

PHASE IA HISTORICAL AND ARCHAEOLOGICAL SURVEY



HOMA LANE DRAINAGE IMPROVEMENTS

Borough of Alpha, Warren County, New Jersey

HPO Project # 17-0099-1

PREPARED FOR:

Client

Date



CULTURAL
RESOURCE
CONSULTANTS

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EXECUTIVE SUMMARY

RGA, Inc. (RGA) completed a Phase IA historical and archaeological survey within the Area of Potential Effects (APE) associated with proposed drainage improvements to Homa Lane in the Borough of Alpha, Warren County, New Jersey. The project consists of the construction of a flooding/storage area, and habitat creation and enhancement activities along with construction of an associated berm within an approximately 9.48-acre area. A Freshwater Wetlands (FW) permit from the New Jersey Department of Environmental Protection (NJDEP), Division of Land Use Regulation is required for the proposed project, thereby requiring compliance with N.J.A.C. 7:7A. In a review letter dated November 14, 2016, the New Jersey Historic Preservation Office (NJHPO) indicated that the project area is adjacent to the Still Valley Prehistoric District (SHPO Opinion: 7/7/1983) and that a Phase IA archaeological investigation would be required to assess the potential for impacts on archaeological resources (Appendix A).

The purpose of the Phase IA historical and archaeological survey was to determine if documented prehistoric and historic archaeological resources exist within the APE, to assess the potential for the APE to contain undocumented prehistoric and historic archaeological sites, and to make recommendations for any further studies that may be required. The Phase IA historical and archaeological survey included background research, consultation with interested parties, a site visit to record existing conditions within the APE, an assessment of archaeological sensitivity, and reporting of the results and conclusions of the survey.

The results of the background research indicated that although there are no archaeological sites within the APE, the APE is located within 1,000 feet of the Still Valley Prehistoric District, and seven prehistoric sites have been identified within one-mile, five of which are part of the district. Well-drained soils in upland settings are present within portions of the APE. The northwest corner of the APE consists of wetlands and other areas in the northern half of the APE have been disturbed as a result of prior drainage improvements. Undisturbed upland areas are present in other portions of the APE that have moderate to high sensitivity for both prehistoric and historic resources. The historic map review indicated that the eastern edge of the APE is nearly adjacent to a structure that was present by at least 1861, and County Route 519, a historic road which dates to at least the mid-nineteenth century, is located approximately 200 feet east of the APE. As a result, undisturbed portions of the APE within 100 feet of the historic structure are assessed with high sensitivity for historic archaeological resources. Areas farther from the structure are assessed with low to moderate historic sensitivity. A Phase IB survey is recommended for the undisturbed portions of the APE that were assessed with high prehistoric and historic sensitivity.

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1.0 INTRODUCTION

This report presents the results of a Phase IA historical and archaeological survey completed on behalf of Remington & Vernick Engineers in association with proposed drainage improvements for Homa Lane in the Borough of Alpha, Warren County, New Jersey (Figures 1.1-1.2). The purpose of the Phase IA historical and archaeological survey was to assess the potential for significant archaeological resources within the Area of Potential Effects (APE) and to make recommendations for any further studies that may be required.

Mary Lynne Rainey, MA, RPA served as the Principal Investigator for the project and Laura Cushman was the project archaeologist and co-authored the report along with Ms. Rainey. Allison Gall conducted the background research and Patricia McEachen produced the report graphics. Mary Lynne Rainey, Richard Grubb and Catherine Smyrski edited and Ms. Smyrski formatted the report. Copies of this report are on file at RGA, Inc. (RGA) headquarters in Cranbury, New Jersey.

1.1 Regulatory Context

The Phase IA historical and archaeological survey meets the requirements of the New Jersey Department of Environmental Protection (NJDEP) Division of Land Use Regulation Program and the New Jersey Historic Preservation Office (NJHPO). A Freshwater Wetlands (FW) permit is required for the project. According to the FW Rules (N.J.A.C. 7:7A), archaeological, historical, and architectural resources eligible for listing on the New Jersey and National Register of Historic Places (NRHP) must be identified in order to determine if the project will affect such resources.

In a review letter dated November 14, 2016, the New Jersey Historic Preservation Office (NJHPO) indicated that the project area is adjacent to the Still Valley Prehistoric District (SHPO Opinion: 7/7/1983) and that a Phase IA archaeological investigation should be completed to assess the potential for impacts on archaeological resources (Appendix A).

This Phase IA historical and archaeological survey complies with NJDEP's Guidelines for Phase I Archaeological Investigations, and Guidelines for Preparing Cultural Resources Management Archaeological Reports (NJHPO 1994, 1996, 2003). The Principal Investigator meets the professional qualifications standards of 36 CFR 61 set forth by the National Park Service (Appendix B).

1.2 Project Description

The proposed project consists of drainage improvements for Homa Lane, a farm lane located to the south of the APE that extends west from County Route (CR) 519. A prior storm water management study conducted by Remington & Vernick Engineers indicated that the majority of the storm water in the Borough of Alpha drains to the Homa Lane area (Remington & Vernick 2016a). Remington & Vernick Engineers presented options to the borough for improvements to minimize flooding and the borough selected the option to alleviate the flooding at Homa Lane by moving the flooding/storage area from the Homa property upstream to the borough's recreation complex property where there will be no impacts to residential or commercial properties (Remington and Vernick 2016a). The proposed improvements will include construction of a flooding/storage area and habitat creation and enhancement activities along with an associated berm within an approximately 413,000-square-foot (9.48-acre) rectangular area on a property west of CR 519 in the Borough of Alpha, Warren County. A site and grading plan provided by Remington & Vernick Engineers shows the preliminary locations of the proposed project impacts within a larger, rectangular study area (Figure 1.3).

1.3 Area of Potential Effects

The APE is defined in 36 CFR 800.16(d) as “the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking.”

The APE includes locations that potentially may be impacted by construction, or that may experience effects once construction is completed. For example, the APE includes all locations where an undertaking may result in disturbance of the ground and where the activity may result in changes in land use. Project effects can include physical destruction, demolition, damage, or the alteration of an historic resource. For the current undertaking, the APE includes the areas that will be directly impacted by below-ground disturbances.

The APE for this project is located on nearly level lowland terrain adjacent to a drainage that runs south into a low order tributary of Pohatcong Creek and also on gently to moderately sloped upland terrain located further to the east and west (see Figure 1.1). The proposed project impacts include the construction of a flooding/storage area and habitat creation and enhancement area along with an associated berm. The APE includes all portions of the proposed undertaking where ground disturbance is proposed or may occur in association with the proposed drainage improvements. Since the project is still in the preliminary design stage, the APE consists of a rectangular study area defined by Remington & Vernick Engineers that encompasses approximately 9.48 acres (see Figure 1.3).

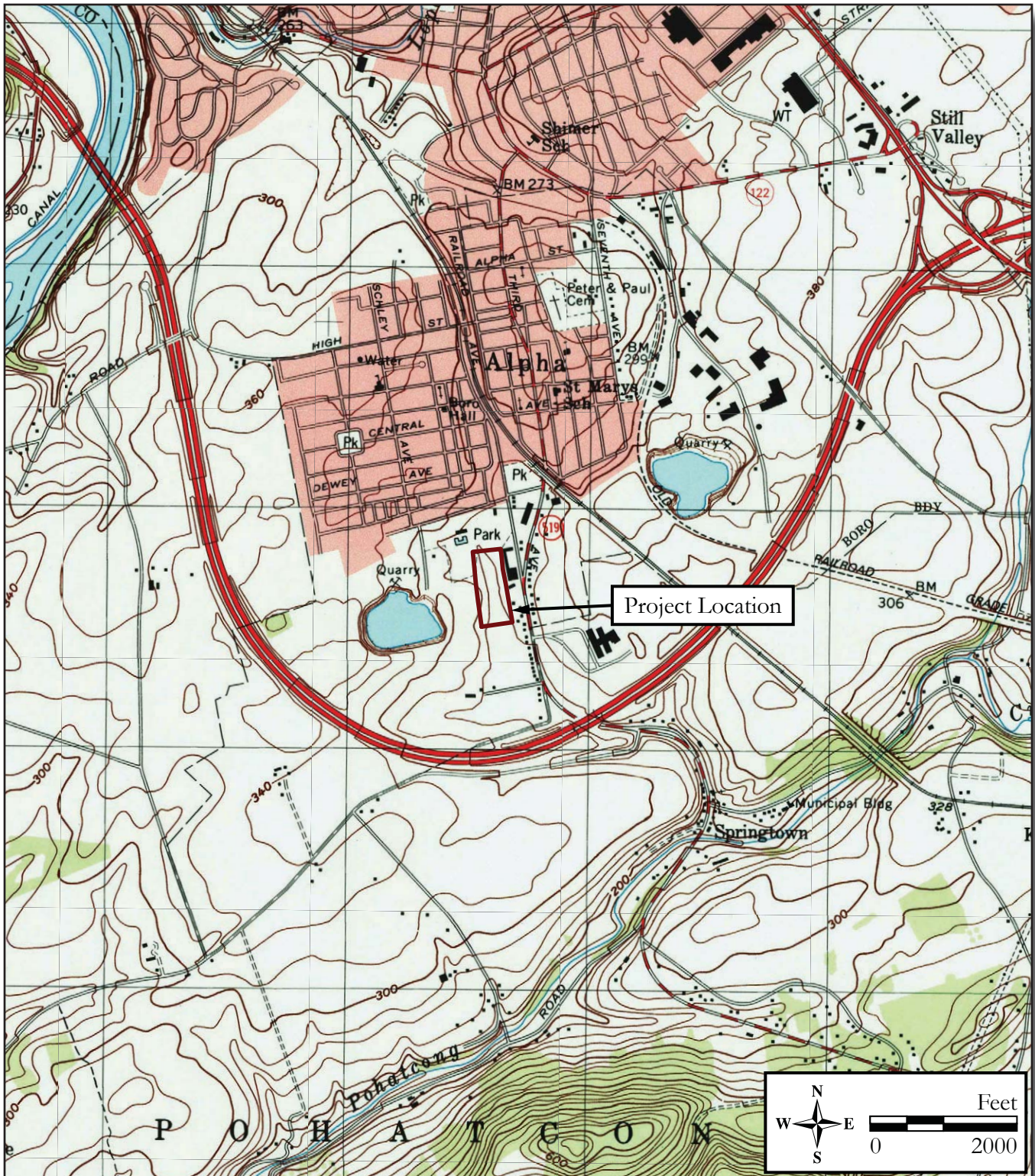


Figure 1.1: U.S.G.S. Map
(from 1999 U.S.G.S. 7.5' Quadrangle: Easton, PA-NJ).

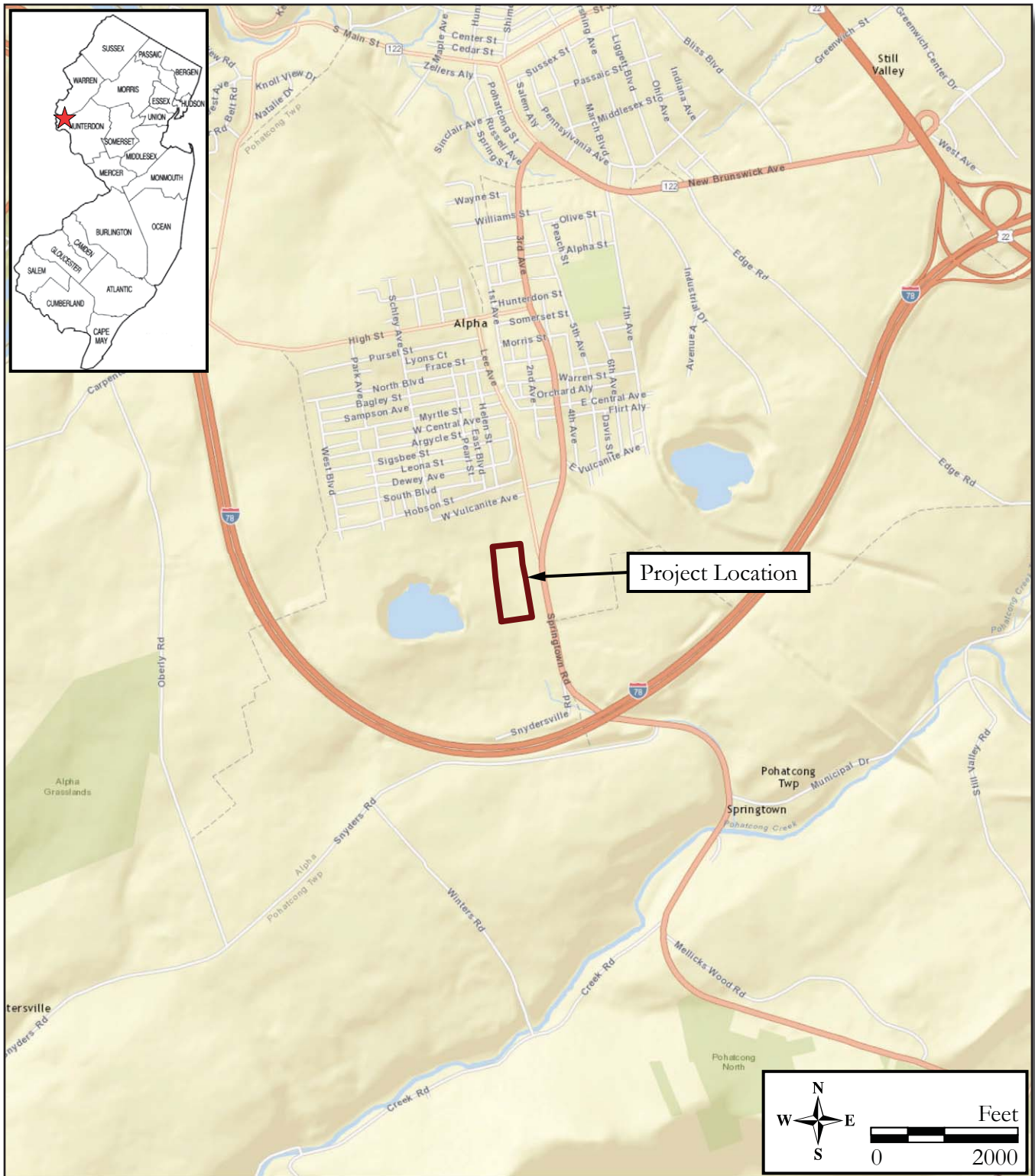


Figure 1.2: Street Map
(from ESRI 2016).

2.0 RESEARCH GOALS AND DESIGN

2.1 Research Goals

The goal of the Phase IA historical and archaeological survey was to identify archaeological sites potentially eligible for or listed in the NRHP within the APE, to evaluate the archaeological sensitivity of the APE, and to make recommendations for any additional studies that may be required. The archaeological survey methods included background research, consultation with interested parties, a pedestrian reconnaissance to examine existing conditions, an assessment of archaeological sensitivity, and reporting of results. Determinations of significance are based on the NRHP Criteria of Evaluation (see Section 2.3).

2.2 Research Methods

Research was conducted to identify any previously registered archaeological sites or historic properties within or near the APE and to develop relevant prehistoric and historic contexts for the project area. Research was completed at the NJHPO in Trenton to identify resources within or near the APE listed in or eligible for listing in the NRHP. Previous historic sites survey reports and regulatory survey reports on file at the NJHPO were also reviewed. Files at the New Jersey State Museum (NJSM) were checked to determine if any registered archaeological sites are within or near the APE. Additional background research consisted of a review of pertinent primary and secondary sources, including historic maps, atlases, and local and county histories available online and at the New Jersey State Library and the New Jersey State Archives in Trenton.

2.3 National and New Jersey Registers of Historic Places Criteria

Significant historic properties include districts, structures, objects, or sites that are at least 50 years of age and meet at least one National Register criterion (National Park Service 1995). Criteria used in the evaluation process are specified in the Code of Federal Regulations, Title 36, Part 60, National Register of Historic Places (36 CFR 60.4). To be eligible for inclusion in the NRHP, a historic property(s) must possess:

the quality of significance in American History, architecture, archaeology, engineering, and culture [that] is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- a) that are associated with events that have made a significant contribution to the broad patterns of our history, or
- b) that are associated with the lives of persons significant in our past, or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components lack individual distinction, or
- d) that have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance

within the past 50 years shall not be considered eligible for the NRHP. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- a) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or
- b) a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or
- c) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or
- d) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or
- e) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or
- f) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or
- g) a property achieving significance within the past 50 years if it is of exceptional importance. (36 CFR 60.4)

When conducting National Register evaluations, the physical characteristics and historic significance of the overall property are examined. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, and physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period, or b) it independently meets the National Register criteria. A non-contributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was not present during the period of significance, b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or c) it does not independently meet the National Register criteria.

Archaeological sites are frequently eligible for inclusion on the National Register under Criterion D. The application of Criterion D to archaeological sites is based on a researcher's assessment of a particular site's significance and whether a particular site is likely to yield important information for the reconstruction of past lifeways (Glassow 1977; Talmage and Chesler 1977; Raab and Klinger 1977; Moratto and Kelly 1978; Raab 1981; Tainter and Lucas 1983; Shott 1987).

Raab and Klinger (1977) have argued that significance should be measured in terms of a site's potential to provide information on specific research issues that are carefully formulated based on prior research studies. Glassow (1977) and Tainter and Lucas (1983) have argued that significance should be judged on the theory neutral dimensions of variety, quantity, clarity, integrity, and environmental context.

An archaeological site is evaluated as significant when it possesses the potential to address important research issues and the integrity to convey this significance.

The empirical dimensions of a site, including the presence of sufficient data sets to address significant research issues, must be considered to determine integrity. Only sites possessing both the potential to address specific research questions coupled with integrity are considered significant (King 1998:77; Little 1997:179-180; Little et al. 2000; National Park Service 1995:44-46).

2.4 Interested Parties Consultation

Under New Jersey FW regulations, the views of the public are essential to informed decision-making pertaining to regulated activities; therefore, members of the public were informed about the project and given the opportunity to comment. Organizations and individuals with an identified interest in archaeology, history, and historic preservation were contacted. To date, no responses have been received. If any correspondence arrives after submission of this report, copies will be forwarded to the NJHPO as an addendum. A record of correspondence with all individuals and organizations contacted during this survey is contained in Appendix C of this report.

3.0 ENVIRONMENTAL CONTEXT

The APE is located within the southwestern portion of the New Jersey Highlands Physiographic Province near the interface with the Ridge and Valley Physiographic Province (Figure 3.1). The New Jersey Highlands Physiographic Province is characterized by Precambrian gneisses, schists and metasediments with some marble or crystalline limestone and intrusive igneous rocks that have been metamorphosed mainly into gneisses (Wolfe 1977). The New Jersey Highlands terrain consists of northeast-southwest trending broad, rounded or flat topped ranges that are separated by deep narrow valleys lying 400 to 600 feet below the ridge crests. Additionally, a few large rivers, such as the Rockaway, the Pequannock, and the Delaware, have cut transverse valleys across the resistant ridges and the general structure trend (Wolfe 1977). The Ridge and Valley Physiographic Province is characterized by a series of parallel northeast/southwest oriented ridges and valleys (see Figure 3.1) (Wolfe 1977). The valleys contain outcrops of Precambrian limestone, which produce a low grade chert suitable for chipped stone tool production (Hunter Research, Inc. 2011). The bedrock that underlies the APE is Oridivician-age Jacksonburg Limestone (Oj) which consists of shaly limestone, arenaceous limestone, and minor dolomite-cobble conglomerate (Drake et al. 1996). Surficial sediments in the APE consist of Pleistocene-age Carbonite-clast colluvium (Qccb) composed of a silt to clayey-silt matrix containing chips, pebbles, and cobbles of carbonate rock and minor chert and shale, and Pleistocene-age Clayey silty carbonite-rock residuum and rock rubble (GTcw) consisting of clayey silty sand to silty clay containing angular clasts of chert, weathered carbonate rock and shale (Stone et. al. 2002).

Elevations within the APE range between approximately 255 and 272 feet above mean sea level (see Figure 1.1). The APE is located within the Pohatcong Creek watershed and a drainage channel runs roughly north to south through the center of the APE. This is likely a natural drainage that was modified in association with use of the area for agriculture and/or for stormwater management. The drainage channel extends south and empties into a low order tributary of Pohatcong Creek located to the south, outside of the APE. The tributary south of the APE flows east along the south side of a farm lane (Homa Lane) towards the Pohatcong Creek. The Pohatcong Creek empties into the Musconetcong River, which flows into the Delaware River. The Delaware River drains into Delaware Bay and ultimately into the Atlantic Ocean.

Four soil types are mapped within the APE: Fredon-Halsey complex, 0 to 3 percent slopes, very stony (FrdAb), Washington silt loam, 3 to 8 percent slopes and 8 to 15 percent slopes (WafB and WafC), and Udorthents-Urban land complex, 0 to 8 percent slopes (Udaub) (Natural Resources Conservation Service [NRCS] 2016; Figure 3.2; Table 3.1). The Fredon-Halsey complex is somewhat poorly drained and is found in the lowland areas adjacent to the drainage channel that runs north to south through the center the APE (see Figure 3.2; NRCS 2016). The Udorthents-Urban land complex soil type is found at the northern end of the APE. This soil type, although classified as well drained, consists of fill and/or disturbed original soil material (NRCS 2016). The Washington silt loam soil types, which are well drained natural soils, are found on gently to moderately sloping uplands at the southwestern and southeastern edges of the APE (see Figure 3.2).

The suggested current vegetation classification for the APE and northern New Jersey in general, is Mixed Oak Forest, Northern Phase, a term that reflects the drastic decline in American chestnut since prehistoric times (Collins and Anderson 1994). This forest type is dominated by white, black, and red oaks interspersed with tulip tree and sweet gum as well as various species of hickory and maple (Collins and Anderson 1994:112). An understory of flowering dogwood, ironwood, maple-leaved viburnum, spice bush, and a variety of herbaceous weeds and vines also characterize this forest type (Collins and Anderson 1994:115). Agricultural activities within the APE and its surrounding area have resulted in the removal of much of this forest cover. Current vegetation observed within the APE included secondary growth mixed deciduous forest in lowland areas adjacent to the drainage with moderate underbrush

Table 3.1: Soils mapped within the APE (NRCS 2016).

Name	Soil Horizon: Depth	Texture	Drainage	Landform
Fredon-Halsey complex, 0 to 3 percent slopes, very stony (FrdAb)	Oi: 0 to 1 inches A: 1 to 8 inches Bw1: 8 to 14 inches Bw2: 14 to 18 inches Bw3: 18 to 23 inches 2C1: 23 to 31 inches 2C2: 31 to 36 inches 2C3: 36 to 45 inches 2C4: 45 to 55 inches 2C5: 55 to 60 inches	Slightly decomposed plant material Silt loam Silt loam Loam Loam Extremely gravelly loamy coarse sand Extremely gravelly coarse sand Very gravelly coarse sand Extremely gravelly coarse sand Very gravelly coarse sand	Somewhat poorly drained	Drainageways
Washington silt loam, 3 to 8 percent slopes (WafB)	Ap: 0 to 7 inches Bt1: 7 to 16 inches Bt2: 16 to 50 inches BC: 50 to 60 inches	Silt loam Clay loam Clay loam Gravelly loam	Well drained	Ground moraines
Washington silt loam, 8 to 15 percent slopes (WafC)	Ap: 0 to 7 inches Bt1: 7 to 16 inches Bt2: 16 to 50 inches BC: 50 to 60 inches	Silt loam Clay loam Clay loam Gravelly loam	Well drained	Ground moraines
Udorthents-Urban land complex, 0 to 8 percent slopes (UdauB)	A: 0 to 12 inches C: 12 to 72 inches	Loam Loamy sand	Well Drained	Low Hills

and ground cover, manicured grass on uplands in the southeast corner of the APE behind residences along CR 519, and Phragmites (common reed) in the wetlands area at the northwest corner of the APE. The southwestern portion of the APE is located within an agricultural field that was most recently planted with corn.

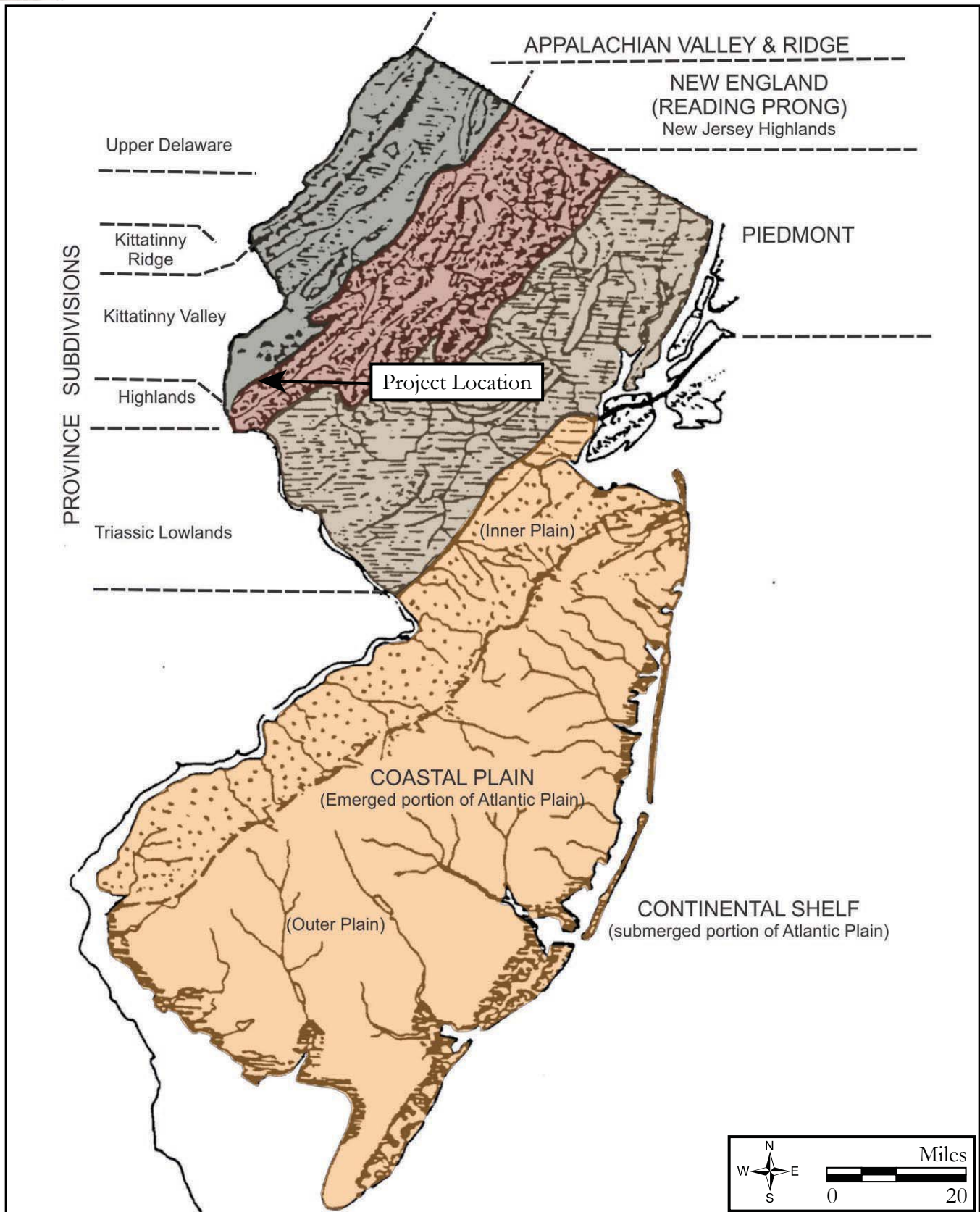


Figure 3.1: Physiographic Provinces Map
(adapted from Wolfe 1977).

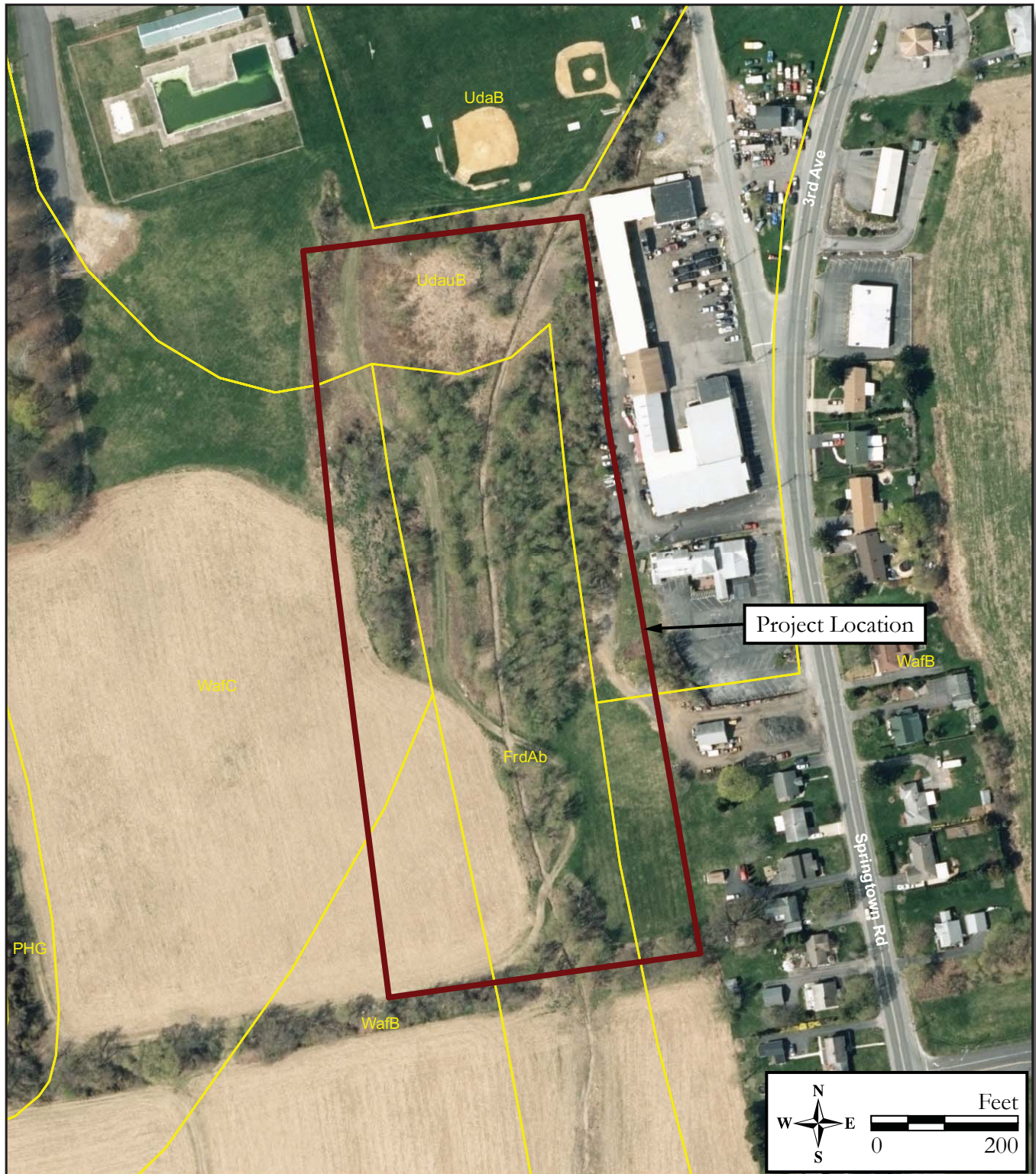


Figure 3.2: Soils Map
(adapted from NRCS 2016).

4.0 BACKGROUND RESEARCH

Background research was conducted to develop environmental and cultural contexts and to identify previously documented archaeological resources within or near the APE. Research was conducted at the NJHPO in Trenton to identify any historic or archaeological resources located within or near the APE that are listed in or eligible for the State or NRHP, and to review cultural resources survey reports on file for prior projects in the vicinity of the APE. Site files at the NJSM in Trenton were examined to identify locations of registered archaeological sites. A review of environmental data, historic maps, local and county histories, selected primary research documents, and historic and modern aerial imagery, was also conducted to develop a land use history for the APE.

4.1 Prehistoric Context

Archaeologists organize chronological and cultural information about the prehistoric occupants of New Jersey and the Middle Atlantic into three broad time periods: Paleo-Indian +/-9500B.C.-8000 B.C., Archaic 8000-1000 B.C., and Woodland 1000 B.C.-A.D. 1600 (Table 4.1; Chesler 1982; Custer 1996; Grossman-Bailey 2001; Kraft 1986, 2001; Mounier 2003). These periods act as a framework in order to study the approximately 12,000 years of human occupation in the area. The Archaic and Woodland periods are subsequently subdivided into Early, Middle, and Late sub-periods. The prehistoric era is considered to have ended approximately 1550 to 1600 A.D., during the time of initial contact between Native groups and Old World populations, and is followed by a period of extensive colonization by the Dutch, Swedish, and English. More localized settlement pattern studies have helped to refine this Middle Atlantic prehistory with reference to subsistence strategies and occupational patterns in southern New Jersey (Fitting 1979; Mounier 1978; Pagoulatos 1998; Wall et al. 1996). A brief summary is presented below.

Mounting evidence exists of occupations in North American predating Clovis/Paleo-Indian times (e.g. Bradley and Stanford 2004; McAvoy and McAvoy 1997; Macphail and McAvoy 2008; Wagner and McAvoy 2004). The first occupations in New Jersey date to circa 12,000 years ago or earlier and are known as the Paleo-Indian period. Native Americans adapted to changing climactic and geological conditions by changing their subsistence strategies, mobility, use of resources and social networks, including trade and exchange (Boyd 2005; Chesler 1982; Custer 1996; Grossman-Bailey 2001; Kraft 1986, 2001; Mounier 2003; Ritchie 1980; Wall et al. 1996).

Some of the most important early Native American sites in New Jersey were recorded along the Delaware and its major tributaries in northwest New Jersey near the APE. The Paleo-Indian period Plenge site is located near the confluence of the Musconetcong and the Delaware rivers to the southwest of the APE; other important sites include the Miller Field, Tocks Island, and Zierdt sites in New Jersey and the Shawnee-Minisink site in Pennsylvania (Chesler 1982; Kraft 2001; Mounier 2003; Orr and Campana 1991). Other deeply buried, stratified sites in the Upper and Middle Delaware Valley include: Sandts Eddy (Bergman et al. 1992), Williamson (Hummer 1991, 1994), Lower Blacks Eddy (Schuldenrein et al. 1991; Robertson and Kingsley 1994), and Harry's Farm (Kraft 2001).

Early human populations inhabiting the Delaware River drainage during the Paleo-Indian period were most likely organized as small hunter-gatherer bands characterized by low population density and high mobility who occupied caves and rockshelters as well as short-term open air camps. The New Jersey coastline was 60 to 80 miles (96.6 to 128.7 kilometers) east of its present-day location. The lower sea levels that resulted from glacial expansion exposed a broad, flat continental shelf of marshes and meadows cut by deep river channels and branching streams (Kraft 1977; Chesler 1982; Grossman-Bailey 2001; Mounier 2003). Based on the distribution of over 200 fluted projectiles, primarily Eastern Clovis points and Dalton points recovered throughout New Jersey, Paleo-Indian groups may have preferred riverine settings.

Table 4.1: Summary of New Jersey prehistory.

Time Frame	Period	Characteristics
A.D. 1550/1600 to A.D. 1750	Contact	- European contact and initial colonization - Continuity of aspects of Algonkian ideology
A.D. 900 to A.D. 1600	Late Woodland	- Triangular projectile points- bow and arrow - Unfortified hamlets, camps, smaller territories - Territories of the proto-Lenape/Unami, Algonkian ideology - Foraging, limited agriculture in portions of southern NJ - Cord-decorated and incised ceramics - Use of cobble cherts and jasper - Climate: modern- Sea level rise remains a factor
A.D. 0 to A.D. 900	Middle Woodland	- Hunter-gatherers, seasonal fission/fusion of social groups - Large and small camps - More kinds of ceramics - Mortuary ceremonialism - Large scale exploitation of seasonal resources
1000 B.C. to A.D. 0	Early Woodland	- Band level society with first evidence of community identity - Mortuary ceremonialism - Extensive trade networks for exotic raw materials - Shellfish exploitation - Experimentation and early use of ceramics - Climate: cool and wet
1000 B.C. to 3000 B.C.	Late Archaic	- BROADSPEAR, narrow-stemmed, fishtail points - Mortuary ceremonialism - Extensive trade networks for exotic raw materials - Intensive use of local materials - Social differentiation - Increased sedentism - Change in vessel technology- soapstone bowls - Climate: warmer & dryer than present, sea level rise slows
3000 B.C. to 6500 B.C.	Middle Archaic	- Bifurcate points, stemmed points - Hunter-gatherers with increasing intensification of resource use - Use of shell fish documented in the region - Use of more varied lithic materials and tool categories - Large and small camps, stratified riverine settlement system - Band level society - Climate: warm and wet
6500 B.C. to 8000 B.C.	Early Archaic	- Corner-notched and stemmed point types - Spear- thrower technology - Use of more types of stone for tools - Exploitation of more kinds of food resources? - Very similar to Paleo-Indian Period - Climate: cold and drier than present, rapid sea level rise
8000 B.C. to 9500 B.C.	Paleo-Indian	- Highly mobile - Large game hunting followed by generalized foraging patterns - Fluted projectile points usually made of jasper or chert - Band level society - Climate: cold and wet, mosaic of mixed grasslands, extremely rapid sea level rise

The Early Archaic period (10,000 to 8,000 B.P./8000 to 6000 B.C.) was associated with a continuing expansion of forest habitats. The in-migration of various nut-bearing oak and chestnut species may have provided a catalyst for a subsistence shift to broad-spectrum foraging that favored plant gathering and processing strategies. Floodplains and river islands were attractive locations for hunter-gatherer camps as upland areas continued to be predominated by boreal forest. However, during this period,

limited use of upland lakes and bogs is evidenced by a small number of archaeological sites adjacent to these locales. Sinkhole complexes may have supported clusters of natural ponds throughout the Late Pleistocene and Early Holocene that would have been attractive locations for migratory wildlife and the human populations that exploited them. Such freshwater wetlands added to the diversity of resources available in the periods immediately following the last glaciation and made broad-spectrum foraging a successful subsistence strategy for human populations (Custer 1996; Cavallo and Mounier 1980; Pagoulatos and Walwer 1991). Early Archaic diagnostic artifacts include Palmer and Kirk stemmed and notched points, chipped stone choppers, and hammerstones (Kraft 2001).

The Middle Archaic period (8,000 to 6,000 B.P./6,000 to 4,000 B.C.) is characterized by increasing reliance on locally available resources. Diagnostic artifacts include bifurcate, Stanly, and Neville stemmed points and groundstone tools such as axes, adzes, and ulus or semi-lunar knives (Kraft 2001).

Environmental changes that occurred over the course of the Archaic period produced a warmer and wetter climate allowing the development of deciduous forests that more closely resembled their modern counterparts. Decline in boreal species and an increase in oak and hemlock favored the influx of new plant and animal communities. However, the distribution of these resources differed markedly from that of contemporary communities. The increase in temperature and rainfall (known as the Atlantic Episode) also favored the expansion of wetlands throughout the region. The result of all of these environmental changes was an interior that was more homogeneous and productive than that enjoyed by previous human populations (Custer 1996; Chesler 1982). Settlement models demonstrate increased sedentism with large base camps located on major streams supported by small, seasonally occupied upland procurement camps geared to the exploitation of specific resources (Kinsey 1972:331). The first use of shellfish is documented in the Lower Hudson River at the end of the Middle Archaic period and is evidenced on some sites integrated within a stratified riverine or coastal settlement system of large and small camps within a band level society.

The archaeological record of the Late Archaic period (6,000 to 3,000 B.P./4,000 to 1,000 B.C.) suggests some population growth as well as a more intensive utilization of sites in preferred ecological settings. More repeated and intensive use of riverine settings is indicated. Moreover, use of more productively marginal resource areas increases and regional exchange networks appear for the first time. Overall, climatic changes during the Late Archaic would have significantly enhanced the productivity of some habitats, such as coastal marshes and mixed interior forests, while diminishing the output of traditional resource rich areas (Custer 1996; Pagoulatos 1991). Settlement patterns and subsistence strategies appear to have been radically altered to accommodate local populations in the face of changing resource availability. Significant increases in population density are noted in some areas as is a general decrease in mobility. Especially in proximity to riverine settings, large sites characterized by dense scatters of artifacts begin to appear. The use of swamp and marsh habitats intensifies during this period (Custer 1996: 188). Finally, the far-reaching distribution of high-quality lithics may suggest the development of regional exchange networks as some groups' mobility patterns brought them into closer contact with other regional communities (Custer 1996; Pagoulatos 1991).

The APE is located northwest of outcroppings of the Locketong Formation, an important source for argillite, a lithic material that became more important during the Late Archaic period (Drake et al. 1996). Extensive research has been done on the prehistoric exploitation of argillite in the Flemington area and throughout portions of Mercer and Hunterdon counties for over a century (Anthony and Roberts 1988; Didier 1975; Mercer 1894; Mounier 2003; Richard Grubb & Associates, Inc. 2009; Schrabisch 1917: 24, 47; Wall et al. 1996). Generally, it is hypothesized that the use of argillite intensified during the Late Archaic period when people turned to the use of tougher local rocks and decreased their reliance on distant sources of high quality cryptocrystalline. The use of argillite predominates at sites within 40 miles of its sources (Grossman-Bailey 2001: 253; Wall et al. 1996:110). Argillite continued in importance during the Early and Middle Woodland periods with a significant falloff of use during the Late Woodland period (Custer 1996; Stewart 1994).

Economic and technological changes reflect the use of a broader range of habitats for settlements with larger encampments located near major rivers and small sites near coastal areas, estuaries, freshwater springs, lakes and drainage basin divides to take advantage of resource bases created by the formation of estuarine marshes and the development of oak-hickory forests. Increased evidence of mortuary ceremonialism is present throughout the Eastern Woodlands during the Late Archaic. Late Archaic components are among the most common in northern New Jersey and New York (Cantwell and Wall 2001; Kraft 2001).

The Bachman Site (36-NM-80) in the Easton area along the Delaware River was located during a survey for Interstate Route 78. The site is a small campsite dated to the Late Archaic to Middle Woodland periods. A range of stemmed point types were recovered from Late Archaic radiocarbon dated contexts (circa 2400-1700 B.C.) (Custer 1996: 204). Lithic materials at the site were dominated by Allentown chert and argillite, although it is close to Reading Prong sources of jasper (Anthony and Roberts 1988: 140).

The Early Woodland period (3000 to 2000 B.P./1000 B.C. to A.D. 0) marks the shift to modern climatological and environmental regimes in the Eastern United States. Vast deciduous forests dominate the landscape and temperature and rainfall patterns take on marked seasonal fluctuations. Culturally, the environmental changes of the Early Woodland favored the continued development of trends initiated during the Late Archaic. Intensification in the use of plant foods as well as a trend toward increasing degrees of sedentism mark the transition from the Archaic to Woodland eras. Floodplains and their surroundings continued to attract base camp settlement in an even more focused manner than the previous period. Finally, continuing trends of the Late Archaic, exchange networks and mortuary ceremonialism, became further elaborated throughout the Early and Middle Woodland (Custer 1996; Grossman-Bailey 2001; Mounier 2003).

The Middle Woodland period (2000 B.P. to 1100 B.P./A.D. 1 to A.D. 900) is represented by settlement patterns focused on the seasonal fission/fusion of hunter-gatherer social groups between large and small camps. Intensification of coastal resource exploitation is demonstrated in the large scale exploitation of seasonal resources occupied on a semi-permanent basis (Grossman-Bailey 2001: 294; Marcopul 2007; Mounier 2003; Wall et al. 1996).

In central New Jersey, the Abbott Farm National Historic Landmark or Trenton Complex includes well-documented sites that represent a series of upland bluff edge and floodplain sites within the Delaware River drainage occupied from the Middle to Late Archaic to the Late Woodland periods. The Trenton Complex sites provide significant information to interpret sites throughout central New Jersey. Sites of the Trenton Complex contained numerous features, intact subsoils, and yielded a wide variety of diagnostic materials as well as organic remains used for radiocarbon dating. Based on the results of extensive work at the Trenton Complex, Wall et al. (1996) postulated a regional settlement model consisting of four main site types: macro-social unit camps, transient camps (or procurement and processing camps), stations, and specialized camps. Macro-social unit camps are large sites found at high terraces along streams or floodplains at inland locations. Transient camps are sites located on streams or marshes that were used for a short period of time for the manufacture and maintenance of tools and for food production. Stations are sites used by specialized task groups for very short term hunting activities. Wall et al. (1996: 110) propose that: "...populations exploited relatively large territories through seasonal aggregation and dispersal, depending on the distribution and abundance of resources." Macro-social unit camps were located at high terrace bluffs and along floodplains from early spring to late summer near major rivers, and from fall to winter, settlements were moved inland. Transient camps and non-sedentary site types supplied the base camp with necessary resources, such as game animals, lithic materials, fish, and other materials. The model is based on seasonal migration and social groups that divide and reunite to better exploit the environment while maintaining social and cultural ties.

At the beginning of the Late Woodland period, settlement patterns exhibit a shift away from estuarine settings in favor of floodplain locations. Settlement pattern is characterized by unfortified hamlets,

camp, and long houses with a decrease in band territory size as seasonal economic strategies continued to utilize seasonal hunting and foraging strategies. A settlement model focused on seasonal fission/fusion of social groups is hypothesized (Kraft 2001).

Site-Specific Prehistoric Context

The Pohatcong Creek drainage has been identified as an attractive location for prehistoric occupation and the majority of the sites in the area surrounding the APE are located in proximity to the Pohatcong Creek and its tributaries. Portions of the APE are situated in an upland setting with Delaware River to the west and the Pohatcong Creek to the southeast. A low order tributary to the Pohatcong Creek flows east approximately 900 feet to the south of the APE and the drainage that cuts through the APE may represent another low order tributary that has been modified during historic times. The “flinty” limestone beds prominent in the valleys near the APE were presumed to be the source of lithic debitage and chipped stone tools found at nearby prehistoric archaeological sites (Schrabisch 1917:57). A former limestone quarry, excavated in the early twentieth century for the manufacture of Portland cement, is located approximately 560 feet west of the APE. Additionally, an easy route through the Musconetcong Mountains, now followed by highway and railroad corridors, gave access to lower country and camp sites near Clinton and High Bridge and furthermore to the open valley of South Branch and argillite quarries near Flemington (Schrabisch 1917:65).

A group of 10 ephemeral sites with Late Woodland period components were identified in the vicinity of the APE during the course of a survey conducted by the New Jersey Department of Transportation (NJDOT) in association with the proposed completion of the western end of Interstate Route 78 (NJDOT 1981). These 10 sites comprise the Still Valley Prehistoric District which was determined eligible for listing on the NRHP in 1983. The 10 sites are all located along low order tributaries or possible extinct low order tributaries of Pohatcong Creek and are within environmentally homogenous mesic upland habitats. The sites have similar assemblages, with low artifact densities, a variety of lithic materials with a high proportion of bifacial tools versus use-modified or unmodified debitage, and a lack of features. The sites were mostly single component and were found in the plowzone. It was suggested by the NJDOT (1981) that these sites may have been primarily seasonal nut processing stations associated with the larger base camps located on the flood plains (NJDOT 1981:178).

Phillipsburg, northwest of the APE, is referenced in some historic accounts as the location of a Native American village called Chintewink and also as a favored prehistoric fishing station (Weaver and Kearn 1886:255). Indian corn fields were reported to exist along the Delaware north of Phillipsburg. Documentation also exists stating that during the nineteenth century a large number of aboriginal artifacts were discovered by avocational archaeologists in and near Phillipsburg, in a four to five mile-band along the Delaware River that extends from just north of Phillipsburg to south of the town including the area near the mouth of the Lopatcong Creek (Kraft 1982:10-14; Schrabisch 1917:16-17, 46). Numerous sites have been documented along the lower portions of the Lehigh River and at the Forks of the Delaware River northwest of the APE in the Easton area (Kraft 2001).

4.2 Historic Context

The tract of land now known as Warren County was historically part of three different New Jersey counties. The territory of Warren County was originally included in unconsolidated lands of West Jersey with the partition line (Lawrence Line) running east of the county’s northeast corner. The formation of Hunterdon County, comprising all the upper part of West Jersey in 1713-1714, included all of Warren County as well as Sussex and Morris counties. Warren County remained part of Hunterdon County until Morris County was set off in 1738-1739; present-day Warren County was part of Morris County until Sussex County was created in 1753. Warren County was created from Sussex County by an Act of Legislature in 1824 (Effross 1963; Shampayne 1929: 3C-5C; Snell 1881: 474; Snyder 1969).

The APE is located in the Borough of Alpha which was established in 1911. Prior to 1911, the Borough of Alpha was part of Pohatcong Township, which was formed in 1881 from part of

Greenwich Township. Greenwich Township was first surveyed and settled in the early eighteenth century when it was still within Hunterdon County (Snyder 1969:245; Warne 1991). Phillipsburg, located approximately three miles northwest of the APE along the eastern shore of the Delaware River was settled by Euro-Americans as early as 1735 and was the largest population center near the APE in the eighteenth century (Figure 4.1; Hills 1781). The Scotch-Irish were the first settlers in the area, soon to be followed and outnumbered by the Germans (Cummins 1911:74). Families of English, Dutch, and Welsh extraction were also present at a very early date (Snell 1881:594). The earliest farmsteads were isolated from each other. These settlements had a source of waterpower as their chief attraction, and were located near routes of communication (Wacker 1968:150). Apart from Phillipsburg, the only other settlement shown near the APE in the late eighteenth century is the Hughes Forge community located to the southeast along the Musconetcong River (see Figure 4.1; Hills 1781). This community would become Hughesville during the nineteenth century (Figure 4.2), developing from a large parcel of land purchased by Hugh Hughes who owned the Greenwich forge (Wacker 1968). The Musconetcong Valley was a prominent location for iron enterprises in the late eighteenth century due to readily-available iron ore, abundant stream power, and a large supply of fuel (charcoal) (Wacker 1968:102).

In 1781, no roads or development were located in the vicinity of the APE (see Figure 4.1; Hills 1781). The two main roads that existed near the APE included a route from Phillipsburg west to Pittstown through a gap in Musconetcong Mountains and another running south from the first road to the forge at Hughesville and then through another gap in the Musconetcong Mountains to a ferry landing on the Delaware River (see Figure 4.1; Hills 1781). By 1833, one additional road was just south of the APE extending northeast from the Delaware River from an area later known as Carpentersville (see Figure 4.2). A mill is shown on the 1833 map along the Pohatcong Creek near its confluence with the Delaware River at Carpentersville. Gordon's 1833 map of New Jersey shows several additional mills along the Pohatcong Creek to the south of the APE and along the Lopatcong Creek to the north. The main economic pursuit in the portion of the Pohatcong Township near the APE was agriculture up until the late nineteenth century and peach orchards were an important industry in the township (Cummins 1911:240). Limestone outcrops in the area provided nutrients and reduced acidity resulting in fertile soils that were not easily exhausted. The manufacture of lime for agricultural and building purposes was also an early industry in the area, and limekilns were constructed to utilize the natural limestone outcrops (Snell 1881:594). The nearby mills serviced the larger agricultural industry across the Pohatcong settlements (Cummins 1911).

Industrial development in the vicinity of Phillipsburg increased following the construction and opening of the Morris Canal in the early 1830s to bring goods, particularly coal, from Pennsylvania into New Jersey and New York for household and industrial use. However, soon after the canal's completion, several railroad companies constructed rail lines in and through Phillipsburg to gain access to and control of the lucrative coal market in the state (Maxim 1913). Three railroads were constructed through Pohatcong Township in the nineteenth century, increasing access to the growing regional transportation network for local industries. The Central Railroad of New Jersey, located approximately 2,100 feet northeast of the APE was completed through Pohatcong Township to Phillipsburg by 1852 (McCarty 1852) and the railroad alignment is shown on Walling's 1861 Warren County map (Figure 4.3; Walling 1861). In 1854, the Belvidere division of the Pennsylvania Railroad was built along the Delaware River and a station was established at Carpentersville, to the southwest of the APE (Cummins 1911:240). A branch line of the Lehigh Valley Railroad is the closest rail line to the APE but this branch was constructed later than the main line, sometime after 1874 (Figure 4.4; Beers 1874).

Although development increased near Phillipsburg, to the northeast of the APE in the early to mid-nineteenth century, the APE and vicinity remained rural and only lightly developed. By 1861, a road roughly following the alignment of present day CR 519 was in place just east of the APE (see Figure 4.3) and a structure attributed to "E.H. Bird" stood along the west side of the road adjacent to the APE (see Figure 4.3; Walling 1861). Eight additional structures are shown along the road further to the north and south but no structures are shown within the APE on the 1861 map. The APE and vicinity did not develop appreciably by 1874 and the only structure near the APE was the one that was already



Figure 4.1: 1781 J. Hills, A Sketch of the Northern Parts of New Jersey.

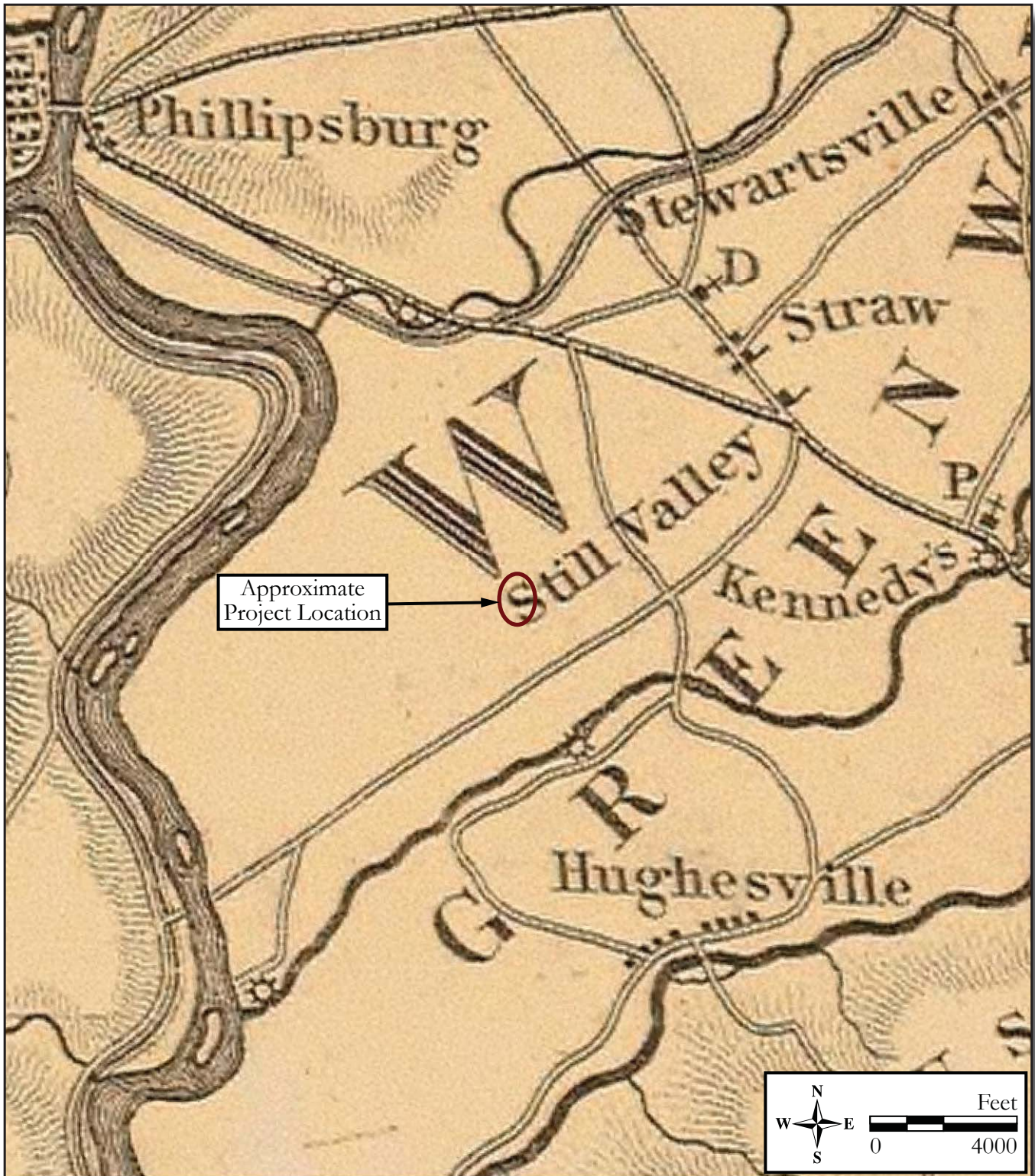


Figure 4.2: 1833 Thomas F. Gordon, A Map of the State of New Jersey with Parts of the Adjoining States.

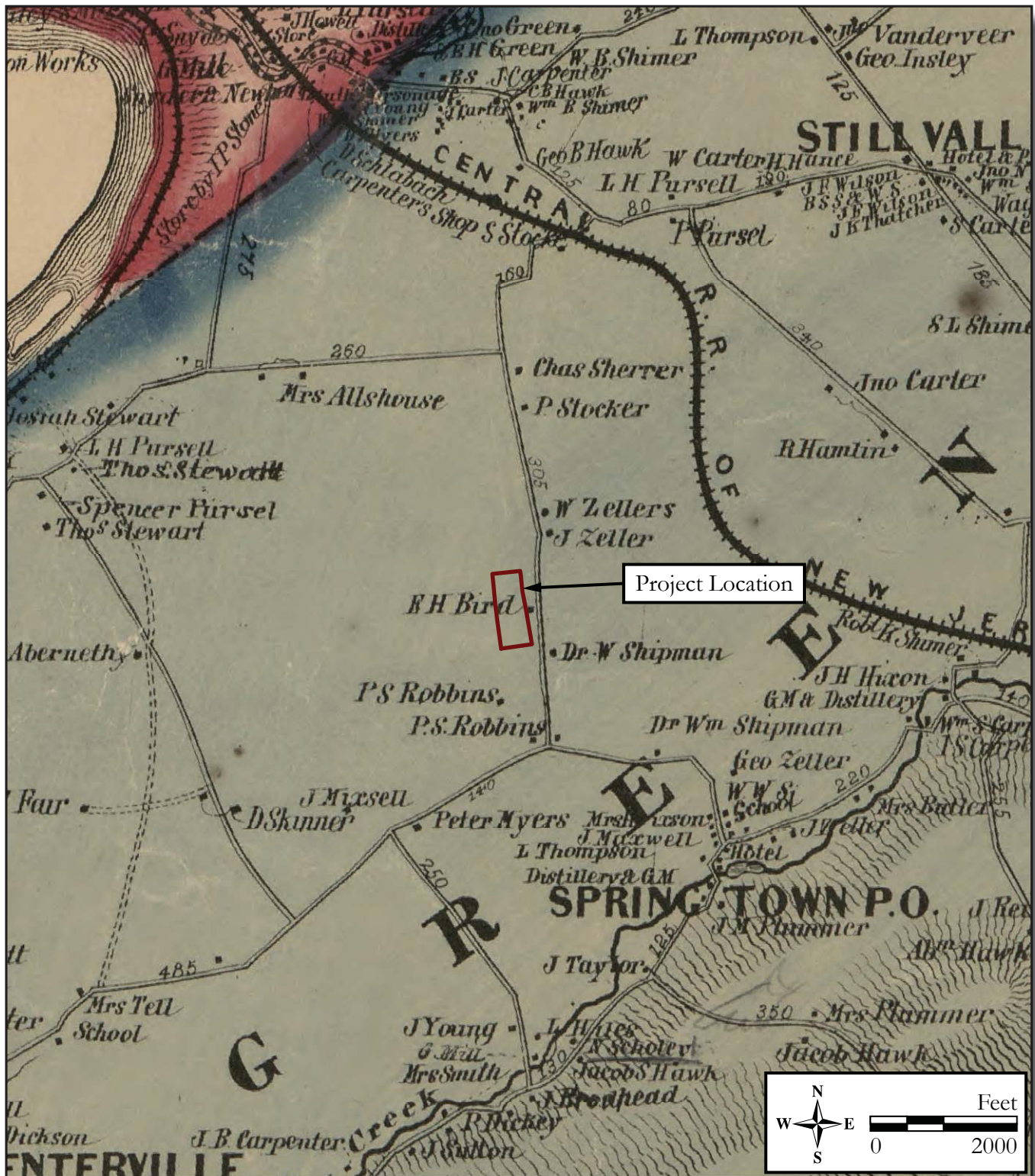


Figure 4.3: 1861 H.F. Walling and G.M. Hopkins, Map of Warren County, New Jersey.

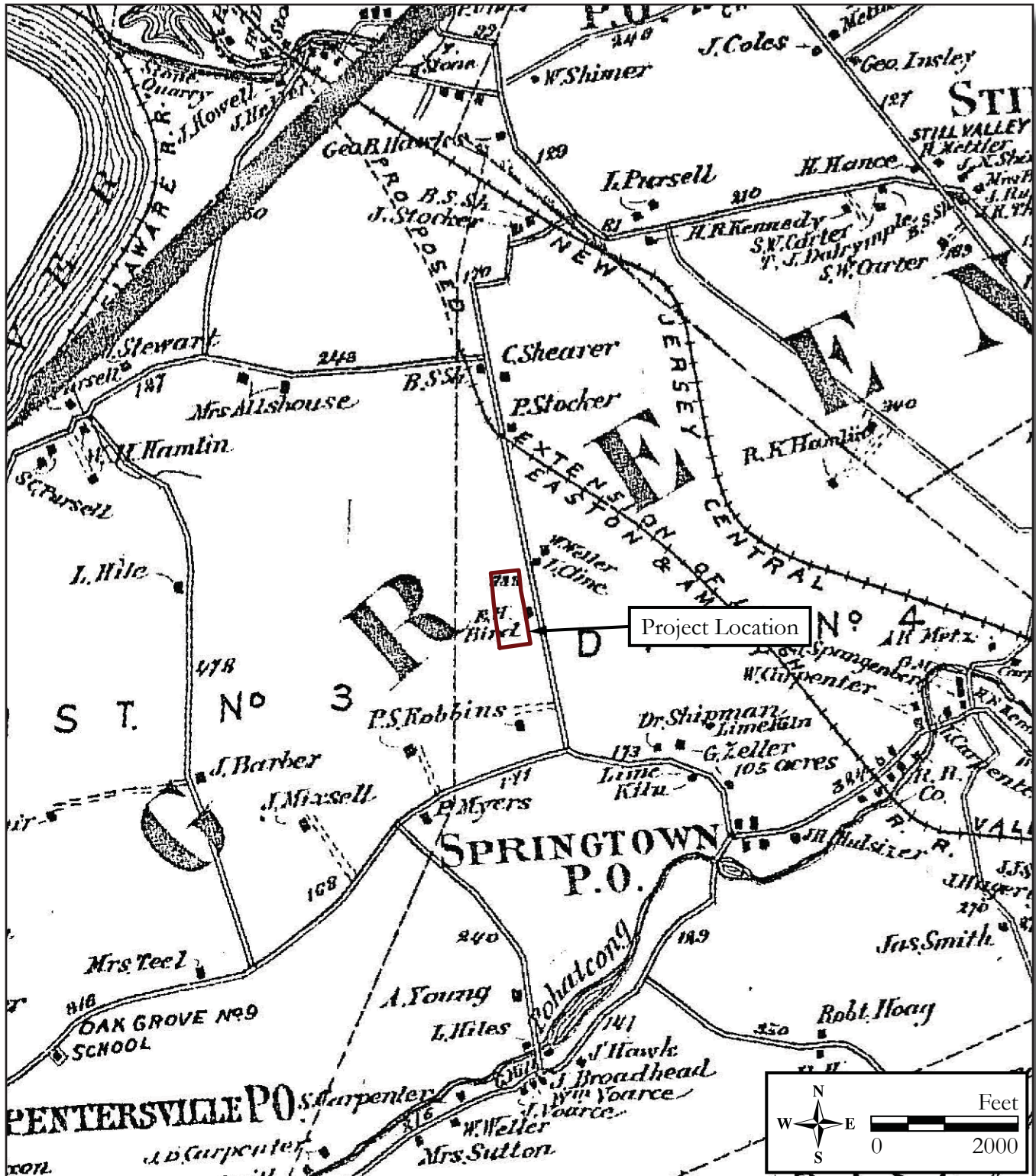


Figure 4.4: 1874 F.W. Beers, Atlas of Warren County, New Jersey.

present by 1861, still owned by “E.H. Bird” (see Figure 4.4; Beers 1874). The only significant change on the 1874 atlas is the depiction of the proposed route of a branch of the Lehigh Railroad that is marked as “Proposed Extension of Lehigh Valley Easton & Amboy R.R.”

A 1903 topographic map drawn for the New Jersey Geological Survey by C. C. Vermeule does not depict structures, but does show the alignment of the completed Lehigh Valley Railroad along with the street grid of the soon to be formed Borough of Alpha north of the APE. The locations of two cement quarries also appear on this map, one of which is just west of the APE (Figure 4.5; Vermeule 1903). The Borough of Alpha arose near the turn of the twentieth century as a “boom town” associated with the production of Portland cement and “boasts the distinction of being the last municipality in Warren County to have been carved out of what had been farmland” (The Borough of Alpha 2010). The area that became the Borough of Alpha only contained about seven houses in 1890. The Alpha and the Vulcanite cement plants were established within the borough due to the availability of high quality limestone found in local outcrops. A.B. Bonneville, an entrepreneur from Allentown, PA, was the first to realize the potential of these limestone outcrops in 1891. Bonneville established the first cement plant and the area was first known as Bonneville. Part of Bonneville’s original plant burned, and a new company was formed at the site by Thomas Whitaker after which there was another fire. The third company at the location was the Alpha Portland Cement Company, organized on April 8, 1895, from which the Borough of Alpha took its name. A second cement plant, the Vulcanite Cement Company opened in 1900 on the east side of the Borough of Alpha. The town was surveyed and building lots were laid out in 1898 and the first post office was established in 1903 (The Borough of Alpha 2010). Soon after the post office was established there was a move towards making the area a separate municipality and in 1911, the Borough of Alpha was formed. The cement plants stopped operations after World War I and were razed shortly thereafter (The Borough of Alpha 2010).

Although the quarry associated with the Alpha Portland Cement Company and the plant itself are were located approximately 600 feet to the west of the APE, the area immediately surrounding the APE retained its rural, agricultural character into the mid-twentieth century. Today the APE remains undeveloped although it has been somewhat disturbed. An examination of twentieth century online historic aerial photographs indicated that the entire APE was undeveloped and was used as farmland during the first half of the twentieth century (Figures 4.6-4.7; NJDEP 2016; U.S.G.S. 2016; NETR 1931, 1940, 1955). One structure is visible on the west side of CR 519 approximately 50 feet east of the eastern edge of the APE on a 1930 aerial photograph and three additional structures appear just to the southwest of this structure. The northernmost structure, visible just outside of the APE on the 1930 aerial photograph, corresponds to an extant structure most recently operating as “Sweet Louie’s Tavern” (see Figure 4.6). The location of the tavern corresponds with that of a structure shown on the 1861 map of Warren County and also on the 1874 county atlas, and attributed to “E.H. Bird” (see Figures 4.3-4.4). A structure shown just southwest of the building that is now “Sweet Louie’s Tavern” outside of the APE and the two closely spaced buildings shown within the APE further to the southwest may have been outbuildings associated with Bird’s farm. The westernmost building within the APE abuts the drainage that runs south through the APE and may have been a springhouse. The second structure within the APE, southeast of the first and slightly closer to the road, may have been a barn. Between 1930 and 1940, this farmstead was the only development near the APE (see Figure 4.6; NETR 1931, 1940). By 1955, both of the two closely spaced structures within the APE, located to the southwest of what is now Sweet Louie’s Tavern had been removed (see Figure 4.7; NETR 1955). What is now CR 519 was diverted to the east between 1940 and 1955 and since that time, additional residences and commercial properties were gradually constructed along CR 519. A recreational complex including baseball fields adjacent to the northern edge of the APE was constructed between 1970 and 1972 and Interstate Route 78 was completed through the borough just south of the APE in the 1980s (NETR 1970, 1972, 1988).

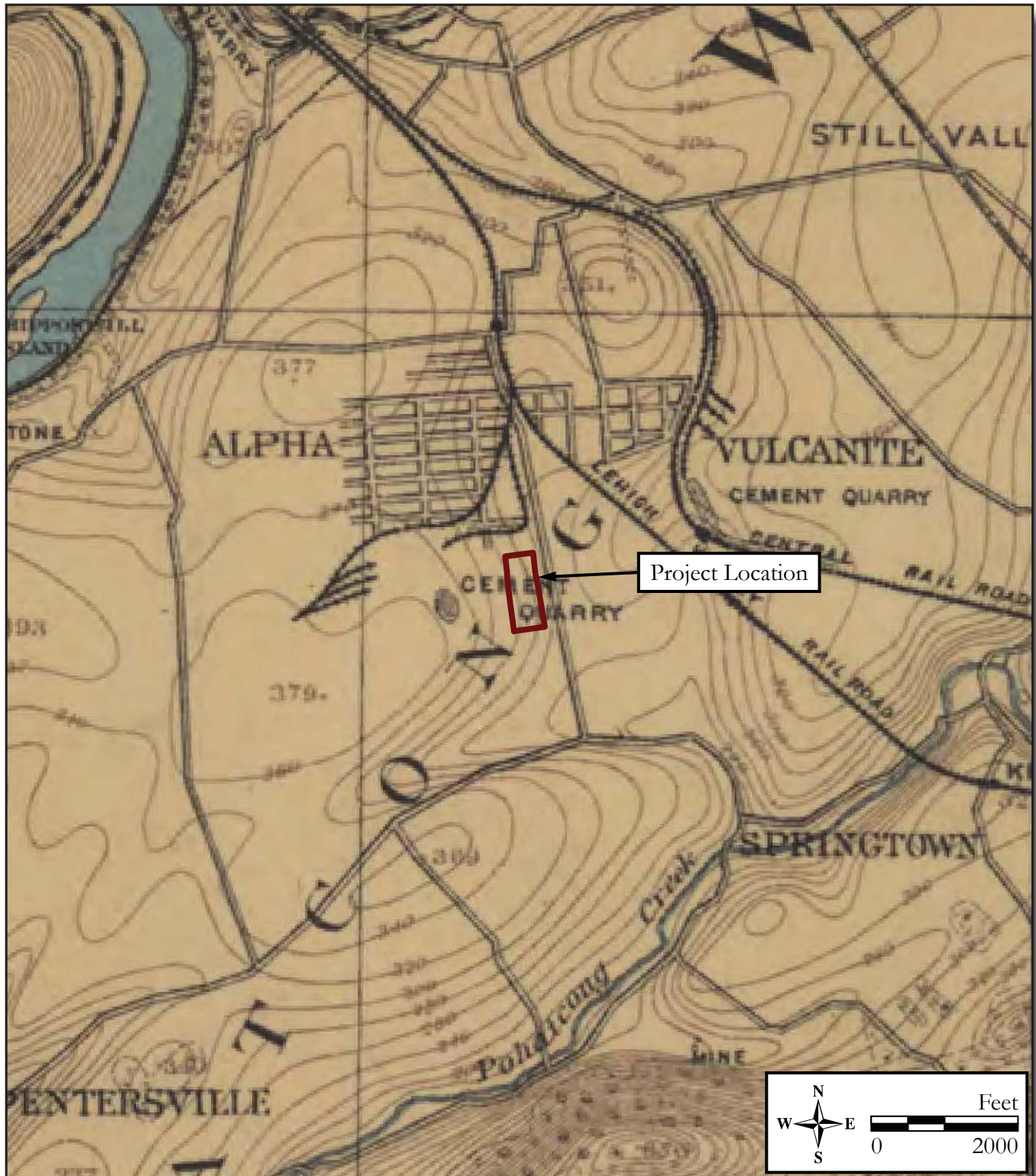


Figure 4.5: 1903 C.C. Vermeule, New Jersey Geological Survey, Atlas Sheet No. 24.

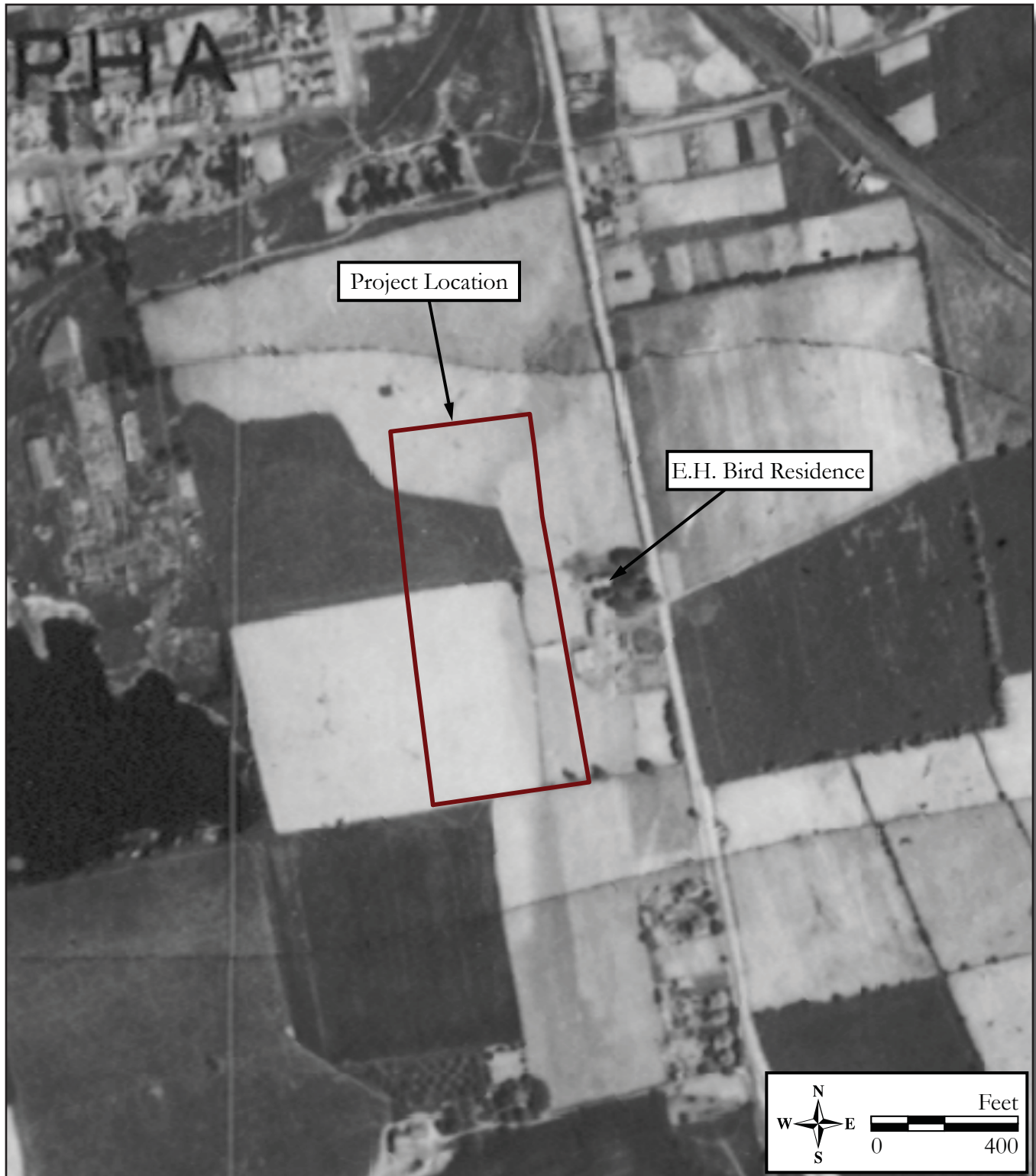


Figure 4.6: 1930 aerial photograph showing the location of the APE and the nineteenth century E.H. Bird residence
(modified from NJDEP 2016).

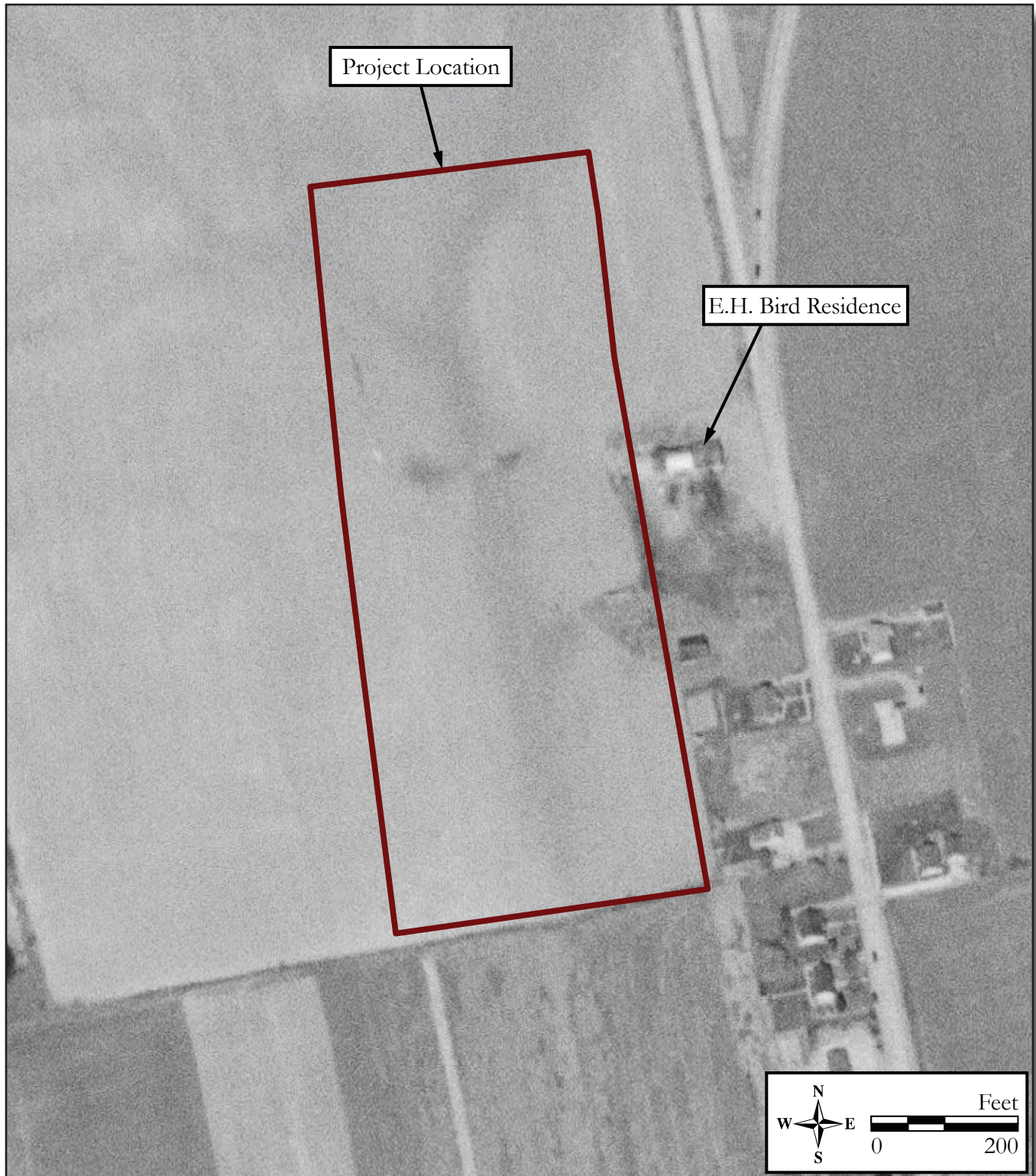


Figure 4.7: 1955 aerial photograph showing the location of the APE and the nineteenth century E.H. Bird residence
(modified from USGS 2016).

4.3 Summary of Previous Research

Registered Archaeological Sites

An examination of standard references (Cross 1941; Skinner and Schrabisch 1913, Schrabisch 1917) and site files at the NJSM and NJHPO indicated that there are no registered archaeological sites located within the APE. Seven registered prehistoric sites and one registered historic site are located within one mile of the APE (Table 4.2).

Table 4.2: Registered archaeological sites located within one mile of the APE.

Site Number/ Name	Period/Type	Distance from APE	Closest Water Source/ Distance	Reference
28-Wa-447/ Vulcanite	Prehistoric, Unknown period/ Unknown type	2,680 feet	Intermittent low-order tributary to Pohatcong Creek/adjacent	NJSM; Schrabisch 1917
28-Wa-519/ J. Oberly	Prehistoric, Prehistoric, Late Woodland period/Short term occupation site	2,700 feet	Possible relict low-order tributary to Pohatcong Creek/adjacent	NJSM; NJDOT 1981
28-Wa-521/ Homa Hillside	Prehistoric, Late Woodland period/Probable short term occupation site	900 feet	Possible relict low-order tributary to Pohatcong Creek/adjacent and Intermittent low-order tributary to Pohatcong Creek/100 feet	NJSM; NJDOT 1981
28-Wa-522/ Homa Hollow	Prehistoric, Terminal Archaic and Middle Woodland periods/ Probable short term occupation site	1,500 feet	Intermittent low-order tributary to Pohatcong Creek/100 feet	NJSM; NJDOT 1981
28-Wa-523/ Bommineno Farm Site	Prehistoric, Late Woodland period/Short term occupation site	1,250 feet	Intermittent low-order tributary to Pohatcong Creek/500 feet	NJSM; NJDOT 1981
28-Wa-532/ Hamlin Historic Archaeological Site	Historic, 19th-century/Farm	4,500 feet	Intermittent low-order tributary to Pohatcong Creek/adjacent	NJSM; NJDOT 1981
28-Wa-536/ Vargo Alpha Site	Prehistoric, Unknown period/ Unknown type	4,400 feet	Possible relict low-order tributary to Pohatcong Creek/adjacent	NJSM; NJDOT 1981
28-Wa-673/ Alpha Prehistoric Site	Prehistoric, Woodland period/ Unknown type, possible camp	4,700 feet	Probable tributary to Lopatcong Creek/ 400 feet	NJSM; ARCH ² , Inc. 2010

NJSM – New Jersey State Museum files

NJDOT – New Jersey Department of Transportation

Six of the seven prehistoric sites and the one historic site within one mile of the APE were identified during the course of compliance-related cultural resources surveys (NJDOT 1981; ARCH2 Inc. 2010). Five of those prehistoric sites (28-Wa-519, 521, 522, 523, and 536) are part of the NRHP-eligible Still Valley Prehistoric District. This is a non-contiguous district consisting of 10 prehistoric sites with similar temporal designations, assemblages, functions, and environmental settings (see Section 4.1). None of the sites in the Still Valley Prehistoric District were considered individually eligible for the NRHP but as a whole the district “contains the potential to yield important information pertaining to subsistence practices of prehistoric groups who occupied the Delaware River Valley” (Fenske 1983). The APE is located in a nearly identical environmental setting to the sites that comprise the Still Valley Prehistoric District, and one of the sites within the district (28-Mi-521) is located approximately 900 feet to the south of the APE on the south side of Homa Lane.

A review of early archaeological surveys was undertaken in order to collect additional information about prehistoric sites in Warren County. Several archaeological surveys have been conducted since the beginning of this century that include Warren County (Skinner and Schrabisch 1913; Schrabisch 1917;

Cross 1941). Max Schrabisch (1917), in *Archaeology of Warren and Hunterdon Counties*, presented a rudimentary settlement model in which two principal settlement areas were defined as, “Principal Districts of Habitation” and “Minor Districts.” These areas are based on the number and density of archaeological sites found within geographically defined areas. The “Principal Districts” are comprised of the Delaware Valley, Paulins Kill Valley, and the vicinities of Great Meadows, Beaver Brook, High Bridge, New Germantown, and Flemington. Schrabisch suggested that Phillipsburg and neighboring areas on the eastern river terrace of the Delaware River were important locations for Native American habitation. Schrabisch identified 49 sites in Hunterdon and Warren counties, all but seven of which were clustered along the Delaware River. The remaining sites were located at the base or along the slope of the Pohatcong and Musconetcong mountains. Schrabisch described these sites as “camping grounds” or “workshops” with no evidence of permanent habitation sites (Schrabisch 1917:26). Very little descriptive information exists regarding the locations, artifacts found, or the sources of data relating to the sites included in Schrabisch’s report. Site 28-Wa-447, located approximately 2,700 feet northeast of the APE along an intermittent low-order tributary to Pohatcong Creek is the only site identified during Schrabisch’s 1917 survey within one mile of the APE.

The Indian Sites Survey, conducted between 1936 and 1940, was designed to locate and investigate prehistoric sites in various regions of New Jersey. Of the Hunterdon and Warren county sites reported during the survey of the Delaware River drainage, none were located in the immediate vicinity of the APE (Cross 1941). Excavation occurred on several sites in each county, totaling 14 in Hunterdon County and 13 in Warren County. These sites were generally small to large encampments yielding a wide variety of chipped and groundstone tools and pottery on elevated locations adjacent to major tributaries of the Delaware River, in rock shelters, or near the base of area mountains (Cross 1941). No Indian Sites Survey resources were identified in proximity to the APE.

National Register Files

Research conducted at the NJHPO indicated that no NRHP eligible or listed archaeological sites or historic properties are within or adjacent to the APE. Three NHRP-eligible historic districts are located within one-half mile of the APE. These are: the Central Railroad of New Jersey Main Line Corridor Historic District (SHPO Opinion: 7/19/1991; DOE: 11/30/1995); situated 2,100 feet northeast of the APE, the Lehigh Valley Railroad Historic District (SHPO Opinion: 3/15/2002), located 1,000 feet northeast of the APE; and the Still Valley Prehistoric District (SHPO Opinion: 3/18/1983; DOE: 7/7/1983), located approximately 900 feet to the south of the APE. The Still Valley Prehistoric District is a discontinuous archaeological district comprised of 10 prehistoric sites (28-Wa-518, 519, 520, 521, 522, 523, 530, 531, 535, and 536) that appear to have been functionally similar, and are believed to represent extractive activity loci associated with nearby habitation sites within the Delaware River Valley (NJDOT 1981:178, 183). The closest of the 10 sites within the district to the APE is 28-Wa-521, located approximately 900 feet to the south, on the south side of Homa Lane. Four other sites within the district are located within one mile of the APE. The sites were identified during the course of a compliance-related cultural resources survey associated with the extension of Interstate Route 78 west to Phillipsburg (NJDOT 1981).

Previous Cultural Resources Surveys

A review of files at the NJHPO indicated that no previous cultural resources surveys have been completed within or adjacent to the APE. Two prior cultural resources surveys with archaeological components have been completed within one-half mile of the APE (NJDOT 1981; Kraft 1982). One architectural survey was also conducted approximately 2,100 feet to the northeast of the APE along the New Jersey Transit Raritan Valley Line which follows the alignment of the NRHP-eligible Central Railroad of New Jersey Main Line Corridor Historic District (ARCH2 1999).

In 1981, the NJDOT conducted a survey associated with the proposed completion of the western end of Interstate Route 78 from the intersection with U.S. Route 22 and New Jersey Route 173 west to the Delaware River (NJDOT 1981). Two NRHP-eligible archaeological properties were identified during the course of the survey: the Hamlin Historic Archaeological Site (28-Wa-532) and the Still Valley Prehistoric District, which is comprised of 10 out of 11 prehistoric sites identified during the

survey. The Hamlin Historic Archaeological Site is located approximately 4,500 feet northeast of the current APE. One of the sites that comprise the Still Valley Prehistoric District (28-Wa-521) is located approximately 900 feet to the south of the current APE in a similar environmental setting.

An archaeological survey was conducted in association with proposed wastewater treatment facilities extending through five municipalities in Warren County (Kraft 1982). As part of the survey, the alignment of a proposed 12" force main was planned along the segment of Route 519 just east of the current APE. The archaeological survey for the proposed force main was limited to a visual surface inspection of open areas and no archaeological sites were identified. The survey mentions that the "Lemon Twig Bar" located on the west side of CR 519 dates to circa 1800-1840 and most likely corresponds with the structure attributed to "E. H. Bird" on the 1861 Warren County map (see Figure 4.3). The Lemon Twig Bar referred to in 1982 was likely one of several preceding businesses to occupy the "Sweet Louie's Tavern" structure which is currently located on the west side of CR 519, approximately 50 feet east of the current APE. Since the structure is located more than 75 feet west of CR 519, Kraft considered it to be outside of his study corridor (Kraft 1982:65).

5.0 ARCHAEOLOGICAL SURVEY

5.1 Pedestrian Reconnaissance

The project archaeologist, Laura Cushman, conducted a pedestrian reconnaissance of the APE on December 2, 2016. The APE is a rectangular area encompassing approximately 9.48 acres west of CR 519 and south of a recreational complex on the south side of West Vulcanite Avenue. General overview photographs of the APE are presented in Plates 5.1-5.14 and the photograph locations and directions and delineation of areas assessed with high archaeological sensitivity are shown on Figure 5.1. A drainage swale that carries storm water run-off from the Borough of Alpha runs roughly north to south through the center of the APE (see Plates 5.1 and 5.10). This swale likely represents a natural, low order tributary to Pohatcong Creek that was later modified for drainage and flood control purposes. The drainage empties into a tributary of Pohatcong Creek that flows east along the south side of a farm lane (Homa Lane) located approximately 900 feet to the south of the APE. Both lowland and upland areas are present within the APE.

In general, the results of the background research and observations made during the pedestrian survey indicate that the northern half of the APE is generally poorly drained and much of the area has also been disturbed. A wetlands area overgrown with *Phragmites* (common reed) is located in the northwestern corner of the APE and a recently excavated trench extends southeast through the wetlands area from a buried metal pipe at the north edge of the APE (Plates 5.3 and 5.4). Various plastic bottles and other garbage were observed in the recently upturned dirt resulting from the excavation of this drainage trench. Several moderate sized fill piles were observed along the northern edge of the APE (see Plate 5.2). The soils in the northern portion of the APE are mapped as Udorthents-Urban land complex, which is defined by the presence of fill and/or disturbed original soil material (NRCS 2016). Between 1956 and 1972, a long narrow building was gradually constructed along the eastern edge of the northern portion of the APE (NETR 1956, 1963, 1968, 1970, 1972). Although no obvious disturbance is visible on the online historic aerial photographs during the construction of this building, the drainage that runs through the APE curves around its northwest corner. It is likely that additional modifications to the drainage had to be made to avoid flooding in the area where the new building was constructed. The central portion of the APE is lightly wooded with secondary grown deciduous trees (see Plates 5.5-5.7). A nearly level bench, mapped as containing somewhat poorly drained soils, is located adjacent to the west and east sides of the drainage ditch in the center of the APE (see Plates 5.1 and 5.10).

Although there is a corridor of somewhat poorly drained soils adjacent to the drainage swale, the southern portion of the APE also contains areas of gently to moderately sloping uplands mapped within well drained Washington Series soils (see Plates 5.8 and 5.13-5.14). The southwestern corner of the APE falls within an agricultural field from which corn was recently harvested and the southeastern corner of the APE is located in an area covered with manicured grass west of the back yards of several residences located along CR 519 (see Plates 5.8 and 5.12-5.14). A wide grass-covered path is located between the drainage swale and the agricultural field that extends north to the recreation fields on the south side of West Vulcanite Avenue (see Plate 5.9). An area of fill measuring approximately 200 feet long (north-south) by 30 feet wide (east-west) is located along the eastern edge of the APE extending west from the back of businesses along CR 519, just north of the area covered in manicured grass (see Plates 5.11-5.12). A review of online historic aerial photographs indicated that what appear to be two structures stood close together within the southern portion of the APE near its eastern edge in 1930 (see Figure 4.6). These structures were located roughly where the south end of the fill pile is now located and may have been outbuildings associated with the “E.H. Bird” residence located to the northeast. One of the structures is shown abutting the drainage that runs south through the APE and might have functioned as a springhouse. By 1940, this building was gone and by 1955, an adjacent possible barn was also gone and a new building was constructed just to the southeast, outside of the APE (NETR 1940, 1955; see Figure 4.7). This later building

remains standing today. The 1930 and 1940 aerial photographs also show a two-part building that is believed to be the “E. H. Bird” residence to the northeast and just outside of the APE. This building is also extant, was added on to during the later twentieth century, and most recently operated as Sweet Louie’s Tavern.

With the exception of the flat, gravel-covered base of the drainage swale that bisects the APE, there was very little ground visibility, and no prehistoric artifacts were observed during the pedestrian survey. A few historic artifacts were observed within the bed of the drainage swale, including a possible hand molded brick fragment and a piece of water-worn whiteware in the southern portion of the APE and a chunk of concrete with an imbedded brick and a large fragment of a ceramic drain tile in the northern portion of the APE. Given the location of these historic artifacts within a drainage channel, these items could have washed here from areas further to the north.

5.2 Assessment of Archaeological Sensitivity

The assessment of archaeological sensitivity considers the cultural and environmental setting of the APE in order to identify locations likely to contain prehistoric and historic archaeological sites. In areas where no sites are documented, the sensitivity assessment for prehistoric resources is based primarily on environmental setting: topography, proximity to water, and soil characteristics. The potential for historic resources to be identified in an area is usually determined through analysis of historic documents and cartographic materials. The presence of structures and roads on historic maps near the APE increases the potential for historic archaeological sites to be discovered.

Prehistoric Archaeological Sensitivity

Previous archaeological investigations and regional settlement pattern studies indicate that in New Jersey, and elsewhere in the Middle Atlantic region, areas of well-drained soils in proximity to a perennial water source are highly favored locations for prehistoric sites (Chesler 1982; Cavallo and Mounier 1982; Grossman-Bailey 2001: 136; Ranere and Hansell 1985, 1987; Walwer and Pagoulatos 1990). Areas closest to wetlands are considered zones of highest sensitivity for the location of prehistoric archaeological resources (Hasenstab 1991). Other possible zones of sensitivity for prehistoric occupation include locations with well-drained soils, level topography, historic trails, and a good vantage point, particularly on drainage divides, and upland areas further from water that may contain key exploitable technological or subsistence resources (Mounier 1998; Cavallo and Mounier 1982; Pagoulatos and Walwer 1991; Pagoulatos 1998).

High sensitivity zones for prehistoric archaeological resources include well-drained upland areas within 500 feet of surface water or wetlands and areas within 500 feet of previously recorded archaeological sites. Sites have also been found at distances greater than 500 feet from water, particularly on drainage divides, and upland areas and near periglacial features (Mounier 1998), but these sites are much fewer in comparison to those near watercourses (Cavallo and Mounier 1982). Poorly drained soils are negatively correlated with prehistoric habitation and have a lower sensitivity for prehistoric archaeological resources than moderately well-drained to well-drained soils. Previous ground disturbance, such as that related to construction, ground clearing, and grading, also lowers the sensitivity for archaeological resources.

Seven known prehistoric archaeological sites are located within one mile of the APE and five of these are part of the NRHP-eligible Still Valley Prehistoric District. Well drained soils of the Washington Series are present in the southwestern and southeastern portions of the APE and a drainage swale, which is believed to represent a modified natural low-order tributary to Pohatcong Creek, runs north to south through the center of the APE. The environmental setting of the APE is nearly identical to that of the sites found nearby associated with the Still Valley Prehistoric District, including the soil type, degree of slope, and proximity to a low order, intermittent tributary. Based on the results of the background research, the environmental setting, and observations made during the pedestrian survey, undisturbed portions of the APE containing well drained Washington series soils are assessed with high prehistoric sensitivity (see Figure 5.1).

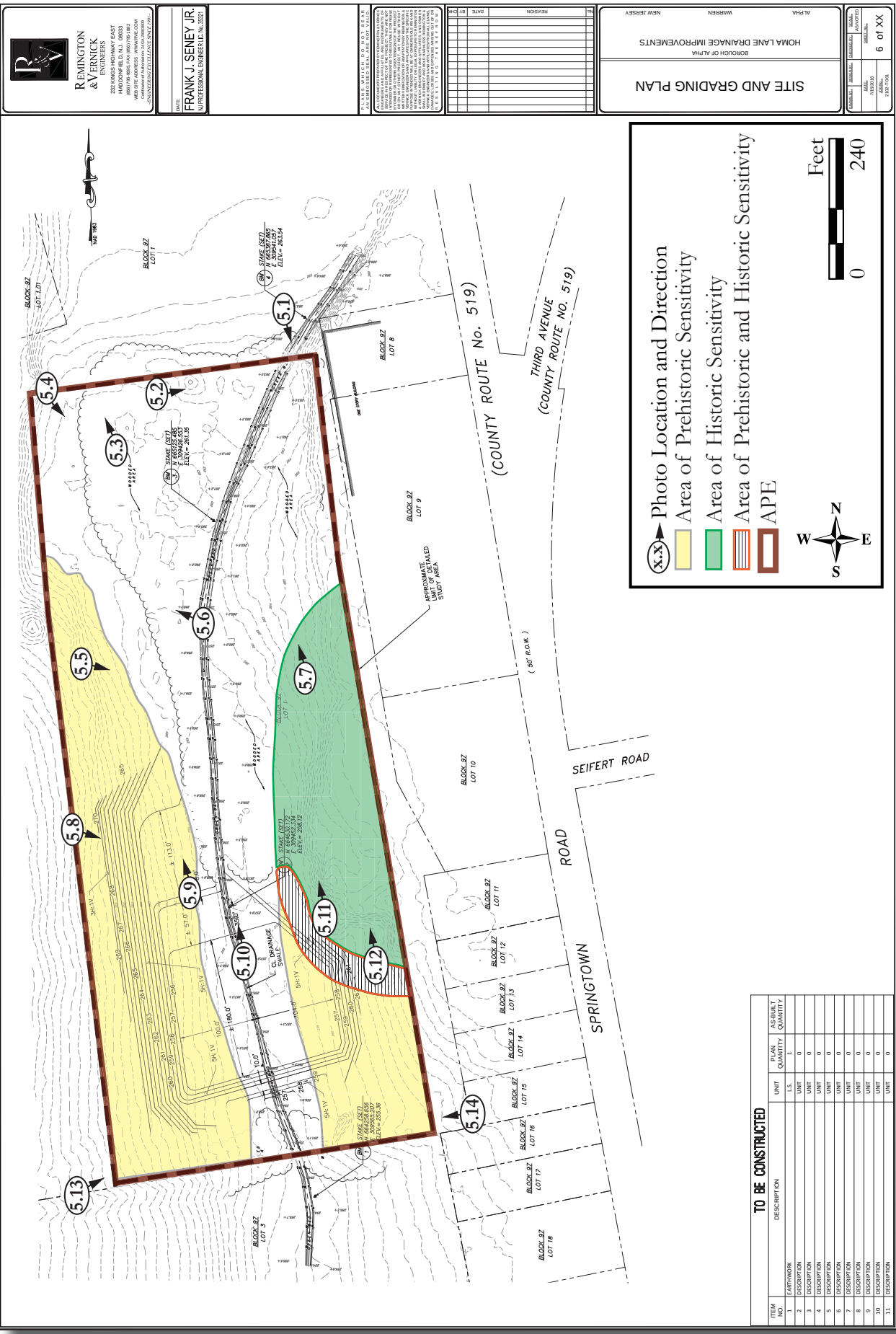


Figure 5.1: Preliminary Site and Grading Plan showing the APE, photograph locations and directions, and areas of archaeological sensitivity (modified from Remington & Vernick Engineers 2016b).



Plate 5.1: Overview of the northeast corner of the APE showing intermittent drainage and adjacent flat terrain.

Photo view: Southeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.2: Overview of the central northern edge of the APE showing fill mounds.

Photo view: Northeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.3: Overview of the northwest portion of the APE showing a metal drain pipe and a recently excavated drainage ditch through a wetlands area.

Photo view: Northwest

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.4: Overview showing a wetlands area overgrown with phragmites in the northwest corner of the APE.

Photo view: Southeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.5: Overview of the central portion of the APE on the west side of a drainage swale.

Photo view: Southeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.6: Overview of the northwestern portion of the APE south of a wetlands area and northwest of a drainage swale, showing a former drainage ditch overgrown with weeds.

Photo view: Northwest

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.7: Overview of the northeastern portion of the APE.

Photo view: Northwest

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.8: Overview of the central portion of the APE from the western edge showing areas of well drained soils on gently to moderately sloping terrain.

Photo view: Southeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.9: Overview of the central portion of the APE showing a mown grass pathway leading north to the recreational fields south of West Vulcanite Avenue.

Photo view: Northwest

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.10: Overview of central portion of the APE showing a drainage swale that runs north to south through the APE and adjacent, level, low-lying terrain.

Photo view: Northwest

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.11: Overview of the southeastern portion of the APE showing fill within the APE extending west from behind businesses along CR 519.

Photo view: Northwest

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.12: Overview of the southeastern portion of the APE looking towards the approximate location of a nineteenth century residence shown on historic maps and atlases.

Photo view: Northeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.13: Overview of the southwest corner of the APE.

Photo view: Northeast

Photographer: Laura Cushman

Date: December 2, 2016



Plate 5.14: Overview of the southeast corner of the APE.

Photo view: West

Photographer: Laura Cushman

Date: December 2, 2016

Historic Archaeological Sensitivity

Historic site sensitivity is based on Colonial, Federal, and Early Industrial period land uses, and ranked high near documented historic occupation and low in areas with little record of historic land development. The presence of standing historic structures indicates a high probability for associated historic archaeological sites. Information obtained from cartographic evidence also contributes to assessments of historic site probability. While early historic maps do not depict historic structures with accuracy, nineteenth century maps often record details of settlement pattern, ownership, and occupation. From an environmental perspective, the factors contributing to prehistoric sensitivity often apply to early historic sensitivity as well.

A review of eighteenth and nineteenth century maps and atlases indicated that several roads and a few structures were present in the vicinity of the APE by the mid-nineteenth century. A road is shown on the 1861 map in the approximate location of present day CR 519 (see Figure 4.3) which is 220 feet east of the APE. At that time, one structure attributed to “E. H. Bird” stood on the west side of what is now CR 519 approximately 50 feet from the eastern edge of the APE. A review of later nineteenth and twentieth century maps, atlases, and online historic aerial photographs along with observations made during the pedestrian survey as well as results of a prior survey (Kraft 1982) suggest that this structure is currently part of a extant complex of connected small buildings that were most recently used as a restaurant (Sweet Louie’s Tavern). The historic structure that is now part of Sweet Louie’s Tavern appears on the 1930 aerial photograph just east of the APE (see Figure 4.6) and three additional buildings, two of which are shown within the APE at that time, are located just to the southwest, and may have been outbuildings associated with the Bird farmstead (see Figure 4.6). Online historic aerial photographs indicate that the APE and immediate vicinity remained rural and consisted almost entirely of agricultural fields between the early and mid-twentieth century (see Figures 4.6-4.7; NETR 1931, 1940, 1955).

Based on the results of background research and the field reconnaissance, portions of the APE within approximately 100 feet of the nineteenth century “E. H. Bird” structure, now part of a restaurant just outside of the APE, and the two possibly associated outbuildings that were formerly within the APE are assessed with high sensitivity for historic resources (see Figure 5.1). Although some of this area is covered with fill that may be more recent in origin, it is not known whether or not the non-extant outbuildings were located on top of or adjacent to this area of fill. With the exception of the area where two outbuildings stood, a review of aerial photographs from the 1930s through 1950s indicated that the APE consisted entirely of agricultural fields in the twentieth century and it is presumed that the same areas were farmed in the nineteenth century. It is not expected that significant historic features or artifact deposits associated with the nineteenth century “E.H. Bird” residence would be located more than 100 feet from the extant structure or non-extant outbuildings, so portions of the APE beyond this distance, which would have been historically located within agricultural fields, are assessed with low to moderate historic sensitivity.

6.0 CONCLUSIONS AND RECOMMENDATIONS

RGA, Inc. (RGA) conducted a Phase IA historical and archaeological survey for a proposed drainage improvement project for Homa Lane in the Borough of Alpha, Warren County, New Jersey. The project as currently proposed will include the construction of a flood storage area with an associated berm and habitat creation and enhancements within an approximately 9.48-acre rectangular Area of Potential Effects (APE) located on a property west of County Route (CR) 519 and south of a recreational complex on West Vulcanite Avenue.

The Phase IA historical and archaeological survey included background research, consultation with interested parties, a field reconnaissance, an assessment of archaeological sensitivity, and reporting of the results and conclusions. Based on the results of the background research, the environmental setting, and observations made during the pedestrian survey, portions of the APE were assessed with high prehistoric and/or high historic sensitivity. The APE is located in proximity to the Still Valley Prehistoric District and is in a similar environmental setting. The APE is also located close to the alignment of a nineteenth century road (CR 519), and a residence that was adapted for commercial use during the twentieth century is depicted adjacent to the APE by the mid-nineteenth century. Possible outbuildings associated with this residence were within the APE in 1930. Areas of prehistoric and historic sensitivity were identified in the southwest and southeast portions of the APE and are depicted on the preliminary project plans. Once the plans are finalized, if areas of archaeological sensitivity will be impacted by the proposed project, a Phase IB survey is recommended.

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APPENDIX A: PROJECT DOCUMENTS



State of New Jersey

MAIL CODE 501-04B

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

HISTORIC PRESERVATION OFFICE

P.O. Box 420

Trenton, NJ 08625-0420

TEL. (609) 984-0176 FAX (609) 984-0578

CHRIS CHRISTIE

Governor

BOB MARTIN

Commissioner

KIM GUADAGNO

Lt. Governor

November 14, 2016

Frank J. Seney
Senior Associate
Remington & Vernick Engineers
232 Kings Highway East
Haddonfield, NJ 08033

**Re: Warren County, Borough of Alpha
Homa Lane Drainage Improvements
Pre-Application Technical Assistance**

Dear Mr. Seney:

Thank you for providing the Historic Preservation Office (HPO) with the opportunity to review and comment on the potential for the above-referenced undertaking to affect historic properties. Based upon the documentation submitted, there are no buildings, structures, sites, objects, or historic districts on or adjacent to the project location that are listed on, or that have been identified as eligible for listing on the New Jersey or National Registers of Historic Places. However, the project area is adjacent to the Still Valley Prehistoric District, a grouping of Native American archaeological sites that are eligible for listing on the National Register of Historic Places (SHPO Opinion 7/7/1983.)

Therefore, if future project activities require any federal funding, licensing, or permitting, a Freshwater Wetlands permits, Waterfront Development permits, and Upland Development permits issued by the State of New Jersey's Division of Land Use Regulation, as well as environmental assessments under Executive Order 215, the HPO would likely recommend that a Phase IA archaeological investigation be completed to assess the project's potential impact to any such related archaeological resources.

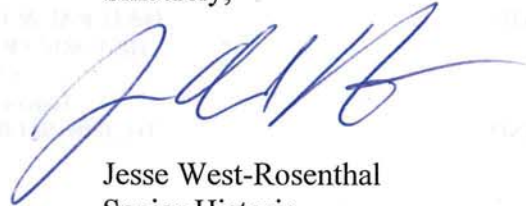
Additional Comments

Thank you again for providing the opportunity to review and comment on the potential for the above-referenced undertaking to affect historic and archaeological resources. If additional consultation with the HPO is needed for this undertaking, please reference the HPO project

This information is provided as informal notes to you, and does not constitute identification level cultural resources survey under Section 106 of the National Historic Preservation Act or other law or regulation. These notes do not constitute project review under any state or federal law. The absence of previously identified cultural resources does not imply that there are no eligible historic properties in the requested area.

number 17-0099 in any future calls, emails, submissions or written correspondence to help expedite your review and response. If you have any questions, please feel free to contact me at (609) 894-6019 with questions regarding archaeology.

Sincerely,



Jesse West-Rosenthal
Senior Historic
Preservation Specialist

Cc. Michael Tropiano, DLUR

APPENDIX B: QUALIFICATIONS OF THE PRINCIPAL INVESTIGATORS



CULTURAL
RESOURCE
CONSULTANTS

MARY LYNNE RAINEY

PRINCIPAL SENIOR ARCHAEOLOGIST (36 CFR 61)

YEARS OF EXPERIENCE:

With this firm:

2010-Present

With other firms: 28

EDUCATION:

MA 2004

University of

Connecticut:

Anthropology

BA 1981

West Chester University:

Anthropology

PROFESSIONAL

TRAINING:

2008 Portland, OR

Addressing Cultural

Resources in NEPA

Analyses

2007 Atlanta, GA

FERC Regulatory

Overview and Guidance

Seminar;

&

FERC Environmental

Compliance Seminar

2006 Washington, D.C.

Advisory Council on

Historic Preservation,

Section 106 Essentials

Course

PROFESSIONAL

REGISTRATION:

Register of Professional

Archaeologists

Professional Experience Summary:

Mary Lynne Rainey has directed all phases of archaeological investigations (Reconnaissance, Phase I Intensive, Phase II Site Examination, Phase III Data Recovery) in the Northeast region, and has extensive knowledge of the prehistoric and historic archaeology of coastal southern New England and the Mid-Atlantic states. Her experience in archaeological project management and large-scale feasibility for cultural resource compliance also spans the Great Lakes, Appalachian, Mid-Atlantic, and Gulf regions. She has worked on a wide range of Section 106 and NEPA projects in divergent market sectors under the regulatory authority of most federal agencies and many state historic preservation offices. She exceeds the qualifications set forth in the Secretary of Interior's Standards for an Archaeologist [36 CFR 61].

Representative Project Experience:

Kleinfelder Marcellus Shale Midstream Infrastructure Projects, multiple communities throughout Bradford, Susquehanna, Sullivan, and Wyoming Counties, PA (Sponsor: Appalachia Midstream, LLC) Assisted with the management of Phase I and II archaeological investigations for multiple natural gas gathering lines, well lines, and facility sites across northeastern Pennsylvania under the permitting authority of the United States Army Corps of Engineers, and the Pennsylvania Historical and Museum Commission. Responsibilities include oversight of field investigations and data transmission, quality control for technical reports and deliverables, agency consultations, and rapid response to time sensitive project needs.

Byrom Streambank Restoration, Hunterdon County, NJ (Sponsor: USDA-NRCS) Oversaw the completion of a Phase IA/IB archaeological survey for a streambank restoration and riparian planting project along a Neshanic River tributary. The property is the site of the 1735 National Register-eligible Headquarters Mills, and an associated archaeological resource was identified and avoided. Project undertaken as part of a 2011 IDIQ contract with the USDA-NRCS in New Jersey.

Wrubel Fish Passage Restoration, Bergen County, NJ (Sponsor: USDA-NRCS) Oversaw the completion of Phase IA/IB archaeological investigations in advance of a fish passage restoration project on the Cresskill Brook, near the site of an eighteenth-century saw mill. Elements of the project are ongoing. Project undertaken as part of a 2011 IDIQ contract with the USDA-NRCS in New Jersey.

Little Tor Substation, Rockland County, NY (Sponsor: Orange and Rockland Utilities) Oversaw Phase IA/IB investigations of a ten-acre parcel in Rockland County, New York, slated for construction of a new electrical substation and associated infrastructure. The survey documented a complex land use history spanning nearly two centuries, which assisted with developing as context for evaluation of potentially significant archaeological finds. The investigations were required as part of the State Environmental Quality Review Act (SEQRA) 6NYCRR Part 617 of the New York State Environmental Conservation Law and under Section 106 of the National Historic Preservation Act.

APPENDIX C: RECORD OF PUBLIC CONSULTATION

Agencies and individuals with an identified interest in archaeology, history or historic preservation were contacted as part of this survey. Information was requested regarding opinions as to the significance of properties within the Area of Potential Effects, project compatibility/incompatibility with existing historic resources, project effect(s) on eligible resources, and other thoughts and concerns relevant to the review process for the project. As a result, the following persons and/or organizations were contacted requesting information on and possible impacts to historic resources:

Interested Parties

Patricia Brunk, President and Curator
Warren County Historical and Genealogical Society
313 Mansfield Street
P.O. Box 313
Belvidere, NJ 07823
Contact: letter sent: December 5, 2016, attached
Response: None to date

John Metroke, Chairperson
Warren County Cultural & Heritage Commission
Shippen Manor
8 Belvidere Avenue
Oxford, NJ 07863
Contact: letter sent: December 5, 2016, attached
Response: None to date

Ilene Grossman-Bailey, Ph.D., President
Archaeological Society of New Jersey
36 E. Palmer Street
Morrisville, PA 19067
Contact: letter sent: December 5, 2016, attached
Response: None to date



CULTURAL
RESOURCE
CONSULTANTS

HEADQUARTERS

259 Prospect Plains Road | Building D | Cranbury, New Jersey 08512 | 609-655-0692

December 5, 2016

Patricia Brunk, President and Curator
Warren County Historical and Genealogical Society
313 Mansfield Street
P.O. Box 313
Belvidere, NJ 07823

Re: Phase IA Historical and Archaeological Survey, Homa Lane Drainage Improvements, Borough of Alpha, Warren County, New Jersey.

Dear Ms. Brunk:

RGA, Inc. (RGA) is conducting a Phase IA historical and archaeological survey of the Area of Potential Effects (APE) associated with proposed drainage improvements for Homa Lane in the Borough of Alpha, Warren County. A habitat creation and enhancement area and associated berm are proposed for a property west of County Route 519. It is the understanding of RGA that a Freshwater Wetlands permit from the New Jersey Department of Environmental Protection, Division of Land Use Regulation will be necessary for the proposed project, thereby requiring compliance with N.J.A.C. 7:7A. In a review letter dated November 14, 2016, the New Jersey Historic Preservation Office indicated that the project area is adjacent to the National Register-eligible Still Valley Prehistoric District and a Phase IA archaeological survey was requested to assess the potential for impacts on archaeological resources. The purpose of the Phase IA historical and archaeological survey is to assess the potential for significant archaeological resources within the APE.

If you are aware of any historic or archaeological resources that may be affected by the project, or have any information regarding the APE, please respond within 10 days of the receipt of this letter. Enclosed for your use is a topographic map showing the location of the APE. If you have any information pertinent to this project, RGA would be interested in receiving your comments in writing. Please feel free to contact me at 609-655-0692 ext. 302 or via email at lcushman@rgaincorporated.com.

Yours very truly,

Laura Cushman
Archaeologist

w/ enclosure

cc: Frank J. Seney, PE, Remington & Vernick Engineers
Laurie Barton, Alpha Borough Clerk

ADDITIONAL OFFICES | Florida | Pennsylvania | Maryland | Ohio

ON THE WEB | www.rgaincorporated.com | mail@rgaincorporated.com

DBE/WBE/SBE CERTIFIED



CULTURAL
RESOURCE
CONSULTANTS

HEADQUARTERS

259 Prospect Plains Road | Building D | Cranbury, New Jersey 08512 | 609-655-0692

December 5, 2016

John Metroke, Chairperson
Warren County Cultural & Heritage Commission
Shippen Manor
8 Belvidere Avenue
Oxford, NJ 07863

Re: Phase IA Historical and Archaeological Survey, Homa Lane Drainage Improvements, Borough of Alpha, Warren County, New Jersey.

Dear Mr. Metroke:

RGA, Inc. (RGA) is conducting a Phase IA historical and archaeological survey of the Area of Potential Effects (APE) associated with proposed drainage improvements for Homa Lane in the Borough of Alpha, Warren County. A habitat creation and enhancement area and associated berm are proposed for a property west of County Route 519. It is the understanding of RGA that a Freshwater Wetlands permit from the New Jersey Department of Environmental Protection, Division of Land Use Regulation will be necessary for the proposed project, thereby requiring compliance with N.J.A.C. 7:7A. In a review letter dated November 14, 2016, the New Jersey Historic Preservation Office indicated that the project area is adjacent to the National Register-eligible Still Valley Prehistoric District and a Phase IA archaeological survey was requested to assess the potential for impacts on archaeological resources. The purpose of the Phase IA historical and archaeological survey is to assess the potential for significant archaeological resources within the APE.

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Yours very truly,

Laura Cushman
Archaeologist

w/ enclosure

cc: Frank J. Seney, PE, Remington & Vernick Engineers
Laurie Barton, Alpha Borough Clerk

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CULTURAL
RESOURCE
CONSULTANTS

HEADQUARTERS

259 Prospect Plains Road | Building D | Cranbury, New Jersey 08512 | 609-655-0692

December 5, 2016

Ilene Grossman-Bailey, President
Archaeological Society of New Jersey
36 E. Palmer St.
Morrisville, PA 19067

Re: Phase IA Historical and Archaeological Survey, Homa Lane Drainage Improvements, Borough of Alpha, Warren County, New Jersey.

Dear Dr. Grossman-Bailey:

RGA, Inc. (RGA) is conducting a Phase IA historical and archaeological survey of the Area of Potential Effects (APE) associated with proposed drainage improvements for Homa Lane in the Borough of Alpha, Warren County. A habitat creation and enhancement area and associated berm are proposed for a property west of County Route 519. It is the understanding of RGA that a Freshwater Wetlands permit from the New Jersey Department of Environmental Protection, Division of Land Use Regulation will be necessary for the proposed project, thereby requiring compliance with N.J.A.C. 7:7A. In a review letter dated November 14, 2016, the New Jersey Historic Preservation Office indicated that the project area is adjacent to the National Register-eligible Still Valley Prehistoric District and a Phase IA archaeological survey was requested to assess the potential for impacts on archaeological resources. The purpose of the Phase IA historical and archaeological survey is to assess the potential for significant archaeological resources within the APE.

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Yours very truly,

Laura Cushman
Archaeologist

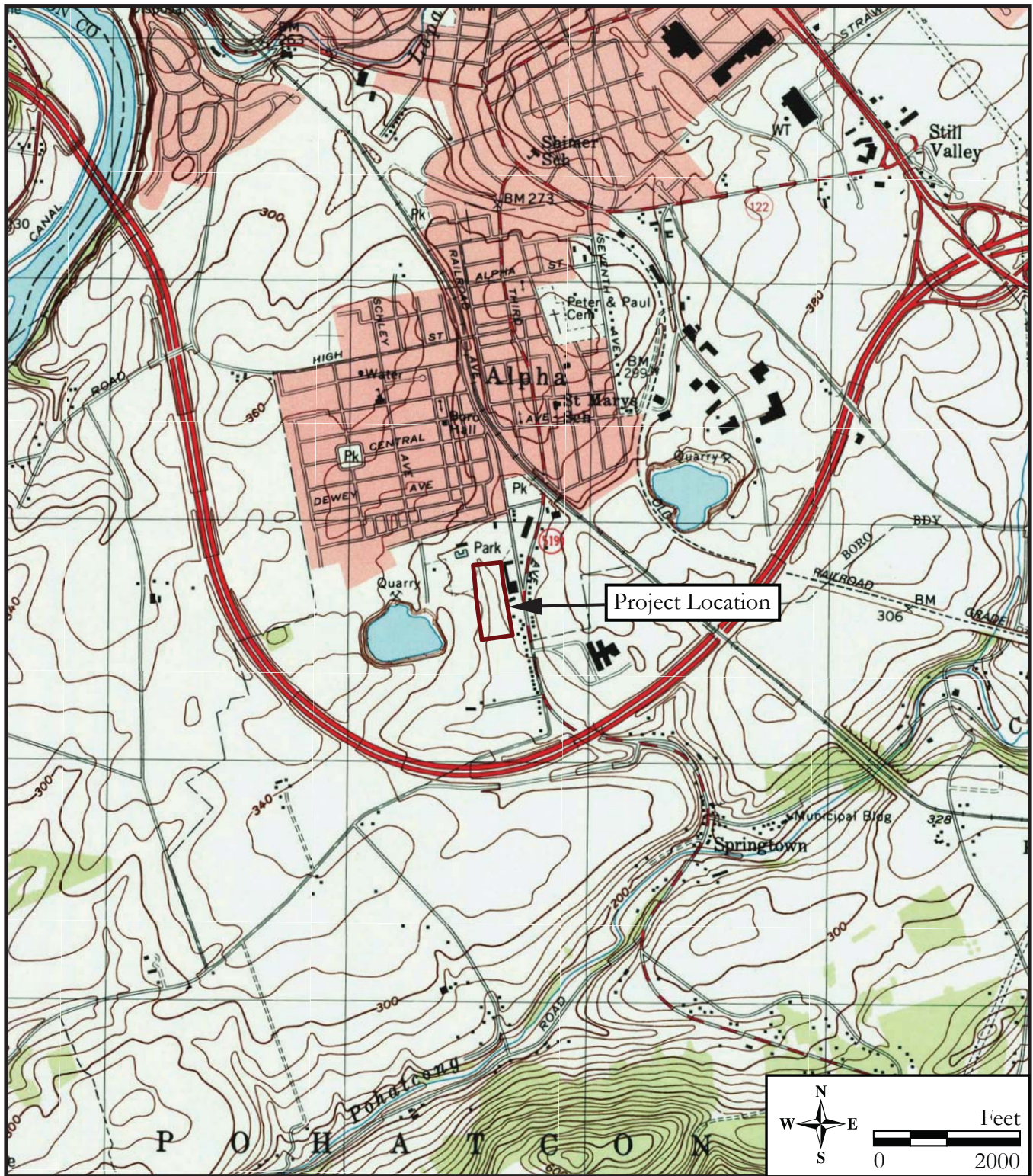
w/ enclosure

cc: Frank J. Seney, PE, Remington & Vernick Engineers
Laurie Barton, Alpha Borough Clerk

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ON THE WEB | www.rgaincorporated.com | mail@rgaincorporated.com

DBE/WBE/SBE CERTIFIED



Project Location Map
(from 1999 U.S.G.S. 7.5' Quadrangle: Easton, PA-NJ).

APPENDIX D: ANNOTATED BIBLIOGRAPHY

Authors:	Laura Cushman and Mary Lynne Rainey, MA, RPA
Title:	Phase IA Historical and Archaeological Survey, Homa Lane Drainage Improvements, Borough of Alpha, Warren County, New Jersey
Date:	December 2016
RGA Database Title:	Homa Lane Drainage Improvements
RGA Project No:	2016-276
State:	New Jersey
County:	Warren
Municipality:	Borough of Alpha
U.S.G.S. Quad:	Easton, PA-NJ
Drainage Basin:	Pohatcong Creek, Delaware River, Delaware Bay, Atlantic Ocean
Regulation:	Freshwater Wetlands
Project Type:	Government: Drainage Improvements
Project Sponsor:	Borough of Alpha
Client:	Remington & Vernick Engineers
Level of Survey:	Phase IA historical and archaeological survey
Cultural Resource:	None