east side of KY 205. The site represents refuse associated with a late-19th to early-20th century historic farmstead. The survey corridor traverses the western edge of the farm lot and examined the area around a standing barn and a mown lot adjacent to KY 205. Two standing structures were located east of the right-of-way. The site is situated on a terrace. Ten shovel tests, including radials, were excavated, and eight contained historic artifacts. The locations of positive shovel tests defined a site area measuring 135 m NE-SE by 15 m NW-SE (1,600 m^2); the site likely extends farther southeast outside the survey corridor. Artifacts (n=103) recovered from the site include unidentified nail fragments (n=2), brick fragments (n=1), amethyst container glass (n=1), aqua container glass (n=1), brown container glass (n=80), clear container glass (n=16), a horseshoe fragment (n=1), and the foil and cellophane wrapper from a cigarette package (n=1). Datable objects included the amethyst glass (1880-1914), and two embossed brewery logos on brown container glass fragments (Hoster Brewery, 1836-1913; Bartholomay Brewing, 1852-1934). Additionally, many bottle fragments showed vertical mold seams consistent with automatic machine manufacture. No intact cultural midden or features were identified during shovel testing. The relatively high artifact count for this site largely reflects a single deposit of brown container glass (79 of 80 pieces). Apart from this deposit, artifact density is generally low across the site. The overall interpretation of the materials is that of a secondary trash deposit. Due to the relatively recent age of the artifacts, overall low density of artifacts across the site, absence of any indication of foundations or other architectural remains, and lack of intact deposits, the research potential of 15Wo270 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo269 is west of KY 205, roughly 80 m southwest of 15Wo270. The site is a temporally unassigned prehistoric habitation without mounds. The field containing the site was planted in corn at the time of survey, and surface visibility was good between corn rows. A surface scatter defined the site

boundaries, which measure only 20 m N-S by 5 m E-W (100 m^2). Three shovel tests were excavated along the margin of the corn field, and one was positive. The surface collection and shovel test produced five pieces of debitage and one temporally nondiagnostic biface fragment. Reduction stage categories represented in the assemblage include a cortical flake (n=1), biface thinning flake (n=2), flake fragment (n=1), and shatter (n=1). Chert types included Haney, Boyle, and Breathitt. Breathitt chert is locally available, while the haney and Boyle are available along the Red River further downstream in Powell County. No intact subsurface cultural features or midden were observed in shovel tests at the site. Given the low artifact density, lack of subsurface cultural deposits, and lack of temporally diagnostic artifacts, the research potential of site 15Wo269 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo271 is east of KY 205. The site consists of refuse from a late-19th to early 20th century historic farmstead. The site is situated in the lower end of pasture that was fallow at the time of the survey. The site boundaries were defined by five positive shovel tests, and the site measures 110 m N-S by 15 m E-W (1,480 m^2). The site may continue east outside the survey corridor. The artifact assemblage (n=29) includes unidentified nail fragments (n=3), mortar fragments (n=4), ironstone (n=1), whiteware (n=9), brown container glass (n=2), clear container glass (n=6), light green container glass (n=1), melted glass (n=1), coal slag (n=1), and fence wire (n=1). The container glass attributes generally indicate modern automatic machine manufacture. Ironstone and whiteware are generally diagnostic of the mid-19th century through early 20th century. However, some of the whiteware was decorated with a blue willow pattern that is relatively recent in age. Although a 19th century date is possible for the artifacts from 15Wo271, they are more probably 20th century in age. Artifacts appear to be differentially distributed within the general site area. North of the road only container glass (n=8) and fence wire (n=1) were recovered. These artifacts potentially represent the accumulation of roadside trash refuse along KY 205. South of the road was a deposit of burned historic ceramics, container glass, nail fragments, and mortar fragments. One shovel test produced almost all of this material (n=19), and several artifacts were recovered from a dark grayish brown lens of soil. The shovel test also indicated that the burned deposit was impacted by more recent activities. Historic artifacts comparable to those in the burned zone were recovered from plow zone, and a recent metal food tin was encountered just above the burned lens. Taken together, the distribution of artifacts suggests that 15Wo271 represents multiple processes of refuse accumulation, including occasional roadside discard along with trash disposal and burning. Evidence of subsurface cultural deposits was restricted to the burned soil lens identified in a single shovel test. Although nail and mortar fragments were recovered, no other evidence of architectural remains was noted on the surface, and these objects probably represent redeposited trash, rather than structural remains in place or near their original contexts. Likewise, no brick or building stone was found. There was no evidence of a structure at this location on archival maps of the project area. In sum, the artifact assemblage is probably 20th century in age, and primarily comes from a single burned trash deposit that shows evidence of recent disturbance. Given the relatively recent age of the artifact assemblage, evidence of disturbance, and absence of structural remains, the research potential of 15Wo271 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo272 is east of KY 205 south of the northern terminus of the project area. The site consists of a scatter of late 19th to early 20th century refuse associated with a historic farmstead, along with a single prehistoric artifact. The site boundaries were defined by four positive shovel tests, delimiting an area 50 m N-S by 15 m E-W (700 m^2). The site may continue east of the survey corridor. A variety of artifacts (n=33) were recovered, including wire nail fragments (n=2), a late machine-cut nail fragment (n=1), unidentified nails (n=5), brick fragments (n=1), clear glass that likely came from a light bulb (n=17), clear container glass (n=2), modern brown beer bottle glass bearing an Anheuser-Busch paper label and embossed logo (n=4), a milk glass container fragment (n=1), and an undecorated ironstone sherd. More than half of the artifacts derive from breakage of a single light bulb, inflating the apparent artifact density. The milk glass container fragment, late machine-cut nail, and ironstone are generally indicative of late-19th to early 20th century age; the light bulb and beer bottle glass are considered modern. A single piece of Boyle angular shatter also was recovered. It was not temporally diagnostic. No evidence of intact subsurface cultural

deposits was observed, and many of the artifacts were recovered from a swale that also showed accumulation of modern plastic and polystyrene foam container fragments. This suggests that the site has overall poor context. Given the low artifact density, lack of intact cultural deposits, and evidence for poor site integrity, the research potential of 15Wo272 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo273 is west of KY 205. The site is a scatter of late 19th to early 20th century refuse derived from a historic farmstead. The site was defined by a surface scatter of artifacts in a tobacco patch adjacent to a standing barn. The barn is associated with a residential structure that is outside the project area. Neither structure is depicted on archival maps of the project area dating to 1937. It is possible that the structure and barn are not related to the initial deposition of artifacts at 15Wo273. The artifact scatter measures 6 m E-W by 30 m N-S (180 m^2); the site may continue west outside the survey corridor. Artifact density was relatively high, with 79 items were recovered. These include various kinds of container glass (n=49), refined earthenware (n=14), coarse earthenware (n=3), window glass (n=5), and a few other artifacts (n=8). Aqua, bright green, brown, clear, and light green container glass were recovered. Several diagnostic attributes were observed in the glass assemblage, including vertical seams consistent with 20th century automatic machine molding, and maker's marks used from 1929 to the 1960s. Some glass embossed with "RECYCLE" was clearly modern. The ceramic assemblage included Bristol slip and Bristol-Albany slip stoneware, soft paste porcelain, ironstone, and whiteware. Although decorated and molded examples of porcelain and whiteware were recovered, the pieces were not temporally diagnostic more specifically than the general production date ranges for these wares. The coarse earthenware is the most temporally diagnostic ceramic on the site, and its late 19th to early 20th century production date range likely parallels the age of the refined earthenwares. Most (n=68) of the artifacts were collected from the surface, and the remainder (n=11) were recovered from the single shovel test excavated. This shovel test did not reveal subsurface cultural features or midden. Despite the relatively high artifact density, the assemblage consists of artifacts that likely date to the 20th century with a smaller admixture of late 19th century items. Given the relatively recent age of the artifacts and the lack of evidence for subsurface cultural deposits, the research potential of 15Wo273 is thought to be low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo274 is east of KY 205. The site consists of a light-density scatter of mid-19th and early 20th century refuse, along with two prehistoric artifacts. The site is in a cultivated tobacco plot on a terrace overlooking the confluence of the Red River and Rose Branch. The site was defined by a surface scatter of artifacts measuring 80 m N-S by 10 m E-W (800 m^2). The site likely extends east across the terrace surface, outside the survey corridor. The density of artifacts was low, and the assemblage included a porcelain doorknob (n=1), glass marble (n=1), container glass (n=4), ceramics (n=6), and a biface fragment and flake fragment of Paoli chert. The prehistoric artifacts are not temporally diagnostic. Temporally sensitive historic artifacts included Albany-slip stoneware, ironstone, whiteware, amethyst glass, and selenium glass. Considered together, these historic artifacts indicate a late 19th to early 20th century date for the historic debris. A single shovel test was excavated, but it produced no artifacts and revealed no evidence of subsurface cultural features or midden. Given the low artifact density and the lack of evidence for intact subsurface cultural deposits, the research potential of 15Wo274 is low. Consequently, UK-PAR recommends no additional archaeological work at this location.

Site 15Wo145 is eastern of KY 205. The site is situated on a high terrace. The site is closely associated with site 15Wo146, which is located across KY 205 and slightly south of 15Wo145. The site was recorded in 1993 as a surface scatter of prehistoric artifacts measuring 50 m N-S by 60 m E-W (3,000 m^2). The 1993 assemblage included debitage and a Jacks Reef Corner-Notched point indicating a Late Woodland component. The current right-of-way corridor intersects the western margin of the defined site area. Six shovel tests were excavated within the site area, and four were positive. The positive shovel tests result in a revised site area of 3,150 m^2. The artifact assemblage included 17 pieces of debitage, representing partial cortical flakes (n=1), interior flakes (n=4), biface thinning flakes (n=4), flake fragments

(n=7), and shatter (n=1). Chert types included Paoli (n=3), Boyle (n=4), and Breathitt (n=10). None of the assemblage was temporally diagnostic. One shovel test placed at the edge of the terrace revealed a possible cultural feature or midden zone preserved below plow zone. Between 23 and 31 cm below surface was a lens of very dark gray (10YR3/1) loose silt loam containing small flecks of charcoal, sparse reddened sandstone gravel, and some flakes. The presence of possible intact subsurface features, as well as the recovery of additional artifacts from shovel tests suggests that there is a potential for this site to yield additional information about Late Woodland use of this portion of Wolfe County. The research potential is high. If the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo145 that will be impacted by widening of KY 205.

Site 15Wo146 is west of KY 205. The site is situated on a high terrace. The site is positioned on the same landform as 15Wo145, which is located directly across KY 205 and slightly north of 15Wo146. The site initially reported in 1993 and was defined by a surface scatter of prehistoric artifacts that included biface fragments, an abrader, and a possible Middle to Late Woodland Lowe Flared Base projectile point. UK-PAR examined the eastern edge of the site where the proposed right-of-way corridor intersects the site area. The site measures about 130 N-S and 60 m E-W, with a total area of 6,160 m^2. The UK-PAR work documented five positive shovel tests, producing an assemblage of seven flakes. These included a partial cortical flake, to biface thinning flakes, two flake fragments, and two pieces of shatter. Boyle (n=3), Haney (n=2), Paoli (n=1), and St. Louis (n=1) chert types were found. None of the debitage was temporally diagnostic. One shovel test placed at the edge of the terrace showed a possible feature. Between 20 and 55 20 cm below surface was a thick zone of dark grayish brown (10YR4/2) silt. This zone contained abundant reddened sandstone and charcoal, but no flakes were recovered. The presence of possible intact subsurface features within the right-of-way corridor, as well as the recovery of additional artifacts from shovel tests indicates high research potential for 15Wo146. This site may yield additional information about the Middle to Late Woodland inhabitants of Wolfe County. Consequently, if the site cannot be avoided, UK-PAR recommends formal NRHP eligibility assessment of the portion of 15Wo146 that will be impacted by widening of KY 205.

Site 15Wo275 is west of KY 205 north of the Wolfe-Breathitt county line. The site is a prehistoric open habitation without mounds, and is situated on a small high terrace. The site boundaries were defined by locations of three positive shovel tests, and the site measures about 40 m N-S by 5 m E-W (200 m^2). The site may continue west outside the survey corridor. The artifact density is low, consisting of five pieces of debitage. These included a biface thinning flake, three flake fragments, and one piece of shatter. Paoli (n=3), Boyle (n=1), and Breathitt (n=1) chert types were present. The site has been previously impacted by the installation of a water main which runs along the northwest edge of the site. Local informants reported collecting artifacts form the site. None of the three positive shovel tests showed evidence of intact subsurface deposits or produced temporally diagnostic material. Given the low artifact density, the lack of temporally diagnostic artifacts, prior disturbance, and lack of subsurface deposits, 15Wo275 has low research potential. Consequently, UK-PAR recommends no further archaeological work at this site.

Site 15Wo276 is west of KY 205, approximately 1.06 km north of the Wolfe-Breathitt county line. The site comprises refuse from a historic farmstead and a prehistoric isolated find. The site is situated in the flood plain. Four positive shovel tests define a site area measuring about 55 m N-S by 10 m E-W (550 m^2). The site may extend west outside the surveyed corridor. Artifact density was low (n=11), and included unidentified metal (n=7), clear container glass (n=3), and a fragment of a clay pipe bowl (n=1). The pipe bowl fragment was originally part of a detachable (reed) stem pipe, and only the stem portion was recovered. This fragment could not be conclusively dated, but the ribbing along its barrel is stylistically compatible with ribbed and effigy head examples from the mid and late 19^{th} century. Other historic artifacts from the site could not be dated. The prehistoric artifacts include a biface thinning flake and a flake fragment. No intact subsurface cultural deposits or features were encountered, but two shovel tests at the south end of the site had highly mottled soils, suggesting artificial fill

and disturbance. Additionally, a water main runs along the eastern edge of the site. The low artifact density, evidence for previous site disturbance, and generally nondiagnostic nature of the artifact assemblage indicate that 15Wo276 has low research potential. Consequently, UK-PAR recommends no further archaeological work.

In addition to these ten sites, UK-PAR also identified fifteen isolated finds. These are numbered from north to south along the project corridor, and their locations are shown in Figure 1.3. The artifacts recovered at each location include a single piece of unidentified metal (IF1), a single prehistoric flake, modern container glass, and an iron nut (IF2), a single cortical flake (IF3), a single piece of prehistoric shatter (IF4), a single prehistoric flake and two pieces of unidentified metal (IF5), two pieces of field tile (IF6), two pieces of prehistoric debitage (IF7), one prehistoric flake and three pieces of modern container glass (IF8), a single piece of Bristol-slipped stoneware (IF9), one piece of milk glass, one piece of whiteware, and one piece of clear container glass (IF10) recovered from a cultivated garden plot, one piece of container glass, an aluminum pull tab, one piece of stoneware, and one piece of whiteware (IF11) recovered from a cultivated garden plot, four corroded nail fragments (IF12), a single prehistoric flake (IF13), a piece of glass tableware (IF14), and a single prehistoric flake (IF15) among a scatter of modern historic materials. The isolated finds collectively produced 9 prehistoric debitage and 23 historic artifacts. Bracketing shovel tests were all negative, and no evidence of subsurface cultural features or midden were found at any of these locations. These locations do not meet the current OSA criteria for assignment of archaeological site numbers. The research potential is extremely low for all isolated finds, and no additional archaeological work is recommended at any of them.

Finally, UK-PAR documented one nonsite locality situated 200 m northwest of the hamlet of Rosefork. Here, UK-PAR staff examined a cemetery plot that was not shown on the right-of-way plan provided by KYTC. We refer to this plot as the New Flinchum cemetery to distinguish it from the Flinchum cemetery located near the southern terminus of the project area. The New Flinchum cemetery is active and maintained. It contains recent burials, and the earliest death date recorded on a monument was 1997. This cemetery does not represent an archaeological resource. However, the proposed temporary easement does overlap the eastern edge of the cemetery plot. UK-PAR recommends avoiding the cemetery and providing as much buffer around the cemetery as possible during construction activities.

In summary, UK-PAR identified 15 isolated finds, and documented or revisited 10 archaeological sites during the course of the survey of proposed new rights-of-way for KY 205 in Wolfe County. UK-PAR recommends formal NRHP eligibility assessment of the portions of 15Wo145 and 15Wo146 that will be unavoidably impacted by the proposed construction, if these sites cannot be avoided during proposed construction activities. UK-PAR recommends no additional archaeological work at any of the eight newly reported archaeological sites or at any of the isolated finds, provided that construction activities are confined to the investigated corridors. If construction activities extend beyond the areas surveyed for this project, additional archaeological investigation may be required. Finally, UK-PAR recommends avoidance of the New Flinchum cemetery near Rosefork, and establishment of a buffer zone around the cemetery.

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