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An Archeological Overview and Management Plan for the Newport Army Ammunition Plant, Vermillion County, Indiana

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Atlanta, Georgia 30303

for the
U.S. Army Materiel Development
and Readiness Command

by

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16. Abstract (Limit: 200 words)

The Newport Army Ammunition Plant, located in Vermillion County, Indiana, is a 6990-acre facility containing more than 300 facility-related structures, as well as agricultural pasture lands and woodlands. As part of a general program in the AAP's historic preservation planning, a sample survey of archeological resources on the facility has been completed. Ten percent of the facility lands available for review contain 144 archeological sites: 20 either exclusively historic resources or having historic components, and the rest prehistoric sites (primarily Archaic, with some Late Woodland/Mississippian components). No specific project construction is planned for the facility, and no Master Plan with short- or long-term goals has been completed. Although a rather liberal definition of "site" was employed in this reconnaissance survey such that 144 "sites" may not all be eligible for the National Register of Historic Places, there is a significant portion of the facility that appears to retain intact deposits and could thus retain more archeological sites as yet unrecorded. More intensive evaluation of the identified resources needs to be completed for compliance with E. O. 11593 and with Section 110 of the NHPA. Management recommendations include on-site inspections of known resources, test investigations of a sample of known sites to evaluate National Register eligibility, more intensive evaluation of paleoenvironmental factors for use in predicting prehistoric site locations, and geomorphological studies are estimated to cost between $300,900 and $330,500 in 1984 dollars.

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MANAGEMENT SUMMARY

As a manager of public lands, the Newport Army Ammunition Plant (AAP) has responsibilities for the management of the natural and cultural resources held on those lands. This report is an assessment of the prehistoric and historic archeological resources retained on the AAP, and a general set of recommendations for the future management of those cultural resources.

One archeological sample survey has been conducted on the Newport AAP to date, by Ball State University in 1981 (Reseigh 1982). Using a very liberal definition of an archeological resource, 144 "sites" were located and documented during this project. Twenty of these were either historic or had historic components. Of the remaining, Archaic sites were most frequent, with Late Woodland/Mississippian also occurring. The historic resources all date to the American Tradition and consist of farmsteads, cemeteries, churches, and schools, while the prehistoric resources probably pertain to hunting, gathering, and later cultivating loci. A major value of all these resources lies with scientific researchers. Aspects of these resources of particular interest to historic archeologists are (1) the placement of farmsteads with respect to environmental resources, (2) the layout of farmsteads, and (3) the location of and plan of public buildings and cemeteries. Prehistoric research interests include (1) the determining factors in site location, (2) the effects of the Hypsithermal, (3) the utilization of natural resources, and (4) the later dependence on cultivated foods.

No construction is planned for the Newport AAP in the near future, and no facility Master Plan exists. In order to more reliably characterize the archeological resource on the facility, both for legal compliance and for general AAP planning, a more intensive review of those sites identified by the first survey needs to be completed. Sites identified as "potential" historic archeological resources (Table 4-4) need field review and evaluation. Finally, reliable resource base characterization would benefit from the completion of additional natural resource (botanical and geomorphological, especially) analysis and some additional archeological sample survey to enlarge the survey coverage. The additional natural analysis recommended here would involve an examination of early land survey records and soil surveys. These services have been scoped, with costs estimated to total $300,900 to $330,500 in 1984 dollars.

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Final report preparation, including graphics, has been completed by Woodward-Clyde Consultants, with editorial review (particularly of management recommendations) and text preparation completed by Dr. Ruthann Knudson, Ms. Betty Schmucker, and Mr. Charles McNutt.

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FOREWORD

As a federal agency with large public land holdings, the U. S. Army is responsible for the stewardship of a variety of natural and cultural resources that are part of its installations' landscapes. The Army's Materiel Development and Readiness Command (DARCOM) presently manages a nationwide network of 65 installations and 101 subinstallations and separate units, which range in size from one acre to over one million acres. As part of its programs of environmental and property management, DARCOM has requested that the U. S. Department of the Interior's National Park Service (NPS) provide technical guidance to develop programs for managing installation cultural resources.

NPS is thus conducting the DARCOM Historical/Archeological Survey (DHAS), which has two major disciplinary elements. The architectural review and planning function is being directed by the Service's Historic American Buildings Survey (HABS), while the prehistoric and historic archeological resource assessment and planning function is the responsibility of the Service's Interagency Resource Division (IRD). IRD has contracted with Woodward-Clyde Consultants (WCC) for the development of guidelines for the DARCOM archeological management planning effort, and for the completion of over 40 overviews and plans throughout the central United States. WCC has in turn subcontracted the technical studies to several regional subcontractors, with final editorial review of reports and preparation of text and illustrations handled by WCC.

This overview and recommended management plan for the archeological resources of the Newport Army Ammunition Plant was prepared by the Center for American Archeology, Kampsville, Illinois, under subcontract to WCC. It follows the guidance of "A Work Plan for the Development of Archeological Overviews and Management Plans for Selected U. S. Department of the Army DARCOM Facilities," prepared by Ruthann Knudson, David J. Fee, and Steven E. James as Report No. 1 under the WCC DARCOM contract. A complete list of DHAS project reports is available from the National Park Service, Washington, DC.

The DHAS program marks a significant threshhold in American cultural resource management. It provides guidance that is nationally applicable, is appropriately directed to meeting DARCOM resource management needs within the context of the Army's military mission, and is developed in complement to state and regional preservation protection planning (the RP3

process, through State Historic Preservation Offices). All of us participating in this effort, particularly in the development of this report, are pleased to have had this opportunity. Woodward-Clyde Consultants appreciates the technical and contractual guidance provided by the National Park Service in this effort, from the Atlanta and Washington DC, offices and also from other specialists in NPS regional offices in Philadelphia, Denver, and San Francisco.

Woodward-Clyde Consultants

Ruthann Knudson

1.0
INTRODUCTION

The following report is an overview of and recommended management plan for the prehistoric and historic archeological resources that are presently known or likely to occur on the Newport Army Ammunition Plant in Vermillion County, Indiana (Figure 1-1). This facility is an installation of the U. S. Department of the Army DARCOM (Materiel Development and Readiness Command), which has responsibilities for the stewardship of the cultural resources that are located on it. The assessments and recommendations reported here are part of a larger command-wide cultural resource management program (the DARCOM Historical/Archeological Survey, or DHAS), which is being conducted for DARCOM by the U. S. Department of the Interior's National Park Service (NPS). The following is that portion of the facility-specific survey that is focused on the prehistoric and historic resource base of the Newport Army Ammunition Plant (AAP), and was developed in accordance with the Level B requirements as set forth in the archeological project Work Plan (Knudson, Fee, and James 1983). A companion historic architectural study is in preparation by NPS's Historic American Building Survey (HABS), but is not yet available (William Brenner, personal communication 1983).

This chapter introduces the Newport AAP archeological overview and management planning effort. Federal regulations requiring such work and effort are briefly summarized. Also included are brief introductions to the Newport facility, the previous archeological work there, and the sociocultural context of the archeological resources that merit management consideration.

1.1 PURPOSE AND NEED

A corpus of Federal laws and regulations mandate cultural resources management on DARCOM facilities. Briefly these are:

- The National Historic Preservation Act of 1966 as amended (80 Stat. 915, 94 Stat. 2987; 16 USC 470), with requirements to,
  - inventory, evaluate, and where appropriate nominate to the National Register of Historic Places all archeological properties under agency ownership or control (Sec. 110(a)(2))
  - prior to the approval of any ground-disturbing undertaking, take into account the project's effect on any National Register-listed or eligible property; afford the Advisory

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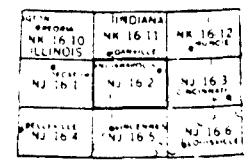

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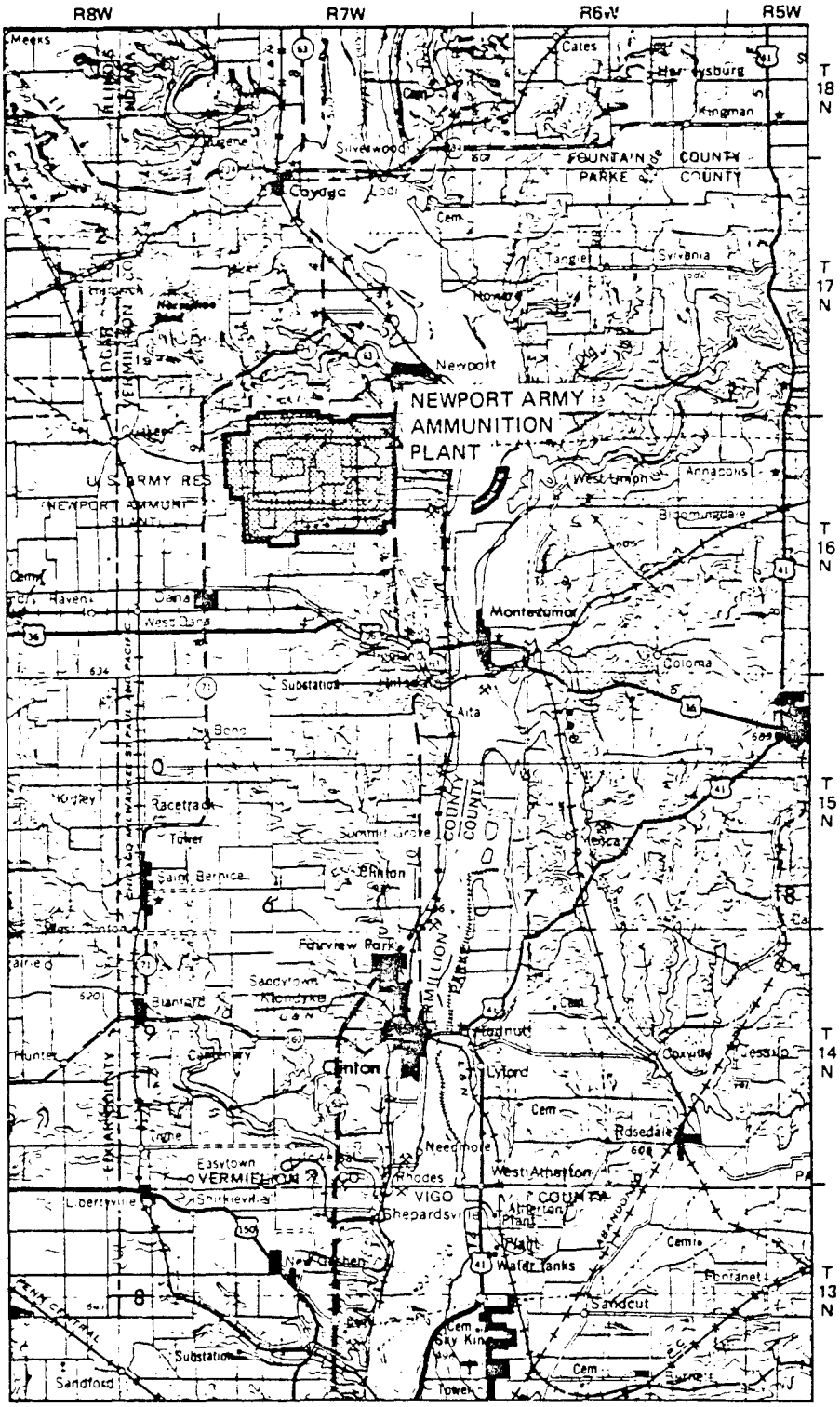

Note: Base map is the Indianapolis, IN-IL, 1:250,000 topographic sheet(1953, revised 1974)

Figure 1-1. MAP OF THE GENERAL VICINITY OF THE NEWPORT ARMY AMMUNITION PLANT

Council on Historic Preservation a reasonable opportunity to comment on the proposed project (Sec. 106)

- complete an appropriate data recovery program on an eligible or listed National Register archeological site prior to its being heavily damaged or destroyed (Sec. 110(b), as reported by the House Committee on Interior and Insular Affairs [96th Congress, 2nd Session, House Report No. 96-1457, p. 36-37])

- Executive Order 11593 (36 FR 8921), whose requirements for inventory, evaluation, and nomination, and for the recovery of property information before site demolition, are codified in the 1980 amended National Historic Preservation Act

- The Archeological and Historic Preservation Act of 1974 (88 Stat. 174, 16 USC 469), which requires that notice of an agency project that will destroy a significant archeological site be provided to the Secretary of the Interior; either the Secretary or the notifying agency may support survey or data recovery programs to preserve the resource's information values

- The Archeological Resources Protection Act of 1979 (93 Stat. 721, 16 USC 470aa; this supersedes the Antiquities Act of 1906 [93 Stat. 225, 16 USC 432-43]), with provisions that effectively mean that

  - The Secretary of the Army may issue excavation permits for archeological resources on DARCOM lands (Sec. 4)

  - No one can damage an archeological resource on DARCOM lands without a permit, or suffer criminal (Sec. 6) or civil penalties (Sec. 7)

- 36 CFR 800, "Protection of Historic and Cultural Properties" (44 FR 6068, as amended in May 1982); these regulations from the Advisory Council on Historic Preservation set forth procedures for compliance with Section 106 of the National Historic Preservation Act

- Regulations from the Department of the Interior determining site eligibility for the National Register of Historic Places (36 CFR 60, 36 CFR 63), and standards for data recovery (proposed 36 CFR 66)

- United States Department of the Army procedures and standards for the preservation of historic properties (32 CFR 650.181-650.193; Technical Manual 5-801-1; Technical Note 78-17; Army Regulation 420); and procedures for implementing the Archaeological Resources Protection Act (32 CFR 229).

These procedures should be integrated with planning and management to insure continuous compliance during operations and management at each facility. This can best be achieved by an understanding of the procedures implied by the regulations and an awareness of the cultural resources potential at each facility.

1.2 THE NEWPORT ARMY AMMUNITION PLANT

The 6990 acre (2829 ha) Newport Army Ammunition Plant is located in Vermillion County, 2 miles (3.2 km) south of Newport, Indiana and 30 miles (48.3 km) north of Terre Haute, Indiana (Figures 1-1, 1-2, 1-3, 1-4). Originally commissioned February 5, 1942, as a military reservation, the facility was redesignated the Newport Army Ammunition Plant, effective July 1, 1964. Under this commission, the ammunition plant operates and maintains active or standby facilities in support of current operations from the Department of the Army including maintenance and storage of necessary supplies, preparedness and emergency mobilization planning, and procurement and production. The majority of the more than 300 facility-related structures are in areas 4, 12, and 18 of Figure 1-3. Limited access areas, however, are scattered throughout. Intervening areas consist of agricultural pasture lands and woodlands.

1.3 SUMMARY OF PREVIOUS ARCHEOLOGICAL WORK

Only one substantial survey for archeological resources has been conducted on the Newport AAP (Reseigh 1982). In 1981, the Archeological Resources Management Service of Ball State University under contract to Uniroyal, Inc., carried out a literature background search to document historic resources on the AAP. Additionally, a reconnaissance level survey of a 10.8 percent stratified random sample of 5800 acres (2347 ha) was completed to locate both historic and prehistoric resources. This survey was designed to develop a data base to be utilized in predicting the distribution, type, and potential significance of archeological resources. Approximately 1190 acres (482 ha) were excluded from archeological reconnaissance at that time because of inaccessibility, that is, roadways, building sites, security zones and other areas impacted from modern construction were excluded from the sample. Stratified by four physiographic zones, 144 sites with an associated 729 artifacts were identified. The 460 cultivated acres (186 ha) were inspected by walkover surveys at 10 meter intervals, while the 170 uncultivated acres (69 ha) were shovel tested every 10 meters. Slopes greater than 25 percent were not tested. In this survey, a very liberal definition of a "site" was employed. Isolated artifacts or an extremely small number of artifacts were given individual site survey numbers. Thus, they were treated as specific loci of archeological resources. Use of a more restricted site definition would result in a reduced number of sites, but not a reduction in the size, type, and quality of the known archeological resources. No subsurface testing other than shovel turns was undertaken as part of the survey program, or has been conducted to date.

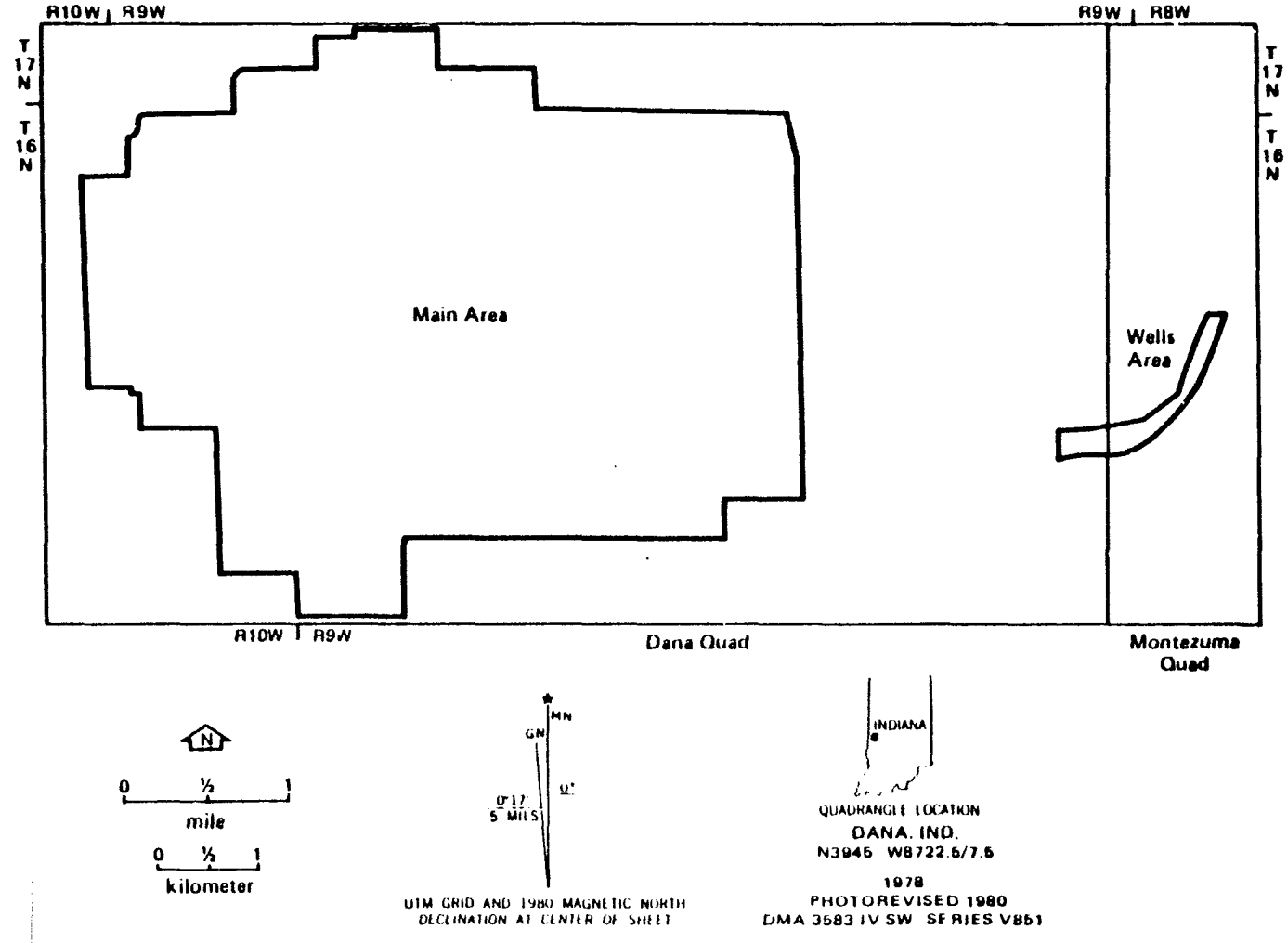

Figure 1-2. MASTER BASE MAP OF THE NEWPORT ARMY AMMUNITION PLANT

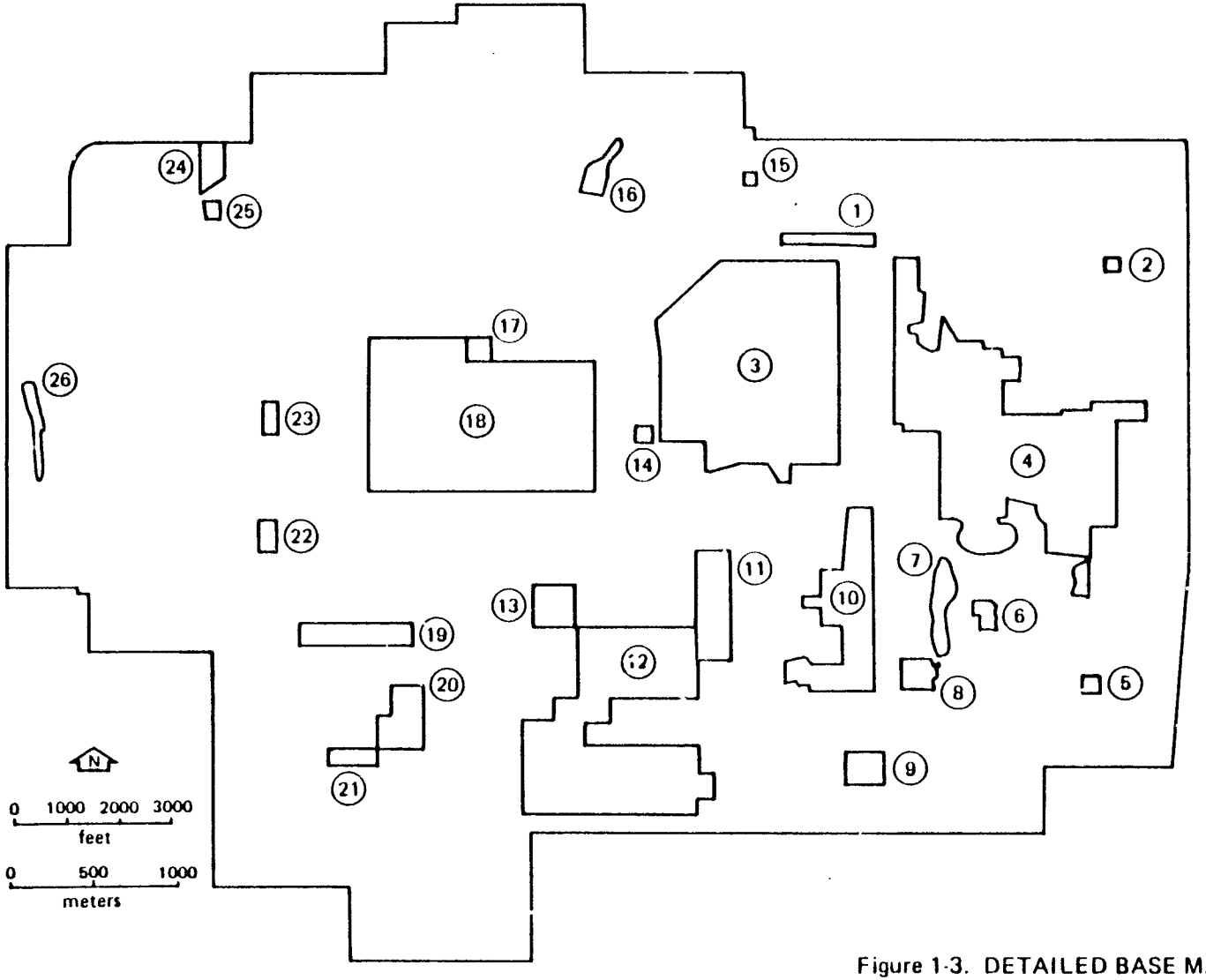

Figure 1-3. DETAILED BASE MAP OF THE NEWPORT ARMY AMMUNITION PLANT, MAIN AREA

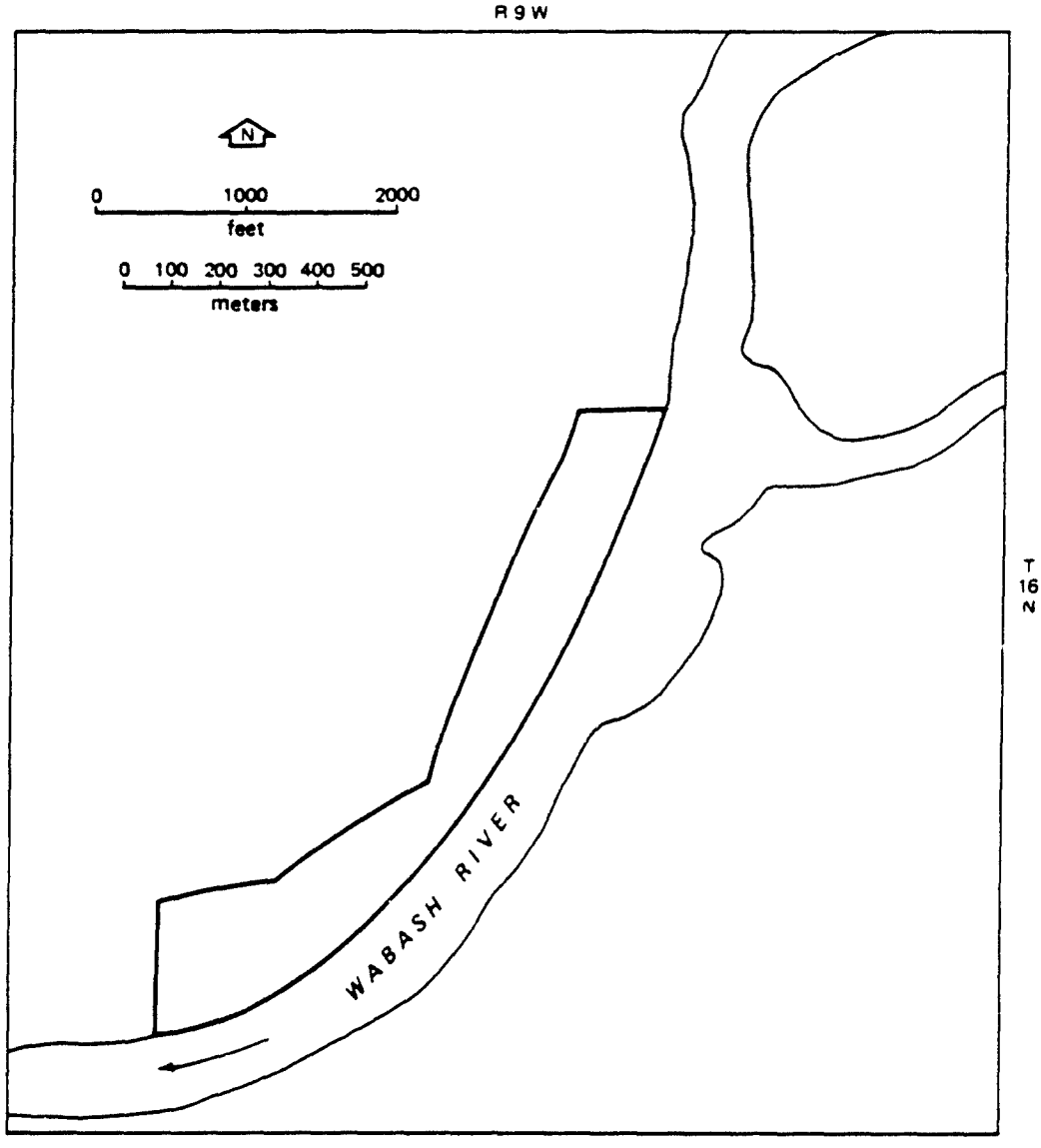

Figure 1-4. DETAILED BASE MAP OF THE NEWPORT ARMY AMMUNITION PLANT, WELLS AREA

The only other archeological investigations conducted on the facility consisted of an undocumented record of a site location in 1976 (Reseigh 1982:23). No report of this site was filed with either the Indiana Archeological Survey or the Department of the Army.

1.4 THE SOCIOCULTURAL CONTEXT OF THE ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

The amount and type of known and potential archeological resources on the Newport AAP will be discussed in detail in Sections 4.0 and 5.0. However, the sociocultural context of these resources can be addressed here. Both prehistoric and historic resources will be considered in turn.

The major value of the prehistoric archeological resources on the facility lies with scientific researchers. Recently, however, the Miami Indians' Northern Indiana Council and American Indians Against Desecration have shown interest in the disposition of Indians remains from archeological sites. The predominant time period represented in the presently identified prehistoric archeological record is the Archaic, dating approximately between 8000 and 1000 BC. Thus, any ties to modern day groups would be remote. Manifestations of later time periods do exist, but again the ties would be remote because of the westward displacement of Native Americans during the historic period.

This, however, is not the case for the value of these same resources to scientific researchers. Despite sporadic contract archeological investigations in Vermillion County, the study by Ball State University represents the first large scale systematic survey for archeological resources. The goal of the study was to allow for the testing of hypotheses concerning site distribution and artifact assemblages. Toward this end a model was developed regarding prairie and upland forest use. This project has resulted in the identification of a variety of historic and prehistoric archeological resources, which when subjected to more intensive field investigations should enhance our understanding of changing settlement-subsistence patterns.

Insofar as can be determined from historical sources and from the Ball State University (BSU) survey, there are no archeological resources at the Newport facility dating from the historic period that could be of ethnic concern to the Native American community. For the most part, the nineteenth century cultural resources are associated with people of general Euroamerican extraction who followed the westward movement of the frontier into west-central Indiana, where they established a typical rural, agricultural settlement pattern. The majority of them came from earlier settlements to the east in Pennsylvania, New York, Ohio, West Virginia, Kentucky, and other eastern states. Consequently, the nineteenth century cultural resources are most significant to descendants of such Euroamerican pioneers and to persons having a scholarly interest in the nineteenth century settlement and development of the Midwest. The cultural resources dating to the twentieth century developed out of the earlier cultural base and therefore are significant to the same groups.

Aspects of the historic cultural resources that should be of particular interest to scientific researchers are (1) the placement of farmsteads with respect to environmental resources, (2) the layout of typical farmsteads, (3) the location of and plan of public buildings (churches, schools, stores), and (4) location and plan of cemeteries, and style and biographical data on grave markers.

2.0 AN OVERVIEW OF THE CULTURAL AND RELEVANT NATUPAL HISTORY OF THE NEWPORT AAP

A brief discussion of the physical and cultural environments is presented in this chapter. These considerations are important to provide baseline data for the incorporation of known land use, assessments of the cultural and natural environments, and archeological site information to produce effective management. Thus, integration of all these types of data enable the management of all known and potential archeological resources within the facility. Additionally, the archeological research directions pertinent to the region are addressed.

2.1 THE PHYSICAL ENVIRONMENT

The Newport facility is located in the Tipton Till Plains Division of the Central Lowland Province (Kingsbury 1970). Flat to gently rolling topography characterizes this Wisconsin glacial plain. The majority of the facility is on a slightly undulating moraine of the Shelbyville Morainic System, formed about 17,300 BP (Schneider 1966; Yeh 1972; William and Frye 1970). This glacial drift contains chert resources which could have been accessed prehistorically. These types include Attica chert with sources 50 km to the northeast and in glacial gravels, Harrison County chert located in extreme southcentral Indiana, and Liston Creek chert from the upper Wabash and glacial gravels. Relief on the morainic system may reach 30 meters, and is largely due to stream incision. A small segment of the facility is located in the relatively flat Wabash River floodplain. The underlying bedrock consists primarily of sandstone and shale belonging to the Carbondale Group, Pennsylvanian Period, found along what is now the eastern edge of the Illinois Basin structural feature (Gutschick 1966; Kingsbury 1970). Soils of the facility belong to two major upland forest soil associations: 1) the Xenia-Russell-Fincastle association (nearly level to moderate slopes), and 2) the Reesville-Ragsdale-Fincastle association (nearly level to depressional areas). One minor upland prairie soil association also occurs: Sable-Flanagan association soils are developed on broad nearly level uplands. All of the above soils developed in Late Wisconsin loess over till. The major floodplain soil association is the loamy alluvial deposits of the Wabash and other major streams in the county (Robbins and Robards 1978).

2.1.1 Water Resources

Water resources on the facility primarily consist of low order intermittent drainages leading to tributaries of the master stream, the Wabash

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River. The higher order Little Raccoon, Little Vermillion, Jonathan, Buck, and Pheasant creeks are the only perennial streams within the facility boundary. Alluvial chronologies throughout the Midwest indicate fluvial systems have been dynamic throughout the Holocene. Thus, there exists the possibility of burial or modification of archeological sites in the Little Raccoon Creek valley and the Wells Area in the Wabash River floodplain. Presently, the Wabash flowing to the east of the Newport facility is prone to seasonal flooding.

2.1.2 Modern Climate

The Newport facility is located in a temperate zone with a humid, continental climate. The winters are cold and the summers are hot, with mean daily temperatures ranging between 22° and 39° F in January and between 64° and 89° F in July. The average growing season is about 180 days, with a day length of 15 hours on June 22. Normally there are about 5500 heating degree days. Annual precipitation is about 40 inches, including 23 inches of snow (Newman 1966; Lindsey et al. 1961). On the basis of biotemperature, precipitation, and potential evapotranspiration ratio values, Newport lies within the "warm temperate montane moist forest" bioclimatic formation (Sawyer and Lindsey 1963). This is the climatic zone associated with the Prairie Peninsula.

Microclimate determines the distribution of vegetation types within the Newport facility. Microclimate is related to topography and is determined primarily by angle and direction of slope (Cowles 1901). Ravines favor forest growth because they collect moisture and decrease transpiration stress by shading plants and protecting them from the wind. North- and east-facing slopes are most sheltered. Southwest-facing slopes are exposed to prevailing winds, more sunlight, and greater temperature changes. Rough topography also acts as a firebreak, which helps to explain the distribution of prairies on flat uplands in the Prairie Peninsula (Wells 1970) despite the "moist forest" climate.

Small bodies of water such as the Wabash River have a tempering effect of the climate of the area around them; in the winter and spring the temperatures will be lower at night in the floodplain, and in the summer the temperature and humidity is higher in the floodplain (Lindsey et al. 1961:152). The modified climate in the Wabash River Valley allows southern species such as pecan to extend northward into the region.

2.1.3 Plant Resources

The modern distribution of woodlands and cultivated fields on the AAP is mapped in Figure 2-1. The presettlement early nineteenth century vegetation of the Newport facility as reconstructed by Reseigh (1982:36-39) consisted of:

Wabash River Floodplain (2%)
Upland Prairie (29%)
Undissected Upland Forest (36%)
Dissected Upland Forest (33%)

Reseigh mapped these vegetation types by using the U. S. Government Land Surveys, but did not record the species composition of the zones.

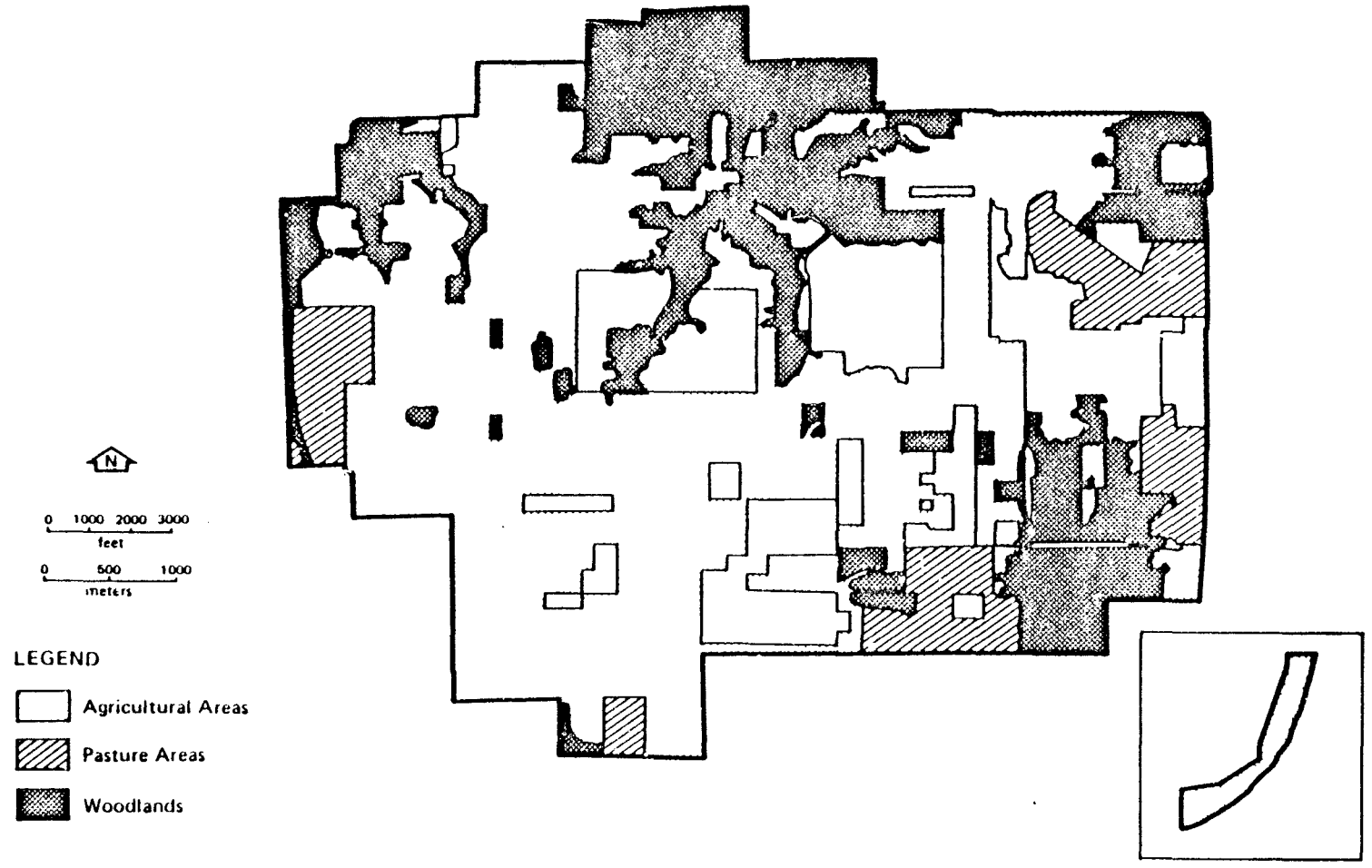

Figure 2-1. MAP OF AGRICULTURAL, PASTURE, AND WOODLAND AREAS ON THE NEWPORT ARMY AMMUNITION PLANT, MAIN AREA, WELLS AREA

The Wabash River floodplain was described as having a mixed hardwood forest growing on well-drained soil that is subject to flooding. Floodplain trees of economic importance could have included pecan, bur oak, swamp white oak, and hackberry (Little 1971).

The upland prairie was nearly level and "generally poorly drained except on small areas with gentle slopes" (Reseigh 1982:39). The upland prairie zone was usually a poor source of plant foods for people. The undissected upland forest zone was "a relatively flat poorly drained area that originally supported a forest cover of water tolerant hardwoods" (Reseigh 1982:39).

The dissected upland forest zone contained sugar maple, beech, ash, hickory, oak, and poplar (Reseigh 1982:39). Potzger and Potzger (1950) have demonstrated that in westcentral Indiana the predominant slope exposure determines which forest type is more abundant. "...Northfacing slopes and moist upland support a modified beech-maple forest. Southfacing slopes and ridgetops are typically occupied by oak-hickory stands" (Potzger, Potzger, and McCormick 1956). The dissected upland forest zone had a large number of economically important nut-bearing species.

An important factor in evaluating economic potential is determining the openness of the forest, which can be estimated from the early land survey records. "Open grown trees or trees at the forest margin... produce mast at many times the rate of interior forest trees" (Asch and Asch 1978:316). According to Potzger, Potzger, and McCormick (1956:99), oak savannah did not occur in the study area at the time of the land surveys. However, since this area is at the edge of the Prairie Peninsula, it is possible that a more open type of forest may have displaced the beech-maple during the Hypsithermal. Since nuts are a major source of food for humans and for many animals, the relative percentages of beech-maple (low mast) versus oak-hickory (high mast) is an especially important factor in evaluating the resource potential of the study area. Archeological wood charcoal analyses could be used in future studies to determine changes in forest composition through time.

2.1.4. Animal Resources

The historic distribution of animal resources is related to the location of plant and water resources. The most economically important fauna (adapted from Munson 1980) available from the various zones would have been:

Wabash River
- fish (*Ictalurus* spp. [catfish], *Aplodinotus grunniens* [drum], *Ictiobus* spp. [buffalo], *Ictalurus* spp. [bullheads, suckers])
- mussels
- water fowl
- turtles
- beaver (*Castor canadensis*)
- muskrat (*Ondatra zibethicus*)

Floodplain forest, upland forest, and forest edge

deer (Odocoileus virginianus)
elk (Cervus canadensis)
raccoon (Procyon lotor)
turkey (Meleagris gallopavo)
bear (Ursus americanus)
woodchuck (Marmota monax)
opossum (Didelphis virginiana
squirrel (Citellus spp.)

Prairie
prairie chicken (Tympanuchus cupido)
bison (after AD 1500) (Bison bison)

2.1.5 Paleoenvironment

In the Midwest, the spruce-dominated boreal forests of the Late Pleistocene began to be replaced about 12,000 years ago by cool temperate deciduous forest. As climatic warming continued, presumably with increased dryness, the mixed hardwood forest was replaced by oak and oak savanna, and then by prairie. A summary of the regional paleoenvironment is presented in Table 2-1.

H. E. Wright (1976:590) contends that the gradual trends shown in most midwestern pollen profiles do not support the subdivision of Holocene climate into numerous dry and moist phases. Moreover, the pollen-zone boundaries are time-transgressive in different regions.

The Holocene climatic change of greatest magnitude -- the warm, dry Hypsithermal interval of the mid-Holocene -- was responsible for the maximum extension of the Prairie Peninsula eastward. The Newport area would have been sensitive to this prairie expansion because it is presently located at the boundary between the Prairie Peninsula to the west and the beech-maple forest to the east. It is also near the distributional limit of several northern and southern species.

At Chatsworth Bog 120 km northwest of the Newport facility, prairie was established at 8300 BP (King 1981). Under the time-transgressive model, the replacement of upland forests by prairie at Newport should have occurred slightly later. Once the prairie was established at Chatsworth, the area remained a nearly treeless plain up to the present. In the Newport area adjacent to the Wabash Valley, the dissection of the landscape would have provided a refugium for forests (Wells 1970:211) during the Hypsithermal interval.

Near its eastern margin, the Prairie Peninsula may never have penetrated far beyond its historically recorded limits. This is implied by the pollen record from Volo Bog in the Chicago area (King 1981). East of Newport, the Silver Springs pollen record in Ohio (Ogden 1965) indicates that the continuous prairie never extended as far to the east as once was postulated. In fact, as the prairie was being established at Chatsworth, the Silver Springs pollen records no increase in grass pollen or weedy

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Table 2-1. POLLEN INTERPRETATIONS USED IN RECONSTRUCTING THE ENVIRONMENTAL HISTORY OF THE AREA OF THE NEWPORT AAP

King 1981 Chatsworth Bog, East-central Illinois (120 km NW of AAP)		King 1981 Volo Bog, Northeastern Illinois (756 km NW of AAP)		Ogden 1981 Silver Lake, Central Ohio (394 km E of AAP)	
Date	Inferred Climate, Vegetation	Date	Inferred Climate, Vegetation	Date	Inferred Climate, Vegetation
8,300 BP-Present	Climate relatively stable; expansion of prairie onto dry uplands; forest cover in lowlands and river valleys	400 BP-Present	Climate similar to present	1,300 BP-Present	Cooler/moister climate; increase in beech pollen; rich mesophytic forest
		900-400 BP	Cooler (or more mesic) climate; increase in birch trees	3,600-1,300 BP	Climate warmer and/or drier than at present; maximum in hickory pollen, minimum in beech pollen
		7,900-900 BP	Stable, dry climate; open oak forest	9,800-3,600 BP	Moist and warming climate; initial elm, ironwood maximum, then rapidly increasing oak & hickory; maximum beech and walnut at about 5090 BP indicate warm-moist maximum
10,600-8,300 BP	Increasing warmth and dryness; culmination of transition to oak-dominated deciduous forest; elm and ironwood reach a maximum while oak and hickory increase	10,300-7,900 BP	Slowly increasing temperature and decreasing moisture; change from cool temperature or mesic trees to oak-dominated forest	Before 9,800 BP	Late glacial climate; spruce-fir
		10,900-7,900 BP	Slowly increasing temperature and decreasing moisture; pine fir, birch, and ash peak and then decline; elm and oak increase, walnut, dogwood and hackberry appear		
11,600-10,600 BP	Increasing temperature, development of cool temperature deciduous forest with oak, hickory, maple uplands; birch, alder, elm, and ash on low wet areas. Some spruce and fir is still present as ash decreases, alder peaks, and elm and oak increase	11,010-10,900 BP	Late Glacial climate; spruce woodland		
13,800-11,600 BP	Slowly increasing temperature; tundra on uplands, black ash expansion onto wet lowlands. Spruce pollen decreases dramatically				
Before 13,800 BP	Late glacial climate; open spruce woodland and tundra				

Ambrosia; the mesophytic beech-maple pollen contribution is greater than in the post-Hypsithermal record.

General paleoenvironmental reconstructions for the Midwest suggest that a return toward cooler, moister conditions had begun by 4000 BP (Wright 1976). This might be registered at Newport by an increase in the proportion of beech-maple to oak-hickory forest. The opposite vegetational trend to the predicted one is recorded, however, in forests from Ohio to New England between 5000-1500 BP (Wright 1976). Even Chatsworth Bog records higher percentages of grass and ragweed pollen after the Hypsithermal interval, although King (1981) attributes this to local conditions in the maturing bog.

There is pollen evidence for minor vegetational changes during the cooler Neoglacial interval of 900-400 years ago at Volo Bog (King 1981) and at Silver Lake (Ogden 1965). At Newport, the vegetational response would probably have been minor advancement of forest into the prairie and encroachment of beech-maple forest into areas formerly occupied by the oak-hickory association.

2.2 THE CULTURAL ENVIRONMENT

A brief overview of the cultural chronology of the Newport AAP and surrounding region within a radius of approximately 100 miles (160 km) is presented in Table 2-2. Since the majority of the Newport facility consists of both dissected and undissected uplands and only 10 percent has been archeologically surveyed, the probability that presently undocumented prehistoric archeological remains are still to be identified there is high.

The potential exists for the preservation of subsurface structual remains, e.g., pit features, despite surface erosion within the uplands. In areas where surface erosion has exposed the B soil horizon, it is unlikely that cultural middens or shallow subsurface features will remain. Along the floodplain and bluffbase of the Wabash River and Little Raccoon Creek the potential for buried cultural deposits is high due to the aggrading nature of these areas.

Given the predominance of uplands within the region of the Newport AAP and of Early Archaic sites in dissected and undissected upland settings (Winters 1967; Carmichael 1977; Conrad 1981; Klippel and Maddox 1977; Lewis 1977; Hassen et al. 1981) it is expected that the most commonly occurring site on the Newport facility would be Early Archaic sites. Given the very liberal definition of site employed by Reseigh (1982), the actual number of sites of any time period may be misleading; however, the greatest number of dateable projectile points pertain to this time period.

In subsequent time periods up to but not including the Late Woodland, the uplands may not have been the favored physiographic zone. However, known correlations between site locations and physiographic zones are often a result of the amount and kind of available information. Thus, a

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Table 2-2. A SUMMARY OF THE CULTURAL CHRONOLOGY OF THE AREA OF NEWPORT AAP

Cultural Unit					
Tradition	Period or Phase	Date[a]	General Settlement Patterns	General Subsistence Systems	Kinds of Archeological Remains Representative of Period
American	Late Industrial	AD 1920 to present	Small farms consolidated into large farms. Small towns diminish in importance as transportation creates regional centers for marketing and buying goods	Agriculture and livestock raising	Dominance of American-manufactured goods; automatic bottle-machine-made bottles, decal-decorated ceramics, plastic disposable packaging
	Early Industrial	AD 1860 to 1920	New markets for agricultural produce and access to manufactured goods	Agriculture, livestock raising; some gas and oil exploration AD 1880 to 1900	English white ironstone ceramics at beginning of period with American ceramics dominating at the end of this period, clay marbles, semi-automatic mold-blown bottles, canning jars with metal rims and liners, wire nails
	Homestead	AD 1819 to 1860	American settlement in region begins in 1819 with many small farmsteads established. Beginnings of transportation networks and urban centers with steam power industrial development beginning in 1830-40s	Agriculture, livestock raising	Log and post and beam structures during early part of period; by end of period balloon frame being built. English ceramics dominant; pearlware then whitewares; decorations such as handpainted, slipbanded, etc.; hand-forged nails (early) to machine-cut (late), hand-blown glass containers
	Frontier	AD 1787 to 1819	America gains control of region with a slight infiltration of American settlers into region. French traders and settlers still occupy region as well as British traders. Historic Indian groups such as Miami and Kickpoo occupy region	Hunting, gathering, trading, and agriculture	Log and post-and-beam structures; English creamware and pearlware refined wares, hand-wrought nails, hand-blown glass containers, kettle brass
Colonial	European Competition	AD 1717 to 1787	Establishment of first permanent French settlements in Indiana. A shift in settlement pattern in that a number of independent traders establish more permanent trading centers. English penetrate into Ohio River Valley and compete for fur trade. 1763, English control region; Native American tribes continue trade with French and English	Hunting, gathering, trading, and agriculture	French Faience ceramics and English salt-glazed and creamware ceramics, hand-blown bottles, gunflints, metal knives, hand-forged nails, kettle brass, glass beads, trade silver

Table 2-2. A SUMMARY OF THE CULTURAL CHRONOLOGY OF THE AREA OF NEWPORT AAP (continued)

Cultural Unit					
Tradition	Period or Phase	Date[a]	General Settlement Patterns	General Subsistence Systems	Kinds of Archeological Remains Representative of Period
	Early Exploration	AD 1660 to 1717	First Europeans into area were French explorers followed by fur traders and missionaries. Sites left by them would be short-term camps along rivers.	Hunting, gathering, and trading (French)	Small temporary log structures, cache pits, Faience ceramics, hand blown glass containers, glass beads, kettle brass, iron knives, gun parts, and gun-flints (French)
			Native American tribes were the Mascouten and Miami. The Atchat-chakangouen, Kilatika, Pepikokia, Piankashaw, and Wea were all Miami groups, and the Wea lived along the Wabash in the general area of the Newport facility	Corn and bean agriculture, hunting, trading, gathering (Native Americans)	Small villages with house remains, pit features, middens, stone tools French trade goods such as glass beads, brass kettles, steel knives and axes, silver ornaments, guns (Native Americans)
Missis-sippian	Vincennes Culture[b]	AD 900 to 1600	Population increase with permanently occupied settlements acting as socio-political centers for surrounding villages, hamlets, farmsteads and camps	Intensive cultivation of maize, beans, and squash; or cultivation of seed crops and tobacco. Hunting and gathering still practiced	Large sites with community buildings erected on mounds with smaller towns and farmsteads surrounding. Wide variety of artifactual remains including stone pipes, negative painted ceramics, salt pans, chert hoes, shell tempered pottery, and small triangular projectile points
Woodland	Late Albee Complex[b]	AD 400 to 900	Population consolidation occupying small seasonal or base camps, habitation sites, mortuary sites (burial mounds)	Maize cultivation in addition to cultivation of species in earlier times with more intensive exploitation of seeds, aquatics	Diverse ceramic styles, especially cord-wrapped stick, cord-impressed and cord-marked. Smaller projectile points than during early Woodland times. Increase of storage pits from earlier times. Sharp decrease in Hopewell Interaction Sphere items and mortuary related behavior
	Middle	250 BC to AD 400	Population increase with small seasonal or base camps, habitation sites, earthworks, and mortuary-related sites located in full spectrum of ecological zones	Dependence on cultivated plants (starchy and oily seeded species: squash, bottle gourd); hunting (particularly deer); gathering of wild plants; trade in exotic items	Habitation sites with variable number of structures and pit features, large mortuary related sites including mounds, charnel houses, habitation areas. Small seasonally occupied sites dependent on available plant and animal resources. Hopewell Interaction Sphere items, Havana and Hopewell ceramics (e.g., corner-notched and stemmed projectile points)

Table 2-2. A SUMMARY OF THE CULTURAL CHRONOLOGY OF THE AREA OF NEWPORT AAP (concluded)

Cultural Unit					
Tradition	Period or Phase	Date[a]	General Settlement Patterns	General Subsistence Systems	Kinds of Archeological Remains Representative of Period
	Early	1000 to 250 BC	Small seasonal or base camps with possibly increased sedentism; villages; mortuary sites and burial mounds	Hunting and gathering, increased reliance on plant resources	First evidence for ceramic technology; Marion Thick and Black Sand pottery types. Increased evidence for mortuary-related behavior, i.e., burial mounds, exotic trade items
Archaic	Late	2000 to 1000 BC	Small seasonal or base camps with increased exploitation of locally occurring resources, particularly aquatics; shell mounds. Sites located throughout uplands, terraces, and levees. Mortuary-related sites possible in mounds on bluffs bordering river valleys	Hunting of small game animals and gathering; use of nut and aquatic resources in cooler, moister environmental conditions	Lithic scatters with a variety of projectile points; ground stone; general purpose tool kits. Heavy concentrations of artifacts possible in some locations
	Middle	6000 to 2000 BC	Slightly greater population, located in small seasonal or base camps in riverine and forest areas; decreasing mobility	Hunting of small game animals and gathering; increased use of aquatic and nut resources in a warmer dryer environment (Hypsithermal)	Lithic scatters with side-notched points common; ground stone common
	Early	8000 to 6000 BC	Small seasonal or base camps in riverine and forest areas	Hunting of smaller game animals in post-glacial environment; gathering	Lithic scatters with corner-notched and/or stemmed projectile points; increase of ground stone common
Paleo-Indian	12000 BC	12000 to 8000 BC	Low population density located in small seasonal encampments or base camps in uplands and terraces of rivers	Hunting of Pleistocene magafauna and other available game; gathering in cool temperature deciduous forest	Lithic scatters with fluted points, ground stone and general purpose tool kits

[a] Dates compiled from Reseigh 1982, Winters 1967, Munson 1980, Swartz 1981, Kellar 1973.

[b] Winters 1967.

specific physiographic zone or landform frequently is said to be devoid of prehistoric archeological remains simply because no systematic surveys have been conducted in the area. Because of the sporadic archeological survey coverage presently available for the Newport AAP, the possibility remains that later prehistoric components are located within the facility.

In a similar vein to the Early Archaic site locations, Late Woodland and/or Mississippian sites have a high probability of occurrence within the upland region. Rather than small hunting-gathering camps, common in the Early Archaic, sites pertaining to this time period would consist of small farmsteads where cultivated crops would be grown, hunting/gathering camps or small base camps.

Three cultural traditions are recognized within the historic period for the Newport facility region: (1) Historic Native American, (2) Colonial, (3) American. The Historic Native American tradition would be represented archeologically by remains left behind by any of the Native American groups that may have lived in the region between the mid-seventeenth and mid-nineteenth century. The Colonial and American traditions comprise cultural resources attributable to peoples of Euroamerican origins that date, respectively, before and after the American Revolution. The Colonial Tradition is divided into an Early Exploration Period and European Competition period. Within the American Tradition four periods are recognized: Frontier, Homestead, Early Industrial, and Late Industrial (Table 2-2). Newport AAP personnel should also consult the Indiana SHPO for current prehistoric and historic theme studies that may be applicable to their facility.

In sum, the potential for the location of prehistoric and historic archeological resources on the Newport AAP is high, particularly for Early Archaic and Late Woodland or Mississippian time periods and historic American tradition.

2.3 ARCHEOLOGICAL RESEARCH DIRECTIONS

The Indiana State Plan, modeled after the National Park Service's Resource Protection Planning Process (RP3) (Aten 1982) has been partially completed for Indiana. Newport AAP personnel are encouraged to coordinate their efforts with this plan. Central to these archeological regional research concerns is the correlation between site location and utilization of specific physiographic zones, and the effect of paleoenvironmental fluctuations. Besides the effect of post-glacial environments on Archaic hunters and gatherers when spruce dominated boreal forests were replaced by a mixed hardwood forest and later by oak and oak savanna, Middle Archaic inhabitants of the region responded to the effects of the Hypsithermal, a warm, dry interval of the mid-Holocene responsible for the maximum extension of the Prairie Peninsula eastward. Later, around 4000 BP (Wright 1976), cooler-moisture conditions prevailed after the Hypsithermal. These environmental considerations would have played a role in the selection of specific physiographic zones for prehistoric inhabitation. Post-glacial environments would have been conducive for the utilization of the upland regions. Thus Early Archaic

utilization of this landform would be expected to be common. With the increasing effects of the Hypsithermal these areas would be abandoned in favor of river valleys and areas not severely affected by the increasing aridity. With the waning of the Hypsithermal, these upland areas were again more extensively inhabited and Late Archaic and succeeding time periods should be represented.

Traditions succeeding the Archaic, i.e., Woodland and Mississippian, would not have been so severely affected by the paleoenvironment, as by the availability of natural resources within specific physiographic zones and increasing population density, territoriality and horticulture. Given the increased utilization of wild plant resources, particularly seeds, and aquatic resources, along with small game, sites were located in various physiographic zones to complement each other on a seasonal basis. With the dependence on horticulture, first domestication of oily seed plants and later, corn, beans and squash, "more" sedentary habitations would result. However, utilization of the natural environment with a calculated dependence on various physiographic zones would also occur.

Given the variety of landforms represented on the Newport facility, i.e., dissected and undissected uplands (forested and prairie) and floodplain (forested and prairie), this area could be a natural testing ground for the examination of site location correlations to physiographic zone and paleoenvironment. The most commonly occurring time period represented within this type of setting is the earlier and later Archaic in upland situations with the Middle Archaic less common (Hassen et al. 1981; Winters 1967; Carmichael 1977; Conrad 1981; Klippel and Maddox 1977; Lewis 1977). Early and Middle Woodland archeological manifestations within the area are not common (Winters 1967) but Late Woodland/ Mississippian sites are (Winters 1967). Given the diversity of environments represented on the Newport facility, prehistoric archeological research concerns within the region and on the installation itself are likely to center on the correlation between site location and physiographic zone, including soil types, vegetation reconstructions, availability of water resources, aspect and slope.

Historic archeological research is not well developed in the vicinity of the Newport AAP, but is an important potential scientific concern. State historic planning theme studies focusing on various aspects of historic economics may be addressed with Newport AAP historic archeological resources. Little documentation of every-day frontier and/or early farming life in Indiana and the Ohio Valley is available, and there are several significant questions that may be addressed with relatively undisturbed sites such as may be retained within the study area. Newport AAP personnel should contact the Indiana SHPO for specific historic themes applicable to their facility.

3.0 AN ASSESSMENT OF ARCHEOLOGICAL RESOURCE PRESERVATION AND SURVEY ADEQUACY

In any region environmental and historic constraints may be operative that would limit the amount and kind of archeological site preservation. These are considered in this chapter as they apply to the Newport AAP, along with an assessment of the coverage of previously conducted archeological surveys. Finally, an assessment is made as to the adequacy of data collection, particularly documenting any gaps as they exist.

3.1 ENVIRONMENTAL CONSTRAINTS TO SITE PRESERVATION

Environmental constraints to site preservation are in large measure a matter of landform and/or original site depositional environment. Thus, it is useful to divide the Newport facility into distinct physiographic zones, i.e., floodplain, undissected uplands, dissected uplands when discussing such constraints

In the floodplain, subsurface cultural materials may exist as remnants of prehistoric occupations of the area prior to more recent aggradation of the valley deposits. However, before the construction of the levee that area was probably impacted periodically by seasonal flooding. This is especially true along the floodplain of the Wabash River near the confluence of Sugar Creek. If the Wabash River has been stable through time, buried archeological sites could still be intact. If the course of the river has changed significantly, the potential for the existence of archeological materials in the floodplain would be reduced.

The upland region as a whole probably has been impacted by both deforestation and plowing. Thus, the potential for disturbance of the ground surface or even upper 3 feet (1 m) of deposits is possible. In the dissected uplands where the B soil horizon is exposed, few archeological resources are likely to remain.

3.2 HISTORIC AND RECENT LAND USE PATTERNS

Human activity on facility property during the Historic period, prior to the establishment of the facility itself, undoubtedly impacted earlier cultural resources. Excavations for basements and foundations of farm buildings, churches, schoolhouses, and other historic structures (as well as excavations of graves in cemeteries) would have disturbed any earlier archeological remains at those locations. Because places favored by Euroamericans for habitation frequently also were favored by Native Americans for similar reasons, there is a strong probability that a substantial number of farmsteads were established at places where prehistoric

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cultural resources were already present. Fourteen of the twenty historic components recorded by Reseigh (1982) also produced surface indication of one or more prehistoric components. Because nineteenth century farmsteads represent the earliest known historical sites in the facility area, there is virtually no possibility they could have impacted any earlier cultural resources from the historic period. It is possible, however, that some construction or other improvement of farmsteads in the twentieth century could have impacted archeological remains dating from the nineteenth century. Of course, human activity during prehistoric times undoubtedly impacted earlier prehistoric cultural resources at those same favored habitation sites.

Throughout the Newport facility, a total of 1283 acres (519 ha) or 18 percent has been directly impacted by some sort of ground disturbance. Table 3-1 and Figures 3-1 and 3-2 present a summary of the major areas of ground disturbance, along with their associated area, ratio of disturbed to total area, and location. However, the intensity of ground disturbance is not similar for each area of impact. Taking into consideration the highest estimated percentage of ground disturbance area, only 9.9 percent of the entire facility has been impacted by some sort of ground disturbance. These ratios assessed in quartiles are based on the type of disturbance, the concentration of building activity within the ground disturbance area and the function of the area. For example, an area of magazine storage (Figure 3-1, GDA 18) coded as 0-25 percent disturbed does not show continuous and concentrated impact within the area, whereas an area such as a parking lot (GDA 22) coded as 75-100 percent disturbed would show a continuous impact.

On the Newport facility as a whole, based on the above criteria, historic cemeteries, storage areas and sentry stations were coded as having a minimal amount of land disturbance; warehouses and isolated manufacturing plants were coded as having the next in amount of disturbance; sewage treatment plant, administrative areas and the target ranges constitute the next to the highest amount of land disturbance; while railroad lines, manufacturing areas, landfill disposal areas, ash basins, burning and warning grounds, loading docks and van parking areas have impacted the landscape to the highest degree.

The depth of subsurface disturbance varies greatly across the facility. The majority of disturbance is less than six feet (2 m) in depth. The six historic cemeteries, the storage area (GDA 3), the landfill disposal area (GDA 6), the aborted explosives plant (GDA 11), the red water ash basin (GDA 13), and the disposal site (GDA 24) all constitute ground disturbance areas where the depth of subsurface disturbances was approximately six feet (2 m). Only in four areas, i.e., the manufacturing area (GDA 4), the sewage treatment plant (GDA 7), the explosives manufacturing plant (GDA 12) and the U. S. Coast Guard Loran Station (GDA 26), was the depth of disturbance ten feet (3 m) or greater. In these latter four areas, the possibility of intact archeological resources below the modern disturbance is quite remote. It should be noted, however, that the entire ground disturbance area is not necessarily uniformly disturbed to

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Table 3-1. A SUMMARY OF HISTORIC AND MODERN GROUND DISTURBANCE THAT MIGHT LIMIT THE PRESENT ARCHEOLOGICAL RESOURCE BASE ON THE NEWPORT AAP

GDA No[a]	Type of Disturbance	Date Conducted (yr)	Reference[b]	Area Disturbed (acres)	Estimated Depth Below Surface (ft)[c]	Ratio of Disturbed to Total Area (%)	Location of Disturbed Area						Coincidental Sites
							UTM[d]		Legal Reference			USGS Quad Sheet[e]	
							Northing	Easting	Township	Range	Section		
1	Multiple track railroad	1942	ASM[c]	6.98	2	75-100	4,412,350	463,000	16N	9W	5	D780	-
2	Historic cemetery	Pre 1939	ASM	1.15	6	0-25	4,412,175	464,650	16N	9W	4	D780	-
3	Storage area	1942	ASM	273.6	5	0-25	4,411,975 4,411,010 4,411,850	462,910 462,900 462,020	16N	9W	5,8	D780	-
4	Manufacture area	1942	ASM	289.2	3-10	75-100	4,412,200 4,411,200 4,411,200	463,300 464,300 463,500	16N	9W	4,9	D780	-
5	Sentry station	1942	ASM, RPI	2.8	2	0-25	4,409,700	464,600	16N	9W	9	D780	-
6	Landfill disposal	1942	ASM, RPI	3.2	6	75-100	4,410,200	463,800	16N	9W	9	D780	-
7	Sewage treatment plant, railroad	1942	ASM	13.3	6-12	50-75	4,409,900 4,410,450 4,410,300	464,500 463,500 463,600	16N	9W	8,9	D780	-
8	Historic cemetery	1942	ASM	8.3	6	0-25	4,409,800	463,350	16N	9W	9	D780	-
9	Administration and vehicle storage	1942	ASM, RPI	11.0	2	50-75	4,409,250 4,409,250 4,409,100	463,050 463,200 463,050	16N	9W	17	D780	-
10	General purpose warehouse	1942	ASM, RPI	76.0	Surface	25-50	4,409,700 4,409,700 4,410,400	462,600 463,200 463,150	16N	9W	8,17	D780	-
11	Aborted explosives plant	1942	ASM	28.9	5	0-25	4,410,000 4,410,400 4,410,400	462,280 462,200 462,300	16N	9W	8	D780	-
12	Explosives manufacturing plant	1942	ASM, RPI	195.6	20	25-50	4,408,900 4,408,900 4,410,000	461,100 462,200 462,100	16N	9W	7,8 17,18	D780	-

Table 3-1. A SUMMARY OF HISTORIC AND MODERN GROUND DISTURBANCE THAT MIGHT LIMIT THE PRESENT ARCHEOLOGICAL RESOURCE BASE ON THE NEWPORT AAP (continued)

GDA No.[a]	Type of Disturbance	Date Conducted (yr)	Reference[b]	Area Disturbed (acres)	Estimated Depth Below Surface (ft)[c]	Ratio of Disturbed to Total Area (%)	Location of Disturbed Area					USGS Quad Sheet[d]	Coincidental Sites
							UTM (Zone 16)		Legal Reference				
							Northing	Easting	Township	Range	Section		
13	Red water ash basin	1942	ASM	16.5	6	75-100	4,410,050 4,410,300 4,410,050	461,200 461,200 461,300	16N	9W	7	D780	-
14	Historic cemetery	Pre-1939	ASM	1.7	6	0-25	4,411,275	461,900	16N	9W	7	D780	-
15	Historic cemetery	Pre 1939	ASM	.5	6	0-25	4,412,700	462,400	16N	9W	5	D780	-
16	Target range	1942	ASM	5.9	Surface	50-75	4,412,780	461,450	16N	9W	6	D780	-
17	Historic cemetery	Pre 1939	ASM	4.6	6	0-25	4,411,750	460,850	16N	9W	6	D780	-
18	Magazine storage	1942	ASM	274.3	1	0-25	4,410,980 4,410,980 4,411,780	460,200 461,540 460,200	16N	9W	6,7	D780	-
19	Multiple track railroad	1942	ASM	19.7	2	75-100	4,410,000 4,410,000 4,410,020	459,700 460,400 459,700	16N 16N	10W 9W	15 7	D780	-
20	Burning grounds	1942	ASM	22.0	Surface	75-100	4,409,400 4,409,250 4,409,250	460,150 460,150 459,900	16N 16N	9W 10W	18 22	D780	-
21	Explosives ourning ground	1942	ASM	6.5	Surface	75-100	4,409,150	459,750	16N	10W	22	D780	-
22	Parking	1942	ASM	4.1	Surface	75-100	4,410,600	459,600	16N	10W	15	D780	-
23	Loading dock	1942	ASM	4.8	Surface	75-100	4,411,400	459,625	16N	10W	15	D780	-
24	Disposal site	1942	ASM	7.8	6	75-100	4,412,800	459,270	16N	10W	10	D780	-
25	Historic cemetery	Pre-1939	ASM	1.7	6	0-25	4,412,350	459,280	16N	10W	10	D780	-

Table 3-1. A SUMMARY OF HISTORIC AND MODERN GROUND DISTURBANCE THAT MIGHT LIMIT THE PRESENT ARCHEOLOGICAL RESOURCE BASE ON THE NEWPORT AAP (concluded)

GDA No[a]	Type of Disturbance	Date Conducted (yr)	Reference[b]	Area Disturbed (acres)	Estimated Depth Below Surface (ft)[c]	Ratio of Disturbed to Total Area (%)	Location of Disturbed Area						Coincidental Sites
							UTM (Zone 16)		Legal Reference			USGS Quad Sheet[d]	
							Northing	Easting	Township	Range	Section		
26	USCG Loran station	1942	ASM	3.2	1-10	75-100	4,411,120	458,125	16N	10W	16	D780	-

[a] GDA = Ground Disturbance Area; these are cross-referenced to Figure 3-1.

[b] Archeological survey map (ASM) on file at the facility, or information included within the real property inventory (RPI).

[c] Information compiled from personal communication with David Nader at the Newport facility. When depth was quoted as "several feet," ranges were used as minimum and maximum estimates when available information indicated that there was significant variation within any one GDA.

[d] UTM = Universal Transverse Mercator coordinates, Zone 16.

[e] D780 = Dana, IN, 7.5 min. topographic sheet (1978, photorevised 1980).

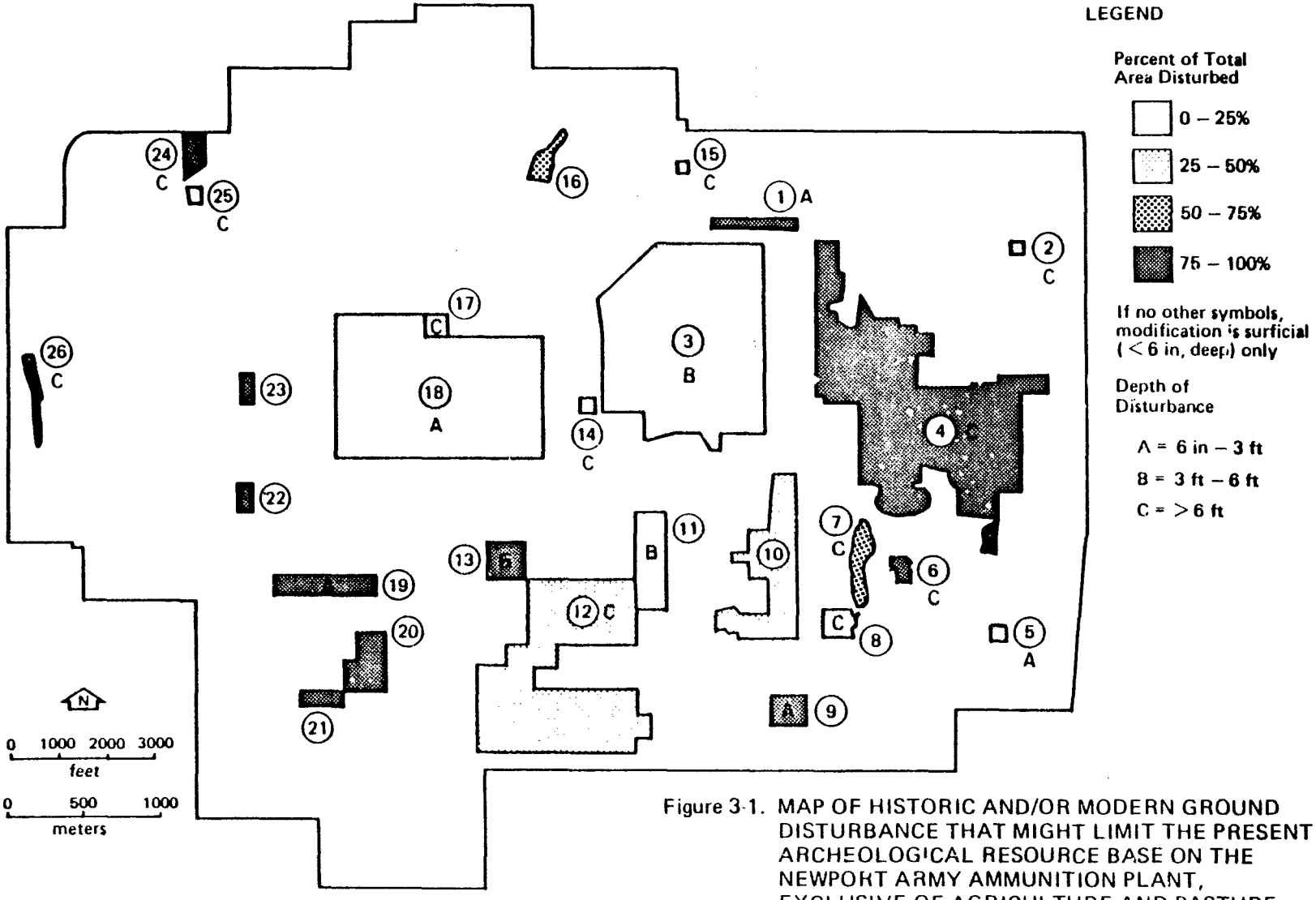

Figure 3-1. MAP OF HISTORIC AND/OR MODERN GROUND DISTURBANCE THAT MIGHT LIMIT THE PRESENT ARCHEOLOGICAL RESOURCE BASE ON THE NEWPORT ARMY AMMUNITION PLANT, EXCLUSIVE OF AGRICULTURE AND PASTURE AREAS, MAIN AREA

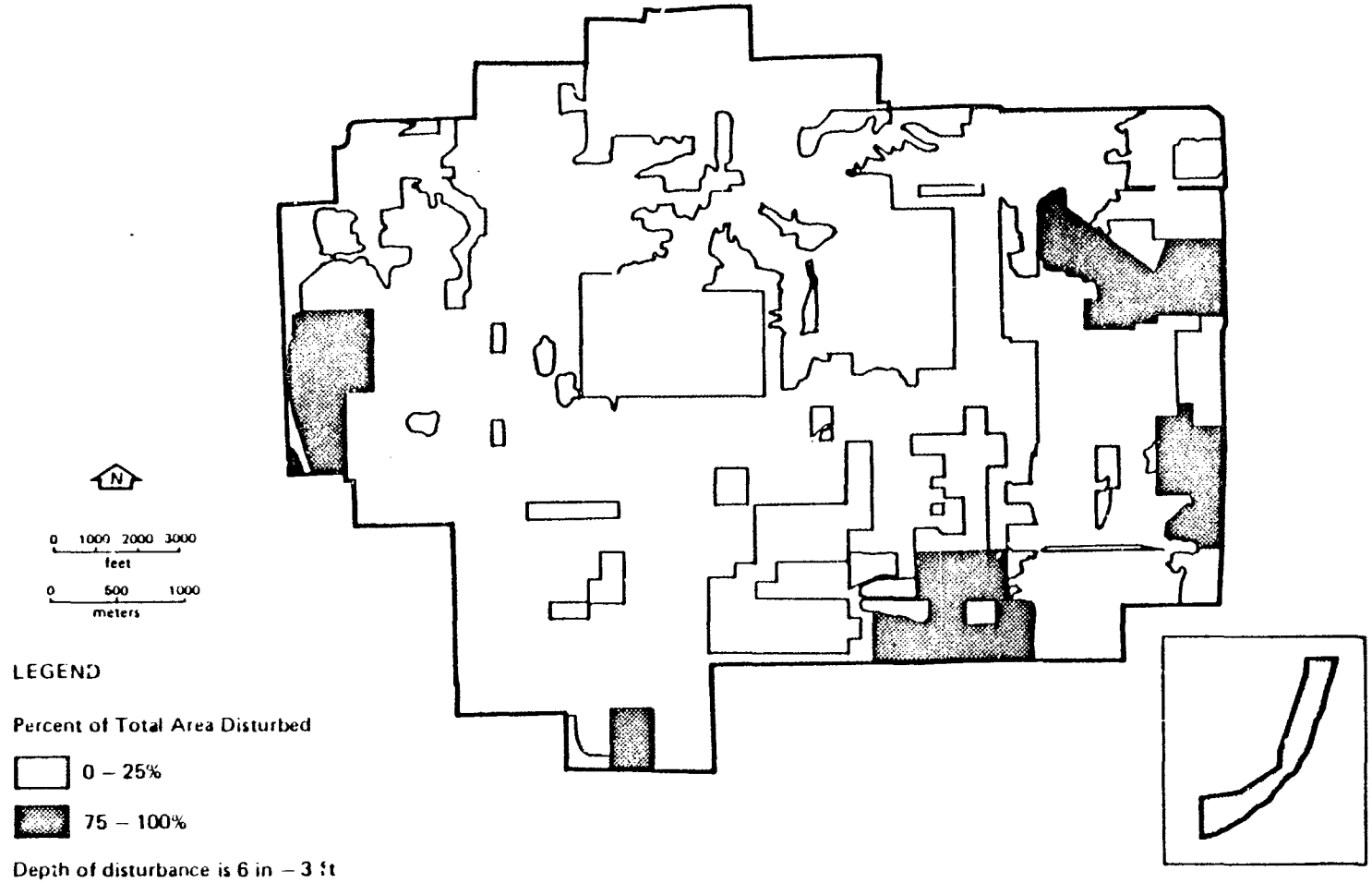

Figure 3-2. MAP OF HISTORIC AND/OR MODERN GROUND DISTURBANCE THAT MIGHT LIMIT THE PRESENT ARCHEOLOGICAL RESOURCE BASE ON THE NEWPORT ARMY AMMUNITION PLANT, AGRICULTURAL AND PASTURE AREAS, MAIN AREA, WELLS AREA

the depth quoted. Landscaping has occurred in all areas of construction, but the effect would have been more lateral than vertical. However, in general, within the Newport AAP, the impact of modern military ground disturbance (i.e., construction, railroads, roads) on the archeological resources has been slight.

3.3 PREVIOUS CULTURAL RESOURCE INVESTIGATIONS: COVERAGE AND INTENSITY

Only one major survey for archeological resources has been conducted on the Newport AAP (Table 3-2, Figures 3-3, 3-4). The 10 percent stratified random sample of 4600 acres (2347 ha) resulted in walk-over surveys conducted at 10-meter intervals on 460 acres (186 ha) of cultivated land and shovel testing every 10 meters on 170 acres (69 ha) of uncultivated land. A total of 1100 acres (445 ha) were excluded from the lands available for archeological survey due to presence of structures and/or roads. Four physiographic zones based on soils, vegetation and relief were used as sampling strata for a total of 620 acres (251 ha): Wabash River floodplain, 50 acres sampled; Upland Prairie, 160 acres (65 ha); Undissected Upland Forest, 170 acres (69 ha); and Dissected Uplands, 240 acres (97 ha). A total of 144 prehistoric and/or historic sites with an associated 526 prehistoric and 203 historic artifacts were recorded during this survey.

The large number of sites recorded on the Newport facility, i.e., one per 4.38 acres (1.77 ha) surveyed, is due in part to the definition of a "site" employed during the archeological survey. Individual artifacts or isolated finds were designated as separate sites, even if only a small distance occurred between the artifacts. Thus, if a more strict definition of site is employed, the actual number of sites recorded would be reduced drastically. However, the total combined area of the sites would not vary. Hence, the area of archeological resources impacted by any activities conducted on the Newport AAP would be the same.

Given that the sampling strategy employed in this survey was stratified by physiographic zones and that in almost all instances the survey conditions permitted 80 to 100 percent visibility, the survey results are adequate to characterize the entire archeological resource base in the cultivated areas of the AAP. Only in portions of Sample Units 1, 82, 107, and 113, which were also cultivated, was ground visibility low. The first three of these were located in dissected uplands, while the latter was in the prairie Since these constitute less than three percent of the total surface area, it is unlikely that poor visibility alters the overall interpretation of the survey results. However, in non-cultivated areas where shovel testing was employed to locate and define sites, the number of archeological resources is probably underestimated.

However, while sample survey results appear to be adequate for characterization of the resource base over the general areas surveyed, subsurface testing was not. Thus, even though the locations of sites are known, the nature of these sites and the extent of their subsurface deposits are not.

Table 3-2. ARCHEOLOGICAL SURVEYS CONDUCTED ON THE NEWPORT AAP

Survey Administration					Survey Location						Artifacts		Survey Characteristics					Identified Archeological Resources	
					UTM		Legal Description												
SHPO Survey No.	Survey Institution, Firm[a]	Survey Date (yr)	Survey Record Repository[a]	Bibliographic Reference	Northing	Easting	Township	Range	Section	USGS Quad Map[b]	Collection Policy	Curatorial Repository[a]	Survey Type, Area[d]	Temporal Coverage[e]	Transect Type, Interval (m.)	Rate (a./person day)[f]	Subsurface Tests	Sites[g]	Isolated Finds, Features
None	BSU	1982	BSU	Reseigh 1982	.....Entire Facility.....					D780 M778	All	BSU	[illegible]	P,H	Parallel, 10	UN	Shovel	144	-

a Ball State University (BSU).

b D780 = Dana, IN, 7.5 min. topographic sheet (1978, revised 1980); M778 = Montezuma, IN, 7.5 min. topographic sheet (1978).

c Collection of entire surface without location mapping (All).

d Intensively reviewed sample of broader area in a linear survey (SA).

e Both prehistoric and historic materials recorded (P,H).

f Unknown (UN).

g As discussed in the text, many of these identified "sites" consist of only a few artifacts, and could be described as "isolated finds."

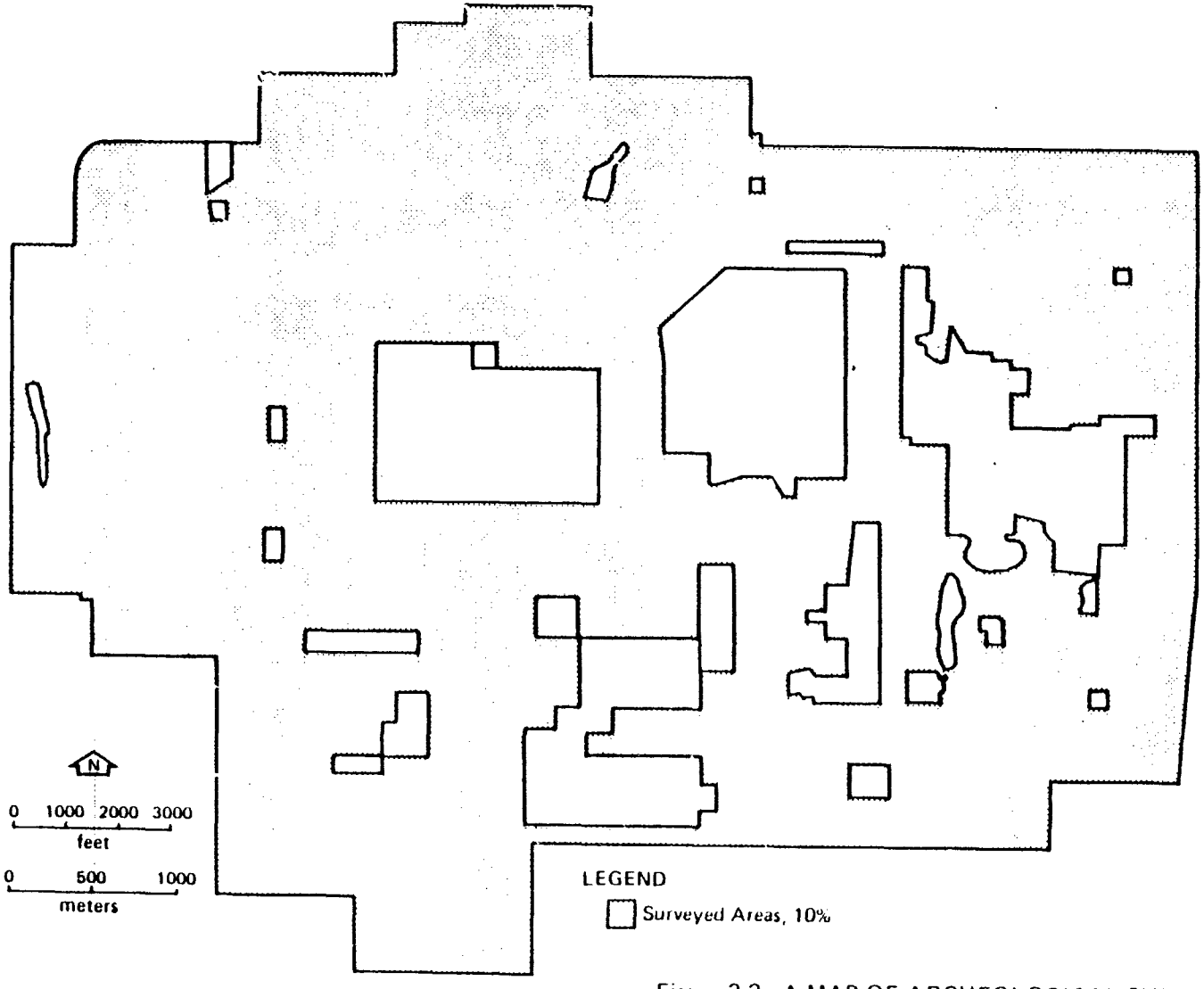

Figure 3-3. A MAP OF ARCHEOLOGICAL SURVEYS CONDUCTED ON THE NEWPORT ARMY AMMUNITION PLANT, MAIN AREA

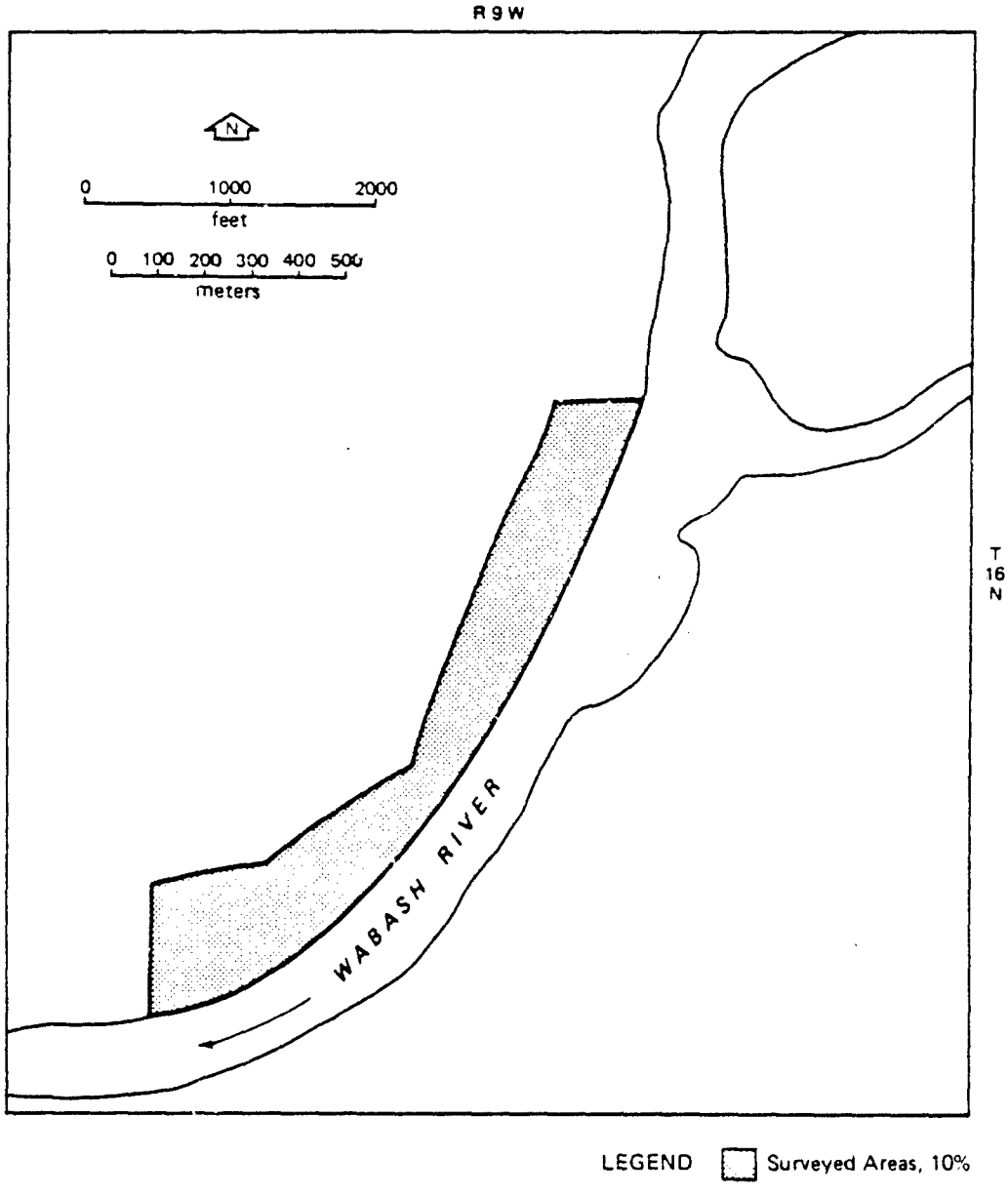

Figure 3-4. A MAP OF ARCHEOLOGICAL SURVEYS CONDUCTED ON THE NEWPORT ARMY AMMUNITION PLANT, WELLS AREA

In conclusion, the survey conducted by Reseigh (1982) on the Newport AAP provided an adequate sample coverage of the cultivated lands surveyed. Since all lands on the facility were not surveyed, the likelihood that other archeological resources remain on the AAP is almost a certainty.

3.4 SUMMARY ASSESSMENT OF DATA ADEQUACY, GAPS

The reconnaissance survey adequately covered the cultivated lands within the survey area. Within this area, a representative sample of archeological resources has probably been identified and recorded. Adequate coverage has probably occurred on the non-cultivated lands where shovel testing was employed. Since the entire facility was not surveyed, the total number of sites on the Newport AAP is unknown. The likelihood that unrecorded archeological resources may be impacted by future construction or other activities in the AAP seems high. For these reasons Newport AAP personnel are encouraged to develop close coordination on future project development with the Indiana SHPO.

4.0

KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

Summaries of the known and potential archeological resources of the Newport AAP are presented in tabular format. Table 4-1 documents the known sites, and Table 4-2 describes those sites' associated chronological components and ascribed functions. Table 4.3 lists the artifactual and documentary evidence presently available from each site. Location data for the known and potential sites are presented in the Appendix (Tables A-1, A-2) and mapped in Figures A-1 through A-4. Table 4-4 is a summary description of locations that are considered to be potential Newport AAP archeological resources; these are mapped historic site locations that have not been field-verified as still-present archeological materials.

As briefly mentioned in Chapter 3.0, in 1981 144 archeological sites were identified on the AAP. Of these, 136 resources were located by transect survey, while the remaining 8 were documented by shovel testing of uncultivated lands. No subsurface testing was done on any of the 136 sites. Consequently, at present there is no information regarding resource depositional context, depth of cultural deposits, and/or ascribed function. The depositional context of these is currently coded as "surface" in Table 4-1, but many of these sites may indeed contain subsurface deposits. Since these categories of information are currently unknown, classificatory schemes of individual sites based on subsistence practices or settlement patterns are not feasible now.

Concomitantly, given that only surface manifestations were stressed in the survey (Reseigh 1982), noticeable disturbance in the 136 transect-located sites was 100 percent. Transect survey was only conducted in cultivated fields. Plowing, therefore, has impacted the entire surface of these sites. In those areas characterized by pasture or woods a determination as to whether these areas had previously been cleared was not possible within the scope of this overview. If these areas were cleared, then shallow subsurface disturbance similar to plowing can be expected. However, if cultural deposits underlie these disturbed zones, they would not be affected. Since the existence of these deposits is currently unknown, an accurate assessment of disturbance cannot be ascertained. Thus, a classification of the sites on the Newport facility on ascribed function or integrity is not possible, due to the lack of studied in situ sites and deposits.

The only classificatory criteria remaining then are chronological indicators. However, given the above constraints on information assessment, the assignment of a temporal unit for individual sites is compounded. The only dating method available for use on the prehistoric sites is

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Table 4-1. PRESENTLY IDENTIFIED ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP: ADMINISTRATIVE DATA

Site Number	Site Recorder[a]	Date of Site Record	SHPO Survey Number	Site Record Repository[a]	Survey Collection Policy[b]	Current Status of Investigation[c]	NRHP Status[d]	State, Local Status	Architectural Association	Bibliographic Reference
12-VE-107	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-108	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-109	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-110	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-111	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-112	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-113	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-114	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-115	BSU	4-27-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-116	BSU	4-29-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-117	BSU	4-29-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-118	BSU	4-29-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-119	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-120	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-121	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-122	BSU	4-25-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-123	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-124	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-125	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-126	BSU	5-03-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-127	BSU	5-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-129	BSU	5-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-130	BSU	5-14-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-131	BSU	5-14-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-132	BSU	5-14-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-133	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-134	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-135	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-136	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-137	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-138	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-139	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-140	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-147	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-148	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-151	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982

Table 4-1. PRESENTLY IDENTIFIED ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP: ADMINISTRATIVE DATA (continued)

Site Number	Site Recorder[a]	Date of Site Record	SHPO Survey Number	Site Record Repository[a]	Survey Collection Policy[b]	Current Status of Investigation[c]	NRHP Status[d]	State, Local Status	Architectural Association	Bibliographic Reference
12-VE-152	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-153	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-154	BSU	5-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-156	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-158	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-159	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-160	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-161	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-162	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-163	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-164	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-168	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-170	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-171	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-172	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-174	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-175	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-177	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-178	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-179	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-181	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-182	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-183	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
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12-VE-192	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-193	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-194	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-195	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-196	BSU	5-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982

Table 4-1. PRESENTLY IDENTIFIED ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP: ADMINISTRATIVE DATA (continued)

Site Number	Site Recorder[a]	Date of Site Record	SHPO Survey Number	Site Record Repository[a]	Survey Collection Policy[b]	Current Status of Investigation[c]	NRHP Status[d]	State, Local Status	Architectural Association	Bibliographic Reference
12-VE-197	BSU	4-17-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-198	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-199	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-200	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-202	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-203	BSU	6-18-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-204	BSU	6-25-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-205	BSU	6-25-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-206	BSU	6-25-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-207	BSU	6-25-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-215	BSU	6-25-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-216	BSU	7-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-217	BSU	7-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-218	BSU	7-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-219	BSU	6-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-220	BSU	7-28-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-221	BSU	7-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-222	BSU	7-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-223	BSU	7-06-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-224	BSU	7-28-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-225	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-226	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-227	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-228	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-229	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-230	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-231	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-232	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-233	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-234	BSU	7-28-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-235	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-236	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-237	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-238	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-239	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-240	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-241	BSU	7-07-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-242	BSU	7-28-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-244	BSU	7-09-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-245	BSU	7-09-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-246	BSU	8-09-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-247	BSU	7-09-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-248	BSU	7-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982

Table 4-1. PRESENTLY IDENTIFIED ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP: ADMINISTRATIVE DATA (concluded)

Site Number	Site Recorder[a]	Date of Site Record	SHPO Survey Number	Site Record Repository[a]	Survey Collection Policy[b]	Current Status of Investigation[c]	NRHP Status[d]	State, Local Status	Architectural Association	Bibliographic Reference
12-VE-249	BSU	7-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-250	BSU	7-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-251	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-252	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-253	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-254	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-255	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-256	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-257	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-258	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-259	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-260	BSU	7-20-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-261	BSU	7-21-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-262	BSU	7-21-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982
12-VE-263	BSU	7-19-82	None	BSU	CS	REF,SCL	INSF	None	None	Reseigh, 1982

[a]Ball State University

[b]CS = Collection of entire surface assemblage without any locational mapping.

[c]REF = Site record filed; SCL = surface collected.

[d]INSF = Insufficient information for assessment.

Table 4-2. PRESENTLY IDENTIFIED ARCHEOLOGICAL COMPONENTS ON THE NEWPORT AAP: DESCRIPTION AND EVALUATION

	Unit Age				Unit Description							Evaluation			
	Date		Temporal Unit						Dimension[g]						
Site Number[a]	DM[b]	Years BC/AD[c]	Tradition	Phase (Period)	Artifacts[d]	Features	Depositional Context[e]	Landform[f]	Area (m^2)	Depth (m)	Ascribed Function	Percent Intact[h]	Value Integrity[i]	RV[j]	CR[k]
107	DS	*AD 1908	American	Historic	HM,G,B,HC	None	Surface	UU	10+	UN	Farmstead	0	LA	NA	1
108a	DS	*AD 1908	American	Historic	None	None	Surface	UU	30+	UN	Farmstead	0	LA	NA	1
108b	UN	UN	UN	UN	None	None	Surface	UU	30+	UN	UN	0	LA	NA	1
109a	DS	*AD 1908	American	Historic	None	None	Surface	UU	1800	UN	Farmstead	0	LA	NA	1
109b	UN	UN	UN	UN	FL	None	Surface	UU	1800	UN	UN	0	LA	NA	1
110a	REL	*AD 1842	American	Historic	HM	None	Surface	UU	75+	UN	UN	0	L	NA	1
110b	UN	UN	UN	UN	FL	None	Surface	UU	75+	UN	UN	0	LA	NA	1
111	UN	UN	UN	UN	FL	None	Surface	UU	3+	UN	UN	0	LA	NA	1
112	REL	8-6000 BC[l]	Archaic	Early	FL	None	Surface	UU	314	UN	UN	0	LMWA	NA	1
113a	REL	*AD 1942	American	Historic	HC	None	Surface	UU	25+	UN	UN	0	L	NA	1
113b	UN	UN	UN	UN	FL	None	Surface	UU	490	UN	UN	0	LA	NA	1
114	REL	8-5000 BC[m]	Archaic	Mid to Late	FL	None	Surface	DU	7	UN	UN	0	LMWA	NA	1
115	UN	UN	UN	UN	FL	None	Surface	DU	1050	UN	UN	0	LA	NA	1
116	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
117	UN	UN	UN	UN	FCR	None	Surface	DF	7	UN	UN	0	LA	NA	1
118	UN	UN	UN	UN	FL,FCR	None	Surface	DF	7	UN	UN	0	LA	NA	1
119	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
120	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
121	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
122	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
123	UN	UN	UN	UN	FL,FCR	None	Surface	DU	7	UN	UN	0	LA	NA	1
124	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
125	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
126	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
127	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
129	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
130	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
131	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
132	UN	UN	UN	UN	FL	None	Surface	DU	7	UN	UN	0	LA	NA	1
133	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
135	UN	UN	UN	UN	FL	None	Surface	DU	40+	UN	UN	0	LA	NA	1
136	UN	UN	UN	UN	FL	None	Surface	DU	40	UN	UN	0	LA	NA	1
137a	REL	*AD 1942	American	Historic	HC,HM	None	Surface	DU	1+	UN	UN	0	L	NA	1
137b	REL	8-6000 BC[n]	Archaic	Early	FL	None	Surface	DU	1+	UN	UN	0	LA	NA	1
138	UN	UN	UN	UN	FL	None	Surface	DU	1590	UN	UN	0	LA	NA	1
139	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
140	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
141	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
142	UN	UN	UN	UN	FL,FCR	None	Surface	DU	20+	UN	UN	0	LA	NA	1
143	UN	UN	UN	UN	FL	None	Surface	DU	5+	UN	UN	0	LA	NA	1
144	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1

Table 4-2. PRESENTLY IDENTIFIED ARCHEOLOGICAL COMPONENTS ON THE NEWPORT AAP: DESCRIPTION AND EVALUATION (Continued)

	Unit Age				Unit Description							Evaluation			
	Date		Temporal Unit						Dimension[g]						
Site Number[a]	DM[b]	Years BC/AD[a]	Tradition	Phase (Period)	Artifacts[d]	Features	Depositional Context[e]	Landform[f]	Area (m^2)	Depth (m)	Ascribed Function	Percent Intact[h]	Value Integrity[i]	RV[j]	CR[k]
146	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
147	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
148	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
149	UN	UN	UN	UN	FL,PC	None	Surface	DU	1	UN	UN	0	LA	NA	1
150	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
151	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
152	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
153	UN	UN	UN	UN	FL	None	Surface	DU	3	UN	UN	0	LA	NA	1
154	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
155a	REL	8-6000 BC	Archaic	Early	FL	None	Surface	DU	1	UN	UN	0	LMWA	NA	1
155b	REL	AD 900-Contact	W/MS[c]	Late Woodland	FL	None	Surface	DU	1	UN	UN	0	LMWA	NA	1
156	UN	UN	UN	UN	FCR	None	Surface	DU	1	UN	UN	0	LA	NA	1
158	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
159	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
160	UN	UN	UN	UN	FL,UB	None	Surface	DU	1	UN	UN	0	LA	NA	1
161	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
162	UN	UN	UN	UN	FL	None	Surface	DU	40+	UN	UN	0	LA	NA	1
163	REL	8-6000 BC	Archaic	Early	FL,FCR	None	Surface	DU	1	UN	UN	0	LMWA	NA	1
164	UN	UN	UN	UN	FL	None	Surface	DU	20+	UN	UN	0	LA	NA	1
165	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
166	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
167	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
168	UN	UN	UN	UN	FL	None	Surface	DU	33+	UN	UN	0	LA	NA	1
169	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
170	REL	9-7000 BC	Paleo-Indian	UN	FL	None	Surface	DU	45+	UN	UN	0	LMWA	NA	1
171	UN	UN	UN	UN	FL,FCR	None	Surface	DU	1	UN	UN	0	LA	NA	1
172	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
173	UN	UN	UN	UN	FL,FCR	None	Surface	DU	20+	UN	UN	0	LA	NA	1
174	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
175	REL	AD 900-Contact	W/MS[c]	Late Woodland	FL	None	Surface	DU	1	Un	UN	0	LMWA	NA	1
177	REL	8-6000 BC	Archaic	Early	FL	None	Surface	DU	1	UN	UN	0	LMWA	NA	1
178	UN	UN	UN	UN	FL	None	Surface	DU	50+	UN	UN	0	LA	NA	1
179	UN	UN	UN	UN	FL	None	Surface	DU	1+	UN	UN	0	LA	NA	1
180	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
181	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
182	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
183	UN	UN	UN	UN	FL,FCR	None	Surface	DU	30+	UN	UN	0	LA	NA	1
184	REL	AD 900-Contact	W/MS[c]	Late Woodland	FL	None	Surface	DU	25+	UN	UN	0	LMWA	NA	1

Table 4-2. PRESENTLY IDENTIFIED ARCHEOLOGICAL COMPONENTS ON THE NEWPORT AAP: DESCRIPTION AND EVALUATION (Continued)

	Unit Age				Unit Description							Evaluation			
	Date		Temporal Unit						Dimension[g]						
Site Number[a]	DN[b]	Years BC/AD[c]	Tradition	Phase (Period)	Artifacts[d]	Features	Depositional Context[e]	Landform[f]	Area (m^2)	Depth (m)	Ascribed Function	Percent Intact[h]	Value Integrity[i]	RV[j]	CR[k]
185	REL	8-6000 BC	Archaic	Early	FL	None	Surface	DU	35+	UN	UN	O	LMWA	NA	1
186a	REL	8-6000 BC	Archaic	Early	FL,GS,FCR	None	Surface	DU	1962	UN	UN	O	LMWA	NA	1
186b	REL	500 BC-AD 500	Woodland	Middle		None	Surface	DU	1962	UN	UN	O	LMWA	NA	1
186	REL	AD 900-Contact	W/MS[r]	Late Woodland		None	Surface	DU	1962	UN	UN	O	LMWA	NA	1
187	UN	UN	UN	UN	FL,FCR	None	Surface	DU	1	UN	UN	O	LA	NA	1
188	UN	UN	UN	UN	FL	None	Surface	DU	25+	UN	UN	O	LA	NA	1
189	REL	8-6000 BC	Archaic	Early	FL	None	Surface	DU	20+	UN	UN	O	LMWA	NA	1
190	REL	7-6000 BC	Archaic	Early	FL	None	Surface	DU	1	UN	UN	O	LMWA	NA	1
191	UN	UN	UN	UN	FL	None	Surface	FP	1	Un	UN	O	LA	NA	1
192	UN	UN	UN	UN	FL	None	Surface	FP	1	UN	UN	O	LA	NA	1
193	REL	*AD 1942	American	Historic	HM	None	Surface	FP	1+	UN	UN	O	L	NA	1
194	UN	UN	UN	UN	FL	None	Surface	FP	1	UN	UN	O	LA	NA	1
195	REL	*AD 1942	American	Historic	G	None	Surface	FP	1+	UN	UN	O	L	NA	1
196	REL	*AD 1942	American	Historic	G	None	Surface	FP	1+	Un	UN	O	L	NA	1
197	REL	*AD 1942	American	Historic	HC,B	None	Surface	UU	25+	UN	UN	UN	L	NA	1
198a	DS,REL	*AD 1942	American	Historic	GB,HC	None	Surface	UU	50+	UN	UN	UN	L	NA	1
198b	UN	UN	UN	UN	FL,FCR	None	Surface	UU	1962	UN	UN	O	LA	NA	1
199	UN	UN	UN	UN	FL	None	Surface	UU	1	UN	UN	O	LA	NA	1
200a	REL	*AD 1942	American	Historic	HM,HC,G,B	None	Surface	P	2220	UN	Farmstead	O	LMWA	NA	1
200b	REL	5000-800 BC	Archaic	Mid-Late	FL,FCR	None	Surface	P	2250	UN	UN	O	LMWA	NA	1
201P	UN	UN	UN	UN	FCR	Unknown	Unknown	UN	UN	UN	UN	O	UN	NA	1
202	UN	UN	UN	UN	FL	None	Surface	P	79	UN	UN	O	LA	NA	1
203	UN	UN	UN	UN	FL	None	Surface	P	79	UN	UN	O	LA	NA	1
204	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	O	LA	NA	1
205	REL	8-6000 BC	Archaic	Early	FL	None	Surface	P	7	UN	UN	O	LMWA	NA	1
206	REL	8-6000 BC	Archaic	Early	FL	None	Surface	P	1	UN	UN	O	LMWA	NA	1
207	UN	UN	UN	UN	Fl	None	Surface	P	1	UN	UN	O	LA	NA	1
215	UN	UN	UN	UN	Fl	None	Surface	P	1	UN	UN	O	LA	NA	1
216	UN	UN	UN	UN	Fl	None	Surface	P	1	UN	UN	O	LA	NA	1
217	UN	UN	UN	UN	Fl	None	Surface	P	1	UN	UN	O	LA	NA	1
218	REL	8-6000 BC	Archaic	Early	FL	None	Surface	P	1	UN	UN	O	LA	NA	1
219	UN	UN	UN	UN	GS	None	Surface	P	1	UN	UN	O	LMWA	NA	1
220	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	O	LA	NA	1
221a	REL	*AD 1942	American	Historic	HC	None	Surface	P	3+	UN	UN	UN	LA	NA	1
221b	UN	UN	UN	UN	GS	None	Surface	P	7	UN	UN	O	LA	NA	1
222a	DS,REL	*AD 1942	American	Historic	S,HC,HM,B	None	Surface	P	55+	UN	UN	O	L	NA	1
222b	UN	UN	UN	UN	FL	None	Surface	P	2375	UN	UN	O	LA	NA	1
223	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	O	LA	NA	1
224	UN	UN	UN	UN	FCR	None	Surface	DU	1	UN	UN	UN	LA	NA	1
225	REL	5000-800 BC	Archaic	Mid-Late	FL	None	Surface	P	1	UN	UN	O	LMWA	NA	1

Table 4-2. PRESENTLY IDENTIFIED ARCHEOLOGICAL COMPONENTS ON THE NEWPORT AAP: DESCRIPTION AND EVALUATION (Continued)

	Unit Age				Unit Description							Evaluation			
	Date		Temporal Unit						Dimension[g]						
Site Number[a]	DH[b]	Years BC/AD[c]	Tradition	Phase (Period)	Artifacts[d]	Features	Depositional Context[e]	Landform[f]	Area (m^2)	Depth (m)	Ascribed Function	Percent Intact[h]	Value Integrity[i]	RV[j]	CR[k]
226	UN	UN	UN	UN	FL	None	Surface	P	13	UN	UN	0		NA	1
227a	REL	*AD 1942	American	Historic	G	None	Surface	P	2+	UN	UN	0	L	NA	1
227b	UN	UN	UN	UN	FL	None	Surface	P	3	UN	UN	0	LA	NA	1
228	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	0	LA	NA	1
229	UN	UN	UN	UN	FL	None	Surface	P	3	UN	UN	0	LA	NA	1
230a	REL	*AD 1942	American	Historic	G	None	Surface	P	50+	UN	UN	0	L	NA	1
230b	UN	UN	UN	UN	FL	None	Surface	P	1963	UN	UN	0	LA	NA	1
231	UN	UN	UN	UN	FL	None	Surface	UU	1	UN	UN	0	LA	NA	1
232	UN	UN	UN	UN	FL	None	Surface	UU	1	UN	UN	0	LA	NA	1
233a	REL	*AD 1942	American	Historic	HC	None	Surface	UU	2+	UN	UN	0	L	NA	1
233b	UN	UN	UN	UN	FL	None	Surface	UU	3	UN	UN	0	LA	NA	1
234	UN	UN	UN	UN	FL	None	Surface	UU	1	UN	UN	0	LA	NA	1
235	UN	UN	UN	UN	FL	None	Surface	UU	1	UN	UN	0	LA	NA	1
236a	REL	*AD 1942	American	Historic	HC,G,B	None	Surface	UU	5+	UN	UN	0	L	NA	1
236b	UN	UN	UN	UN	None	None	Surface	UU	20	UN	UN	0	LA	NA	1
237	UN	UN	UN	UN	FL	None	Surface	UU	3	UN	UN	0	LA	NA	1
238	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	0	LA	NA	1
239	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	0	LA	NA	1
240	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	0	LA	NA	1
241	UN	UN	UN	UN	FL	None	Surface	P	1	UN	UN	0	LA	NA	1
242	REL	*AD 1942	American	Historic	HC	None	Surface	DU	1+	UN	UN	0	L	NA	1
244	REL	*AD 1942	American	Historic	B	None	Surface	UU	22+	UN	UN	0	L	NA	1
245	UN	UN	UN	UN	FL	None	Surface	UU	1	UN	UN	0	LA	NA	1
246	UN	UN	UN	UN	FL	None	Surface	UU	1+	UN	UN	UN	LA	NA	1
247	UN	UN	UN	UN	FL	None	Surface	UU	1+	UN	UN	0	LA	NA	1
248	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	UN	LA	NA	1
249	UN	UN	UN	UN	GS	None	Surface	DU	UN	UN	UN	UN	LA	NA	1
250	UN	UN	UN	UN	FL,FCR	None	Surface	DU	1	UN	UN	UN	LA	NA	1
251	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
252	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
253	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
254	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
255	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
256	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
257	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
258	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
259	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
260	UN	UN	UN	UN	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1
261	UN	UN	UN	UN	FL	None	Unknown	DU	1	UN	UN	UN	LA	NA	1
262	UN	UN	UN	UN	FL	None	Unknown	DU	1	UN	UN	UN	LA	NA	1
263	REL	2000-800 BC	Archaic	Late	FL	None	Surface	DU	1	UN	UN	0	LA	NA	1

Table 4-2. PRESENTLY IDENTIFIED ARCHEOLOGICAL COMPONENTS ON THE NEWPORT AAP: DESCRIPTION AND EVALUATION (Concluded)

[a] All site numbers are preceded by the prefix "12-VE-" indicating that they are located in Vermillion County, Indiana.

[b] Dating methods (DM) include (DS) documentary source; (REL) relative; (UN) unknown.

[c] * = a date preceding that given, e.g., *AD 1908 is "pre-AD 1908".

[d] (HM) historic metal; (G) glass; (B) bricks; (HC) historic ceramics and tile; (FL) flaked lithics; (FCR) fire cracked rock; (PC) prehistoric ceramics; (UB) unworked bone; (GS) groundstone.

[e] Sites contexts indicated as "Surface" only since no subsurface data are presently available for these.

[f] (UU) undissected upland; (DU) dissected upland; (FP) floodplain; (P) upland prairie; (DF) dissected forest.

[g] + = width of surface scatter in one dimension.

[h] Sites with zero percent intact refers to surface integrity where entire area was plowed. Assessment of "unknown" made for pasture and forest because a determination of the amount of past disturbance from deforestation was not possible.

[i] (L) location - ecological setting; (M) materials - exploitation and utilization of natural resources; (W) workmanship - technology - structure and artifactural remains; (A) association - context, culture affiliation. All sites with datable projectile points were coded as "LMWA" because of their potential for greater yield of scientific information. All other prehistoric sites were coded as "LA" because of the identification of an archeological resource in a heretofore relatively unknown archeological area.

[j] RV = research value of the identified resource. All sites coded as "NA" (not applicable) because an evaluation is impossible given the available information.

[k] CR = confidence rating, an evaluation of our judgement of our confidence in evaluating the amount of site remaining, physical integrity and research value, on a scale from least (1) to most (3) confident.

[l] Early Archaic projectile point fragment.

[m] Unclassified corner notched point (Reseigh 1982:77).

[n] Kirk projectile point (Coe 1964:69-780; Broyles 1971:62-63).

[o] Data from site survey forms.

[p] No site survey form available.

[q] Assessment of farmstead made on basis of plat books, not site survey forms.

[r] Woodland/Mississippian.

Table 4-3. PRESENTLY KNOWN ARTIFACT, ECOFACT, OR DOCUMENTARY COLLECTIONS FROM ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

Site Number, Name	Collection Location[a]		Collection Characteristics					
			Artifact[b]		Ecofact		Documentary	
	Curatorial Repository	Accession Number(s)	Brief Description[c]	Size/No.[d]	Brief Description	Size/No.	Brief Description	Size/No.[e]
12-VE-107	BSU	139F	HC,G,HM,B	9	-		Field notes	ND
12-VE-108	BSU	139F	None	None	-		Field notes	ND
12-VE-109	BSU	139F	FL	4	-		Field notes	ND
12-VE-110	BSU	139F	FL	1	-		Field notes, photos	ND
			HM	1				
12-VE-111	BSU	139F	FL	1	-		Field notes	ND
12-VE-112	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-113	BSU	139F	FL	2	-		Field notes, photos	ND
			HC	1				
12-VE-114	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-115	BSU	139F	FL	8	-		Field notes	
12-VE-116	BSU	139F	?	1	-		Field notes, photos	ND
12-VE-117	BSU	139F	FCR	1	-		Field notes	
12-VE-118	BSU	139F	FL	1	-		Field notes, photos	
			FCR	1				
12-VE-119	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-120	BSU	139F	FL	9	-		Field notes, photos	ND
12-VE-121	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-122	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-123	BSU	139F	FL	3	-		Field notes, photos	ND
			FCR	1				
12-VE-124	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-125	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-126	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-127	BSU	139F	FL	5	-		Field notes, photos	ND
12-VE-129	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-130	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-131	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-132	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-133	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-135	BSU	139F	FL	7	-		Field notes, photos	ND
12-VE-136	BSU	139F	FL	5	-		Field notes, photos	ND
12-VE-137	BSU	139F	FL	3	-		Field notes, photos	ND
			HM,HC	2				
12-VE-138	BSU	139F	FL	14	-		Field notes, photos	ND
12-VE-139	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-140	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-141	BSU	139F	FL	1	-		Field notes, photos	ND

Table 4-3. PRESENTLY KNOWN ARTIFACT, ECOFACT, OR DOCUMENTARY COLLECTIONS FROM ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (continued)

Site Number, Name	Collection Location[a]		Collection Characteristics					
			Artifact[b]		Ecofact		Documentary	
	Curatorial Repository	Accession Number(s)	Brief Description[c]	Size/No.[d]	Brief Description	Size/No.	Brief Description	Size/No.[e]
12-VE-142	BSU	139F	FL	4	-		Field notes, photos	ND
12-VE-143	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-144	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-146	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-147	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-148	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-149	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-150	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-151	BSU	139F	FL	1	-		Field notes	ND
12-VE-152	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-153	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-154	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-155	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-156	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-158	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-159	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-160	BSU	139F	FL	7	-		Field notes, photos	ND
12-VE-161	BSU	139F	FL	4	-		Field notes, photos	ND
12-VE-162	BSU	139F	FL	7	-		Field notes, photos	ND
12-VE-163	BSU	139F	FL	16	-		Field notes, photos	ND
			FCR	1				
12-VE-164	BSU	139F	FL	7	-		Field notes, photos	ND
12-VE-165	BSU	139F	FL	3	-		Field notes	ND
12-VE-166	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-167	BSU	139F	FL	4	-		Field notes, photos	ND
12-VE-168	BSU	139F	FL	4	-		Field notes, photos	ND
12-VE-169	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-170	BSU	139F	FL	12	-		Field notes, photos	ND
12-VE-171	BSU	139F	FL	6	-		Field notes	ND
			FCR	1				
12-VE-172	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-173	BSU	139F	FL	6			Field notes	ND
			FCR	1				
12-VE-174	BSU	139F	FL	9	-		Field notes, photos	ND
12-VE-175	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-177	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-178	BSU	139F	FL	8	-		Field notes, photos	ND
12-VE-179	BSU	139F	FL	1	-		Field notes, photos	ND

Table 4-3. PRESENTLY KNOWN ARTIFACT, ECOFACT, OR DOCUMENTARY COLLECTIONS FROM ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (continued)

Site Number, Name	Collection Location[a]		Collection Characteristics					
			Artifact[b]		Ecofact		Documentary	
	Curatorial Repository	Accession Number(s)	Brief Description[c]	Size/No.[d]	Brief Description	Size/No.	Brief Description	Size/No.[e]
12-VE-180	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-181	BSU	139F	FL	4	-		Field notes, photos	ND
12-VE-182	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-183	BSU	139F	FL	16	-		Field notes, photos	ND
12-VE-184	BSU	139F	FL	8	-		Field notes, photos	ND
12-VE-185	BSU	139F	FL	7	-		Field notes, photos	ND
12-VE-186	BSU	139F	FL	36	-		Field notes	ND
			FCR	21				
12-VE-187	BSU	139F	FL	8	-		Field notes	ND
			FCR	2				
12-VE-188	BSU	139F	FL	24	-		Field notes, photos	ND
12-VE-189	BSU	139F	FL	10	-		Field notes, photos	ND
12-VE-190	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-191	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-192	BSU	139F	FL	1	-		Field notes	ND
12-VE-193	BSU	139F	FL	2	-		Field notes	ND
12-VE-194	BSU	139F	FL	1	-		Field notes	ND
12-VE-195	BSU	139F	G	1	-		Field notes	ND
12-VE-196	BSU	139F	G	2	-		Field notes	ND
12-VE-197	BSU	139F	HC,B	8	-		Field notes, photos	ND
12-VE-198	BSU	139F	FL	4	-		Field notes, photos	ND
			FCR	1				
			G,B,HC	32				
12-VE-199	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-200	BSU	139F	FL	62	-		Field notes, photos	ND
			FCR	5				
			G,B,HC	19				
12-BE-201	BSU	139F	FCR	1	-		Field notes, photos	ND
12-VE-202	BSU	139F	FL	2	-		Field notes	ND
12-VE-203	BSU	139F	FL	1	-		Field notes	ND
12-VE-204	BSU	139F	FL	1	-		Field notes	ND
12-VE-205	BSU	139F	FL	3	-		Field notes	ND
12-VE-206	BSU	139F	FL	1	-		Field notes	ND
12-VE-107	BSU	139F	FL	1	-		Field notes	ND
12-VE-215	BSU	139F	FL	5	-		Field notes	ND
12-VE-216	BSU	139F	FL	1	-		Field notes	ND
12-VE-217	BSU	139F	FL	3	-		Field notes	ND
12-VE-218	BSU	139F	FL	1	-		Field notes	ND

Table 4-3. PRESENTLY KNOWN ARTIFACT, ECOFACT, OR DOCUMENTARY COLLECTIONS FROM ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (continued)

Site Number, Name	Collection Location[a]		Collection Characteristics					
			Artifact[b]		Ecofact		Documentary	
	Curatorial Repository	Accession Number(s)	Brief Description[c]	Size/No.[d]	Brief Description	Size/No.	Brief Description	Size/No.[e]
12-VE-219	BSU	139F	FL	1	-		Field notes	ND
12-VE-220	BSU	139F	FL	1	-		Field notes	ND
12-VE-221	BSU	139F	FL	1	-		Field notes	ND
			HC	1				
12-VE-222	BSU	139F	FL	2	-		Field notes	ND
			HM, HC,G,B	55				
12-VE-223	BSU	139F	FL	1	-		Field notes	ND
12-VE-224	BSU	139F	FCR	1	-		Field notes	ND
12-VE-225	BSU	139F	FL	1	-		Field notes	ND
12-VE-226	BSU	139F	FL	2	-		Field notes	ND
12-VE-227	BSU	139F	FL	1	-		Field notes	ND
			G	1				
12-VE-228	BSU	139F	FL	3	-		Field notes, photos	ND
12-VE-229	BSU	139F	FL	2	-		Field notes, photos	ND
12-VE-230	BSU	139F	FL	7	-		Field notes	ND
			G	1				
12-VE-231	BSU	139F	FL	1	-		Field notes, photos	ND
12-VE-232	BSU	139F	FL	1	-		Field notes	ND
12-VE-233	BSU	139F	FL	1	-		Field notes	ND
			HC	1				
12-VE-234	BSU	139F	FL	1	-		Field notes	ND
12-VE-235	BSU	139F	FL	1	-		Field notes	ND
12-VE-236	BSU	139F	HC,G,HM,B	14	-		Field notes	ND
12-VE-237	BSU	139F	FL	2	-		Field notes	ND
12-VE-238	BSU	139F	FL	1	-		Field notes	ND
12-VE-239	BSU	139F	FL	1	-		Field notes	ND
12-VE-240	BSU	139F	FL	1	-		Field notes	ND
12-VE-241	BSU	139F	FL	1	-		Field notes	ND
12-VE-242	BSU	139F	HC	5	-		Field notes	ND
12-VE-244	BSU	139F	B	7	-		Field notes	ND
12-VE-245	BSU	139F	FL	1	-		Field notes	ND
12-VE-246	BSU	139F	FL	1	-		Field notes	ND
12-VE-247	BSU	139F	FL	1	-		Field notes	ND
12-VE-248	BSU	139F	FL	1	-		Field notes	ND
12-VE-249	BSU	139F	FL	1	-		Field notes	ND
12-VE-250	BSU	139F	FL	2	-		Field notes	ND
			FCR	1				
12-VE-251	BSU	139F	FL	1	-		Field notes	ND

Table 4-3. PRESENTLY KNOWN ARTIFACT, ECOFACT, OR DOCUMENTARY COLLECTIONS FROM ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (concluded)

Site Number, Name	Collection Location[a]		Collection Characteristics					
			Artifact[b]		Ecofact		Documentary	
	Curatorial Repository	Accession Number(s)	Brief Description[c]	Size/No.[d]	Brief Description	Size/No.	Brief Description	Size/No.[e]
12-VE-252	BSU	139F	FL	2	-		Field notes	ND
12-VE-253	BSU	139F	FL	1	-		Field notes	ND
12-VE-254	BSU	139F	FL	1	-		Field notes	ND
12-VE-255	BSU	139F	FL	1	-		Field notes	ND
12-VE-256	BSU	139F	FL	1	-		Field notes	ND
12-VE-257	BSU	139F	FL	1	-		Field notes	ND
12-VE-258	BSU	139F	FL	1	-		Field notes	ND
12-VE-259	BSU	139F	FL	1	-		Field notes	ND
12-VE-260	BSU	139F	FL	1	-		Field notes	ND
12-VE-261	BSU	139F	FL	1	-		Field notes	ND
12-VE-262	BSU	139F	FL	1	-		Field notes	ND
12-VE-263	BSU	139F	FL	1	-		Field notes	ND

[a] Ball State University.

[b] Information on artifacts compiled from site survey forms for historic sites and from distribution of artifact categories in survey report for prehistoric sites. Separate tabulations have been provided for flaked lithics (FL), fire-cracked rock (FCR), and historic material (HC, G, HM, B).

[c] (HC) historic ceramics and tile, (G) glass, (HM) historic metal, (B) bricks or concrete, (FL) flaked lithics (may or may not include hammerstones), (FCR) fire cracked rock.

[d] Number of artifacts.

[e] (ND) no specific data are available.

Table 4-4 POTENTIALLY IDENTIFIABLE BUT NOT PRESENTLY RECORDED ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

Site Number, Name[a]	Reference	Description	Research Value CR[b]
NAAP-1	O'Donnell 1969:275	Cemetery	3
NAAP-2	O'Donnell 1969:275	Cemetery	3
NAAP-3	O'Donnell 1969:275	Cemetery	3
NAAP-4	O'Donnell 1969:275	Cemetery	3
NAAP-5	O'Donnell 1969:275	Cemetery	3
NAAP-6	O'Donnell 1969:275	Church	3
NAAP-7	O'Donnell 1969:275	Farmstead	3
NAAP-8	O'Donnell 1969:275	Farmstead	3
NAAP-9	O'Donnell 1969:275	Farmstead	3
NAAP-10	O'Donnell 1969:275	Farmstead	3
NAAP-11	O'Donnell 1969:275	Farmstead	3
NAAP-12	O'Donnell 1969:275	Farmstead	3
NAAP-13	O'Donnell 1969:275	Farmstead	3
NAAP-14	O'Donnell 1969:275	Farmstead	3
NAAP-15	O'Donnell 1969:275	Farmstead	3
NAAP-16	O'Donnell 1969:275	Farmstead	3
NAAP-17	O'Donnell 1969:275	Farmstead	3
NAAP-18	O'Donnell 1969:275	Farmstead	3
NAAP-19	O'Donnell 1969:275	School	3
NAAP-20	O'Donnell 1969:275	Farmstead	3
NAAP-21	O'Donnell 1969:275	Farmstead	3
NAAP-22	O'Donnell 1969:275	Farmstead	3
NAAP-23	O'Donnell 1969:275	Farmstead	3
NAAP-24	O'Donnell 1969:275	Farmstead	3
NAAP-25	O'Donnell 1969:275	Farmstead	3
NAAP-26	O'Donnell 1969:275	Farmstead	3
NAAP-27	O'Donnell 1969:275	Farmstead	3
NAAP-28	O'Donnell 1969:275	Farmstead	3
NAAP-29	O'Donnell 1969:275	Farmstead	3
NAAP-30	O'Donnell 1969:275	Farmstead	3
NAAP-31	O'Donnell 1969:275	Farmstead	3
NAAP-32	O'Donnell 1969:275	Farmstead	3
NAAP-33	O'Donnell 1969:275	Farmstead	3
NAAP-34	O'Donnell 1969:275	Farmstead	3
NAAP-35	O'Donnell 1969:275	Farmstead	3
NAAP-36	O'Donnell 1969:275	Farmstead	3
NAAP-37	O'Donnell 1969:275	Farmstead	3
NAAP-38	O'Donnell 1969:275	Farmstead	3
NAAP-39	O'Donnell 1969:275	Farmstead	3

Table 4-4 POTENTIALLY IDENTIFIABLE BUT NOT PRESENTLY RECORDED ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (concluded)

Site Number, Name[a]	Reference	Description	Research Value CR[b]
NAAP-40	O'Donnell 1969:275	Farmstead	3
NAAP-41	O'Donnell 1969:275	Farmstead	3
NAAP-42	O'Donnell 1969:275	Farmstead	3
NAAP-43	O'Donnell 1969:275	Farmstead	3
NAAP-44	Reseigh 1982:23	Unknown	1

[a] Site numbers assigned by H. Hassen, E. Jelks, B. Stafford, and J. Phillippe (1983); these are located on Figure A-4 and their locational data are provided in Table A-2.

[b] Research value confidence rating (CR) is a relative ranking in the author's confidence in the reliability of the information about a resource's ultimate research value as well as its locational data. The rating is on a scale from 1 to 3, ranging from (1) information may be unreliable, to (3) information is reliable and the resource may have high research value.

a relative one based on projectile point style and technology. Only 22 of the sites contained projectile points assignable to a specific range of time. Many of these time periods consist of thousands of years.

Therefore, the most appropriate classificatory scheme for the Newport AAP sites is one based on very general chronological criteria. Such a system relies on the placement of individual or groups of sites into traditions and phases. A tradition is "a cultural class [that] displays an extensive distribution in time and a limited distribution in space" (Dunnell 1971:202), while a phase is "a paradigmantic class of occupations defined by types and/or modes" (Dunnell 1971:202). Such a system is hierarchial in nature with analyses of attributes of discrete objects forming modes, discrete objects forming types, and occupations or aggregates of discrete objects forming phases (Dunnell 1971:159). Traditions are merely the result of these three types of archeological inquiry which have chronological depth and limited geographical extent.

Even though an evaluation or assessment of the previously mentioned types of information is not possible on the Newport facility on a site-by-site basis, given relative chronological indicators of projectile point style and function it is possible to discuss the interrelationship of the sites in general within and between traditions and phases. It should be noted here again that an extremely liberal definition of a "site" was employed during the survey. Thus, if a more restricted definition would be applied, the number of sites recorded would probably be reduced to under 20. However, the chronological indicators would remain the same even though many small single component localities of artifacts would become part of large, multi-component sites. This would also affect the ascribed functions of the sites. Since projectile points were the only prehistoric indicator of chronology on the Newport facility, all discussions regarding placement in time must center around them. Given the definition of a site employed in the survey (Reseigh 1982), more information is gained by detailing artifactual finds than site numbers. Thus, the diachronic utilization of the Newport area is characterized prehistorically by one occurrence of a Paleo-Indian projectile point (12,000 to 8000 BC), 12 Early Archaic points (8000 to 6000 BC), four Middle Woodland projectile points (250 BC to AD 400) and four Late Woodland or Mississippian points (AD 900 to early Contact).

The significance of these archeological resources will be examined in Section 5.0. Suffice it to say here, that based on projectile point typology alone, the most commonly represented chronological prehistoric period within the Newport facility proper is the Early Archaic in which small seasonal or base camps in riverine and forest areas probably predominated.

The historic archeological sites recorded by Reseigh (1982) at the Newport AAP facility, or thought to be present on the basis of documentary evidence, are divided into four functional classes: (1) farmsteads, (2) schools, (3) churches, and (4) cemeteries. They were so classified because there is clear historical documentation as to their function.

Chronologically, these components are ascribed to the following traditions:

Native American Tradition, AD 1660 to 1846. This comprises all of the archeological manifestations attributable to Native American peoples during the period of written history.

Colonial Tradition, AD 1717 to 1778. This period includes the archeological manifestations attributable to persons of European origin prior to George Rogers Clark's expedition into the Midwest in 1778. It is divided into an Early Exploration Period followed by a period of European Competition. The former refers to the period when Europeans first explored the region but established no settlements; the latter refers to the period when the French and English were attempting to establish permanent settlements in, and vying for political control of, mid-North America.

American Tradition, AD 1778 to Present. This tradition encompasses the establishment and development of Euroamerican culture during the Frontier, Homestead, Early Industrial, and Late Industrial periods.

Final mention should be made of the criteria employed in assignment of research value for each site. Given the caveats presented above, the judgement of confidence for the amount of the site remaining, physical integrity and research value is mainly a guess for each individual site. However, the research value for specific chronological groups of sites is high and will be discussed further in Chapter 5.

5.0 AN ASSESSMENT OF THE SIGNIFICANCE OF THE ARCHEOLOGICAL RESOURCE BASE ON THE NEWPORT AAP

Given the existence of numerous archeological resources on the Newport AAP, this chapter presents the analytical criteria for the assignment of research values inherent in the identified and predicted resource base. Because the archeological resources were identified during surface survey and not tested, an evaluation of the National Register significance is not possible at this time. However, the significance of these resources is discussed in Section 5.1, while ideal goals and objectives for implementation of future archeological research are presented in Section 5.2.

5.1 THE SIGNIFICANT RESOURCE BASE

5.1.1 Prehistoric Materials

In order to make an accurate assessment of the significance of the Newport AAP archeological resource base, it is again necessary to discuss the paleoenvironmental concerns pertinent to the region. After the waning of the effects of the spruce-dominated boreal, forests were replaced by a mixed hardwood forest, later by oak and oak savanna, and then by prairie. The Hypsithermal period (8500-5100 BP), the warm, dry interval of the mid-Holocene, was responsible for the maximum extension of the Prairie Peninsula eastward. The Newport area would have been sensitive to this prairie expansion because it is presently located at the boundary between the Prairie Peninsula to the west and the beech-maple forest to the east. After the Hypsithermal, cooler-moister conditions returned around 4000 BP (Wright 1976). Later environmental changes probably would have been minimal.

The major effects of these environmental changes would have been manifest during the prehistoric Archaic period. With the gradual warming after the retreat of the glaciers, Early Archaic hunters would have increasingly relied on smaller game animals in upland situations. Middle Archaic hunters and gatherers may have abandoned these upland areas and favored lower elevations and river valleys due to the warming effects of the Hypsithermal. When cooler-moister conditions again prevailed, upland areas were again inhabited.

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A tabular summary of the known as well as predicted archeological resource base on the Newport AAP is presented in Table 5-1. The major organization of this table is by temporal unit. Thematic units and resource types assignable to each of the temporal units at Newport were indeterminable from the survey report (Reseigh 1982). However, based on known archeological resources in the region, probable assessments were included. All prehistoric sites on the facility are probably the remnants of encampments of unknown duration where acquisition of game and predominantly wild plant resources occurred. Only in later Late Woodland or Mississippian periods is major-scale prehistoric cultivation likely.

Of the 22 presently known Newport AAP projectile points assignable to a specific chronological period, 55 percent are of an Early Archaic affiliation, 36 percent are related to the Middle-Late Archaic or Late Woodland/Mississippian (i.e., 18 percent each), and only 10 percent are of a Paleo-Indian or Middle Woodland temporal unit (i.e., 5 percent each). This representation of temporal units generally coincides with other documented surveys in the area. For example, in Winter's (1967) survey of the Wabash Valley in Illinois, Early and Middle Archaic projectile points were more common than Late Archaic ones, only a few ceramic sherds were recovered from the Early Woodland period, and Middle Woodland sites were less common than the well-represented Late Woodland locales. Thus, the potential for other occurrences of archeological resources is highest for the Archaic and Late Woodland periods. Given that only 10 percent of the facility has been systematically surveyed to identify its cultural resources, it is almost a certainty that further archeological resources will be encountered.

The most common prehistoric archeological resources known on the Newport AAP appear to be related to the Early Archaic period. Because they are likely to yield regionally significant (and relatively unavailable) scientific information they have been rated high (5 on a scale of 0 to 5, from lowest to highest; Table 5-1) in research value. Later Archaic and Late Woodland manifestations each rate only slightly lower (4) in research value because there appear to be few opportunities for their preservation with integrity on the Newport AAP. Given the lower probability of encountering resources of other prehistoric time periods on the study facility, the remaining temporal units are presently rated as having moderate (3) research value. If substantial Paleo-Indian or Early or Middle Woodland archeological resources remain on the AAP, their research value would be extremely high (i.e., 5). Currently within the region surrounding the Newport AAP, Paleo-Indian manifestations consist of isolated projectile points probably representing hunting losses. Early Woodland sites are rare, while Middle Woodland sites are not as common as Late Woodland ones.

Given the environmental conditions pertinent to site preservation outlined in Chapter 2.0, it is possible that deeply buried, stratified prehistoric archeological sites exist along Little Raccoon Creek and in the Wells area. Deeply buried sites of any of the above-mentioned

Table 5-1. SUMMARY OF SIGNIFICANT ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

Temporal Unit	Thematic Unit	Resource Type[a]	Type Occurrence[b] Known Occurrences (no.)	Potential Occurrences (no.)	Other Likely Occurrences	Socio-cultural Assn.	Landform Assn.	Physical Integrity	Research Value[c]	RV CR[d]	Socio-cultural Value[e]	SCV CR[d]
Paleo-Indian	Big game procurement and use	Unknown, probably kill area, no butchering	1	0	+	Native American	Dissected upland	Fair	3	2	1	3
Early Archaic	Small game and wild plant procurement and use	Unknown, probably small seasonal camp	12	0	++	Native American	Undissected uplands-3 Dissected upland-6 Prairie-3	Fair	5	3	1	3
Middle-Late Archa'	Small game and wild plant procurement and use	Unknown, probably small, temporary camp	4	0	++	Native American	Dissected upland-2 Prairie-2	Fair	4	3	1	3
Middle Woodland	Small game, wild plant, and cultivated plant procurement and use	Unknown, probably small, temporary camp	1	0	+	Native American	Dissected upland	Fair	3	3	1	3
Late Woodland or Mississippian	Small game, wild and cultivated plant procurement and use	Unknown, probably small camp	4	0	++	Native American	Undissected upland-1, dissected upland-3	Fair	4	3	1	3

Table 5-1. SUMMARY OF SIGNIFICANT ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (concluded)

Temporal Unit	Thematic Unit	Resource Type	Type Occurrence[b] Known Occurrences (no.)	Potential Occurrences (no.)	Other Likely Occurrences	Sociocultural Assn.	Landform Assn.	Physical Integrity	Research Value[c]	RV CR[d]	Sociocultural Value[e]	SCV CR[d]
American	Religious	Cemetery	0	5	++	Euroamerican	Upland	Good	4	3	5	3
American	Religious/social	Church	0	1	++	Euroamerican	Upland	Fair	2	2	5	3
American	Domestic/ technology	Farmstead	4	36	++	Euroamerican	Upland, lowland	Fair	5	2	4	3
American	Education/social	School	0	1	++	Euroamerican	Upland	Fair	3	2	5	3

[a] Resource type assignment was not possible from survey report, but probable assignment is based on site types/functions common in specific chronological period.

[b] The number of presently known or potential archeological resources of this type is specified here. In addition, a judgement has been made as to the likelihood that other members of this resource occur within the facility, based on an analysis of the ethnohistoric or historic land use patterns and/or a review of the landform patterning or prehistoric materials. The probability of these additional occurrences has been noted as negative (-), positive (+), or highly positive (++).

[c] This is a subjective summary assessment of the overall research value (RV) of the resource class. It is an evaluation of the class' quality of preservation, representation of activity diversity or uniqueness, and temporal distinctiveness or reflection of diachronic relationships. It incorporates the need to avoid triviality, but to acquire what may be redundant data so as to discern patterns among those data. Based on these research values, the resource classes have been ranked from 0 (no value) to 5 (highest value).

[d] Confidence ratings (CR): (1) judgement is more guess than science, and likely not to be reliable; (2) judgement is moderately reliable; (3) the judgement is most likely to be reliable.

[e] Sociocultural Value ratings: (0) no value to (5) highest value.

temporal units probably do not exist in areas outside the Little Raccoon Creek valley and the Wabash floodplain. However, undisturbed deposits located below the modern day plowzone may exist in the uplands. Thus, even though prehistoric archeological research on the Newport facility may not be able to document long, detailed occupational sequences, information about regional settlement patterns and general subsistence practices appear to be available in the Newport AAP prehistoric record.

During the Early Archaic period in general, a seasonal round of occupations was most likely operative. Under such a system, various resources were exploited according to a schedule of availability. This changed during the Middle Archaic period when there occurred an increased reliance on more concentrated and immobile resources and concomitantly an increase in storage facilities; decreasing settlement mobility; increased use of aquatic resources, and an increase in activity areas associated with maintenance tasks (Brown and Vierra n.d.; Ford 1977).

Correlated to these changes in the archeological record are environmental changes, i.e., the Hypsithermal dating between 8500 and 5100 BP (Wendland 1978). This climatic period of increasing dryness and grassland expansion could be one reason why hunter-gatherer groups abandoned the uplands (Carmichael 1977; Hajic 1981; O'Brien, Warren and Lewarch 1982). However, whatever the reason for the predominance of Early Archaic sites and scarcity of Middle Archaic sites in the uplands, the archeological resources on the Newport Army Ammunition Plant and in other areas (Carmichael 1977; Conrad 1981; Hassen et al. 1981; Klippel and Maddox 1977; Lewis 1977) follow this pattern of site location.

In conclusion, the research value of the Early Archaic sites in particular and the other Archaic sites in general is high on the facility because they support investigation of the following scientific questions: (1) what was the degree and type of mobility and related socioeconomic changes during the Archaic, (2) what was the type and intensity of the Archaic subsistence base, (3) what were the cultural effects of the Hypsithermal climatic amelioration, and 4) how did sedentism develop between the Early and Middle Archaic periods (Brown and Vierra n.d.; Ford 1977); and (5) what type of camp (i.e., extractive, residential or base camp; Carlson 1977) was occupied throughout this development?

Substantial archeological resources from the Late Woodland period also appear to be present on the Newport AAP. During the end of the Late Woodland and throughout the Mississippian, population increase and concentration appears to be evident. This is indicated by an increase in numbers of sites, artifactual and subsistence remains, and types of sites. Concomitant with this apparent population increase is a dependence on cultivated foods, particularly, corn, beans, and squash. Through time, aquatic resources and seeds were increasingly used with a later addition of dependence on cultivated foodstuffs.

Late Woodland sites on the Newport facility are represented by four small, triangular Madison projectile points dating to AD 900 to Early Contact. Research concerns that can be addressed by sites of this time period include: (1) delineation of terrestrial vs. aquatic resources used by Late Woodland peoples, and determination of the availability of each; (2) determination of the relative importance of fauna derived from major habitats and the examination of the localization of resource exploitation; and (3) reconstruction of the diet of Late Woodland/ Mississippian people.

Additionally, during this time period, the Mississippian tradition is manifest within this area of Indiana. Known as the Vincennes Culture (Winters 1967), the Mississippian is manifested as large sites with community buildings erected on mounds, with smaller surrounding towns, hamlets and farmsteads. Even though hunting and gathering was still practiced, maize, beans and squash were intensively cultivated, along with seed crops and tobacco. Thus, a study of this time period in the region of the Newport facility should enable the study of the integration of the socio-politico-religious unit known as the Mississippian with Late Woodland populations. Newport AAP personnel should consult with the Indiana SHPO for additional prehistoric archeological research concerns that may pertain to their area.

5.1.2 The Historic Material

The known historic archeological resources on the Newport AAP all evidently fall within what is here termed the American Tradition: that is, they all date after AD 1778. There are four categories of such sites within the study facility: farmsteads, cemeteries, churches, and schools. Cemeteries and church sites may contribute to research in various aspects of domestic activities and agricultural technologies; and school sites relate to research into historic educational practices. The school and church undoubtedly also served as centers for social interaction and therefore should be able to contribute to research in that area.

The BSU archeological field survey identified 20 historic sites. However, the descriptions of artifacts and sites in the survey report (Reseigh 1982) are too general to permit confident identification of the site types except in four instances that clearly appear to be farmstead sites. In Table 5-1, therefore, only the four farmstead sites are listed under the heading Known Occurrences. Under Potential Occurrences are included 5 cemeteries, 1 school, 1 church and 36 farmsteads that appear on nineteenth century plat books. Since far less than a 50 percent documentary search to identify AAP historic sites has been completed to date, and since there was only a 10.8 percent field survey, the likelihood patently is greater than 50 percent that additional historic archeological sites of each type identified on Table 5-1 exist on the AAP.

It is difficult to assess accurately the physical integrity of these sites as they have not been studied thoroughly in the field. The

integrity of the cemeteries is probably good. All or most of the other kinds of sites probably have maintained fair subsurface integrity except where recent land modification has impacted them seriously.

The research values (RV) of the respective resource types are tentative, owing to a general lack of site-specific data. However, each resource type has been rated on the basis of (a) its potential for containing significant research information, and (b) its presumed physical integrity. In rating the sociocultural value (SCV) of the resource types, less emphasis was placed on the presumed physical integrity of the sites. The confidence ratings for both RV and SCV are by definition subjective and may be over-confident because of the paucity of site-specific information.

Because of the limited amount of information presented in Reseigh (1982), the significance of historic resources has been evaluated from a diachronic view based on settlement patterns.

Colonial Tradition

Early Exploration, AD 1660-1717. Major Native American sites of this period should be summer agricultural villages and winter hunting camps. Villages probably were situated in larger stream valleys, spaced perhaps 30 to 100 miles apart. A typical village might have stretched along the stream bank for from one to three miles. Specialized activity sites should include kill and butchering stations and small hunting/trapping camps.

There is no known specific documentation on any village or other historic Native American site in the project area, or its immediate vicinity. There is a possibility that archeological remains of some such sites exist, but, if so, they have not been discovered and recorded. The probability that any such sites exist is not great.

Some of the early French explorers may have passed through or near the facility area, but there is no known explicit historical record that any did so. In any case, archeological remains left by such explorers would consist of very light deposits of trash that accumulated around brief (often overnight) camps made by small exploring parties. The chances of finding and identifying any such campsite are extremely small.

European Competition, AD 1717-1787. During this period the French established garrisoned trading posts over their colonial empire in North America, including the major post of Ouiatenon, on the Wabash River, some 50 miles north-northwest of the Newport facility. Frenchmen working out of Ouiatenon may have visited the facility area (if there were Native American populations there at the time). English traders also may have worked in the facility area, especially after 1763 (date of the Treaty of Paris). It is possible, therefore, but highly unlikely, that manifestations of French or English traders' camps may exist somewhere in the

Newport locality, even though no specific documentation of any such camp is known.

American Tradition

Frontier, AD 1787-1819. There could be some Native American sites dating from this period in the Newport locality, as the last Native Americans did not abandon the area until about 1840. If so, they are expected to be small, short-term campsites used by relatively small bands (the larger villages having been fragmented by this time). There is no known documentation of such bands in the Newport vicinity, and the probability that such sites are present is small.

Homestead, AD 1819-1860. There should be substantial archeological resources dating from this period at the Newport facility. They will follow a typical Midwestern rural settlement pattern: individual farmsteads at favored locations, with rural churches, schools, cemeteries, and possibly a store or two situated strategically to serve the farming community. There is no record of any town, village, or hamlet in the project area.

The farmstead sites, especially the earlier ones, probably lie near prairie forest boundaries, with bluff bases and prairie groves being the highest potential locations. Schools, churches, and stores should be situated beside roads--at cross roads in particular. Family cemeteries are most likely to occur on bluff crests or on other elevated spots near the family farmsteads; community cemeteries should be beside major roads. Historical documents identify a number of farmsteads, cemeteries, churches, and schools (but no stores) from the Homestead period, and others (especially farmsteads) probably exist for which no documentation has been found.

Early Industrial, AD 1860-1920. The basic settlement pattern of the preceding Homestead period continues, but the density of farmstead distribution becomes greater owing to a general population increase. Most early houses were abandoned as farmers became more affluent and moved into more pretentious quarters. Archeologically, most earlier farmstead sites will have vestiges of earlier log dwellings and of later houses made of sawn lumber and/or masonry situated near one another. A similar shift to larger barns and outbuildings also should be manifested in the archeological record. Some farmstead sites of this period may be expected in less favored locations as the better places at the bluff bases and at prairie-forest boundaries became pre-empted.

Late Industrial, AD 1920-Present. The pattern of historic cultural resources dating from this period should follow, in general, the pattern of the previous period. Some farmsteads were abandoned as mechanization of farming led to the consolidation of small farms into larger ones. This should be evidenced in the archeological record.

All of the houses, barns, churches, schoolhouses, and other structures standing on the property when the Newport AAP was created in the late 1930s and early 1940s reportedly have been razed. However, a new set of historic archeological resources have been created through the construction of the AAP facilities themselves and through the other activities that have taken place there. Although these are too recent currently to fall under statutory protection, they constitute an important cultural resource that will deserve conservation management in the future.

5.2 IDEAL GOALS AND OBJECTIVES

5.2.1 General Research Goals

The basic outline and definition of the known and potential archeological resources have been discussed in previous chapters. However, to effectively manage those resources in real world competition with other known resources, it is first necessary to detail an ultimate research plan for the conservation, excavation, or further study of the archeological resources. This section will outline such a "best case" scenario for archeological study.

Archeological research, whether prehistoric or historic, is directed toward understanding the systems and processes by which human communities have adapted to and modified their human and natural environments over time. At issue are questions such as "where did people carry out particular activities over time?" and "how did they do it?" Information important to answering such questions is preserved in the archeological resources of the Newport AAP, and merits preservation and protection in place or use of such information through scientific inquiry when necessitated by facility missions.

A major issue focuses on the relationship between human societies and their environmental context, and is directed toward understanding human paleoecology with its past settlement and subsistence patterns. This requires the identification of the relevant biological and geological resources available prehistorically and historically, as well as the delineation of the probable cultural constraints affecting site location and regional settlement patterning. Important natural resource variables include physiographic zone, proximity to water resources, aspect and slope of the land, soil type, and paleoenvironment and/or climatic episode. Social constraints would include cultural diversity, trade, ceremonialism, and population expansion. Given the variability in the natural environment noted in Chapter 2.0 and the diversity of archeological remains documented on the Newport facility, the correlation between site location and other pertinent data, as mentioned above, is probably the most critical research question to date.

Other important archeological research topics that generally support investigations into the settlement and subsistence systems of past

populations include stone tool manufacture and use, ceramic technologies and style, and subsistence technologies. Lithic studies generally involve both prehistoric tools and manufacturing debris found in sites such as those presently identified on the Newport AAP, and possible sources of manufacturing materials (stone quarries and collecting areas). Studies of ceramic artifacts proceed under a similar line of inquiry and revolve around the study of technology, function, and style.

Many more specific goals and objectives may be outlined in the pursuit of prehistoric archeological research. These, however, represent the basic lines of inquiry applicable to the study of the archeological resources on the Newport AAP.

The only previous historical archeological research at the NAAP was the BSU survey (Reseigh 1982). Research considerations based o.. data from sites of the historic period should be oriented around the following major problems:

(1) Acculturation of Native American communities following direct and indirect contacts with Europeans. This would be primarily a diachronic study, and would be contingent on the presence of historic Native American sites on the AAP property.

(2) Sociocultural (especially economic) effects of French and English trade in the area on Native American, Euro-American, and European cultures.

(3) Adaptations by American Tradition farmers to the local environment and to regional and national economic and political events. This includes analysis of environmental factors affecting the selection of farmsteads and other kinds of sites; exploitation of local resources; degree of self-reliance of farmstead units; dependency on imported manufactured goods; agricultural practices; trade and communication routes; effects of political and economic events (e.g., the Civil War, industrialization); and popular styles as reflected in such things as architecture, furniture, folk art, dress, and grave markers.

(4) Reconstruction of the life styles and sociocultural values of historic Native Americans and of the rural farming communities of the American Tradition.

5.2.2 Specific Archeological Investigations

In addressing the above general research problems, current archeological and historical research methods and techniques should be used, including the following.

Typological studies of artifacts. Such studies can contribute information on the dates of sites and features; on the activities that took

place at the sites; on the level of technology at sites; on the affluence of the occupants of a site; on the source of tools, utensils, and other material goods (whether they were made locally or in factories, etc.).

Field studies of sites. Standard techniques of surface and subsurface observation should be used, including mapping of surface features and artifact scatters; excavation of sites and features; geomorphological studies; aerial and subsurface remote sensing; and the like.

Architectural studies. Analysis of style, construction methods, materials, floor plans, etc. of houses, barns, outbuildings, churches, schools, and other structures.

Historical Research Methods. The following procedures and techniques are approporiate elements of any future investigations on the Newport AAP:

- Extract data from records at county courthouses, such as chains of title, land survey notes, maps, probate inventories, tax records, and the like
- Consult primary documents such as explorers' journals, personal correspondence, business records, diaries, and photographs
- Search newspapers and other contemporary periodicals
- Search plat books and other published maps for locatons of potential sites
- Conduct oral history studies
- Consult secondary sources such as published county histories and articles in historical and archeological journals.

Finally, it should be stressed that even if an area has been surveyed, the potential for the existence of archeological resources is never entirely negated for the following reasons: 1) vegetative cover may mask the ground visibility and hence hinder the determination of site location; 2) geomorphological sedimentation such as alluvial and colluvial deposits may bury sites; 3) modern agricultural practices may have a destructive effect upon cultural materials located near the surface and thus compound the problem of site identification; 4) erosional factors from modern ground disturbance may affect the soil matrix surrounding archeological materials, thus resulting in artifact displacement, burial and mixing; 5) other modern constructional factors may bury archeological deposits; 6) collection and identification bias integral within a conducted archeological survey due to financial and time constraints; and finally, 7) amateur collections. Any one of these or any combinations may hinder the location and/or evaluation of an archeological site using surface reconnaissance. Thus, the possibility always exists for the impact of archeological resources with any modern ground disturbance or construction activity.

6.0
A RECOMMENDED ARCHEOLOGICAL MANAGEMENT PLAN FOR THE NEWPORT AAP

Given the present status of archeological investigations on the Newport AAP, and the sociocultural and research values that appear to be inherent in the facility's prehistoric and historic archeological sites, the following preservation planning and management recommendations are presented.

6.1 FACILITY MASTER PLANS AND PROPOSED IMPACTS

No master plans have been completed for the Newport facility. Currently no further construction or ground-disturbance activities are being planned (Jerry Kovarik, personal communication 1983), though the facility's agricultural leasing program is an undertaking that should be in compliance with federal historic preservation requirements. In order to come into compliance with both Army and federal regulations the following program is recommended.

6.2 APPROPRIATE ARCHEOLOGICAL MANAGEMENT GOALS WITHIN THE NEWPORT AAP'S MASTER PLAN

6.2.1 Historic Preservation Planning

This report summarizes the collected data and analytical results of known historic and prehistoric archeological properties on the Newport AAP. Additionally, it documents the potential existence of additional archeological resources there and provides an overview of the available information about these sites. As such, this document provides the basis for a Historic Preservation Plan (HPP) to be developed and implemented on the facility.

Regulations 36 CFR 800, developed by the Advisory Council on Historic Preservation to guide compliance with Section 106 of the National Historic Preservation Act, provide agencies with the opportunity to develop their own "counterpart" regulations for this compliance program. Department of the Army regulations AR 420 prescribe Army policy, procedures, and responsibilities for compliance with NHPA; for the maintenance of state-of-the-art standards for preservation, personnel and projects; and for accomplishment of the historic preservation program through planning. The HPP, the primary preservation planning device, has the following objectives:

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- integrate historic preservation requirements with the planning and execution of military undertakings such as training and construction, and real property or land use decisions
- implement a legally acceptable compliance procedure with the Advisory Council on Historic Preservation (ACHP) and State Historic Preservation Officer (SHPO)
- outline priorities for acquiring additional information to determine if there may be additional projects not yet located or identified
- establish a procedure for the evaluation of historic properties
- rank facility projects by their potential to damage historic properties
- provide guidelines for the management of historic properties
- provide historic and archeological data for the installation's information systems
- identify funding, staffing, and milestones.

This document provides the necessary information for initiating the implementation of the above objectives on the Newport AAP in a programmatic manner. Completion of a complementary historic architectural study, also part of the DHAS project at this installation, will further support the development of a facility HPP. The information provided here can be used to determine if any activities of the on-going facility mission (or any special missions) will damage or have adverse effects on any known, potential, or "likely to occur" archeological resources; it thus can be used to develop alternatives for the mitigation of those effects. Consultation with the SHPO and ACHP about the preservation program as outlined in the HPP, perhaps with formal ratification of the plan by those agencies and the Army, would provide the mechanism for ensuring compliance with the historic preservation laws and regulations outlined in Chapter 1.0. Further, it would provide a set of procedures that integrate the preservation considerations into general facility planning and future projects in a timely and cost-effective manner.

6.2.2 Needed Evaluation of the Presently Identified Archeological Sites

Approximately 10 percent of the total facility area has been subjected to archeological reconnaissance survey (Reseigh 1982). None of the identified sites has been evaluated to determine its eligibility for the National Register of Historic Places or had its boundaries defined. None of the historic locales identified as "potential" archeological resources (Table 4-4, A-2, Figure A-2) has been field-reviewed. Thus, there is a current need for more intensive resource evaluations for compliance for NHPA Sec. 110(b), for general facility planning, and for specific project

planning that might impact these sites. Given the very liberal definition of a site employed in the 1982 sample survey, a somewhat limited view of the known archeological resources is presently documented. If any construction within the facility is proposed in any of these site areas, a revisit and possible redefinition of the known resources should occur.

Without this more intensive evaluation of the sampled archeological universe on the Newport AAP, the present characterization of the facility's archeological resource base cannot be addressed. Not enough is known about site assemblages, area and depth, integrity, and representativeness. Completion of such evaluation is the appropriate next step in AAP preservation planning. In addition, intensive survey of any future project impact areas would increase the site sample.

It might be most cost-effective to precede any additional survey by an intensive review of historic land-use data in order to evaluate the intensity and depth of historic agricultural, pastoral, or forestry impacts on the facility lands. Such a survey should include subsurface tests (through augering, test excavations, or some archeomagnetic mapping techniques) adequate to make recommendations about site NRHP eligibility and/or long-term research values. In cultivated areas or in pasture, some ground-clearing activity such as controlled blading or even shallow plowing and disking may be necessary to provide optimal conditions for identifying site boundaries. In non-cultivated areas, i.e., forest, limited subsurface testing in the form of shovel tests, auger probes, or test squares may be appropriate to ensure adequate survey coverage. In any circumstances, the first task of any additional resource evaluations on the Newport AAP should involve the development of a specific survey Work Plan based on additional historic land-use information, field familiarity with facility landforms, current use areas, and state preservation programs and goals.

The additional information produced by a more intensive survey may provide an opportunity to plan future construction such that surface sites can be avoided. If avoidance is not feasible, then subsurface testing may be required. This would provide an assessment of preservation of culturally relevant remains and of the degree of in situ deposits in the form of features, middens and overall site patterning. Thus, once the information on archeological resources is known and avoidance is not possible, further mitigation may be required.

Additionally, since the entire facility was not subjected to intensive survey, construction or ground-disturbance in areas currently unsurveyed may impact archeological resources. Consequently, if such activity were to occur, survey and other required mitigation work would be necessary. If any ground modification were to occur on the floodplain of the Wabash River or any other drainage where a substantial floodplain occurs, solid coring should proceed to locate surfaces with potential for site occurrences and to determine river channel stability and location. Soil coring does not locate sites per se, but rather determines the potential for site location.

In order to more accurately assess the resources available both to prehistoric and historic inhabitants of the Newport facility, the early land survey records and available soil surveys should be examined. Finally, to provide effective management of all known cultural resources, the HABS research conducted on Newport should be integrated with this study.

The management program of historic resources for the Newport AAP should include several steps. The first step, oral historical research, should be conducted to better document the historic sites. This should be undertaken while informants are available who remember the area before it became a federal property. A second step should be more in-depth historical research at such places as the county court house to obtain information such as probate record, inventories and other data which would greatly aid in the determination of significance of the various sites. The next step should be a survey of the entire facility to define and evaluate the potential and known sites. Resurvey and reanalysis of the sites and material from the BSU work is also needed.

After collecting the above data, the sites should be re-evaluated and ranked, and a sample of significant and/or unique sites for each category should be placed on a conservation list for future consideration.

6.2.3 Resource Management Options

In lieu of the completion of additional resource evaluations and/or archeological survey, several options are available for the preservation and management of the presently identified prehistoric resources. These could include fencing of the sites, avoidance by agricultural activities, and a general program of cultural resource awareness on the installation. In addition, completion of an Historic Preservation Plan, in compliance with Army Regulations AR 420 and based on information available from this report and the historic architectural study presently being conducted by the USDI Historic American Buildings Survey, could provide the basis for an affirmative cultural resource management program appropriate to a land-managing agency whose fundamental mission is support for America's military.

6.3 ESTIMATED SCOPE OF WORK AND COST LEVELS FOR PRESENTLY IDENTIFIED MANAGEMENT NEEDS

As stated earlier, there are no construction plans for the Newport facility extending over the next 15-20 years. Consequently the proposed scope of work and budget is based on a comprehensive approach to archeological resource management. The scope of work as outlined earlier is designed to provide planners with a more detailed understanding of the distribution and complexity of surface archeological materials. Once the more intensive survey is completed, an evaluation can then be made regarding subsurface testing at either "type" sites or specific locations.

The budgets and extent of services presented below provide a framework for (1) conducting a more intensive evaluation of the known archeological resources, (2) assessing the National Register eligibility of the presently known resources, and (3) evaluating additional areas not covered in the Ball State University 1981 survey.

On-site inspections of known resources to delineate site boundaries and collect a more representative sample of surface artifacts (45 minutes maximum per site, per two-person field team) are estimated to require 1410 hours of professional time (2 project directors with expertise in prehistoric and historic archeology respectively, one assistant each). This, with travel support, drafting and supplies, report preparation, and indirect costs, is estimated to cost $22,000-$26,000 in 1984 dollars.

Test investigations of known sites (estimate 20) to evaluate their National Register eligibility are estimated to require 11,840 hours of professional time involving a project director, supervisor, and field assistant. This, with travel support, drafting, photo supplies and services, field and lab supplies, some heavy equipment time, report preparation costs, and indirect costs is estimated to cost $275,000-$300,000 in 1984 dollars.

More intensive evaluation of paleoenvironmental factors of utility in predicting the locations of prehistoric archeological resources, and interpreting the function of prehistoric and historic sites, is recommended as part of the overall archeological management program on the Newport AAP. Support for 64 hours of professional time (botanist), report preparation, supplies, and indirect costs is estimated to cost $1200-$1500 in 1984 dollars.

An additional environmental element that is of utility in site location prediction and resource interpretation is a more detailed description of facility landforms and Holocene depositional environments. Support for 96 hours of professional time (geomorphologist) for this activity, with report preparation, travel, supplies, and indirect costs, is estimated to cost $2,700-$3,000 in 1984 dollars.

Thus, fulfillment of the scope of work as outlined in Chapter 6.0 is estimated to cost a total of $300,900 to $330,500 in 1984 dollars. Considering fiscal constraints on the Newport AAP, facility managers may wish to develop a small annual budget to accomplish these goals over a number of years.

7.0
SUMMARY

The Newport Army Ammunition Plant (AAP) in Vermillion County, Indiana, is a facility of the U. S. Department of the Army DARCOM (Materiel Development and Readiness Command), with responsibilities for the management of the prehistoric and historic archeological resources on installation lands. This report is a summary of the archeological resources presently identified on the installation, the culture history of the area that provides a context for the interpretation and evaluation of those resources, an assessment of the total archeological resource base likely to be found on installation lands, and recommendations for the future management of those resources within the overall context of DARCOM missions and public responsibilities.

One major reconnaissance survey (Reseigh 1982) has been conducted on the Newport AAP. Approximately 10 percent of the lands available for survey were subjected to either a pedestrian survey or shovel testing in order to locate and document archeological resources. The 144 sites identified during this inventory were predominantly located in upland environments; however, both the prairie and floodplain areas on the facility contained archeological resources.

The most prevalent identified prehistoric resources on the Newport facility were small hunting/gathering loci dating to the Archaic period (Early and Late); indications of Woodland/Mississippian use of the area occur as well. The major value of the prehistoric resources lies with scientific research. The prehistoric sites on the Newport facility afford research into site location, use of natural resources, determination of site function and associated activities and, in later time periods, documentation of dependence on cultivated resources. During the time period in which the Newport sites were used, a major environmental change (the Hypsithermal) occurred. The effects of that change on the prehistoric occupants of the area is an important scientific question. The known historic cultural resources all fall within the American Tradition, i.e., after AD 1778, and consist of four categories of sites: farmsteads, cemeteries, churches, and schools. Cemetery and church sites hold the potential for research in the religious aspect of rural mid-America; the farmsteads for research in various aspects of domestic activities and agricultural technologies; and the school for research into educational practices.

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An extremely liberal definition of "site" was employed in this reconnaissance survey such that 144 sites were located; however, not all of these may be eligible for inclusion in the National Register. Many of the areas with sites consisting of isolated or only several artifactual finds would be consolidated into one larger, more complex archeological resource, or site.

No construction is planned for the Newport AAP within the near future, and no master plan for such exists. Since only 10 percent of the facility has presently been inventoried, and there is a significant portion of the installation that appears to have intact deposits that could retain prehistoric or historic materials, it is likely that more archeological sites exist than are now known. More intensive evaluation of the identified archeological resources needs to be completed for compliance with E. O. 11593, and with Sec. 110 of the National Historic Preservation Act (NHPA). The agricultural leasing program should be brought into compliance with Sec. 106 of NHPA. In addition, prior to the any future ground-disturbing activities on the installation, areas of proposed impact that have not been demonstrated to be clear of archeological resources need to be reviewed to determine:

(1) whether or not they are likely to retain archeological materials

(2) if so, whether there is a need for resource inventory there

(3) if archeological sites are present, whether or not they need to be protected through a mitigation program prior to ground disturbance.

For E.O. 11593 and Sec. 110 compliance, additional information is needed regarding site age, type (or function), and included materials, as well as site boundaries, depth, and integrity, for a more intensive evaluation of the presently inventoried resources. This work would include the more intensive survey discussed above, an assessment of resource potential through an examination of early land survey records and soil surveys, and a further description of the historic resources (including field reconnaissance of the sites identified as "potential" resources within this report). Such investigations need to be coordinated with the state preservation planning process, and should provide information that supports the conduct of a cultural resource management program appropriate to the protection of heritage values in the context of a military installation.

8.0

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APPENDIX

RESOURCE LOCATIONAL DATA

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Table A-1. LOCATIONAL DATA, KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

Site Number[a]	UTM[b]			Legal Reference			USGS Quad Map[c]	CR[d]
	Northing	Easting	Ref.	Township	Range	Section		
12-VE-107	4409600	469850	BSU	16N	9W	NW,NE,NE,16	D780	3
12-VE-108	4409625	469850	BSU	16N	9W	NE,NE,NE,16	D780	3
12-VE-109	4409550	464825	BSU	16N	9W	NE,NE,NE,16	D780	3
12-VE-110	4409600	464600	BSU	16N	9W	NW,NE,NE,16	D780	3
12-VE-111	4409500	464825	BSU	16N	9W	NE,NE,NE,16	D780	3
12-VE-112	4409450	464750	BSU	16N	9W	NE,NE,NE,16	D780	3
12-VE-113	4409450	464600	BSU	16N	9W	SW,NE,NE,16	D780	3
12-VE-114	4409250	464600	BSU	16N	9W	SW,NE,NE,16	D780	3
12-VE-115	4409350	464650	BSU	16N	9W	SW,NE,NE,16	D780	3
12-VE-116	4412640	464630	BSU	16N	9W	SW,NE,NE,16	D780	3
12-VE-117	4412640	464640	BSU	16N	9W	SW,NE,NE,16	D780	3
12-VE-118	4412630	464660	BSU	16N	9W	SW,NE,NE,4	D780	3
12-VE-119	4412630	464680	BSU	16N	9W	SW,NE,NE,4	D780	3
12-VE-120	4412650	464660	BSU	16N	9W	SW;NE,NE,4	D780	3
12-VE-121	4412610	464710	BSU	16N	9W	SE,NE,NE,4	D780	3
12-VE-122	4412630	464770	BSU	16N	9W	SE,NE,NE,4	D780	3
12-VE-123	4412650	464800	BSU	16N	9W	SE,NE,NE,4	D780	3
12-VE-124	4412620	464840	BSU	16N	9W	SE,NE,NE,4	D780	3
12-VE-125	4412650	464830	BSU	16N	9W	E,NE,NE,4	D780	3
12-VE-126	4412650	464700	BSU	16N	9W	SE,NE,NE,4	D780	3
12-VE-127	4412670	464830	BSU	16N	9W	SE,NE,NE,4	D780	3
12-VE-129	4411495	458610	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-130	4411553	458575	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-131	4411607	458605	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-132	4411660	458594	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-133	4411678	458606	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-135	4411655	458557	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-136	4411693	458588	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-137	4411866	458565	BSU	16N	10W	SE,NW,SW,10	D780	3
12-VE-132	4411660	458594	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-133	4411678	458606	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-135	4411655	458557	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-136	4411693	458588	BSU	16N	10W	NE,SW,SW,10	D780	3
12-VE-137	4411866	458565	BSU	16N	10W	SE,NW,SW,10	D780	3
12-VE-138	4411842	458566	BSU	16N	10W	SE,NW,SW,10	D780	3
12-VE-139	4411855	458544	BSU	16N	10W	SE,NW,SW,10	D780	3
12-VE-140	4411830	458566	BSU	16N	10W	SE,NW,SW,10	D780	3
12-VE-141	4411707	458567	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-142	4411715	458525	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-143	4411690	458532	BSU	16N	10W	NW,SW,SW,10	D780	3
12-VE-144	4411746	458492	BSU	16N	10W	SW,NW,SW,10	D780	3

Table A-1. LOCATIONAL DATA, KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (continued)

Site Number[a]	UTM[b] Northing	UTM[b] Easting	UTM[b] Ref.	Legal Reference Township	Range	Section	USGS Quad Map[c]	CR[d]
12-VE-146	4411776	458476	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-147	4411650	458547	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-148	4411766	458570	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-149	4411801	458480	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-150	4411800	458457	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-151	4411600	458515	BSU	16N	10W	NW,SW,SW,10	D780	3
12-VE-152	4411606	458435	BSU	16N	10W	NW,SW,SW,10	D780	3
12-VE-153	4411696	458465	BSU	16N	10W	NW,SW,SW,10	D780	3
12-VE-154	4411788	458457	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-155	4411700	458425	BSU	16N	10W	SW,NW,SW,10	D780	3
12-VE-156	4411730	458404	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-158	4411730	459165	BSU	16N	10W	NE,NE,SW,15	D780	3
12-VE-159	4411767	458383	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-160	4411686	458362	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-161	4411718	458393	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-162	4411675	458365	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-163	4411540	458370	BSU	16N	10W	SE,SW,SE,9	D780	3
12-VE-164	4411847	458240	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-165	4411742	458316	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-166	4411830	458260	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-167	4411758	458243	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-168	4411762	458243	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-169	4411802	458246	BSU	16N	10W	SE,NE,SE,9	D780	3
12-VE-170	4411775	458150	BSU	16N	10W	SW,NE,SE,9	D780	3
12-VE-171	4411702	458237	BSU	16N	10W	SW,NE,SE,9	D780	3
12-VE-172	4411713	458257	BSU	16N	10W	SW,NE,SE,9	D780	3
12-VE-173	4411670	458165	BSU	16N	10W	NW,SE,SE,9	D780	3
12-VE-174	4411771	458164	BSU	16N	10W	SW,NE,SE,9	D780	3
12-VE-175	4411686	458244	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-177	4411636	458298	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-178	4411590	458280	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-179	4411560	458320	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-180	4411601	458338	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-181	4411644	458335	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-182	4411536	458336	BSU	16N	10W	NE,SE,SE,9	D780	3
12-VE-183	4412211	458262	BSU	16N	10W	SE,SE,NE,9	D780	3
12-VE-184	4412110	458250	BSU	16N	10W	SE,SE,NE,9	D780	3
12-VE-185	4412206	458305	BSU	16N	10W	SE,SE,NE,9	D780	3
12-VE-186	4412065	458317	BSU	16N	10W	NE,NE,SE,9	D780	3
12-VE-187	4412034	458332	BSU	16N	10W	NE,NE,SE,9	D780	3

Table A-1. LOCATIONAL DATA, KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (continued)

Site Number[a]	UTM[b] Northing	UTM[b] Easting	UTM[b] Ref.	Legal Reference Township	Range	Section	USGS Quad Map[c]	CR[d]
12-VE-188	4411941	458244	BSU	16N	10W	NE,NE,SE,9	D780	3
12-VE-189	4411927	458342	BSU	16N	10W	NE,NE,SE,9	D780	3
12-VE-190	4411785	458310	BSU	16N	10W	NE,SW,SE,9	D780	3
12-VE-191	4410400	468610	BSU	16N	8W	NE,NW,SW,12	M778	3
12-VE-192	4410450	468640	BSU	16N	8W	NW,NE,SW,12	M778	3
12-VE-193	4410490	468660	BSU	16N	8W	SW,SE,NW,12	M778	3
12-VE-194	4410460	468650	BSU	16N	8W	SW,SE,NW,12	M778	3
12-VE-195	4410410	468610	BSU	16N	8W	NW,NE,SW,12	M778	3
12-VE-196	4410460	468660	BSU	16N	8W	NE,NE,SE,9	M778	3
12-VE-197	4410645	459127	BSU	16N	10W	NE,NE,SE,9	D780	3
12-VE-198	4410600	459050	BSU	16N	10W	NE,NE,SE,9	D780	3
12-VE-199	4410715	459000	BSU	16N	10W	NE,NE,SE,9	D780	3
12-VE-200	4410900	459160	BSU	16N	10W	NE,SW,SE,9	D780	3
12-VE-202	4410907	458822	BSU	16N	10W	SW,SE,NW,15	D780	3
12-VE-203	4410806	458825	BSU	16N	10W	SW,SE,NW,15	D780	3
12-VE-204	4410701	458801	BSU	16N	10W	NW,NE,SW,15	D780	3
12-VE-205	4410715	458760	BSU	16N	10W	SE,SE,NE,16	D780	3
12-VE-206	4410608	458755	BSU	16N	10W	NE,NE,SE,16	D780	3
12-VE-207	4410650	458735	BSU	16N	10W	NE,NE,SE,16	D780	3
12-VE-215	4410663	458825	BSU	16N	10W	NE,NE,SW,15	D780	3
12-VE-216	4410575	458655	BSU	16N	10W	NE,NE,SE,16	D780	3
12-VE-217	4410650	458580	BSU	16N	10W	NE,NE,SE,16	D780	3
12-VE-218	4410780	458515	BSU	16N	10W	SW,SE,NE,16	D780	3
12-VE-219	4410885	458515	BSU	16N	10W	NW,SE,NE,16	D780	3
12-VE-220	4410870	460750	BSU	16N	9W	NE,NE,SW,6	D780	3
12-VE-221	4410540	458445	BSU	16N	10W	NE,NW,SE,16	D780	3
12-VE-222	4410780	458545	BSU/CAA	16N	10W	NE,SW,NE,16	D780	3
12-VE-223	4410625	458435	BSU	16N	10W	NE,NW,SE,16	D780	3
12-VE-224	4412800	460740	BSU	16N	9W	NE,NE,NW,6	D780	3
12-VE-225	4410830	458505	BSU	16N	10W	SE,SW,NE,16	D780	3
12-VE-226	4411005	458585	BSU	16N	10W	NW,SE,NW,16	D780	3
12-VE-227	4410965	458625	BSU	16N	10W	NW,SE,NE,16	D780	3
12-VE-228	4411000	458855	BSU	16N	10W	NW,SE,NW,15	D780	3
12-VE-229	4411015	458865	BSU	16N	10W	NW,SE,NW,15	D780	3
12-VE-230	4411050	458875	BSU	16N	10W	NW,SE,NW,15	D780	3
12-VE-231	4412142	463312	BSU	16N	9W	SE,SE,NE,5	D780	3
12-VE-232	4412101	463181	BSU	16N	9W	SE,SE,NE,5	D780	3
12-VE-233	4411905	463212	BSU	16N	9W	NE,NE,SE,5	D780	3
12-VE-234	4412700	460680	BSU	16N	9W	SE,NE,NW,6	D780	3
12-VE-235	4412096	463172	BSU	16N	9W	SE,SE,NE,5	D780	3

Table A-1. LOCATIONAL DATA, KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (concluded)

Site Number[a]	UTM[b] Northing	UTM[b] Easting	UTM[b] Ref.	Legal Reference Township	Legal Reference Range	Legal Reference Section	USGS Quad Map[c]	CR[d]
12-VE-236	4412100	463012	BSU	16N	9W	NW,NE,SE,5	D780	3
12-VE-237	4411871	462990	BSU	16N	9W	SE,NE,SE,5	D780	3
12-VE-238	4410370	460690	BSU	16N	9W	NE,NE,SW,7	D780	3
12-VE-239	4410380	460790	BSU	16N	9W	NE,NE,SW,7	D780	3
12-VE-240	4410320	460760	BSU	16N	9W	NE,NE,SW,7	D780	3
12-VE-241	4410300	460540	BSU	16N	9W	NW,NE,SW,7	D780	3
12-VE-242	4412700	460520	BSU	16N	9W	SW,NE,NW,6	D780	3
12-VE-244	4412880	463660	BSU	16N	9W	NE,NW,NW,4	D780	3
12-VE-245	4412660	463390	BSU	16N	9W	SE,NW,NW,4	D780	3
12-VE-246	4412810	464790	BSU	16N	9W	NE,NE,NE,4	D780	3
12-VE-247	4412750	463730	BSU	16N	9W	NW,NE,NW,4	D780	3
12-VE-248	4413030	461205	BSU	17N	9W	SW,SW,SW,33	D780	3
12-VE-249	4413105	461520	BSU	17N	9W	SW,SW,SW,33	D780	3
12-VE-250	4412960	461290	BSU	17N	9W	SW,SE,SE,32	D780	3
12-VE-251	4411570	459550	BSU	16N	10W	NE,NW,SE,10	D780	3
12-VE-252	4411510	459550	BSU	16N	10W	NE,SW,SE,10	D780	3
12-VE-253	4411940	459510	BSU	16N	10W	NE,NW,SE,10	D780	3
12-VE-254	4411750	459520	BSU	16N	10W	SE,NW,SE,10	D780	3
12-VE-255	4411890	459510	BSU	16N	10W	NE,[illegible]SE,10	D780	3
12-VE-256	4411710	459550	BSU	16N	10W	NE,[illegible],SE,10	D780	3
12-VE-257	4412090	459520	BSU	16N	10W	NE,NW,SE,10	D780	3
12-VE-258	4412120	459510	BSU	16N	10W	SE,SW,NE,10	D780	3
12-VE-259	4412010	459520	BSU	16N	10W	NE,NW,SE,10	D780	3
12-VE-260	4412040	459600	BSU	16N	10W	NE,NW,SE,10	D780	3
12-VE-261	4412760	460760	BSU	16N	9W	NE,NE,SW,6	D780	3
12-VE-262	4412790	460500	BSU	16N	9W	NW,NE,NW,6	D780	3
12-VE-263	4411825	458300	BSU	16N	10W	SE,NE,SE,9	D780	3

[a] Known resource locations are mapped in Figure A-1, A-2, and A-3.

[b] UTM = Universal Transverse Mercator coordinates, Zone 16. The individual or institution that computed the UTM coordinates, listed here as "Ref.," include Ball State University (BSU) and the Center for American Archeology (CAA).

[c] D780 = Dana, IN, 7.5 min. topographic sheet (1978, photorevised 1980); M778 = Montezuma, IN, 7.5 min. topographic sheet (1978).

[d] The Confidence Rating (CR) is an evaluation of the percieved reliability of the site locational data. 1 = the information is more guess than science; 2 = the judgement is moderately reliable; 3 = the information is most likely reliable.

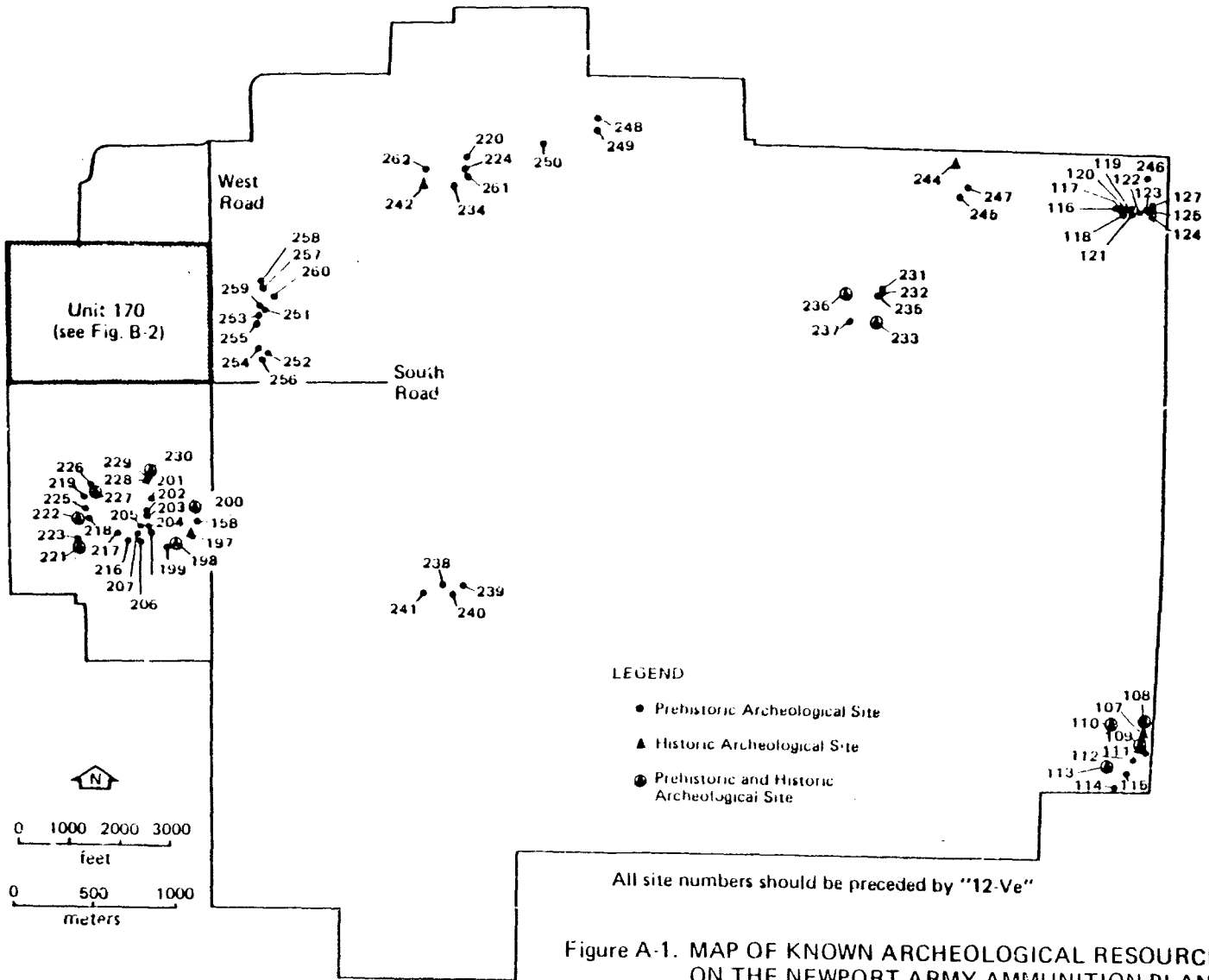

Figure A-1. MAP OF KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT ARMY AMMUNITION PLANT, MAIN AREA

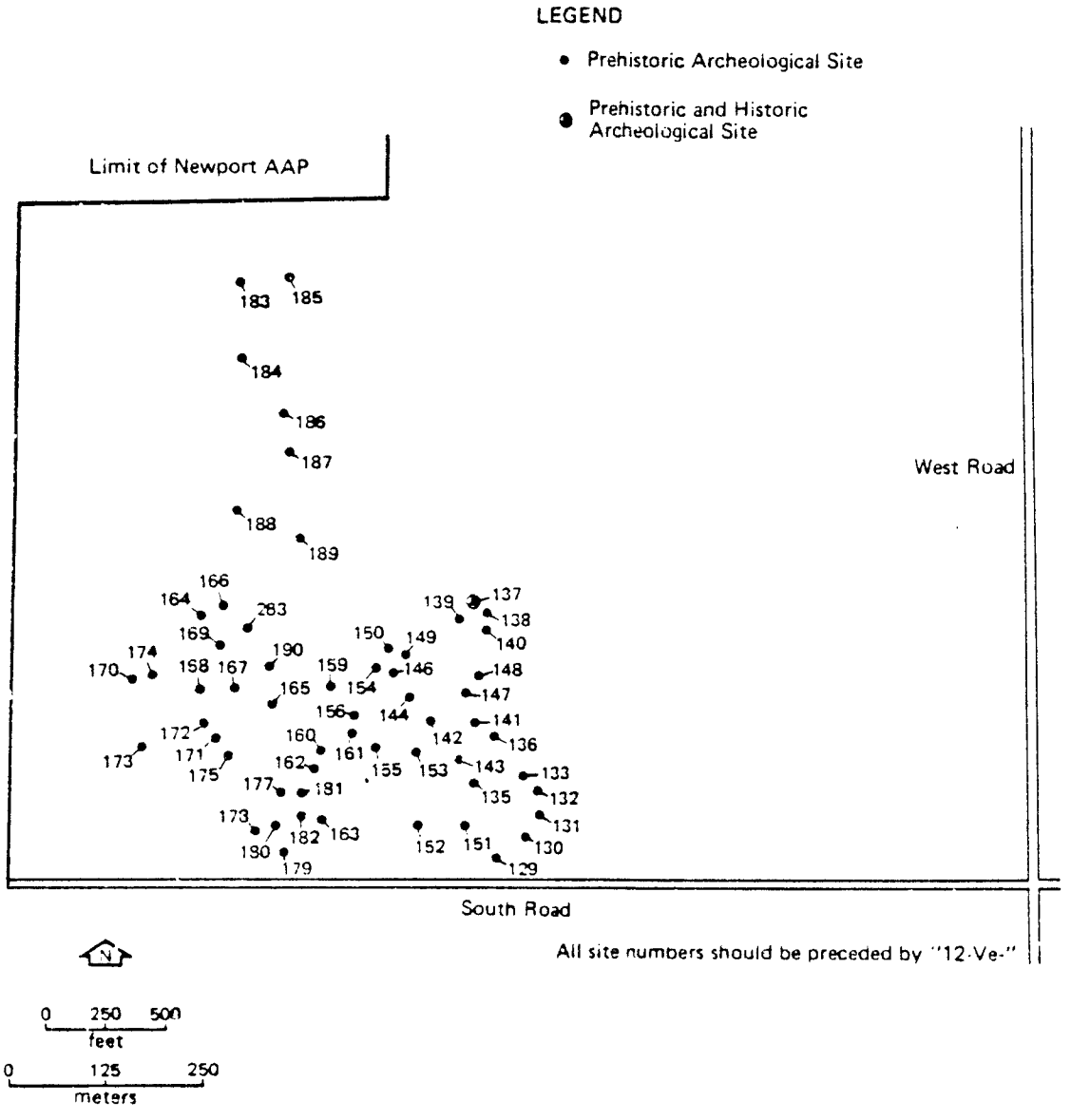

Figure A-2. MAP OF KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT ARMY AMMUNITION PLANT, UNIT 170, MAIN AREA

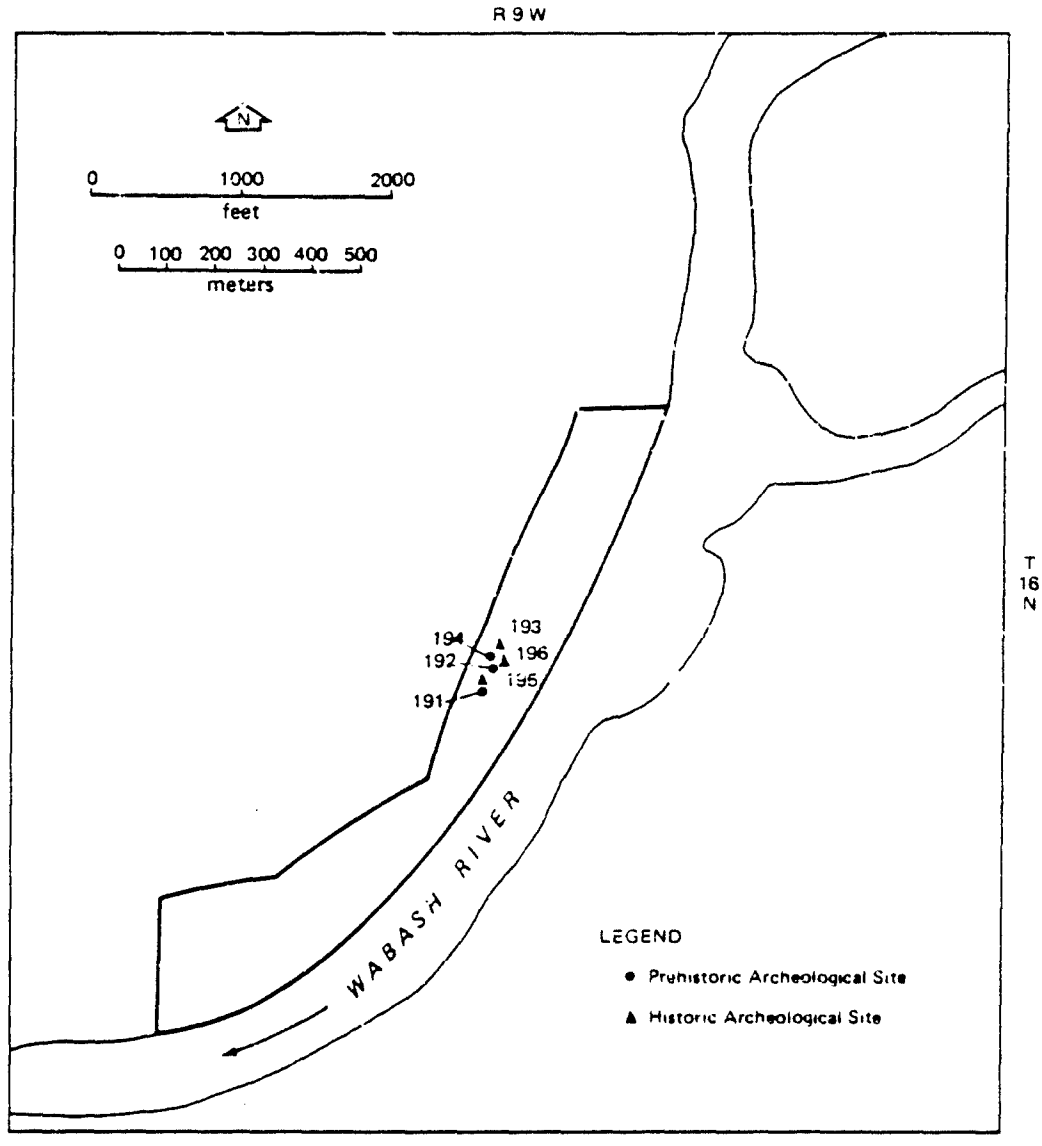

Figure A-3. MAP OF KNOWN ARCHEOLOGICAL RESOURCES ON THE NEWPORT ARMY AMMUNITION PLANT, WELLS AREA

0069D-1

Table A-2. LOCATIONAL DATA, POTENTIAL ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP

Site Number[a]	UTM[b] Northing	UTM[b] Easting	UTM[b] Ref.	Legal Reference Township	Legal Reference Range	Legal Reference Section	USGS Quad Map[c]	CR[d]
NAAP-1	4412700	462420	MARC	16N	9W	5	D780[c]	3
NAAP-2	4411760	460820	MARC	16N	9W	6	D780	3
NAAP-3	4409800	463350	MARC	16N	9W	9	D780	3
NAAP-4	4412350	459280	MARC	16N	10W	10	D780	3
NAAP-5	4411250	461880	MARC	16N	9W	8	D780	3
NAAP-6	4409710	463240	MARC	16N	9W	8	D780	3
NAAP-7	4413600	460360	MARC	17N	9W	32	D780	3
NAAP-8	4412980	460040	MARC	17N	9W	32	D780	3
NAAP-9	4412890	459800	MARC	46N	10W	10	D780	3
NAAP-10	4412880	461340	MARC	16N	9W	6	D780	3
NAAP-11	4412760	461440	MARC	16N	9W	6	D780	3
NAAP-12	44129001	462950	MARC	16N	9W	5	D780	3
NAAP-13	4412670	463970	MARC	16N	9W	4	D780	3
NAAP-14	4412890	464660	MARC	16N	9W	4	D780	3
NAAP-15	4412160	464830	MARC	16N	9W	4	D780	3
NAAP-16	4411480	464860	MARC	16N	9W	4	D780	3
NAAP-17	4411470	464840	MARC	16N	9W	4	D780	3
NAAP-18	4411990	462560	MARC	16N	9W	5	D780	3
NAAP-19	4411230	461720	MARC	16N	9W	5	D780	3
NAAP-20	4411820	460150	MARC	16N	9W	6	D780	3
NAAP-21	4411580	460120	MARC	16N	9W	6	D780	3
NAAP-22	4411510	460060	MARC	16N	9W	6	D780	3
NAAP-23	4411580	459300	MARC	16N	10W	10	D780	3
NAAP-24	4411030	458240	MARC	16N	10W	16	D780	3
NAAP-25	4411010	458200	MARC	16N	10W	16	D780	3
NAAP-26	4411240	464830	MARC	16N	9W	9	D780	3
NAAP-27	4409970	458570	MARC	16N	10W	16	D780	3
NAAP-28	4410680	459300	MARC	16N	10W	15	D780	3
NAAP-29	4411220	461620	MARC	16N	9W	7	D780	3
NAAP-30	4409760	460100	MARC	16N	9W	7	D780	3
NAAP-31	4410140	461100	MARC	16N	9W	7	D780	3
NAAP-32	4411280	461790	MARC	16N	9W	8	D780	3
NAAP-33	4409740	462550	MARC	16N	9W	8	D780	3
NAAP-34	4410620	463380	MARC	16N	9W	8	D780	3
NAAP-35	4410540	463390	MARC	16N	9W	9	D780	3
NAAP-36	4410480	463400	MARC	16N	9W	9	D780	3
NAAP-37	4409650	462990	MARC	16N	9W	9	D780	3

Table A-2. LOCATIONAL DATA, POTENTIAL ARCHEOLOGICAL RESOURCES ON THE NEWPORT AAP (concluded)

Site Number[a]	UTM[b]			Legal Reference			USGS Quad Map[c]	CR[d]
	Northing	Easting	Ref.	Township	Range	Section		
NAAP-38	4409700	463900	MARC	16N	9W	9	D780	3
NAAP-39	4410470	464840	MARC	16N	9W	16	D780	3
NAAP-40	4409660	462990	MARC	16N	9W	17	D780	3
NAAP-41	4409640	462560	MARC	16N	9W	17	D780	3
NAAP-42	4408900	461140	MARC	16N	9W	18	D780	3PNAAP-
43	4408780	459310	MARC	16N	9W	22	D780	3
NAAP-44	NA	NA	NA	16N	9W	SE,SE,NE,6	D780	1

a Potential resource locations are mapped in Figure A-4.

b UTM = Universal Transverse Mercator coordinates, Zone 16. The individual or institution that computed the UTM coordinates, listed here as "Ref.," include the Midwestern Archeological Research Center, Illinois State University, Normal (MARC). UTM data were not available (NA) for all potential sites.

c 780 = Dana, IN, 7.5 min. topographic sheet (1978, photorevised 1980).

d The Confidence Rating (CR) is an evaluation of the perceived reliability of the site locational data. 1 = the information is more guess than science; 2 = the judgement is moderately reliable; 3 = the information is most likely reliable.

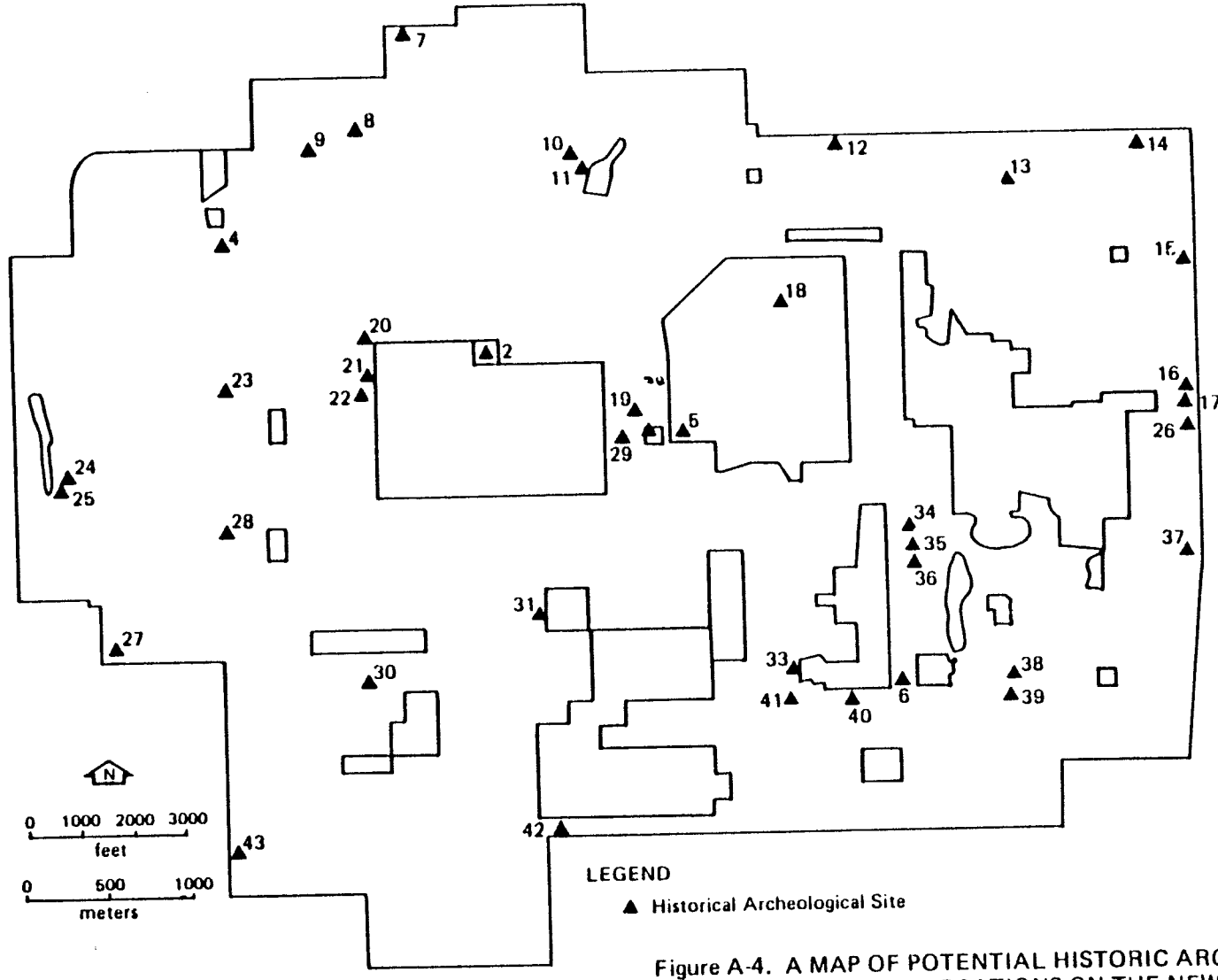

Figure A-4. A MAP OF POTENTIAL HISTORIC ARCHEOLOGICAL RESOURCE LOCATIONS ON THE NEWPORT ARMY AMMUNITION PLANT, MAIN AREA

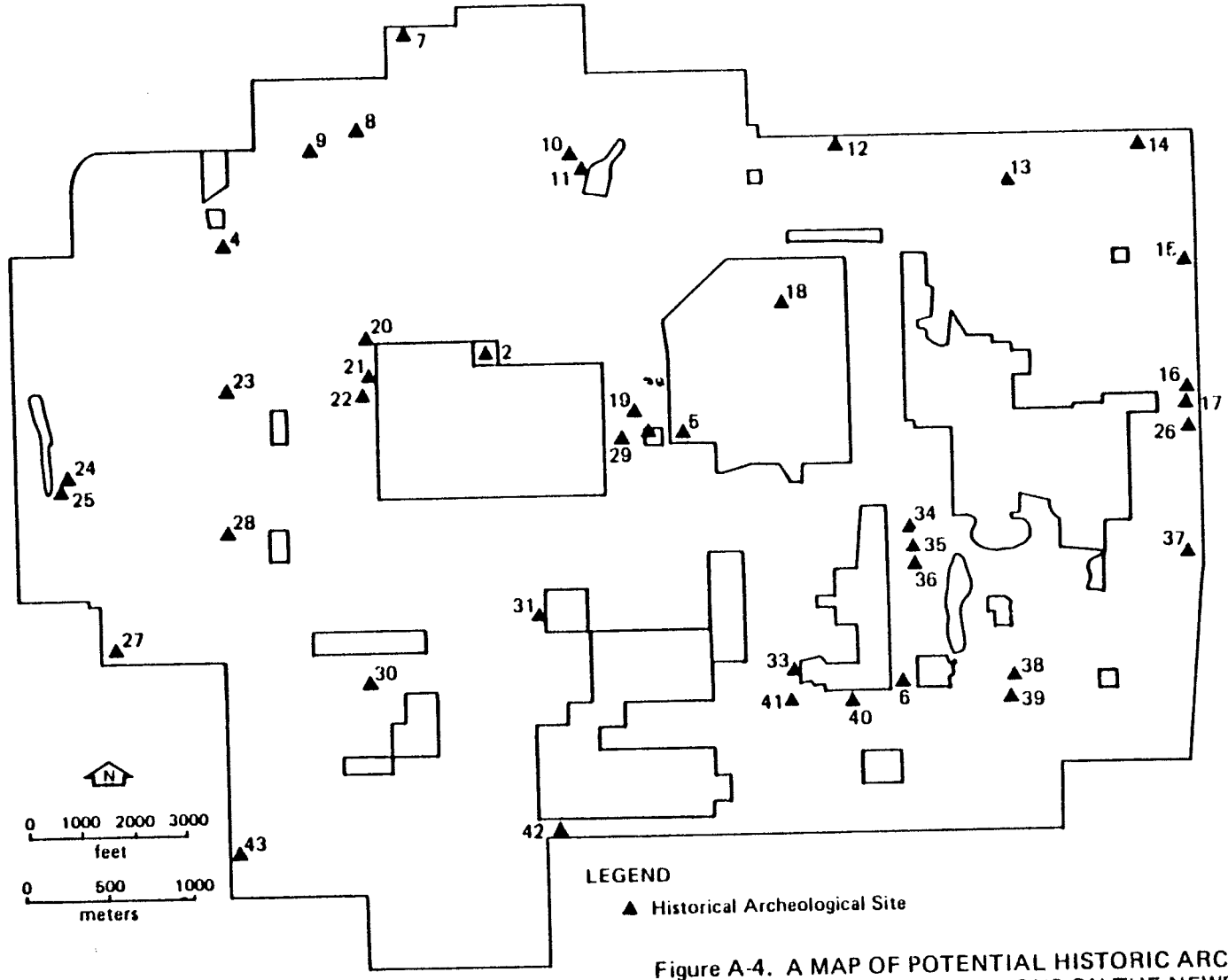

Figure A-4. A MAP OF POTENTIAL HISTORIC ARCHEOLOGICAL RESOURCE LOCATIONS ON THE NEWPORT ARMY AMMUNITION PLANT, MAIN AREA