Addendum Report to the Phase I Archaeological Survey of the East C Alternate for the Proposed KY 185 Realignment in Warren County, Kentucky (KYTC Item No. 3-110.00)

19 October 2011

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Lead State Agency:
Kentucky Transportation Cabinet

Lead Federal Agency:
Federal Highways Administration

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Signature

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ABSTRACT

On October 11, 2011, AMEC Earth & Environmental, Inc. archaeological personnel conducted a Phase I archaeological survey of 17.7 acres for a segment of the East C Alternate of the proposed KY 185 realignment corridor in Warren County, Kentucky (KYTC Item No. 3-110.00). This survey was an addendum to the survey of the East C Alternate that was conducted between April 11 and May 6, 2011. This latest survey corridor consisted of area that AMEC personnel had been denied access to during the previous survey for the East C Alternate. This survey was conducted at the request of Palmer Engineering, Inc. in order to assess the potential impact on cultural resources by the proposed construction. The project area consisted of a road and construction impact corridor extending approximately 792.5 meters, or 2600 feet, north from the planned East C Alternate KY 185 junction with Jack Simmons Road to connect to the East C Alternate junction with Lake Road. The total project area consists of 17.7 acres, or 7.16 hectares. This survey was conducted to ensure compliance with Section 106 of the National Historic Preservation Act, and other Federal and state cultural resource management regulations.

No archaeological sites were identified within the survey area. Because no archaeological sites were located within the survey area for this section of the East C Alternate of the KY 185 realignment corridor, no further archaeological investigations are required for this section.

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1.0 INTRODUCTION

On October 11, 2011, AMEC Earth & Environmental, Inc. (AMEC) staff archaeologists Chad Knopf, Adam Newell, and Allison Esterle conducted a Phase I archaeological survey as an addendum to the East C Alternate of the proposed KY 185 realignment project in Warren County, Kentucky (**Figure 1.1**). This survey was conducted at the request of Mr. Chris Blevins of Palmer Engineering, Inc. in order to assess the potential impact on cultural resources by the proposed construction. The project area consists of a road and construction impact corridor extending 792.5 meters (m), or 2600 feet (ft), north from the junction of the proposed East C Alternate and Jack Simmons Road, near the 1695+00 control point, to connect to the junction of the East C Alternate and Lake Road near the 1720+00 control point (**Figure 1.2**). The total area of the survey for the proposed development is 17.7 acres (ac), or 7.16 hectares (ha).

The Kentucky Transportation Cabinet (KYTC) proposes to alter the route of KY 185 extending from north of the junction with KY 263, south of Pruitt Road, to the Green River on the Warren County/Butler County boundary line. The current route of KY 185 no longer meets minimum safety standards for the present traffic load and future traffic projections. The East C Alternate extends from 1595+00 control point to the northern end of the proposed alignment at the Green River crossing. The purpose of the survey was to identify and document archaeological sites present within the project area of potential effect (APE) and to provide recommendations regarding their potential eligibility for inclusion on the National Register of Historic Places (NRHP).

This archaeological investigation was conducted in compliance with Public Law 89-665, the National Historic Preservation Act of 1966 (as amended), 16 U.S.C. 470 (f), and Presidential Executive Order 11593. This project complies with established specifications for field investigations and National Register of Historic Places (NRHP) assessment according to the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (Federal Register, Vol. 48, No. 190, 1983), and with *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* prepared by the SHPO/KHC (Sanders 2001, revised August 2006).

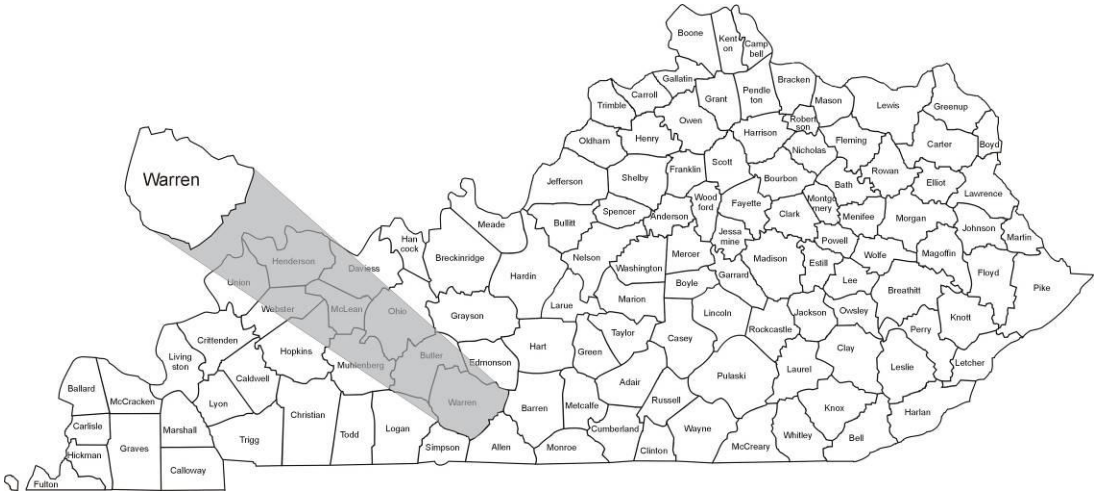

Figure 1.1. Map of Kentucky Showing Location of Warren County.

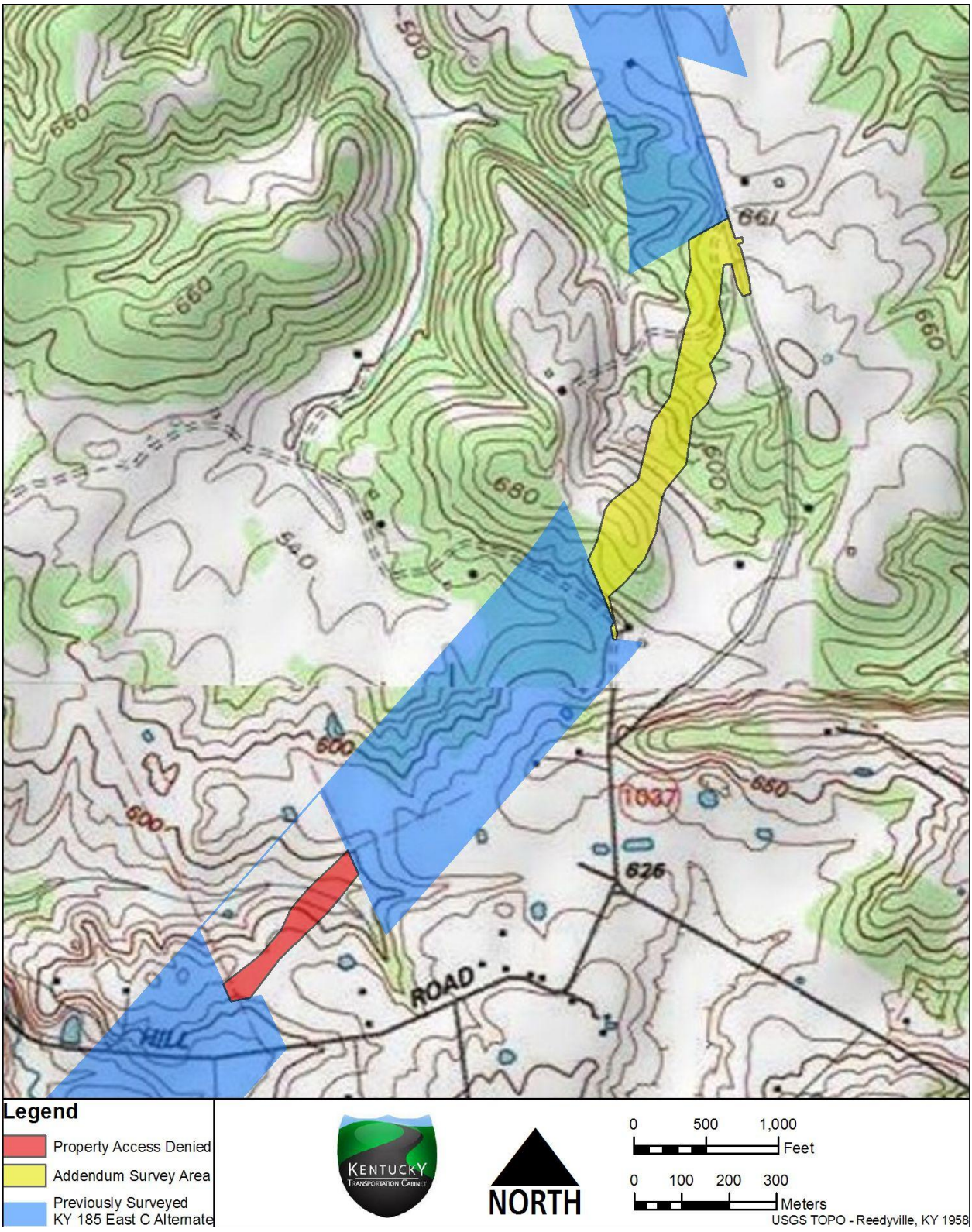

Figure 1.2. Survey area for the addendum to the KY 185 East C Alternate in Warren County, Kentucky (Reedyville quadrangle 1958, photorevised 1979; Bowling Green North quadrangle 1970, photorevised 1979).

In January and February of 2010, AMEC conducted the original archaeological survey of the proposed KY 185 realignment corridor in Warren County, Kentucky (Knopf et al. 2010). This survey resulted in the discovery of three prehistoric open air habitation sites without mounds (sites 15WA167, 15WA173, and 15WA174), two prehistoric open air habitation sites without mounds that also had a historic artifact scatter component (sites 15WA169 and 15WA170), two prehistoric open air habitation sites without mounds that also had isolated historic artifacts (sites 15WA171 and 15WA172), two prehistorically occupied rockshelters (sites 15WA168 and 15WA176) and one historic industrial site with a minor prehistoric component (15WA175). None of these sites are located within the current section of the East C Alternate APE that is addressed in this report. Four prehistoric sites, 15WA168, 15WA171, and 15WA176, and the historic industrial site, 15WA175, were considered to be potentially eligible for listing on the NRHP. These four sites were recommended for avoidance or additional investigation if avoidance was not feasible.

Between April 11 and May 6, 2011, AMEC conducted a Phase I archaeological survey of the East C Alternate alignment corridor for the proposed realignment of KY 185 (Schatz et al. 2011). The East C corridor represents a change in the proposed KY 185 realignment that occurred following AMEC's initial survey of the KY 185 project area in early 2010. As a result of the East C investigation, AMEC identified 11 archaeological sites that included four prehistoric open habitations without mounds (sites 15WA181-15WA184), four historic farm sites (sites 15WA178-180, and 15WA186), two prehistoric open habitations without mounds that also had historic farm components (sites 15WA177 and 15WA185), and one prehistoric rockshelter that had been previously recorded (site 15WA353). The sole prehistoric rockshelter site identified during the East C survey, site 15WA353, was considered to be potentially eligible for listing on the NRHP. AMEC recommended that this site be avoided or subjected to additional investigation.

The present survey area addressed in this report consists of a 17.7 ac segment of the East C Alternate corridor that AMEC was denied access to during the East C survey in April and May, 2011. KYTC officials later secured landowner permission for AMEC to access the land and perform the necessary investigations for this section of the proposed East C Alternate. AMEC archaeological personnel conducted a Phase I archaeological survey of the proposed project area. Approximately 36 person-hours were expended to complete all aspects of the field investigation. No archaeological sites were identified as a result of this survey. KYTC representatives were unable to secure permission to investigate a 4.9 ac parcel (**Figure 1.2**), south of the parcel surveyed during this addendum. This 4.9 ac parcel is now the only portion of the East C Alternate alignment corridor that has not been surveyed for archaeological resources.

This report is an addendum to the initial survey of the East C Alternate alignment corridor documented by Schatz et al. (2011). The results of the addendum survey are presented in an abridged format as requested by the KYTC project team progress meeting held October 5, 2011, in Frankfort, Kentucky. Detailed discussions of previous archaeological investigations and the cultural background are presented in the previous report (Schatz et al. 2011).

2.0 DESCRIPTION OF PROJECT AREA

2.1 Physiography

Warren County includes 547 square miles (sq mi), or 1,416.7 square kilometers (sq km). The county is located in south-central Kentucky, primarily on the Mississippian Plateau with the northern tip extending onto the Pennsylvanian Plateau (Barton 1981). It is bordered by Allen, Barren, Butler, Edmonson, Logan, and Simpson counties. The extreme northern section of Warren County is located in the Western Coal Fields, with the remaining majority lying in the Western Pennyroyal Physiographic Region (Barton 1981). The terrain is divided between nearly level to mildly rolling karst plains with few surface streams and hundreds of sinkholes and a higher plateau region in the northwest separated by the Dripping Springs Escarpment. This southeast-facing cuesta crosses Warren County from northeast to southwest (McGrain and Currens 1978). Elevations in Warren County range from 395 ft (120 m) above mean sea level (AMSL) up to 955 ft (291 m) AMSL at Pilot Knob. Elevations along the Dripping Springs Escarpment and into the northwest portion of the county typically range between approximately 450 ft AMSL and 750 ft (137 m and 22.9 m) AMSL.

The Green River and its tributaries drain the county, with the river forming the county's northern boundary (Barton 1981). The Barren River bisects much of the county and flows into the Green River in the northwest corner of the county, near the town of Woodbury. Along with the Barren River, the Gasper River in the west and Drake's Creek in the northeast constitute the major tributaries of the Green River. This 17.7 ac section of the East C Alternate project area is drained chiefly by an unnamed tributary of Ivy Creek that passes through the southern extent of the construction corridor north of Jack Simmons Road.

2.2 Soils and Project Area Surface Conditions

Soils

Soils develop from five soil-forming factors: parent material, climate, relief, plant and animal influence, and time (Buol et al. 1989). Parent material in the region of the project area includes Quaternary Alluvium glacial deposits, and consolidated sedimentary rocks from Mississippian epoch formations. The extreme northern tip of Warren County extends into the Pennsylvanian epoch of formations (Barton 1981). The Mississippian deposits were formed from marine sediment over 350 million years ago (Grabowski Jr. 1986). Erosion of younger deposits has left Mississippian deposits exposed at the surface in some areas. Mississippian epoch formations in the area include Hardinsburg Sandstone, Golconda Formation, Girkin Formation, Leitchfield Formation, Warsaw Formation, Fort Payne Formation, as well as St. Louis, Ste. Genevieve, and Glen Dean limestone formations (Noger 1988).

Pennsylvanian rocks outcrop in the northernmost portion of Warren County, where the county crosses into the Western Kentucky Coalfields physiographic region (Rice 1986). Approximately 320 million years ago, as the seas receded, the deposits of the Pennsylvanian age were left. Continuous fluctuation of the sea level created deposits of sandstone, siltstone, shale, and coal. Due to the relatively minor portion of Warren County that falls into this physiographic region, the Pennsylvanian material in the county chiefly consists of the Caseyville Sandstone (Noger 1988).

The project area is within the Frondorf-Ramsey soil association, which consists of moderately deep to shallow, sloping to very steep, well-drained to excessively drained soils formed in loess on steep and narrow uplands. The 17.7 ac project area documented in this report extends

across four separate soil series, described in **Table 2.1** using data presented by Barton (1981) and Mitchell (2004).

Table 2.1. Soil Series within the Project Area.

Series Symbol	Soil Name	Description
CnD	Caneyville-Rock outcrop complex, 6 to 20% slopes	Complex consists of small areas of moderately deep, steep, well drained Caneyville soil interspersed with rock outcrops and rock ledges along sideslopes.
FrD	Frondorf silt loam, 12 to 20% slopes	Moderately deep, well drained, moderately steep sloping soil found on sideslopes of sandstone and shale uplands. The surface soil will be a brown silt loam with yellowish-brown clay loam subsoil.
RaF	Ramsey-Frondorf complex, 20 to 60% slopes	Shallow to moderately deep, excessively drained to well drained soil in shallow bands along slope. The surface soil will typically be a brown loam overlaying increasingly blocky and sandstone laden yellowish brown subsoil.
ZaB	Zanesville silt loam, 2 to 6% slopes	Deep, well drained to moderately well drained soil found on gently sloping ridgetops and the upper part of sideslopes. The surface soil is a dark grayish-brown to strong brown silt loam overlaying yellowish-brown silty clay loam subsoil.

Project Area Surface Conditions

The project area consists of a 17.7 ac linear corridor extending north from the junction of the proposed East C Alternate and Jack Simmons Road, near the 1695+00 control point, to connect to the junction of the East C Alternate and Lake Road near the 1720+00 control point on the East C Alternate design maps.

At the south end, the survey area includes a thin parcel running southeast along Jack Simmons Road and occupying a small portion of an open field. This area was only mildly sloped and the field was not in any recent use, overrun by tall field grasses. The area adjacent to Jack Simmons Road was generally deflated at the surface with bedrock and subsoil visible below the ascent into the slopes at the north (**Figure 2.1**). North of Jack Simmons Road the corridor crosses over a lightly wooded ridgeline that appears to have been cleared for previous agricultural use before descending to a deeply incised drainage that constitutes an unnamed tributary of Ivy Creek (**Figure 2.2**). On the north side of the tributary, the slope rises, leveling off to form a few small, lightly sloped benches before rising again (**Figure 2.3**). As the slope rises to approach Lake Road, the forest thins out into open cow pasture behind a farm residence (**Figure 2.4**). A wide, mild toe slope overlooks the various sheds and livestock housing and pens behind the residence. The area surrounding the sheds and pens had been well tread by the livestock and surface visibility was high (**Figure 2.5**). However, these areas were generally deflated, with subsoil visible at the surface. Refuse, building materials, and debris from collapsed barn structures were strewn about the area behind the residence (**Figures 2.6**, **2.7**). The mild slope continues rising to meet Lake Road, passing through another woodline, thick with brush, before opening up to a mowed field adjacent to the road (**Figure 2.8**). Across Lake Road, the project area terminates in an open pasture along the roadside.

Figure 2.1. Slope with protruding bedrock in the project area, facing east.

Figure 2.2. Unnamed tributary of Ivy Creek passing through the project area, facing east.

Figure 2.3. High degree of slope within the project area, facing north.

Figure 2.4. Cow pasture on mild, open ridgeline, facing southwest.

Figure 2.5. Sheds and animal pens behind farm residence, facing north.

Figure 2.6. Refuse and building materials disposed of across the farm property, facing southeast.

Figure 2.7. Barn remnants, facing west.

Figure 2.8. Open field near Lake Road at the northern terminus of the project area, facing northwest.

2.3 Previous Archaeological Investigations

For any archaeological investigation it is important to include the type and scope of previous archaeological investigations in the vicinity of the project area. This report is meant to serve as an addendum to the report *Phase I Archaeological Intensive Survey of the East C Alternate for the Proposed KY 185 Realignment in Warren County, Kentucky (KYTC Item No. 3-110.00)* by Schatz et al. (2011). As a part of that investigation, OSA site file and database research was conducted for the area consequential to this addendum report. For information on the sites and surveys recorded in the surrounding area of the present APE, please refer to the aforementioned report on the previous investigations within the East C Alternate.

3.0 PROJECT METHODOLOGY AND SURVEY RESULTS

3.1 Methodology

In accordance with the revised guidelines for archaeological fieldwork in Kentucky (Sanders 2001, Version 2.4), two methods of site discovery were employed during this project. These methods included visual surface inspection and the excavation of shovel test probes (STPs).

A visual ground surface inspection was conducted of the entire project area. In areas of poor ground surface visibility and on slopes greater than 20 degrees, visual inspection for direct evidence of archaeological sites, such as structural foundations, refuse dumps, wells and cisterns, gravestones, quarry pits, and earthen and stone mounds was conducted. Field personnel also examined the project area for caves, quarries, benches, rock faces, and rock overhangs that may have been utilized by prehistoric or historic groups.

In areas where the ground surface visibility was less than 50 percent and the slopes were less than 20 degrees, shovel probing was conducted. STPs were excavated at 20 m (66 ft) intervals along transects spaced 20 m (66 ft) apart. Each STP, which measured approximately 30 centimeters (cm), or 12 inches (in), in diameter, was excavated to a minimum depth of 30 cm (12 in) below surface (bs), or until a distinct subsoil or bedrock was exposed. The soil from each STP was screened through ¼-in mesh hardware cloth. The wall of each STP was examined for artifacts as well as soil color and texture changes that might indicate buried, intact cultural deposits. When the inspection was complete, the hole was filled, tamped, and the sod replaced.

3.2 Survey Results

The survey area was investigated through a combination of visual inspection of the ground surface and STP excavation. Along ridgetops, benches, drainages, and a minor lowland saddle, STPs were placed across the project area at 20 m (66 ft) intervals where space permitted (**Figure 3.1**). Opportunistic STPs were spaced at closer intervals to ensure confident coverage along narrow ridgelines and benches. The ground surface was visually inspected across the entirety of the project area and slopes were examined for any potential resources. Behind the farm residence, near the northern terminus of the project area, barn remnants were inspected and STPs were opportunistically excavated to ensure that the area of the former structure did not contain deposits or any evidence of archaeological integrity. No archaeological sites or other cultural resources were identified within the survey area by visual inspection or by STP excavation.

A common soil profile was identified from the STPs excavated across the project area. The typical soil profile for this project area consisted of approximately 16 cm (6.3 in) of brownish yellow (Munsell 10YR 6/6) silt overlaying a reddish yellow (Munsell 5YR 6/8) compact silt subsoil (**Figure 3.2**).

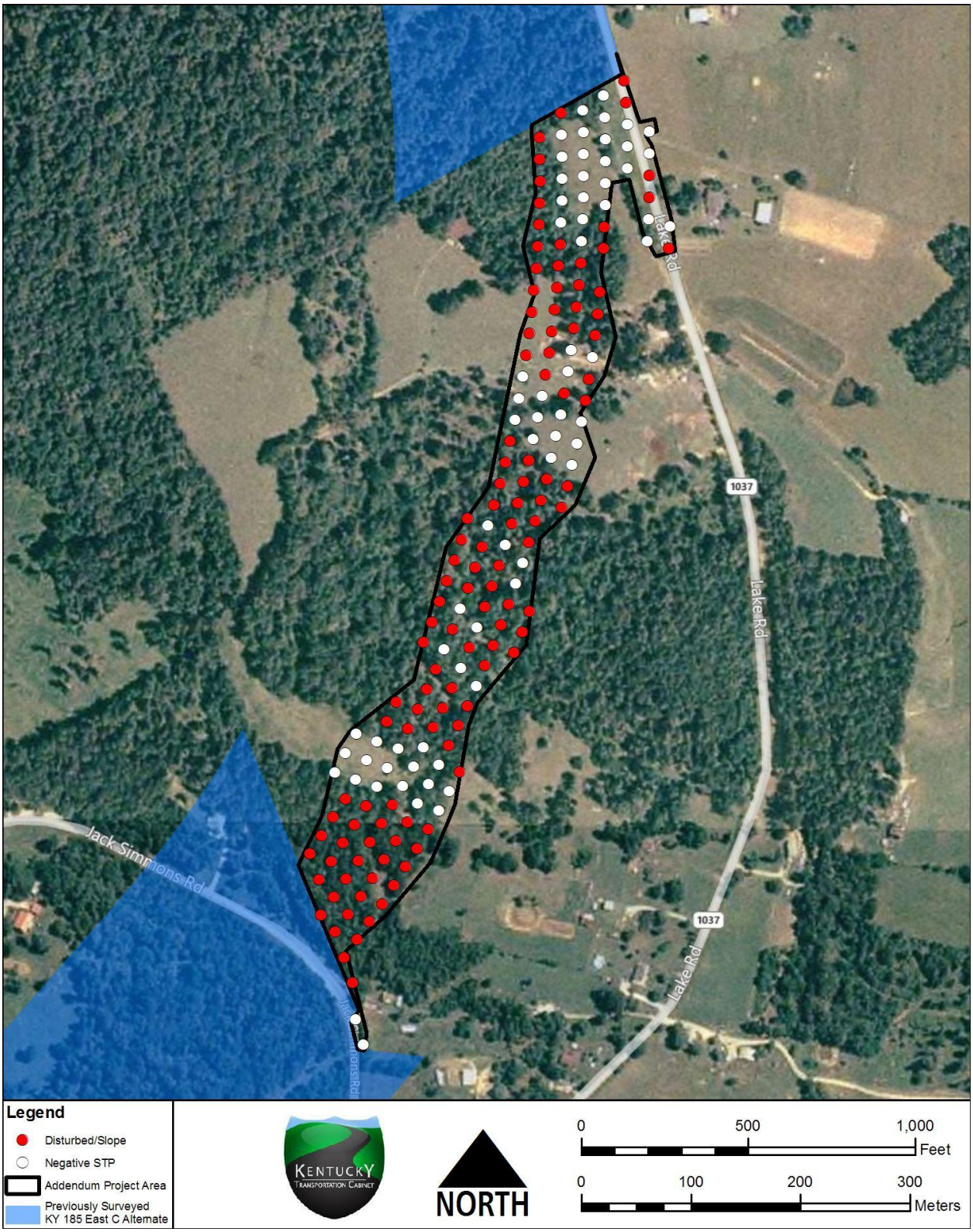

Figure 3.1. Project area map showing the location of STPs (Reedyville quadrangle 1958, photorevised 1979; Bowling Green North quadrangle 1970, photorevised 1979).

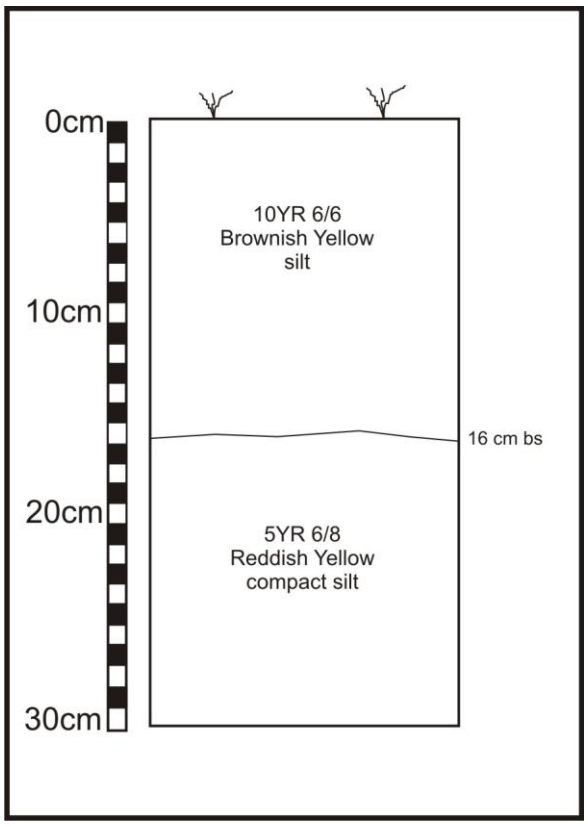

Figure 3.2. Representative soil profile observed during STP excavations within the survey area.

4.0 CONCLUSIONS AND RECOMMENDATIONS

On October 11, 2011, AMEC Earth & Environmental, Inc. archaeological personnel conducted a Phase I archaeological survey of 17.7 acres for the placement of the East C Alternate of the proposed KY 185 realignment corridor in Warren County, Kentucky (KYTC Item No. 3-110.00). This survey was an addendum to the survey of the East C Alternate that was conducted between April 11 and May 6, 2011. This latest survey corridor consisted of area that AMEC personnel had been denied access to during the previous survey for the East C Alternate. The survey was conducted at the request of Palmer Engineering, Inc. in order to assess the potential impact on cultural resources by the proposed construction. The project area consisted of a road and construction impact corridor connecting the planned East C Alternate KY 185 junction with Jack Simmons Road and the East C Alternate junction with Lake Road. No archaeological sites or cultural resources were identified within the survey area for this section of the East C Alternate of the KY 185 realignment corridor.

Since no cultural resources were documented during this survey, no further archaeological work is recommended for this section of the KY 185 East C Alternate. If, however, during construction, any cultural materials are identified such as projectile points, stone tools and manufacturing debris, prehistoric petroglyphs, prehistoric or historic ceramics, bones, or building debris, then all construction should be terminated and KHC/SHPO should be immediately notified. State Law (KRS 72.010) requires that if human remains are found the County Coroner and local law enforcement agents must be contacted immediately.

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