AN ARCHAEOLOGICAL SURVEY OF THE PROPOSED I-65/KY 480 INTERCHANGE IMPROVEMENTS IN BULLITT COUNTY, KENTUCKY (ITEM NO. 5-391.30)

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Parsons Transportation Group

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ABSTRACT

On May 25 and 26, 2016, Cultural Resource Analysts, Inc., personnel completed an archaeological survey for proposed improvements to the I-65/KY 480 interchange in southern Shephersdville, Bullitt County, Kentucky (Item Number 5-391.30). The survey was conducted at the request of Daniel Prevost of Parsons Transportation Group, Inc., on behalf of the Kentucky Transportation Cabinet. The total size of the project area was approximately 1.7 ha (4.2 acres), however, there was one .09 ha (.21 acre) parcel where the landowner denied permission to survey. It can be assumed that this parcel will need to be surveyed once access to the property has been obtained by the Kentucky Transportation Cabinet. Cultural historic site BU 310 is located on this parcel. The remainder of the project area was surveyed.

Prior to the field survey, a records review was conducted at the Office of State Archaeology. The review indicated that 22 previous professional archaeological surveys and an archaeological mitigation project had been conducted within a 2.0 km (1.2 mi) radius of the project area, and two of the surveys were partially within the current project boundaries. Thirty-six archaeological sites had also been recorded in this area. One of these sites (15Bu600) was partially located within the current project area, but no evidence of the site, which was previously recommended as not eligible for the National Register of Historic Places, was identified during the current survey, and the area was highly disturbed.

The archaeological fieldwork consisted of an intensive pedestrian survey supplemented by screened shovel testing. No archaeological sites were documented during the survey, and the proposed project will have no effect on sites listed in, or eligible for, the National Register of Historic Places. Archaeological clearance is recommended for this project.
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I. INTRODUCTION

On May 25 and 26, 2016, Cultural Resource Analysts, Inc. (CRA), personnel completed an archaeological survey of the proposed reconstruction and access improvements for the I-65/KY 480 interchange in Bullitt County, Kentucky (Figure 1). The survey was conducted at the request of Daniel Prevost of Parsons Transportation Group, Inc., on behalf of the Kentucky Transportation Cabinet (KYTC) (Item Number 5-391.30). The survey was conducted by Marshall Wilson and Karen Taylor, and required approximately 26 person hours to complete. Office of State Archaeology (OSA) Geographic Information Systems (GIS) data requested by CRA on January 11, 2016, was returned on January 12, 2016. The results were researched by Heather Barras of CRA at the OSA on January 12, 2016. The OSA project registration number is FY16_8729.

Figure 1. Map of Kentucky showing the location of Bullitt County.

Project Purpose and Need

The proposed project involves improvements to the existing I-65/KY 480 interchange in southern Shepherdsville, Bullitt County, Kentucky (Figures 2 and 3). The purpose of the project is to improve access and mobility and provide congestion relief to the existing interchange. The Cedar Grove Business Park is expanding with a new development in the southeast quadrant of the existing interchange that will exacerbate current traffic issues at that intersection. The majority of the project area had been significantly disturbed by previous developments. Buried utilities, modern structures, and parking lots are pervasive.

The direct area of potential effect (APE) was defined as the proposed right-of-way (ROW) and construction easements for the proposed road and utilities developments associated with the project. The project area consisted of three parcels of proposed new ROW outside the existing ROW of I-65 and encompassing areas north and south of KY 480. The total size of the project area was 1.7 ha (4.2 acres) (see Figures 2 and 3).

Purpose of Study

The study was conducted to comply with Section 106 of the National Historic Preservation Act. This transportation project is federally funded and is therefore considered an undertaking subject to Section 106 review.

The purpose of this assessment was to locate, describe, evaluate, and make appropriate recommendations for the future treatment of any historic properties or sites that may be affected by the project. For the purposes of this assessment, a site was defined as “any location where human behavior has resulted in the deposition of artifacts, or other evidence of purposive behavior at least 50 years of age” (Sanders 2006:2). Cultural deposits less than 50 years of age were not considered sites in accordance with “Archeology and Historic Preservation: Secretary of the Interior’s Standards and Guidelines” (National Park Service 1983).

A description of the project area, the field methods used, and the results of this investigation follow. The investigation is intended to conform to the Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports (Sanders 2006).

Summary of Findings

Prior to conducting the field research, a records review was conducted at the OSA. The review indicated that 22 previous professional archaeological surveys and an archaeological mitigation had been conducted within a 2 km (1.2 mi) radius of the project area. Thirty-six sites had also been recorded in this area. Two previous archaeological surveys and one site (15Bu600) were partially located
Figure 2. Location of project area on topographic quadrangle.
Figure 3. Project area plan map.
within the current project area. One historic property (BU 310) within the project area had been recorded during a previous cultural historic survey conducted by CRA personnel (Reynolds and Spurlock 2016).

All but a .09 ha (.21 acre) parcel where the landowner denied permission to survey was investigated. This is the property where cultural historic site BU 310 is located, which was recommended not eligible for listed in the National Register of Historic Places (NRHP). It can be assumed that this parcel will need to be surveyed once access to the property has been obtained by the KYTC. No archaeological sites were recorded during this survey. No cultural material associated with archaeological site 15Bu600 was recovered. No archaeological sites listed in or eligible for listing in the NRHP will be affected by the proposed construction, and archaeological clearance is recommended.

II. DESCRIPTION OF THE PROJECT AREA

The project area is located in southern Shepherdsville, Bullitt County, Kentucky. It consists of three parcels of proposed new ROW outside the existing ROW of I-65 and encompassing areas north and south of KY 480. More specifically, there are eight noncontiguous areas of land to the north and south of KY 480 outside its existing ROW and several side roads. One area is adjacent to the existing ROW along I-65 and KY 480, northwest of the interchange (Figure 4). Another area is also adjacent to the existing ROW for both roads, southwest of the interchange (Figure 5). A third area is located in a residential area off of CS-1003, southwest of the interchange (Figure 6). The remaining five areas are located on both sides KY 480, east of the interchange (Figure 7). Three areas extend along the north side of KY 480, one extends along the south side, and the last parcel extends along the south side of KY 480 as well as into fields south of the road. The total size of all parcels in the project area is 1.7 ha (4.2 acres). Elevations in the project area range from 134 to 138 m (440 to 453 ft) above mean sea level (AMSL).

The project area traversed terrace landforms and wetlands associated with the Salt River and Buffalo Run. Vegetation within the project area primarily consisted of grass; however, there was thick secondary forest growth in wetland areas on the north side of KY 480, east of I-65 (Figure 8). The majority of the project area had been heavily disturbed by previous roadway, commercial, residential, and utilities development (Figure 9). Ground surface visibility throughout the project area was obscured by grass, concrete, or gravel.

Four soil series have been defined in the project area. They consist of the McGary silt loam, Newark silt loam, Montgomery silty clay loam, and Caneyville silt loam. The soil series are classified by the amount of time it has taken them to form and the landscape position they are found on (Birkeland 1984; Soil Survey Staff 1999). This information can provide a relative age of the soils and can express the potential for buried archaeological deposits within them (Stafford 2004). The soil order and group classifications for each soil series are used to assist with determining this potential.

The McGary and Caneyville soil series are classified as alfisols. Alfisols developed on late Pleistocene or older surfaces or on erosional surfaces of similar age. They have a thin, dark A horizon, rich in organic matter and nutrients, and a clay-enriched subsoil, and are relatively high in fertility due to being only moderately leached (Soil Survey Staff 1999:163–165). Alfisols may contain intact archaeological deposits very near or on the ground surface, depending upon the landform on which they formed (e.g., sideslope vs. ridgertop).

The Newark series is classified as an inceptisol. Inceptisols are found on landforms that formed during the late Pleistocene or Holocene time periods (Soil Survey Staff 1999:489–493). These may have deeply buried and intact archaeological deposits, depending upon the landform on which they formed (e.g., sideslope vs. alluvial terrace).
Figure 4. Overview of parcel northwest of interchange, looking east.

Figure 5. Overview of parcel southwest of interchange, looking southeast.
Figure 6. Overview of residential area in project area, looking northeast.

Figure 7. Overview of project area east of interchange, looking west.
Figure 8. Overview of wetland area within project area, looking west.

Figure 9. Overview of parcel northeast of interchange, looking north.
The area where these soils along Buffalo Run were located north and south of KY 480 was terraformed and highly disturbed and the potential for buried deposits was low.

The Montgomery soil series is classified as a mollisol. Mollisols are found on landforms that formed during the late Pleistocene to Holocene or even earlier (Soil Survey Staff 1999:555–557). They have the potential to contain deeply buried and intact archaeological deposits on level floodplain or terrace landforms. The area where this soil was located along Buffalo Run north of KY 480 at the eastern end of the project area was also highly disturbed and the potential for buried deposits was low.

Soils observed in shovel probes during the survey revealed a yellowish brown (10YR 5/4) silty clay loam topsoil that extended to a maximum of 7 cm (3 in) below ground surface (bgs) over a brownish yellow (10YR 6/6) clay subsoil. Modern structures, concrete and gravel parking areas, and buried utilities throughout the project area indicated that the soils in the majority of the project area had been previously disturbed. Numerous piles of dirt and shale gravel indicated that soils in the portion of the project area that crossed over fields south of KY 480 were also disturbed (Figure 10).

III. RESULTS OF THE FILE AND RECORDS SEARCH AND SURVEY PREDICTIONS

Previous Research in Bullitt County

Prior to the field investigation, a search of records maintained by the NRHP (available online at: http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome) and the OSA (FY16_8729) was conducted to: 1) determine if the project area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within the project area; 3) provide information concerning what archaeological resources could be expected within the project area; and 4) provide a context for any archaeological resources recovered within the project area.

Figure 10. Overview of disturbed areas southeast of interchange, looking south.
A search of the NRHP records indicated that one archaeological resource listed in the NRHP was situated within a 2 km radius of the project area, but not within the current project area. It is the Old Bank Stone Building (15Bu537) located within Shepherdsville (see below). The OSA file search was conducted between January 11 and 12, 2016. The work at OSA consisted of a review of professional survey reports and records of archaeological sites for an area encompassing a 2 km radius around the project footprint. To further characterize the archaeological resources in the general area, the OSA archaeological site database for the county was reviewed and synthesized. The review of professional survey reports and archaeological site data in the county provided basic information on the types of archaeological resources that were likely to occur within the project area and the landforms that were most likely to contain these resources. The results are discussed below.

OSA records revealed that 22 previous professional archaeological surveys and an archaeological mitigation had been conducted within a 2 km radius of the project area. Two of the surveys were located partially within the current project area. Thirty-six archaeological sites had also been recorded in this area. One of these sites was partially located within the current project area (15Bu600), but no evidence of the site was identified and the area was highly disturbed. Three additional surveys completed within the 2 km area have not yet been entered in the OSA GIS (Huser 1993; Kryst and Weinland 1980; Tuma 2000). These surveys documented sites within the 2 km radius.

The records search revealed that 25 of the 36 sites in the file search area (15Bu68, 15Bu268, 15Bu411, 15Bu463–15Bu465, 15Bu595–15Bu598, 15Bu663–15Bu670, 15Bu674, 15Bu680, 15Bu681, 15Bu711, and 15Bu730–15Bu732) are prehistoric open habitations without mounds. Four sites (15Bu249, 15Bu250, 15Bu600, and 15Bu671) are historic farms/residences. One site (15Bu594) is a historic farm/residence with an associated cemetery. One site (15Bu631) is a historic residence/tavern with an isolated prehistoric find. One site (15Bu537) is a historic business site. The remaining four sites (15Bu466, 15Bu505, 15Bu672, and 15Bu673) are multicomponent sites with historic and prehistoric components. The 2 km radius included areas within the Shepherdsville quadrangle (United States Geological Survey [USGS] 1991).

**Previous Archaeological Investigations**

*Heather D. Barras*

During October of 1979, University of Louisville Archaeological Survey personnel conducted an archaeological survey of proposed waste water facilities additions and improvements in Bullitt County, Kentucky (Granger 1979). At the request of Presnell-James-Winstead Associates in Louisville, Kentucky, an area of unspecified size was investigated by pedestrian survey supplemented with auger testing. Three archaeological sites were identified during the survey (15Bu268, 15Bu269, and 15Bu411). Sites 15Bu268 and 15Bu411 are located within the 2 km radius of the current project. Site 15Bu268 was recorded as an open habitation site, dating from the Middle to Late Archaic periods. Site 15Bu268 was not within Dr. Granger’s project area; therefore, its NRHP status was not assessed. Site 15Bu411 consisted of an Archaic period open habitation site that was considered not eligible for the NRHP (Granger 1979).

In March 1980, Granger Associates, Inc., conducted an archaeological survey for proposed sewer line interceptors in Bullitt County, Kentucky (Granger 1980). The survey was conducted at the request of the City of Shepherdsville on behalf of Armstrong Smith Engineering, Inc., and consisted of a linear pedestrian survey and auger testing. No archaeological sites were found as a result of this survey, and no further work was recommended.

Sandra Kryst and Marcia K. Weinland of the Kentucky Heritage Council (KHC) conducted a research-oriented archaeological
survey to examine salt licks and their environments, sandstone strata, upland Bluegrass areas, gaps between the Knobs, and the Salt River floodplain to add data in support of several existing assumptions and to suggest research which could result in testable hypotheses (Kryst and Weinland 1980). An area of unspecified size in Bullitt County, Kentucky, was investigated by pedestrian survey, and one archaeological site (15Bu71) documented during the survey was tested for NRHP eligibility. Twenty-one archaeological sites were found during this survey (15Bu55–15Bu75). Of these, Site 15Bu68 is the only site located within the 2 km radius of the current project area.

Site 15Bu68 was initially documented by Weinland and Wyss in 1978. No report was submitted for this documentation, but the information was summarized in the Kryst and Weinland (1980) report. They reported 15Bu68 as a large, open prehistoric site affiliated with the Woodland and Mississippian (Late Prehistoric) periods. They reported that the site contained four artifact loci (A–D) on landforms across the site area. Site Loci A and C contained five hafted bifaces, one grit-tempered ceramic sherd, and lithic debitage. Site Loci B and D contained lithic debitage. The hafted bifaces and prehistoric ceramic recovered during this initial investigation indicated that the site had Woodland and Late Prehistoric occupations. During their later field investigations, Kryst and Weinland revisited Site 15Bu68 and determined that Loci A and C represented Middle and Late Woodland components. The diagnostic materials included a Lowe Flared Base hafted biface (Middle Woodland) and a Madison hafted biface and grog/grit tempered cordmarked pottery (Late Woodland). Site 15Bu68 was recommended for further work to fully assess the NRHP eligibility (Kryst and Weinland 1980).

Between February and April of 1994, Cultural Horizons, Inc., personnel conducted an archaeological survey of an 8.9 km (5.5 mi) highway corridor in Shepherdsville, Bullitt County, Kentucky (Stallings 1994). The survey was conducted at the request of Presnell Associates, Inc., for the KYTC. Approximately 162 ha (400 acres) were investigated with a pedestrian survey supplemented with shovel testing. There were 17 sites recorded as a result of the survey (15Bu507–15Bu523). None of the sites are located within 2 km of the current project.
1817 and was used as a store during most of the nineteenth century. It was recommended that the property owners should take efforts to protect the significant archaeological resources on the property. Site 15Bu537 is located within the 2 km radius of the current project area.

From January 21 to 23, 1998, CRA personnel conducted an archaeological survey of land to be impacted by the proposed extension of, and improvements to, two segments of a waterline in Bullitt County, Kentucky (McKelway 1998). At the request of Robert T. Moore of Kentuckiana Regional Planning and Development Agency, approximately 12.0 km (7.5 mi) were investigated by pedestrian survey supplemented with systematic shovel testing. One archaeological site (15Bu536) was encountered during the survey. Site 15Bu536 is not located within the 2 km radius of the current project.

On April 8, 1999, CRA personnel completed an archaeological survey of land to be impacted by the proposed extension of a waterline located along I-65 in Bullitt County, Kentucky (Anderson 1999). The project was conducted at the request of Keith Roberts of Kentuckiana Regional Planning and Development Agency on behalf of the Kentucky Turnpike Water District. The waterline improvements were confined to a corridor of no more than 10 m (33 ft) in width. An area of unspecified size was investigated by pedestrian survey supplemented with systematic shovel testing. No archaeological sites were recorded as a result of this survey, and no further work was recommended.

Between July 20 and September 29, 1999, Mindel, Scott & Associates, Inc., conducted a 170 ha (420 acre) archaeological survey of the proposed Cedar Grove Business Center in Shepherdsville, Bullitt County, Kentucky (Harris 1999). The survey was completed at the request of Salt River Development Company, LLC. The field methods consisted of a combination of intensive pedestrian survey, shovel testing, and test trenching. As a result of the survey, six previously unrecorded sites (15Bu594–15Bu599) were documented. Sites 15Bu594–15Bu598 are located within the 2 km radius of the current project. Site 15Bu594 is a nineteenth- through twentieth-century historic residence with an associated cemetery. Additionally, three slave burials were located outside of the cemetery. The house component no longer existed, and a buffer zone around the cemetery was recommended. Site 15Bu595 is an open prehistoric site consisting of a lithic scatter confined to the plow zone. Diagnostic hafted bifaces included two Kirk Corner Notched, one Late Archaic Stemmed, one Knob Creek, one indeterminate Early Woodland, and one possible Buck Creek Barbed types. The site lacked archaeological features and integrity due to agricultural activities. Sites 15Bu596–15Bu598 are prehistoric open habitations without mounds of indeterminate temporal affiliations. These sites consisted of low density lithic scatters and lacked evidence of intact subsurface deposits, middens, or features. None of the sites were considered eligible for the NRHP, and no further work was recommended (Harris 1999).

On April 4, 2000, CRA personnel completed an archaeological survey of the proposed Travel Stop Property in Bullitt County, Kentucky (Tuma 2000). The project was conducted at the request of Redwing Ecological Services, Inc. The project area consisted of a 4.5 ha (11.0 acre) tract of land. Field methods consisted of pedestrian survey and systematic screened shovel testing. One archaeological site (15Bu600) was documented. Site 15Bu600 is a historic farm/residence dating from the late nineteenth through the twentieth century consisting of a concrete-lined well and a very light historic artifact scatter. Historic materials were mixed with modern materials in the plow zone. The site was disturbed by bulldozing associated with logging activities. Site 15Bu600 was not considered eligible for the NRHP, and no further work at the site was recommended. Site 15Bu600 is located within the boundaries of the current project area, but no evidence of the site was identified.

On November 22, 2000, Arrow Enterprises personnel conducted a 1.6 km (1.0 mi) long
archaeological survey of a proposed waterline and associated pump station in Bullitt County, Kentucky (Schock 2000). The survey was completed at the request of Carlos Miller for Kenviron, Inc. The field methods consisted of intensive pedestrian survey supplemented with shovel testing. No archaeological sites were recorded as a result of this survey, and no further work was recommended.

On August 18, 2001, Kurt H. Fiegel conducted an archaeological survey for a proposed cell tower in Shepherdsville, Bullitt County, Kentucky (Fiegel 2001). The survey was conducted at the request of Michael E. Graham for Terracon in Louisville, Kentucky. The project area consisted of an access road approximately 10 m (33 ft) long and 8 m (26 ft) wide that would lead to a 900 m (2,953 ft) square area. The project area was investigated via pedestrian survey supplemented with shovel testing. One archaeological site (15Bu631) was documented. Site 15Bu631 is an early-nineteenth-century historic residence or tavern with a prehistoric isolated find of indeterminate temporal affiliation. The site had the potential for intact subsurface features and avoidance or further archaeological investigation was recommended (Fiegel 2001). Site 15Bu631 is located within the 2 km radius of the current project area.

On June 23, 2004, CRA personnel conducted an archaeological survey of the proposed Shepherds Crossing wetland impact area and an off-site development mitigation area in Shepherdsville, Bullitt County, Kentucky (Hand 2004). A total of 11 ha (28 acres) within the two parcels was surveyed. The survey of these two distinct parcels was conducted at the request of Hal Bryan of ECO-TECH, Inc. Field methods consisted of an intensive pedestrian survey supplemented with screened shovel testing. No archaeological sites were identified, and project clearance was recommended.

Between September 23 and October 1, 2004, CRA personnel completed an archaeological survey of the proposed Shepherdsville Waste Water Interceptor Line in central Bullitt County, Kentucky (Arnold 2004). The survey was conducted at the request of Redwing Ecological Services, Inc., of Louisville, Kentucky, on behalf of Qk4 Engineers. Archaeological investigations consisted of 4.3 km (2.7 mi) of pedestrian survey supplemented with screened shovel test probes. The survey resulted in the documentation of three previously recorded archaeological sites (15Bu268, 15Bu463, and 15Bu466) and three previously unrecorded sites (15Bu663–15Bu665). All of the sites are located within the 2 km radius of the current project area. Site 15Bu463 is an open habitation site with artifacts from the Late Archaic, Middle Woodland, and Late Prehistoric periods. The site consisted of a high-density, large lithic scatter of over 700 artifacts located on both the surface and in sub–plow zone deposits that implied the potential for intact subsurface deposits. The site was recommended for NRHP testing. Sites 15Bu268, 15Bu466, 15Bu663, 15Bu664, and 15Bu665 are open habitation sites with unknown cultural affiliations. The NRHP status of Site 15Bu466 was not assessed at the time, and the other three sites were not considered eligible for listing in the NRHP. With the exception of Site 15Bu463, no further work was recommended.

Between November 15 and December 2, 2004, CRA personnel conducted an archaeological survey of the Project Adam development site in Bullitt County, Kentucky (Ezell and Hand 2004). The survey was conducted at the request of Lauth Property Group of Indianapolis, Indiana. The survey consisted of approximately 69 ha (170 acres) located between the Salt River and KY 480. Field methods included intensive pedestrian survey along systematically spaced plowed transects, and areas not strip plowed were investigated through screened shovel testing along transects spaced at 20 m intervals. During the survey, two previously recorded archaeological sites were revisited (15Bu68 and 15Bu663) and eight previously unrecorded archaeological sites were documented (15Bu666–15Bu673). Site 15Bu464 was reported in the OSA site files to be partially included in the Project Adam project area, but
it was not relocated. All 11 sites are located within the 2 km radius of the current project area.

Site 15Bu68, as stated above, was originally reported by Kryst and Weinland (1980). During the site revisit, lithics were recorded from both plowed transects and shovel tests. Diagnostic hafted bifaces associated with the Early Archaic, Middle to Late Woodland, and Late Prehistoric periods that included the Snyders, Lowe, Small Triangular, and Kirk Corner Notched cluster types were recovered. All artifacts were from either the surface or plow zone, the site was not recommended for further work, and the OSA has it listed as an inventory site that does not meet NRHP Criterion D. Site 15Bu663, as stated previously, was originally reported by CRA (Arnold 2004). It is recorded as a prehistoric open habitation site with a lithics scatter located in plowed transects. The site did not contain sub–plow zone deposits, archaeological middens, or features (Ezell and Hand 2004).

Sites 15Bu666, 15Bu667, 15Bu669, and 15Bu670 are prehistoric open habitation sites with indeterminate cultural affiliations. The sites lacked sub–plow zone deposits, features, and integrity due to agricultural activities. Site 15Bu668 is an open habitation site consisting of a low-density lithic scatter with artifacts associated with the Archaic and Middle Woodland periods. Site 15Bu671 is a nineteenth- through twentieth-century historic farmstead site consisting of a standing frame/weatherboard structure. The survey documented a light surface scatter of artifacts and only one subsurface deposit. Sites 15Bu672 and 15Bu673 contained both prehistoric lithic scatters and small numbers of historic artifacts. Artifacts from both sites were found on the surface and in the plow zone, but no sub–plow zone deposits or features were located. According to Ezell and Hand (2004), all 11 sites had limited research potential because of previous agricultural disturbances and the paucity of cultural remains. Additional archaeological work would not produce significant information beyond what was collected, and no further work was recommended for these sites.

On January 31 and February 1, 2005, CRA personnel completed an archaeological survey of three additional parcels of land for the proposed Shepherdsville Waste Water Interceptor Line in central Bullitt County, Kentucky (Arnold 2005). Sections of the same project were first surveyed and reported the previous year (Arnold 2004). The 2005 survey was conducted at the request of Kiersten R. Fuchs of Redwing Ecological Services, Inc., on behalf of Qk4 Engineers. The survey revisited one previously recorded site (15Bu463) and documented one previously unrecorded site (15Bu674). Both of these sites are located within the 2 km radius of the current project area. Site 15Bu463, as stated above, was originally reported by Arnold (2004). CRA revisited the site and found over 160 additional lithic artifacts. The cultural remains support the previous findings and extended the site boundaries by 60 m (197 ft). Site 15Bu463 was recommended for an NRHP evaluation. Site 15Bu674 is an open habitation with a small lithic scatter that included one diagnostic tool (Early Archaic Kirk Corner Notched hafted biface). All artifacts were confined to the plow zone and lacked depositional integrity. The site was not considered eligible for listing in the NRHP, and no additional work was recommended (Arnold 2005).

On February 22 and 23, and March 16, 2005, ARCS Ventures, Inc., completed an archaeological survey of the Heritage Hill Golf and Residential Development near Shepherdsville, Kentucky (Granger and Smith 2005). The survey was conducted at the request of Redwing Ecological Services, Inc., and consisted of 20.4 ha (50.3 acres). It was investigated using pedestrian survey, rake-backs of vegetation, and shovel testing. No archaeological sites were recorded, and no further work was recommended.

On September 7 and 8, 2006, AMEC Earth and Environmental personnel conducted an archaeological survey of the proposed Beechgrove Bypass in Bullitt County, Kentucky (Schatz 2006). The survey was
conducted at the request of Qk4 Engineers on behalf of the KYTC (Item Number 5-293.00). The project area consisted of 1.5 ha (3.7 acres) and was investigated with pedestrian survey supplemented with screened shovel testing. No archaeological sites were documented during the survey, and no further work was recommended.

Between November 5 and 7, 2007, CRA personnel conducted an archaeological survey of the proposed Park 480 Development in Bullitt County, Kentucky (Anderson 2007). The survey was conducted at the request of Jeff Robinson of Global Port United, LLC. Field methods consisted of pedestrian survey supplemented by screened shovel testing and limited auger testing of 17 ha (43 acres). One previously identified site (15Bu674), two previously unrecorded sites (15Bu680 and 15Bu681), and one isolated prehistoric find were documented during the survey. All three sites are located within the 2 km radius of the current project area. Site 15Bu674, as stated previously, was originally reported by Arnold (2005). The site is an Early Archaic period open habitation. The Anderson (2007) survey revisited the site and found a very small lithic scatter, but no additional diagnostics. The site was not considered eligible for listing in the NRHP, and no additional work was recommended. Sites 15Bu680 and 15Bu681 are prehistoric open habitations without mounds of indeterminate temporal affiliation. Both sites consisted of low density lithic scatters with no evidence of intact subsurface cultural deposits or features. Neither site was considered eligible for NRHP listing, and no further work was recommended (Anderson 2007).

Between April 28 and May 7, 2008, CRA personnel conducted an archaeological survey of the proposed Weller Farm Industrial Development area near the community of Shepherdsville in central Bullitt County, Kentucky (Arnold 2008). The survey area consisted of 64.7 ha (160.0 acres). Field methods consisted of pedestrian survey and screened shovel testing. The survey resulted in the documentation of four previously unrecorded prehistoric sites (15Bu682–15Bu685). All four sites were located within the 2 km radius of the current project area. Sites 15Bu682–15Bu685 are all open habitation sites of indeterminate cultural affiliation. The sites had limited research potential due to erosion and/or the paucity and low diversity of cultural remains and were not considered eligible for inclusion in the NRHP. No further work was recommended (Arnold 2008).

On October 19, 2010, Corn Island Archaeology, LLC, personnel conducted an archaeological survey of areas near the Salt River planned for wetland mitigation in Bullitt County, Kentucky (Wetzel 2010). Approximately 1.7 ha (4.3 acres) were subjected to a pedestrian survey supplemented with screened shovel testing at the request of Gary McGruder of 2M Tractor. One archaeological site (15Bu711) was recorded during the survey. Site 15Bu711 is an open habitation without mounds of indeterminate temporal affiliation consisting of a low density lithic scatter. The site was disturbed from agricultural activities and no evidence of intact subsurface features or deposits was identified. The portion of the site located within the survey limits was considered ineligible for the NRHP. Project clearance was recommended. Site 15Bu711 is located within the 2 km radius of the current project area.

Between September 7 and 14, 2011, CRA personnel conducted an archaeological survey of a proposed development by Crossdock Development near the city of Shepherdsville in Bullitt County, Kentucky (Hopwood and Herndon 2011). The survey was conducted at the request of Ron Thomas of Redwing Ecological Services, Inc., on behalf of Lee Wilburn of Crossdock Development. Approximately 33 ha (82 acres) were investigated by intensive pedestrian survey supplemented with screened shovel testing. Three archaeological sites (15Bu730–15Bu732) were identified during the survey. All three sites are located within 2 km of the current project area. Sites 15Bu730–15Bu732
are prehistoric open habitations without mounds of indeterminate temporal affiliation. Due to the low density of cultural materials and disturbance to the sites, none were considered eligible for NRHP inclusion. Project clearance was recommended.

Between June 3 and 5, 2013, Weaver & Associates, LLC, personnel conducted an archaeological survey for a proposed retail commercial development in Shepherdsville, Bullitt County, Kentucky (Weaver and Lunn 2013). At the request of Carlson Consulting Engineers, Inc., approximately 10.3 ha (25.4 acres) were investigated with a pedestrian survey supplemented with screened shovel testing. No archaeological sites were documented, and no further work was recommended.

Between June 27 and July 15, 2014, CDM Smith personnel conducted an archaeological survey for the proposed widening of KY 480 in Bullitt County, Kentucky (McBride et al. 2014). At the request of the KYTC (Item Number 5-391.20), 19.6 ha (48.5 acres) were investigated by pedestrian survey supplemented with systematic screened shovel testing. No archaeological sites were encountered, and no further work was recommended.

Six archaeological sites (15Bu249, 15Bu250, and 15Bu463–15Bu466) did not have associated reports with their original documentation. The information regarding these sites was acquired from the site forms found on file in the OSA records (Table 1).

## Archaeological Site Data

OSA records show that prior to this survey, 523 archaeological sites had been recorded in Bullitt County (Table 2). Over half of these (n = 321, 61.38 percent) are prehistoric open habitations without mounds. Other types of sites that are in Bullitt County are historic farms/residences (n = 117; 22.37 percent), workshops (n = 15; 2.87 percent), rockshelters (n = 11; 2.1 percent), industrial (n = 6; 1.15 percent), stone mounds (n = 5; .96 percent), caves (n = 5; .96 percent), cemeteries (n = 3; .57 percent), quarries (n = 2; .38 percent), a special activity area (n = 1; .19 percent), an isolated find (n = 1; .19 percent), and an earth mound (n = 1; .19 percent). Thirty-five sites (6.69 percent) are indeterminate or “other” type.

The landform locations of sites in Bullitt County were examined to determine the likelihood of encountering sites on similar landforms within the project area. The majority of sites in Bullitt County are located on dissected uplands (n = 162; 30.98 percent), floodplains (n = 146; 27.92 percent), and terraces (n = 141; 26.96 percent). Sites were also located on undissected uplands (n = 38; 7.27 percent), hillsides (n = 29; 5.54 percent), and unspecified (n = 7; 1.34 percent). Sites located on dissected uplands in Bullitt County are primarily prehistoric open habitations without mounds (n = 79; 48.77 percent) followed by historic farms/residences (n = 54; 33.33 percent). Sites located on floodplains are also mostly open habitations without mounds (n = 95; 65.07 percent) and historic farms/residences (n = 27; 18.49 percent). Sites located on terraces are primarily open habitations without mounds (n = 105; 74.47 percent) and historic farms/residences (n = 25; 17.73 percent).

Temporal periods represented in Bullitt County consist of Paleoindian (n = 2; .29 percent), Archaic (n = 93; 13.42 percent), Woodland (n = 60; 8.66 percent), Late Prehistoric (n = 48; 6.93 percent), Indeterminate Prehistoric (n = 293; 42.28 percent), Historic (n = 180; 25.97 percent), and Unspecified (n = 17; 2.45 percent).
<table>
<thead>
<tr>
<th>Site Name</th>
<th>Site Type</th>
<th>Cultural Affiliation</th>
<th>Materials Collected</th>
<th>Surveyed By</th>
<th>Survey Company</th>
<th>Survey Date</th>
<th>Investigation Type</th>
<th>NRHP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>15Bu249</td>
<td>Paroquet Lick</td>
<td>historic farm/residence</td>
<td>indeterminate historic</td>
<td>not specified</td>
<td>Hoehler</td>
<td>not specified</td>
<td>1978</td>
<td>Volunteered report</td>
</tr>
<tr>
<td>15Bu250</td>
<td>Dowdall’s St.</td>
<td>historic farm/residence</td>
<td>indeterminate historic</td>
<td>not specified</td>
<td>Hoehler</td>
<td>not specified</td>
<td>1978</td>
<td>Volunteered report</td>
</tr>
<tr>
<td>15Bu463</td>
<td>open habitation w/o mounds</td>
<td>indeterminate prehistoric</td>
<td>243 proj pts/ frags, 36 hafted scrapers/drills, 9 &quot;other drills&quot;, 504 bifaces/ frags, 13 &quot;other scrapers&quot;, 367 flakes/ cores/ chunks, 28 ground/ pecked/ battered stone, 13 flint hammerstones</td>
<td>informant (Donald Janzen - Centre College Collection)</td>
<td>recorded by Hemberger &amp; DiBlasi – Louisville Museum of History &amp; Science</td>
<td>not specified</td>
<td>Volunteered report</td>
<td>NR status not assessed</td>
</tr>
<tr>
<td>15Bu464</td>
<td>open habitation w/o mounds</td>
<td>indeterminate prehistoric</td>
<td>11 proj pt/ frags, 1 hafted scrapers/ drills, 2 &quot;other drills&quot;, 44 bifaces/ frags, 2 &quot;other scrapers&quot;, 155 flakes/ cores/ chunks, 1 flint hammerstone</td>
<td>informant (Donald Janzen - Centre College Collection)</td>
<td>recorded by Hemberger &amp; DiBlasi – Louisville Museum of History &amp; Science</td>
<td>not specified</td>
<td>Volunteered report</td>
<td>NR status not assessed</td>
</tr>
<tr>
<td>15Bu465</td>
<td>open habitation w/o mounds</td>
<td>indeterminate prehistoric</td>
<td>2 projectile pts/ frags, 1 hafted scraper/ drill, 9 bifaces/ frags, 78 flakes/ cores/ chunks, 1 whiteeware, 1 brown salt glazed</td>
<td>Hemberger &amp; DiBlasi</td>
<td>recorded by Hemberger &amp; DiBlasi – Louisville Museum of History &amp; Science</td>
<td>not specified</td>
<td>Volunteered report</td>
<td>NR status not assessed</td>
</tr>
</tbody>
</table>
Table 2. Summary of Selected Information for Previously Recorded Sites in Bullitt County. Data Obtained from OSA and May Contain Coding Errors.

<table>
<thead>
<tr>
<th>Site Type</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cave</td>
<td>5</td>
<td>0.96</td>
</tr>
<tr>
<td>Cemetery</td>
<td>3</td>
<td>0.57</td>
</tr>
<tr>
<td>Earth Mound</td>
<td>1</td>
<td>0.19</td>
</tr>
<tr>
<td>Historic Farm/Residence</td>
<td>117</td>
<td>22.37</td>
</tr>
<tr>
<td>Industrial</td>
<td>6</td>
<td>1.15</td>
</tr>
<tr>
<td>Isolated Find</td>
<td>1</td>
<td>0.19</td>
</tr>
<tr>
<td>Open Habitation without Mounds</td>
<td>321</td>
<td>61.38</td>
</tr>
<tr>
<td>Other</td>
<td>19</td>
<td>3.63</td>
</tr>
<tr>
<td>Other Special Activity Area</td>
<td>1</td>
<td>0.19</td>
</tr>
<tr>
<td>Quarry</td>
<td>2</td>
<td>0.38</td>
</tr>
<tr>
<td>Rocks Shelter</td>
<td>11</td>
<td>2.1</td>
</tr>
<tr>
<td>Stone Mound</td>
<td>5</td>
<td>0.96</td>
</tr>
<tr>
<td>Undetermined</td>
<td>16</td>
<td>3.06</td>
</tr>
<tr>
<td>Workshop</td>
<td>15</td>
<td>2.87</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>523</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time Periods Represented</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paleoindian</td>
<td>2</td>
<td>0.29</td>
</tr>
<tr>
<td>Archaic</td>
<td>93</td>
<td>13.42</td>
</tr>
<tr>
<td>Woodland</td>
<td>60</td>
<td>8.66</td>
</tr>
<tr>
<td>Late Prehistoric</td>
<td>48</td>
<td>6.93</td>
</tr>
<tr>
<td>Indeterminate Prehistoric</td>
<td>293</td>
<td>42.28</td>
</tr>
<tr>
<td>Historic</td>
<td>180</td>
<td>25.97</td>
</tr>
<tr>
<td>Unspecified</td>
<td>17</td>
<td>2.45</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>693</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Landform</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissected Uplands</td>
<td>162</td>
<td>30.98</td>
</tr>
<tr>
<td>Floodplain</td>
<td>146</td>
<td>27.92</td>
</tr>
<tr>
<td>Hillside</td>
<td>29</td>
<td>5.54</td>
</tr>
<tr>
<td>Terrace</td>
<td>141</td>
<td>26.96</td>
</tr>
<tr>
<td>Undissected Uplands</td>
<td>38</td>
<td>7.27</td>
</tr>
<tr>
<td>Unspecified</td>
<td>7</td>
<td>1.34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>523</td>
<td>100</td>
</tr>
</tbody>
</table>

*One site may represent more than one time period.

1958 General Highway Map of Bullitt County, Kentucky (KDOH).

The review of historic maps indicated that there were no historic structures within or immediately adjacent to the current project area.

**Survey Predictions**

Considering the known distribution of sites in the county, the available information on site types recorded, and the nature of the present project area, certain predictions were possible regarding the kinds of sites that might be encountered within the project area. Prehistoric open habitations without mounds were considered the most likely site type to be encountered, based on the types of landforms present within the project area. Historic farms/residences were also considered a possibility, also because of the landform types.

**IV. METHODS**

The proposed project area was determined by maps provided by the client and by an iPad installed with GPS Kit HD in the field (see Figure 3). Landowner permission was requested prior to initiating fieldwork.

The majority of the 1.7 ha (4.2 acre) project area was subjected to pedestrian survey, which was conducted by walking parallel transects, 20 m (66 ft) apart across all areas where shovel testing was determined to be unnecessary. Shovel testing at 20 m (66 ft) intervals was conducted in the portions of the project area that were not visibly disturbed. Only two small areas on residential properties were subjected to shovel testing. Shovel tests measured not less than 35 cm in diameter and extended down to the water table. All fill removed from the tests was screened through .64 cm (.25 inch) mesh hardware cloth, and examined for cultural material. No bucket augering was done in the Buffalo Run area because of the high degree of disturbance. No artifacts, charcoal, burned earth, fire-cracked rock, cultural deposits, or other possible evidence of an archaeological site was identified during the intensive field survey.
V. RESULTS AND CONCLUSIONS

Note that a principal investigator or field investigator cannot grant clearance to a project. Although the decision to grant or withhold clearance is based, at least in part, on the recommendations made by the field investigator, clearance may be obtained only through an administrative decision made by the lead federal agency in consultation with the State Historic Preservation Office (the KHC).

The total size of the project area was approximately 1.7 ha (4.2 acres), however, there was one .09 ha (.21 acre) parcel where the landowner denied permission to survey. It is the parcel west of I-65 and north of KY 480 owned by Emma Mae Dawson near STA 5+00. It can be assumed that this parcel will need to be surveyed once access to the property has been obtained by the KYTC. Cultural historic site BU 310 is located on this parcel. The remainder of the project area was subjected to an intensive pedestrian survey supplemented by screened shovel testing. No archaeological remains were found.

The records search revealed that one previously recorded archaeological site (15Bu600), that was previously recommended as not eligible for the NRHP, was partially present within the project area. The location of this site was investigated during the field survey, and no additional cultural material was recovered from this highly disturbed area. Because no sites listed in, or eligible for listing in, the NRHP will be affected by the proposed construction, archaeological clearance is recommended.

If any previously unrecorded archaeological materials are encountered during construction activities, the KHC should be notified immediately at (502) 564-6662. If human skeletal material is discovered, construction activities should cease, and the KHC, the local coroner, and the local law enforcement agency must be notified, as described in KRS 72.020.

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