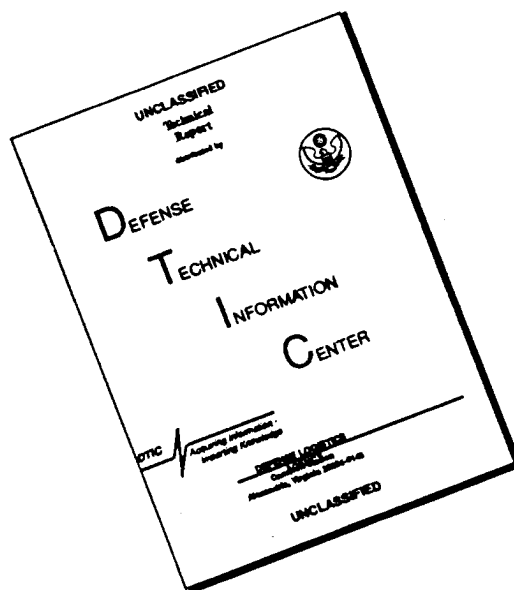


"A Phase I Archaeological Survey of the  
Proposed Heins Range Bivouac Area on the  
Fort Knox Military Reservation, Hardin  
County, Kentucky" by Pamela A. Schenian,  
Fort Knox. September 1996.

EXHIBIT A  
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A Phase I Archaeological Survey  
of the Proposed Heins Range Bivouac Area  
on the Fort Knox Military Reservation,  
Hardin County, Kentucky

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September 1996

  
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## ABSTRACT

In May 1996, the Fort Knox contract archaeological staff conducted a Phase I archaeological survey of the proposed Heins Range bivouac area, adjoining Longstreet Range Road, on Fort Knox, Hardin County, Kentucky. The bivouac area is irregular in shape, with a maximum length of 854 m (2800 feet) and a maximum width of 274 m (900 feet), encompassing approximately 14.5 ha (35.7 acres). The survey resulted in the discovery of no archaeological materials or deposits. A portion of the L and N Turnpike corridor segment that has been nominated to the National Register of Historic Places forms the west boundary of the project area. It is recommended that the bivouac area be developed as proposed, provided that a buffer zone of trees is left along the west boundary to prevent vehicle access to and from the L and N Turnpike and to maintain the historic visual appearance of the L and N Turnpike corridor.

## MANAGEMENT SUMMARY

In accordance with Executive Order 11593 and other applicable federal laws and regulations, a Phase I archaeological study was conducted of a proposed bivouac area for the Heins Range, along Longstreet Range Road, on Fort Knox, Hardin County, Kentucky, in May 1996. No evidence was found of archaeological materials or of potential archaeological deposits. It is recommended that the bivouac area be developed as proposed, provided that a buffer of trees is left along the west boundary to prevent vehicle and visual disturbance of the L and N Turnpike corridor segment, which has been nominated to the National Register.

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## INTRODUCTION

In May 1996, the Fort Knox contract archaeological staff performed a Phase I archaeological survey of the proposed Heins Range bivouac area. The project area is bordered by Longstreet Range Road on the east and south, the L and N Turnpike/Wilson Road on the west, and Pleasant View Cemetery on the north. The project area is irregular in shape, with a maximum length of 854 m (2800 feet) and a maximum width of 274 m (900 feet), encompassing approximately 14.5 ha (35.7 acres).

In 1993, the Fort Knox Contract Staff Archaeologist obtained all the documents necessary to perform Phase I literature searches for the installation (e.g., site forms, reports of previous investigations, historic maps), and these documents are updated regularly. All documents needed to perform Phase I literature searches for the installation are present at the Cultural Resource Management office of the Directorate of Public Works (DPW), Fort Knox. No file check therefore was made with the Office of State Archaeology and the Kentucky Heritage Council specifically for this project. A literature search revealed that only a narrow band along a portion of the east margin of the project area had been previously surveyed (Schenian 1995a). In the present project the entire area was inspected by walkover, supplemented by shovel probing.

The proposed bivouac area is located in the Plain section of the Pennyryle cultural landscape, on the ridge crests and slopes of a dissected upland area. The project area lies at the north boundary of an undulating karst plain and the dissected uplands. Elevations in the project area range from 700 to 780 feet. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). Drainage in the project area is into the headwaters of tributaries of the Ohio River, including Tioga Creek.

The archaeological survey was conducted in preparation for the construction of a bivouac area to be associated with Heins Range, which lies east of Longstreet Range Road. The bivouac area development will include the construction of a shower building and the pouring of concrete tent pads, plus the installation of utility lines. The archaeological survey and literature review were required to comply with the National Environmental Policy Act, or NEPA, (Public Law 91-190), the Historic Preservation Act of 1966, as amended (Public Law 89-665), the Archaeological Resources Protection Act of 1979 (Public Law 96-95), Presidential Executive Order 11593, and Army Regulation 420-40.

The project area was surveyed on May 17, 1996, by Pamela Schenian and Stephen Mocas. A total of 3.0 person hours were spent in the survey of the project area. No artifacts



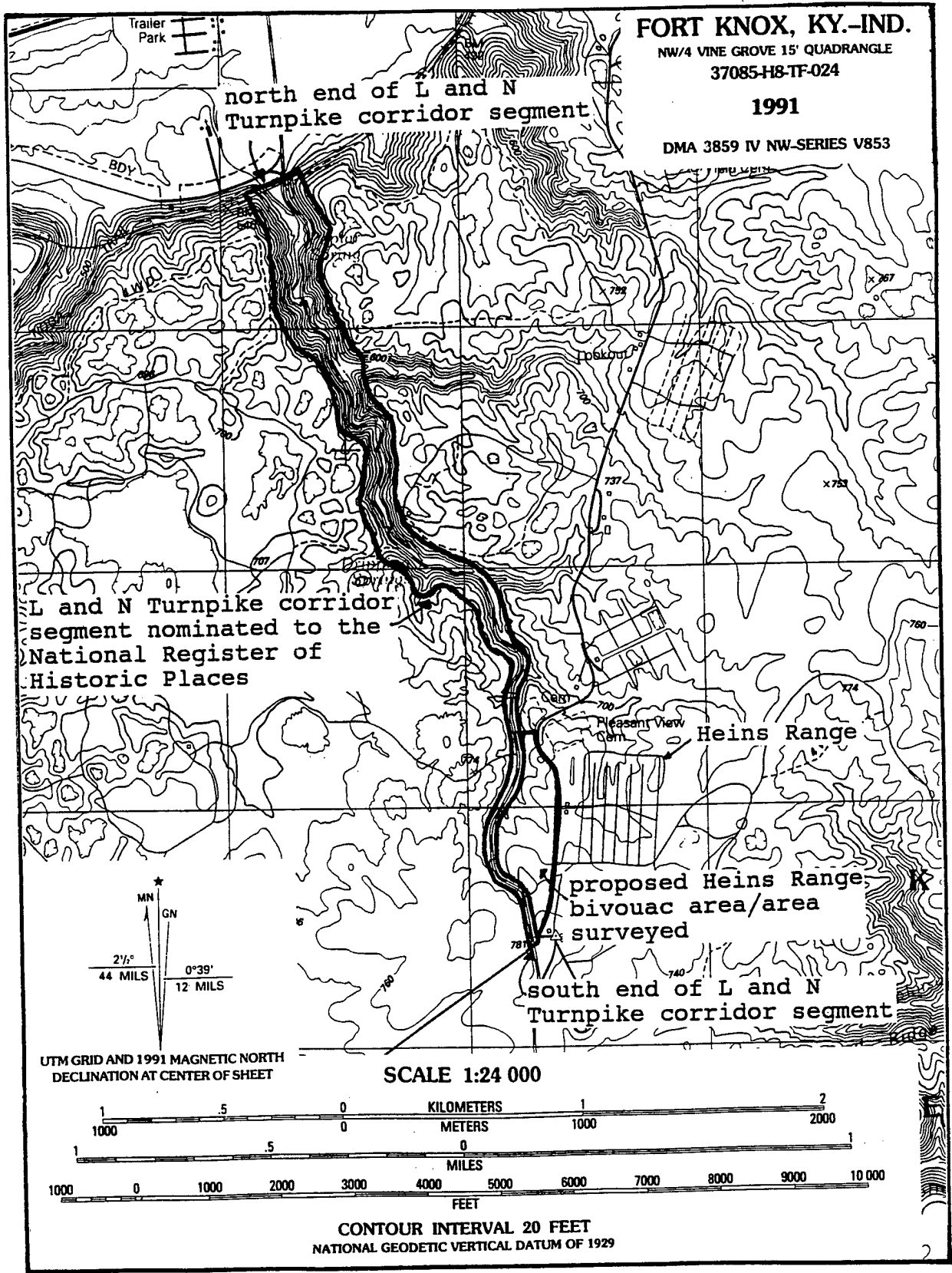


FIGURE 1. Location of the Project Area.

were observed or collected in this survey. Documentation of this project will be curated at the University of Louisville Program of Archaeology, on a "permanent loan" basis, under contract number DABT 23-95-C-0102, for curatorial and technical support (copy of contract on file, DPW, Fort Knox, Kentucky). Duplicate copies of the documentation will be stored at DPW.

#### PREVIOUS RESEARCH

Approximately 26,534 acres of the Fort Knox installation have been surveyed for archaeological sites at some level, primarily in cultural resource management (CRM) studies. Schenian and Mocas (1994) summarize the archaeological studies conducted on or near the installation through August 1994. This section will focus on the previous research conducted within a 2 km radius of the current project area.

Only a narrow strip along the east margin of a portion of the current project area had been previously surveyed (Schenian 1995a), but a number of areas around the project area had been surveyed. O'Malley et al. (1980) surveyed approximately one-quarter of each of Hunting Areas (HA) 17-21 and 24 near the current project area. O'Malley et al. recorded 15Hd275 in HA 17, 15Hd127 and 15Hd133 in HA 18, 15Hd118 and 15Hd244 in HA 21, and 15Hd228 in HA 24, and no sites in the portions surveyed of HA 19 and 20. Site 15Hd133, the nearest of these sites, lies approximately 900 m west of the current project area.

Hemberger (1991) surveyed a 23 acre tract within HA 17, recording 15Hd461, over 1 km north of the current project area. Hemberger (1992) surveyed a seven acre tract in HA 24 approximately 800 m northeast of the current project area, encountering no sites. Schenian (1991) surveyed a 67 acre tract in HA 17, recording a historic archaeological site, 15Hd459. Mocas (1993) described the results of the survey of a proposed landfill and borrow pit tract, lying approximately 200 m southwest of the south end of the project area, and in which no archaeological sites were encountered. Schenian (1995a) recorded no sites in the survey of a timber harvest paralleling Longstreet Range Road, a portion of which survey overlaps the current study area. Schenian (1995b) describes the results of the survey of a portion of HA 20, in which 15Hd496 was recorded approximately 300 m southwest of the current project area. This historic site is not eligible for the National Register. Schenian (1995c) surveyed timber harvest tracts in Training Areas 8, 13, and 14, two of which are located approximately 2 km from the current project area. No sites were recorded in any of these timber harvest tract project areas, however. Mocas (1996) found no sites in the survey of Mendick Tollgate Range in HA 28.

No archaeological sites listed on or eligible for listing on the National Register of Historic Places are located in or immediately adjacent to the current project area. No buildings listed on or known to be eligible for the National Register are located in or within the viewshed of the current project area. The south end of the L and N Turnpike segment that was nominated to the National Register in 1994 forms the west boundary of the project area, however.

One section of the Pleasant View Cemetery lies just north of the north boundary of the project area. Another section of the Pleasant View Cemetery lies east of Longstreet Range Road across from the north end of the project area. Both cemeteries are fenced and marked by signs.

#### SURVEY PREDICTIONS

Based on previous archaeological research in the area, the history of settlement, and the environmental setting of the project area, the following results were expected:

- 1) All portions of the project area lie between Longstreet Range Road and the L and N Turnpike. The project area is therefore expected to have some disturbance due to road construction and maintenance, overhead and underground utility line installation, erosion, and possibly training.
- 2) All portions of the project area lie within the section of the installation acquired ca. 1919. The 1919 Camp Knox land acquisition map indicates that the project area encompasses portions of two former properties. One building cluster was known to have existed in the project area, just south of the Pleasant View Cemetery, at the time of acquisition. There is a high probability that this cluster will exist as an archaeological site. There is a low to moderate chance that additional historic archaeological sites, representing buildings already in ruins by the time of Army acquisition, will exist in the project area.
- 3) The project area is located on the ridge top at the headwaters of a tributary of Tioga Creek. This is considered a high probability setting for prehistoric habitation and processing sites.
- 4) Previous surveys in the project vicinity have yielded a very low site density for this portion of the base. A low site density is expected for the current project area.

## SETTING AND FIELD METHODS

The proposed bivouac area is classified as belonging to the Plain section of the Pennyryle cultural landscape and it lies in the Mississippian Plateau physiographic region of Kentucky (McGrain and Currens 1978:35). It is located on the tops and slopes of the dissected upland ridges, near the edge of an undulating karstic plain (Figure 2). Elevations in the project area range from 700 to 780 feet. Drainage in the project area is into the headwaters of tributaries of Tioga Creek, a tributary of the Ohio River. Soils are classified as Crider-Vertrees soil association (U.S.D.A. 1975: General Soil Map). The north two-thirds of the project area has Crider silt loam soils and the south third has Nicholson silt loam (Arms et al. 1979: Map 2).

The project area was systematically walked in transects spaced approximately 10 m apart (Figure 2), unless initial inspection indicated that an area was too disturbed to warrant further survey. Ground surface visibility was variable in the wooded areas, and nearly zero percent in the areas in grass. In the wooded areas, the understory consisted primarily of scattered spindly weeds and saplings, with some brambles and vines near the road margins. Fallen leaf cover was present, but deer trails afforded some open areas and heavy rains had washed away the cover from some areas. Areas of open ground up to 3 m in diameter were not uncommon, and smaller areas with 100 percent ground surface visibility occurred at irregular intervals. The effective visibility in sections of the project area was increased by zig-zagging within the transect corridor to take advantage of the 100 percent ground surface visibility along deer paths, around tree driplines, around animal burrows, along creek banks, and in erosional gullies. All open areas in high probability areas for prehistoric sites (i.e., ridge tops and upper slopes) were carefully examined.

If the ground surface was obscured by vegetation for greater than 10 m within a transect, then a shovel probe was excavated unless there was strong evidence (for example, bulldozer piles) that the ground had been previously disturbed. Each shovel probe was approximately 30 cm square and ground surface and excavated to a minimum depth of 25 cm or until subsoil was reached. Each shovel probe wall profile was examined and the fill trowel sorted before the shovel probe hole was backfilled.

The survey resulted in the discovery of no archaeological sites or materials. The survey also indicated that substantial portions of the project had been previously disturbed, but that some areas of intact topsoil remain.

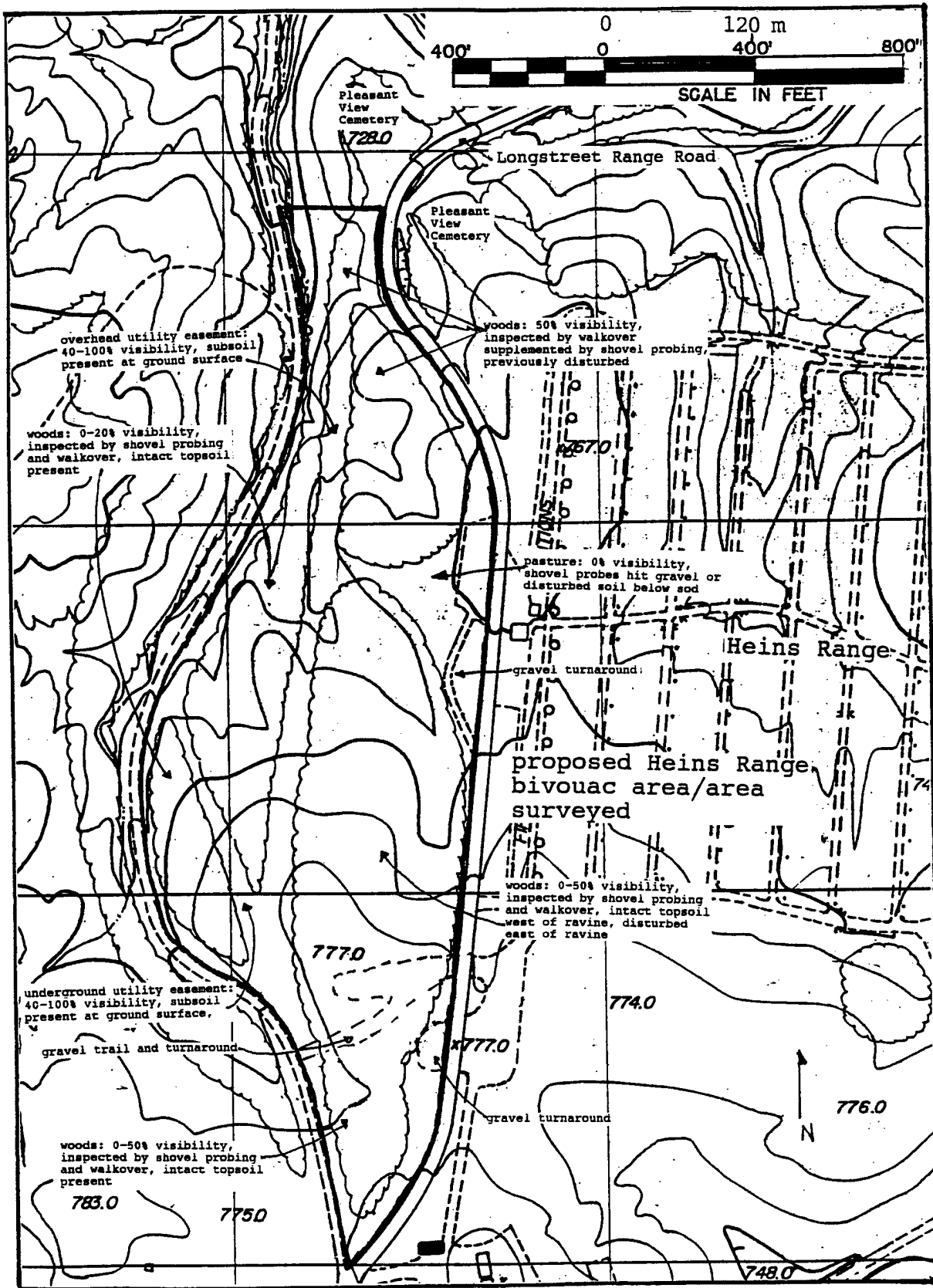


FIGURE 2. Vegetation and Field Methods in the Project Area.

## CONCLUSIONS AND RECOMMENDATIONS

The Phase I literature search of the proposed Heins Range bivouac area adjacent to Longstreet Range Road determined that only a small portion of the project area had been previously inspected. The project area therefore was inspected in its entirety in the current study. The inspection of this area resulted in the discovery of no archaeological materials or deposits.

The area in which a structure cluster associated with the N. Wiggington estate was known to have existed in 1919, had been borrowed for fill some time ago, and the farmstead did not translate into an archaeological site. The 1950 edition of the Fort Knox topographic quadrangle shows that Longstreet Range Road cut through this area to intersect the L and N Turnpike/Wilson Road at the north end of the current project. At that time, only a dirt road or trail marked the east boundary of the current project area. The 1953 edition of topographic quadrangle indicates that the trail had been improved to the point of being upgraded to a "light duty road" status. The N. Wiggington estate structure cluster therefore had been disturbed by 1950, when the road passed through it, and any remnants of it were destroyed by the road improvements that took place between 1950 and 1953.

One section of the Pleasant View Cemetery lies just north of the north end of the project area. No impact to the cemetery is expected to occur because of the proposed bivouac construction.

It is recommended that the installation be permitted to construct the bivouac area as proposed, provided that vehicle access is prohibited from the L and N Turnpike and that buffer of trees at least 10 m wide be left along the L and N Turnpike. These precautions will prevent adverse impact to the L and N Turnpike and to the historic feel of the turnpike corridor. Access to the project area is available from Longstreet Range Road. No impact to any significant cultural resource is therefore expected as a result of the movement of vehicles to be used in this project, provided they enter the project area from Longstreet Range Road rather than the L and N Turnpike/Wilson Road.

The proposed Heins Range bivouac area is only one phase of the proposed Heins Range improvements. The remaining improvements will take place east of Longstreet Range Road. The portions of Heins Range east of Longstreet Range Road will need to be surveyed for cultural resources prior to any earthmoving activity in those sections. Since there is a high potential for unexploded ordinance beyond the firing range at Heins Range, it is recommended that the survey take place after the first hard freeze or under other conditions

(for example, after a controlled burn) that maximize ground surface visibility.

In the remote possibility that archaeological materials are discovered during earthmoving activities in the proposed bivouac area, all work in the vicinity of the finds must cease and the State Historic Preservation Officer (502-564-7005) and the DPW Staff Archaeologist (502-624-6581 or 502-624-3629) should be contacted, so a representative of those agencies may evaluate the materials. Also, if human remains, regardless of age or cultural affiliation, are discovered, all activity in the vicinity of the remains must cease immediately, and the state medical examiner (502-564-4545) and the appropriate local law enforcement agency (Fort Knox Law Enforcement Command, 502-624-6852) must be contacted, as stipulated in KRS 72.020.

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County, Kentucky. Directorate of Public Works, Fort Knox.

1995c A Phase I Archaeological Survey of the Proposed Timber Harvest Areas in Training Areas 8, 13, and 14 on the Fort Knox Military Reservation, Hardin and Meade Counties, Kentucky. Directorate of Public Works, Fort Knox.

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United States Geological Survey

1950 Fort Knox, Kentucky, 7.5 Minute Topographic Quadrangle.

1953 Fort Knox, Kentucky, 7.5 Minute Topographic Quadrangle.

1991 Fort Knox, Kentucky-Indiana, 7.5 Minute Topographic Quadrangle.

APPENDIX A.  
RESUMES OF KEY PERSONNEL

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Staff Archaeologist and Project Principal Investigator

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Phone: (502) 624-6581

Date and Place of Birth: January 1, 1959; Waukesha, WI.

Present Position: J.M. Waller & Associates/Fort Knox Contract Staff Archaeologist

Education:

A.B.D. in Anthropology, Northwestern University, 1984.  
M.A. in Anthropology, Northwestern University, 1982.  
A.B. in Anthropology, Bryn Mawr College, 1980.

Previous Employment:

Senior Staff Archeologist, Archeology Service Center,  
Department of Sociology, Anthropology, and Social Work, Murray State University, Murray, KY, November 1991-June 1993;  
Staff Archeologist, November 1983-November 1991.

Southern Illinois University, Carbondale, IL: Field Technician, November-December 1985, September-October 1984.

Illinois State Museum Society, Springfield, IL: Field Assistant II (Supervisor), summer 1983; Field Technician, summer 1981.

Center for American Archeology, Kampsville, IL: Field Technician, summer 1982.

Department of Anthropology, Northwestern University, Evanston, IL: Teaching Assistant, 1981-82 academic year.

Great Lakes Archeological Research Center, Milwaukee, WI: Field Technician, summer 1979.

Field Research Experience:

Field experience on prehistoric and historic archaeological projects in Illinois, Indiana, Kentucky, New Jersey, South Dakota, Tennessee, and Wisconsin, 1979-present.

Professional Publications, Reports, Papers and Manuscripts:  
110 CRM contract reports on projects in Indiana, Kentucky, and Tennessee.

1 Homicide site excavation contract report prepared in lieu of court testimony in Illinois.

7 Papers presented at professional conferences.

6 Publications.

Doctoral candidacy qualifying paper: "A Theory of Individual Style Variation for Archeological Studies".

Ms. submitted in partial fulfillment of the M.A. requirements: "Models of Environmental-Cultural Relationships: Testing with Archeological Evidence".

Stephen T. Mocas  
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Education:

Completed one year of doctoral program, Southern Illinois University, Carbondale, Illinois, 1972.

B.A. in Anthropology, University of Louisville, 1971.

Previous Employment:

University of Louisville Program of Archaeology/Fort Knox Contract Assistant Staff Archeologist, November 1993-December 1994; September 1995-August 1996.

Indiana University, Bloomington, Indiana: Staff Archaeologist, Part-time September 1991-Present.

Fort Knox/University of Louisville: Contract Assistant Staff Archaeologist, November 1993-December 1994.

Murray State University, Murray Kentucky: Staff Archaeologist, November 1991-November 1993.

Jefferson Community College, Louisville, Kentucky. Anthropology Instructor, August 1981-December 1982.

Louisville School of Art, Louisville, Kentucky: Anthropology Instructor, January-May 1976.

University of Louisville Archaeological Survey, Louisville, Kentucky. Project Director, Field Supervisor, or Research Assistant on various projects, July 1969-January 1977.

State University of New York of Buffalo, Buffalo, New York. Senior Field Worker, June-August 1970.

Field Research Experience:

Field experience, Phase I-III, prehistoric and historic archaeological projects in the states of Illinois, Indiana, Kentucky, New York, and Tennessee, 1969-present.

Research Grants:

Six grants for fieldwork and research.

Professional Publications, Reports, Papers and Manuscripts:

2 Non-contract site reports on projects.

36 CRM contract reports on projects.

6 Chapters in additional site reports.

5 Publications.