

APPENDIX B

Audi Phase IA Cultural Resources Report

Phase IA Cultural Resources Survey of the Audi Parcel for United States
Military Academy, West Point, Orange County, New York

MIPR Number 11407152

Prepared By: Anna Jansson M.A., Project Archaeologist

United States Army Corps of Engineers
New York District
26 Federal Plaza, 17th Floor
New York, NY 10278

Prepared for:
Directorate of Public Works
United States Military Academy
Building 667A Ruger Road
West Point, New York 10996

April 2020

Table of Contents

Table of Tables	3
Management Summary	4
1.0 Introduction.....	4
3.0 Environmental Context	5
3.1 Soils.....	6
4.0 Precontact and Historic Contexts.....	8
4.1 Precontact Context	8
4.1.1 Paleoindian.....	9
4.1.2 Archaic.....	9
4.1.3 Woodland.....	9
4.2 Historic Context	9
4.3 Historic Map Search	10
5.0 New York State Historic Preservation Office Data	14
5.1 Archaeological Sites	14
5.1.1 National Register Eligible Site.....	14
5.1.2 Not Eligible to the NR Site	15
5.1.3 Sites Unevaluated for the NR within One Mile of the APE	15
5.2 Historic Buildings	21
5.3 Archaeological Surveys	22
5.4 Building surveys	26
5.5 Building District.....	26
6.0 Recommendations.....	26
7.0 References Cited	29

Table of Figures

Figure 1. APE of Audi Property Acquisition.....	5
Figure 2. Web Soil Survey search results for APE.....	7
Figure 3. Map of the counties of Orange and Rockland. By David H. Burr, 1829. APE shown as yellow polygon.....	11
Figure 4. Map of the counties of Orange and Rockland. By David H. Burr, 1840. APE shown as yellow polygon.....	12
Figure 5. Map of Orange County New York: from actual surveys by James C. Sidney 1851.....	12
Figure 6. Beers Atlas Orange County 1875. “County Atlas of Orange, New York”.	13
Figure 7. 1946 USGS Popolopen Lake Quad.	14
Figure 8. Slope map of APE.	28

Table of Tables

Table 1. USDA Web Soil Survey Data for APE.	7
Table 2. Archaeology USNs within one mile of the APE.	18
Table 3. Building USNs within one mile of the APE.	22
Table 4. Archaeological surveys within one Mile of APE.	24

Management Summary

This report presents the results of a Phase IA cultural resources literature review and sensitivity study of an 87.2 acre parcel of private property in Woodbury, NY that the United States Military Academy (USMA) wishes to purchase as a buffer from development near the military reservation. Historic documentation and maps research, a site reconnaissance, and a review of information available on the New York State Historic Preservation Office (SHPO) Cultural Resources Information System (CRIS) suggests that the area of potential effect (APE) has a high sensitivity for both Precontact and Historic resources. No structures were observed within the 87.2 acres during the site reconnaissance. Since no ground disturbing activities are proposed as part of the acquisition of the parcel, the undertaking is not expected to adversely affect cultural resources and no further work is recommended at this time. If in the future USMA plans to carry out ground disturbing activities on this parcel a Phase IB survey is recommended.

1.0 Introduction

This report presents a Phase IA-level survey that was prepared to gather information concerning the environmental and cultural setting for the area of the proposed undertaking by the United States Military Academy (USMA) and to evaluate the effect of the proposed undertaking on cultural resources. The undertaking is defined as the purchase of 87.2 acres of private land by the US Military Academy (Figure 1). The property to be purchased is located in Woodbury, NY and is owned by Robert Audi. This tract of land is referred to as the “Audi Property.” The original property subject to this transaction is 90.9 acres and contains a house and one outbuilding. USMA is planning to purchase only 87.2 acres of the parcel, not the 3.7 acres that contain the house and its immediate surroundings. The Area of Potential Effect (APE) is defined as the entire 87.2 acres to be purchased. The acquired property will be used as a buffer to the US Military Academy, and no ground disturbing activity is planned to occur at this time. Because of this, only a Phase IA level survey is required to address this Federal undertaking. The U.S. Army Corps of Engineers, New York District is preparing an Environmental Assessment on behalf of the US Military Academy in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). This survey was conducted in compliance with NEPA, Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 300101 *et seq.*), Archaeological and Historic Preservation Act (54 U.S.C. 312501-213508: Preservation of Historical and Archeological Data); the Advisory Council on Historic Preservation Guidelines for the Protection of Cultural and Historic Properties (36 CFR Part 800); as well as Army Regulation (AR) 200-1: “Environmental Protection and Enhancement,” Chapter 6, “Cultural Resources.” This report presents the Project Overview, Environmental Context, Precontact and Historic Contexts, Historic Map Search, NY State Historic Preservation Office Data, and Recommendations for the proposed undertaking.

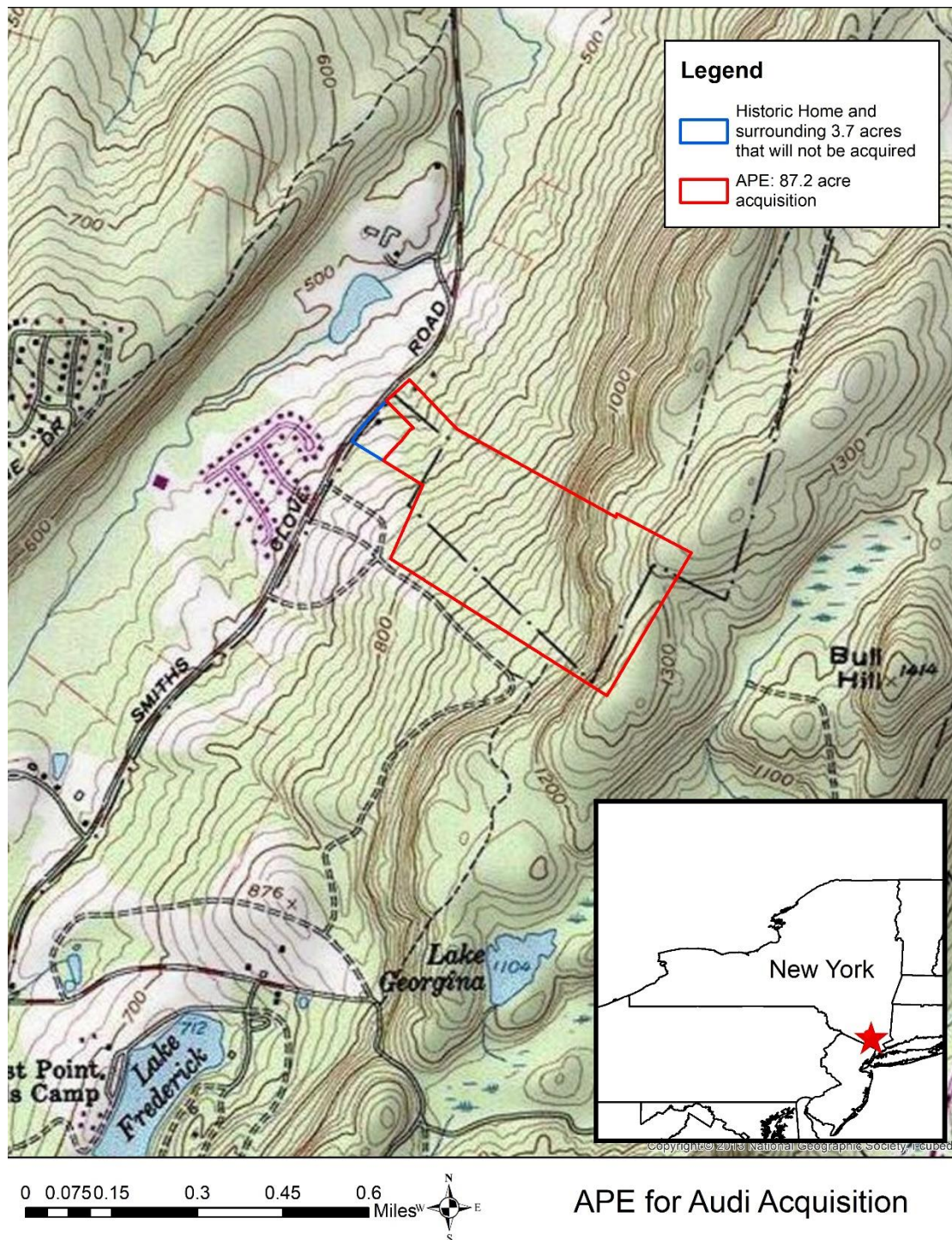


Figure 1. APE of Audi Property Acquisition.

3.0 Environmental Context

The U.S. Environmental Protection Agency (EPA) has developed a system to classify ecosystems within the United States called the USEPA Ecoregions. There are four levels of classification in this system, with Level I being the broadest, most general level, and Level IV

being the smallest scale, most site-specific level of classification. The USEPA Ecoregion Level III classification for the APE is the Northeastern Highlands. The EPA describes this area as:

“The Northeastern Highlands ecoregion covers much of the mountainous portions of the New England and New York. It is characterized by hills and mountains, extensive forest cover, nutrient-poor frigid and cryic soils (mostly spodosols), numerous glacial lakes, wetlands, bogs, and high-gradient coldwater streams. Forest vegetation is somewhat transitional between the boreal regions to the north in Canada and the broadleaf deciduous forests to the south. Typical forests types include northern hardwoods (maple-beech-birch), northern hardwood/spruce, and northeastern spruce-fir forests. The region is sparsely populated compared to adjacent regions; farm-to-forest conversion began in the mid-19th century and continues today. In spite of this trend, alluvial valleys, glacial lake basins, and areas of limestone-derived soils are still farmed for dairy products, forage crops, fruits, and vegetables. The timber industry, recreational homes, and associated logging and services sustain the forested regions economically, but they also create development pressure that threatens to change the character of the region. Many of the lakes and streams in the region are sensitive to acid deposition originating from industrial sources in the west and southwest.” (Bryce et al. 2010).

The Level IV classification is the Glaciated Reading Prong/Hudson Highlands, which the EPA describes as:

“The Glaciated Reading Prong/Hudson Highlands ecoregion forms a low portion of the Appalachian Mountains connecting the mid-Appalachians with the Berkshires and Green Mountains in New England. The Hudson Highlands are at the northern end of the Reading Prong, an extension of the Precambrian gneiss and schist that underlies New England. Resistant bedrock is often exposed, as it is where the Hudson River cuts through highland bedrock creating cliff faces on both sides of the river. Soils in this ecoregion are shallow, rocky, and highly acidic. As a result, the region is mostly forested with transition hardwoods, that is, Appalachian oak-hickory on drier sites and northern hardwoods and hemlock on north slopes and moist sites. Naturally acidic runoff plus acid deposition from upwind industrial sources put Highlands lakes at risk for future harm to aquatic life from acidification. The forested highlands provide a natural buffer zone and an outer boundary for the New York City megalopolis.” (Bryce et al. 2010).

3.1 Soils

A search for soil data on the United States Department of Agriculture Web Soil Survey Website was conducted on April 14, 2020 (Figure 2). The soil characteristics are presented in Table 1. In summary, the eastern side of the APE is very rocky with bedrock usually occurring 11 to 16 inches below the surface. The central portion of the APE belongs to the Swartwood and Mardin soil complexes which either contain an E horizon (which is an area of leaching that is usually white or light in color) or are composed of H horizons (which are horizons dominated by organic material that were saturated with water for a prolonged period of time, or were saturated but now are artificially drained). The western portion of the APE belongs to the Mardin soil complex, which also contains an E horizon.



Figure 2. Web Soil Survey search results for APE.

Table 1. USDA Web Soil Survey Data for APE.

Percent of APE	Map Unit Symbol	Map Unit Name	Typical Soil Profile
0.1 %	MdB	Mardin gravelly silt loam, 3 to 8 percent slopes	Ap – 0-8 inches: gravelly silt loam Bw – 8-15 inches: gravelly silt loam E – 15-20 inches: gravelly silt loam Bx – 20-72 inches: gravelly silt loam
3.4 %	MdC	Mardin gravelly silt loam, 8 to 15 percent slopes	Ap – 0-8 inches: gravelly silt loam Bw – 8-15 inches: gravelly silt loam E – 15-20 inches: gravelly silt loam Bx – 20-72 inches: gravelly silt loam
6.0 %	MdD	Mardin gravelly silt loam, 15 to 25 percent slopes	Ap – 0-8 inches: gravelly silt loam Bw – 8-15 inches: gravelly silt loam E – 15-20 inches: gravelly silt loam Bx – 20-72 inches: gravelly silt loam

Percent of APE	Map Unit Symbol	Map Unit Name	Typical Soil Profile
15.1 %	ROD	Rock outcrop-Hollis Complex, 15 to 35 percent slopes	Oi – 0-2 inches: Slightly decomposed plant material A – 2-7 inches: gravelly fine sandy loam Bw – 7-16 inches: gravelly fine sandy loam 2R – 16-26 inches: bedrock
18.3 %	ROF	Rock outcrop-Hollis Complex, very steep	Oa – 0-3 inches: highly decomposed plant material H1 – 3-8 inches: gravelly loam H2 – 8-11 inches: gravelly loam H3 – 11-22 inches: unweathered bedrock
13.1 %	SXC	Swartswood and Mardin soils, sloping, very stony	Swartswood, very stony H1 – 0-3 inches: gravelly loam H2 – 3-31 inches: gravelly fine sandy loam H3 – 31-60 inches: gravelly fine sandy loam Mardin very stony: A – 0-4 inches: gravelly silt loam Bw – 4-15 inches: gravelly silt loam E – 15-20 inches: gravelly silt loam Bx – 20-72 inches: gravelly silt loam
43.9 %	SXD	Swartswood and Mardin soils, moderately steep, very stony	Mardin very stony: A – 0-4 inches: gravelly silt loam Bw – 4-15 inches: gravelly silt loam E – 15-20 inches: gravelly silt loam Bx – 20-72 inches: gravelly silt loam Swartswood, very stony H1 – 0-2 inches: gravelly loam H2 – 2-28 inches: gravelly fine sandy loam H3 – 28-60 inches: gravelly fine sandy loam

4.0 Precontact and Historic Contexts

4.1 Precontact Context

Archaeological investigations of the northeastern United States and southern Ontario, Canada, have found evidence of human occupation of the region beginning around 11,000 BP (Before Present). This timespan begins with small, highly mobile groups of Native Americans who entered the region near the end of the Wisconsin glaciation and ends with native populations living in large, permanent villages and practicing large-scale maize agriculture at the time of European contact. The time from the entrance of the first Native American groups into the

Northeast to contact with Europeans is broken into three periods: Paleoindian, Archaic, and Woodland.

4.1.1 Paleoindian

The Paleoindian period, as stated above, covers the first inhabitants of the Northeast who likely came from southern Ohio and Pennsylvania, which were inhabitable before New York and New England were ice free (Alexander Archaeological Consultants 2010a). No Paleoindian sites are located within USMA (Ibid.).

4.1.2 Archaic

The onset of the early Holocene climate epoch brought on cultural changes that lead to the Archaic Period. The Archaic Period in New York is defined as a culture that had not yet developed ceramic technology and was dependent on hunting, gathering and fishing (Ibid.). The Archaic is divided into four subperiods: Early, Middle, Late, and Terminal. Early Archaic sites are rare and poorly understood in the Hudson Valley. The Middle Archaic is characterized by a change in subsistence strategies, showing an increased reliance on fish, waterfowl, small mammals, and reptiles, as well as moose and white-tailed deer. More woodworking, milling, and ground stone tools than the preceding periods indicates a reliance on a wider range of resources and a technological change in stone tools. The Late Archaic brought heavy grinding implements like mortars and pestles which brought new ways of preparing seeds, nuts, dried berries, and meat. Some plants were cultivated during this time. The Terminal Archaic is a transitional subperiod that is identified by Susquehanna Broadspire projectile points, steatite (soapstone) bowls or pots, Marcey Creek and Ware Plain ceramics with steatite temper.

4.1.3 Woodland

The Woodland Period is divided into three subperiods: Early, Middle, and Late. In general, the Woodland Period is defined by pottery manufacture, deliberate cultivation of native plants, and burial of deceased people under funerary mounds.

The Early Woodland Period begins with the use of Vinette 1 pottery with crushed rock temper, and cord marked exterior and interior surfaces. The Middle Woodland is marked by the introduction of classic rocker or dentate stamped or impressed pottery styles (Vinette 2). Middle Woodland sites are generally larger than earlier sites with substantial middens and indications of structures. In the Northeast, the Middle Woodland blends into the Late Woodland, and an arbitrary date of 1000 AD separates the two subperiods. During the Late Woodland, large villages formed, which towards the end of this period were surrounded by palisades, indicating hostility between groups.

4.2 Historic Context

The proto-historic period (~1500 to 1609 AD) is marked by the initial contact between Native American groups and Europeans and the absence of written records. At the time of contact, the Native American groups who lived in the Hudson Valley were the Lenape (or Delaware) people. There are two groups of Lenape, the Munsee and the Unami. The Munsee settled in the area that is now northern New Jersey and southern New York. The Dutch traded with Lenape, but violence broke out between them over land issues. A peace treaty was signed in 1645, but by the

early 1700s, several Lenape groups moved west to Pennsylvania and eastern Ohio to escape depredations by the Dutch and other Native American groups (Ibid.). There are no definite proto-historic sites on USMA (Ibid.).

The historic period in New York State begins in 1609 with Henry Hudson's trip up the Hudson River while he was seeking a short cut to the Spice Island and India. Trading vessels frequented the Hudson River from 1610 to 1624 seeking furs and tobacco, at which time the first Dutch settlers arrived in New York. In 1685 the colonial governor Thomas Dongan purchased the land encompassing West Point from the local Native Americans (Budke 1975:62-65). The land was subdivided between 1702 and 1775, but was eventually sold back to the United States government in 1790 (Alexander Archaeological Consultants 2010a).

West Point was noted as having great strategic advantage during the Revolutionary War. The sharp S-curve at the point is the most difficult navigational task on the river. Defenses started being constructed in 1775 and continued throughout the war years (ibid.). In 1783 West Point was identified by Congress as a location for a Military Academy. In 1802 the Military Academy was established.

4.3 Historic Map Search

Tax records show that the house at 520 Smith Clove Road was built in 1840. The house is visible in many historic maps of the area. Figure 3 shows the project area in 1829 in David H. Burr's Map of the Counties of Orange and Rockland. This map was created before the house was built, and no other developments are shown within its vicinity. There is a land patent to T. Smith to the N/NE of the APE. A church is shown to the NW of the APE and the town (then called Monroe) to the SW.

David Burr made an update to his map in 1840, the year the house was built (Figure 4). The map must have been drawn before the house was built though, because the house is not shown on this map. In this map, a furnace is marked in Highland Mills. Rural residents of Orange County were usually self-sufficient farmers living on homesteads. Dairy farming was particularly common in Orange County. Milk was mostly sold in the local market (until 1847 with the construction of the Erie Railroad), and the surplus was turned into butter and cheese that could be exported easier (Alexander Archaeological Consultants 2010a). The introduction of the railroad changed the milk industry and allowed Orange County milk to be sold in New York City.

In addition to the dairy industry, tourism also flourished in Orange County in the early 1800s. As early as 1830 New York City residents were vacationing in Orange County. Fatal disease epidemics were common in New York City during this time, and doctors were recommending vacationing in the Hudson Highlands to breathe fresh air that was not available in the city (Alexander Archaeological Consultants 2010a). Boarding houses, hotels, resorts, and

campgrounds were built to accommodate the tourists, but it was also common for private residences to open their doors to visitors.

James C. Sidney's 1851 Map of Orange County New York: From Actual Surveys shows the house, but does not indicate the owners name, as it does for several of the other houses in the area (Figure 5). This map also shows the addition of a new road in front of the house.

The Beers Atlas Orange County 1875 shows the project area, but is too large scale to show the house (Figure 6). In 1946 the USGS Popolopen Lake Quadrangle topographic map shows two buildings near each other where the house is located and a short road that lead from Smith Clove Road, in between the two buildings, and then back to Smith Clove Road (Figure 7). The two buildings and the road appear again in the 1947 USGS Popolopen Lake Quad as well. The second building and the road disappear in all subsequent topo maps 1957, 1957 (2nd version), and 1994. It is hard to tell at this scale, but it appears that the second building was located in front of the house, essentially touching Smith Clove Road. The author's hypothesis is that this building may have been a garage. For the house itself, the most likely explanations are that it was a farm house, or it was a hotel/boarding house for vacationers from New York City, or it was a private vacation home owned by a New York City resident. The house is most likely the second or third option, since no other ancillary farming buildings/structures (barns, silos, etc.) are shown on any of the maps.



Figure 3. Map of the counties of Orange and Rockland. By David H. Burr, 1829. APE shown as yellow polygon.

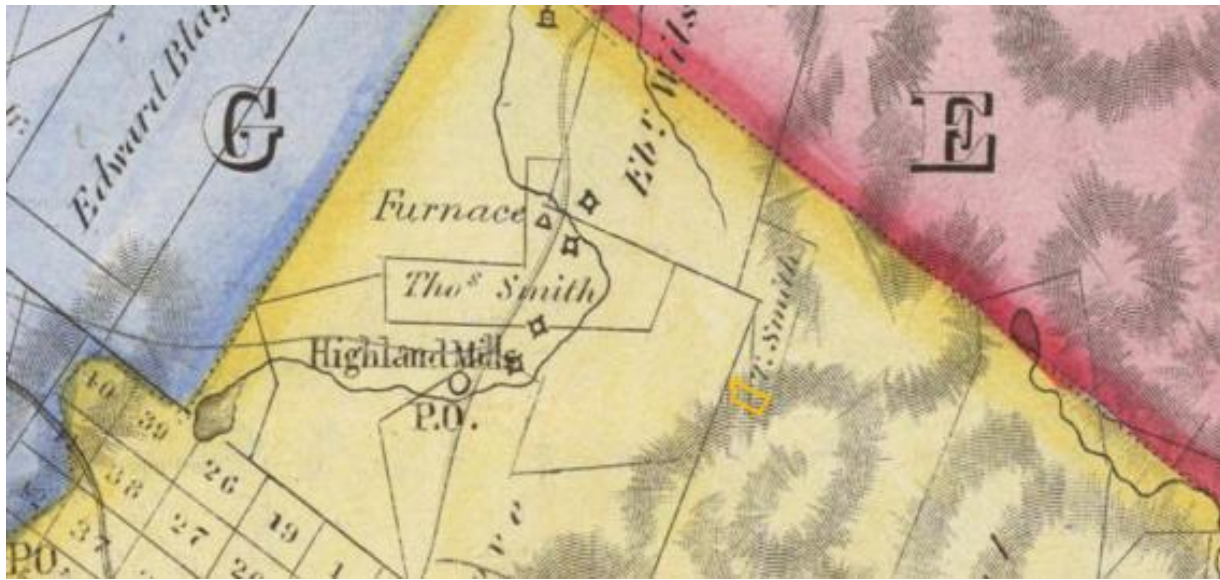


Figure 4. Map of the counties of Orange and Rockland. By David H. Burr, 1840. APE shown as yellow polygon.

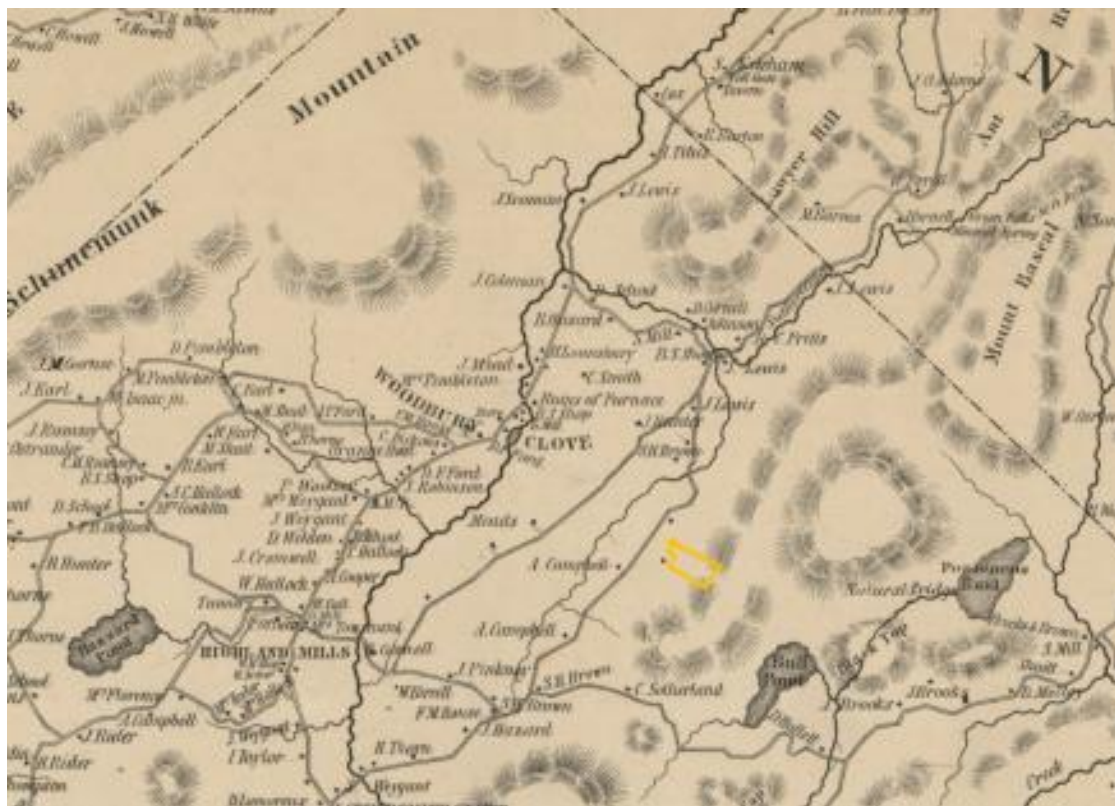


Figure 5. Map of Orange County New York: from actual surveys by James C. Sidney 1851.

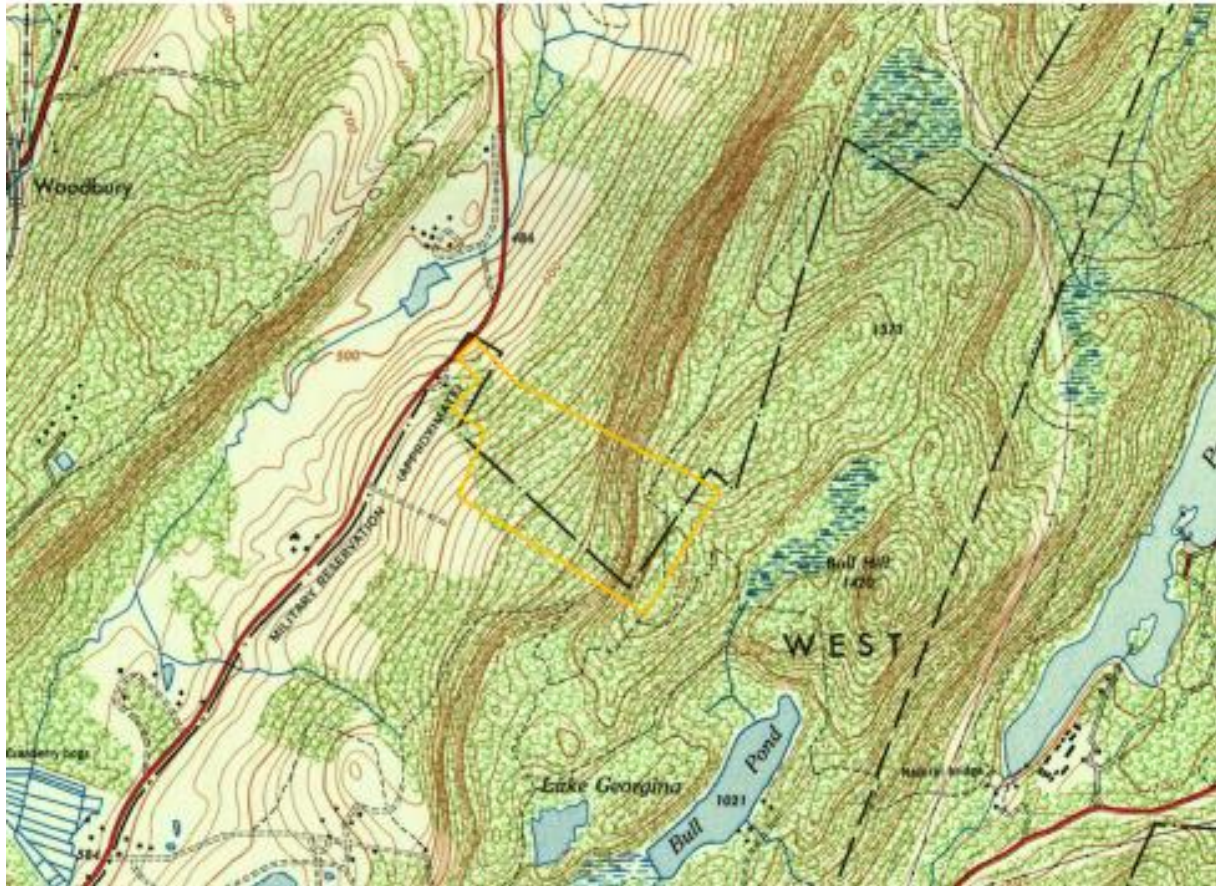


Figure 7. 1946 USGS Popolopen Lake Quad.

5.0 New York State Historic Preservation Office Data

A review of the online New York State Cultural Resources Information System (CRIS) was carried out on March 31, 2020. Within one mile of the APE there are 23 archaeological USNs (representing 19 archaeological sites), four historic buildings, 15 archaeological surveys, one building survey, and one building district. These results are outlined below.

5.1 Archaeological Sites

Of the 23 archaeological USNs within one mile of the APE (Table 2) only 19 archaeological sites are original because four of the USNs are duplicates of existing sites. Two sites have been evaluated for the National Register of Historic Places (NRHP) and one (Woodbury Falls Furnace Ruins [USN# 7120.000209]), was found to be eligible, and the other one was found to be not eligible (2007 ACC TAL Field Site J Precontact and Historic Site [USN 7120.000283]). The other 17 archaeological sites have not been evaluated for the NRHP. Of the 19 archaeological sites within one mile of the APE, seven are multicomponent sites that contain both a Precontact and a Historic component, nine are Precontact sites, and three are Historic sites.

5.1.1 National Register Eligible Site

There is one NR eligible site within one mile of the APE, USN 7120.000209: Woodbury Falls Furnace Ruins (historic). This site consists of the remains of one of the three furnaces that made

pig iron for West Point. The Woodbury Furnace was built in 1832 and was in operation from 1833 to the early 1840s. This furnace was the smallest and shortest lived of the three. The Woodbury Furnace was determined to be eligible to the NRHP under criteria A and D in 2014 by the NYSHPO.

5.1.2 Not Eligible to the NR Site

The one site that has been evaluated as not eligible for the NRHP is USN 7120.000283: 2007 ACC TAL Field Site J Precontact and Historic Site. 11 shovel test pits were dug inside this site and seven artifacts were found: 6 Historic era artifacts including: one undecorated yellowware fragment, one fragment of aqua glass, and four fragments of colorless mold-blown glass; and one Precontact artifact: a secondary flake.

5.1.3 Sites Unevaluated for the NR within One Mile of the APE

Within one mile of the APE there are 17 sites (21 archaeological USNs) that are unevaluated for the NR. A brief overview of each one is provided below and in Table 2.

- USN 7120.000241: HISTORIC SITE 99-32901-17L-01 (Historic). This site consists of a rock wall and a historic bottle dump with artifact scatter. The bottle dump/artifact scatter contained 34 artifacts, primarily glass vessel fragments, but also a few ceramic fragments and a jar lid liner. This site was recorded by Gray and Pape as part of their investigations for their 2000 “Report on Cultural Resources Analysis of Proposed Regeneration Station 17L, Woodbury, Orange County, New York.”
- USN 7120.000242: PCI-RR 22 HISTORIC SITE 1 (Historic and Precontact). 43 shovel tests were dug within this site. The site consists of two features that were both earthen, rectangular depressions that were partially-lined with unmortared field stones. The historic era artifacts consisted of a metal object (possible spike), two whiteware fragments, and a metal fragment. The Precontact artifacts consist of one secondary reduction flake, one tertiary reduction flake, eight flake fragments, one shatter, and one piece of charcoal. This site was recorded by Panamerican Consultants as part of their 2002 “Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York.”
- USN 7120.000243: PCI-RR 22 HISTORIC SITE 2 (Historic). 27 shovel tests were dug within this site. The site consists of two features, both earthen, rectangular depressions that were partially-lined with field stones, and historic artifacts including: 2 whiteware fragments and, 2 pearlware fragments. This site was recorded by Panamerican Consultants as part of their 2002 “Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York.”
- USN 7120.000244: PCI-RR 22 HISTORIC SITE 3 (Historic and Precontact). 26 shovel tests were dug in this site. This site consisted of three non-contiguous stone walls consisting of large, unmortared field stones. The artifacts consisted of 32 fragments of plain and transfer-printed whiteware, 5 fragments of earthenware, seven fragments of pearlware, 3 fragments of stoneware, five brick fragments, one clay pipe fragment, 12

clear glass fragments, two olive curved glass fragments, four flat glass fragments, and one green glass fragment, 6 pieces of oyster shell, 2 bullet shells, one small spike, and two metal fragments. There was one Precontact artifact, which was a biface made of mottled dark brown and pale brown chert. This site was recorded by Panamerican Consultants as part of their 2002 “Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York.”

- USN 7120.000245: PCI-RR 22 PREHISTORIC LITHIC SCATTER (Precontact). 11 shovel tests were dug in this site. Four chert flakes and one chert core fragment. This site was recorded by Panamerican Consultants as part of their 2002 “Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York.”
- USN 7120.000252: Range Road 22 Historic Foundations (Historic and Precontact). This is the same as USN 7120.000242: PCI-RR 22 HISTORIC SITE 1.
- USN 7120.000253: Range Road 22 rock shelter (Precontact). This USN is a rock overhang that may have been used by people in the past. No artifacts were identified around the feature, and no shovel tests were dug in its immediate vicinity. This site was recorded by Panamerican Consultants as part of their 2002 “Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York.”
- USN 7120.000254: Range Road 22 Historic Foundation. Same as USN 7120.000243: PCI-RR 22 HISTORIC SITE 2.
- 7120.000255: Range Road Foundations. Same as USN 7120.000244: PCI-RR 22 HISTORIC SITE 3 (Historic and Precontact).
- 7120.000256: Range Road 22 lithic scatter. Same as USN 7120.000245: PCI-RR 22 PREHISTORIC LITHIC SCATTER (Precontact).
- 7120.000257: AAC-WP-P3 Site (Precontact). Two shovel test pits were dug in this site. The site consists of 43 lithic flakes (six primary flakes, 33 biface thinning flakes, and 4 pieces of shatter) associated with a rock shelter. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2004 “Phase I Cultural Resources Survey of Four Parcels at the United States Military Academy, West Point, Orange County, New York.”
- 7120.000282: 2007 ACC TAL Field Site I Precontact and Historic Site (Historic and Precontact). 34 shovel tests were dug in this site. This site contains two historic artifacts (one fragment of creamware and one fragment of earthenware), and 15 Precontact artifacts (1 primary flake, 5 secondary flakes, 6 tertiary flakes, and 3 pieces of shatter). This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000284: 2007 ACC TAL Field Site O Precontact and Historic Site (Historic and Precontact). Forty-six shovel tests were dug in this site. This site contains a historic stone house foundation and 261 artifacts (259 of which are historic and 2 are Precontact). The historic artifacts consisted of 1 fragment of creamware, 3 fragments of pearlware, 58

fragments of decorated and undecorated whiteware, 1 fragment of porcelain, 1 fragment of Rockinghamware, 1 fragment of yellowware, 2 fragments of hotelware, 97 fragments of glass (colorless machine-made, green machine-made, olive green, aqua and amethyst), fragment of press-molded tableware, lamp glass, fence stake, horseshoe, brick fragments, window glass, wrought nail, cut nails, wire nails, rebar fragment, three porcelain buttons, two clay pipe bowl fragments, and unidentified faunal bones and shells. The Precontact artifacts consisted of one tertiary flake and one shatter. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”

- 7120.000285: 2007 ACC TAL Field Site P Precontact Site (Precontact). Fourteen shovel test pits were dug in this site. This site contains six lithic flakes (two secondary flakes and four tertiary flakes). This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000286: 2007 ACC TAL Field Site Q Precontact and Historic Site (Precontact and historic). Forty-one shovel tests were dug in this site. There are 18 artifacts; 6 of which are historic. These historic artifacts are one fragment of salt glazed stoneware and five unidentifiable iron pieces. The Precontact artifacts include six secondary flakes, four tertiary flakes, one piece of shatter, and one utilized flake. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000287: 2007 ACC TAL Field Site R Precontact Site (Precontact). Twelve shovel test pits were dug in this site. This site has four artifacts: one secondary flake and three pieces of shatter. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000288: 2007 AAC TAL Field Site S Precontact Site (Precontact). Nineteen shovel test pits were dug within this site. There are five artifacts in this site, one primary flake, three secondary flakes, and one tertiary flake. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000289: 2007 AAC TAL Field Site T/U/V/X Precontact Site (Precontact). Sixty-five shovel tests were dug in this site. This site has 13 artifacts: three secondary flakes, four tertiary flakes, five pieces of shatter, and one biface fragment. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000290: 2007 AAC TAL Field Site Z Precontact Site (Precontact). Nine shovel test pits were dug in this site. The only artifact recovered was one uniface chopper. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2010 “Phase

I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”

- 7120.000293: USMA-42, Brookside Farm, Mineral Springs, Field Site B, Historic and Precontact Site. This site was first recorded in 2005 by Alexander Archaeological Consultants, which they then updated and expanded in 2010. At the initial recording in 2005, 100 shovel test pits were dug in this site. This site is a historic farmhouse complex with a stone farmhouse foundation, rockwalls, a potential silo, and has both a large Historic artifact scatter and a smaller Precontact artifact scatter. The historic artifact scatter has 336 artifacts including ceramics, glass, and machine cut and wire nails. The Precontact artifact scatter contains 19 pieces of lithic debitage, one biface fragment, and four pieces of fire cracked rock. In 2010 there were two updates to this site. They were initially recorded as “Field Site L” and “Field Site M” and then added as updates to the Brookside Farm Site. At “Field Site L”, 20 additional shovel test pits were dug, and an additional 35 artifacts recorded. These artifacts were whiteware, hotelware, bottle glass, a metal bolt, fragments of a porcelain fixture, window glass, machine cut nails, an unidentified bivalve fragment, and one tertiary flake. At “Field Site M” 107 shovel tests were dug. 159 artifacts were recorded, 54 of which were historic (predominantly window glass) and 105 were Precontact (mostly flakes with two cores, one utilized flake, 1 chopper, and three preforms). This site was recorded by Alexander Archaeological Consultants, Inc. first as part of their 2005 “Phase I Cultural Resources Survey for Five Tasks, The United States Military Academy, West Point, Orange County, New York” and then updated for their 2010 “Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York.”
- 7120.000294: USMA ACC Field Site D Precontact Site (Precontact). Thirty-six shovel test pits were dug in this site. This site contains four biface thinning flakes and two pieces of debitage. This site was recorded by Alexander Archaeological Consultants, Inc. as part of their 2005 “Phase I Cultural Resources Survey for Five Tasks, The United States Military Academy, West Point, Orange County, New York.”

Table 2. Archaeology USNs within one mile of the APE.

Archaeological USN	Site Name	Report Reference	NR Eligibility	Notes	Description
7120.000209	Woodbury Falls Furnace Ruins	No report	Eligible		Structural remains of pig iron furnace
7120.000241	HISTORIC SITE 99-32901-17L-01	Gray and Pape 2000	Unevaluated		Historic rock wall, bottle dump, and artifact scatter (N=34)

Archaeological USN	Site Name	Report Reference	NR Eligibility	Notes	Description
7120.000242	PCI-RR 22 HISTORIC SITE 1	Panamerican Consultants 2002	Unevaluated		Two historic depressions and historic (N=4) and Precontact (N=11) artifact scatter
7120.000243	PCI-RR 22 HISTORIC SITE 2	Panamerican Consultants 2002	Unevaluated		Two historic depressions with historic artifact scatter (N=4)
7120.000244	PCI-RR 22 HISTORIC SITE 3	Panamerican Consultants 2002	Unevaluated		Historic rock walls, historic artifact scatter (N=83) and one Precontact artifact (N=1)
7120.000245	PCI-RR 22 PREHISTORIC LITHIC SCATTER	Panamerican Consultants 2002	Unevaluated		Precontact lithic scatter (n=5)
7120.000252	Range Road 22 Historic Foundations	Panamerican Consultants 2002	Unevaluated	Duplicate of USN 7120.000 242	
7120.000253	Range Road 22 rock shelter	Panamerican Consultants 2002	Unevaluated		Rock shelter potentially used in Precontact times, No artifacts
7120.000254	Range Road 22 Historic Foundation	Panamerican Consultants 2002	Unevaluated	Duplicate of USN 7120.000 243	
7120.000255	Range Road Foundations	Panamerican Consultants 2002	Unevaluated	Duplicate of USN 7120.000 244	
7120.000256	Range Road 22 lithic scatter	Panamerican Consultants 2002	Unevaluated	Duplicate of USN 7120.000 245	

Archaeological USN	Site Name	Report Reference	NR Eligibility	Notes	Description
7120.000257	AAC-WP-P3 Site (Precontact)	Alexander Archaeological Consultants 2004	Unevaluated		Rock shelter with Precontact lithic scatter (N=43)
7120.000282	2007 ACC TAL Field Site I Precontact and Historic Site	Alexander Archaeological Consultants 2010	Unevaluated		Precontact (N=15) and Historic (N=2) Artifact scatter
7120.000283	2007 ACC TAL Field Site J Precontact and Historic Site	Alexander Archaeological Consultants 2010	Not Eligible		Precontact (N=1) and Historic (N=6) artifact scatter
7120.000284	2007 ACC TAL Field Site O Precontact Site	Alexander Archaeological Consultants 2010	Unevaluated		Historic stone house foundation, historic artifact scatter (N=259), and Precontact artifact scatter (N=2)
7120.000285	2007 ACC TAL Field Site P Precontact Site	Alexander Archaeological Consultants 2010	Unevaluated		Precontact lithic scatter (N=6)
7120.000286	2007 ACC TAL Field Site Q Precontact and Historic Site	Alexander Archaeological Consultants 2010	Unevaluated		Historic (N=6) and Precontact (N=12) artifact scatter
7120.000287	2007 ACC TAL Field Site R Precontact Site	Alexander Archaeological Consultants 2010	Unevaluated		Precontact lithic scatter (N=4)
7120.000288	2007 AAC TAL Field Site S Precontact Site	Alexander Archaeological Consultants 2010	Unevaluated		Precontact lithic scatter (N=5)

Archaeological USN	Site Name	Report Reference	NR Eligibility	Notes	Description
7120.000289	2007 AAC TAL Field Site T/U/V/X Precontact Site	Alexander Archaeological Consultants 2010	Unevaluated		Precontact lithic scatter (N=13)
7120.000290	2007 AAC TAL Field Site Z Precontact Site	Alexander Archaeological Consultants 2010	Unevaluated		Precontact lithic scatter (N=1)
7120.000293	USMA-42, Brookside Farm, Mineral Springs, Field Site B, Historic and Precontact Site	Alexander Archaeological Consultants 2006 and 2010	Unevaluated		Historic stone house foundation, potential silo feature, historic artifact scatter (N=424) and Precontact artifact scatter (N=125)
7120.000294	USMA ACC Field Site D Precontact Site	Alexander Archaeological Consultants 2006	Unevaluated		Precontact artifact scatter (N=6)

5.2 Historic Buildings

There are four building USNs within one mile of the APE, and all have been evaluated for the National Register as Not Eligible (Table 3). All four buildings are associated with the West Point Superintendent's Retreat Complex which is located on the east side of Bull Pond at West Point. This tract of land was acquired by West Point in 1942 as a donation from David B. Brown and Henry A. Ferguson. The NY SHPO's determination of eligibility is that "While the Superintendent's Cottage retains a high degree of integrity, the other buildings in the recreational complex have been altered and have lost historic fabric. As a whole, the complex is not eligible" for the National Register.

- 7120.000176: BLDG #1808 REFRIGERATOR BUILDING - BULL POND. This building was built sometime after 1944, likely as a replacement for several older outbuildings that were removed. It is a one room brick building on a poured concrete foundation. It has been evaluated as not eligible.
- 7120.000175: BLDG #1806 CARETAKER'S QUARTERS. This building is the Caretaker's cottage at Bull Pond. It has been evaluated as not eligible.

- 7120.000171: BLDG #1800 SUPERINTENDENT'S COTTAGE. This building was built in 1936 with some alterations that occurred after 1944. The building was constructed as a one-story, field-stone cottage with a large, wood-frame screened-in front porch and exterior field-stone chimney. Both the original cottage and the addition lie on a poured concrete foundation. Following its acquisition by the USMA, the Superintendent's Retreat was utilized as a fishing camp for the USMA Superintendent, senior officers, other staff, and cadets. Currently, the Superintendent's Cottage is utilized as a recreational facility. It has been evaluated as not eligible.
- 7120.000174: BLDG #1804 BOAT HOUSE - BULL POND. This building was constructed sometime between 1906 and 1929. The boat house has a concrete foundation and horizontal clapboard siding. It has been evaluated as not eligible.

Table 3. Building USNs within one mile of the APE.

Building USN	Name	NR Eligibility
7120.000176	BLDG #1808 REFRIGERATOR BUILDING - BULL POND	Not Eligible
7120.000175	BLDG #1806 CARETAKER'S QUARTERS	Not Eligible
7120.000171	BLDG #1800 SUPERINTENDENT'S CO	Not Eligible
7120.000174	BLDG #1804 BOAT HOUSE - BULL POND	Not Eligible

5.3 Archaeological Surveys

Thirteen archaeological surveys have occurred within one mile of the APE (Table 4).

- 02SR52444: Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York (Panamerican Consultants 2002a). This survey was a 192 acre shovel testing survey for the West Point Range Road 22 Timber Harvest. 2,908 shovel tests were dug to complete this survey, which recorded nine archaeological USNs (all of which are within one mile of the APE and included in section 5.1).
- 02SR53628: Phase I Cultural Resources Investigation for the Proposed Bull Hill Road Extension at the U.S. Military Academy, West Point, Orange County, New York (Panamerican Consultants 2002b). This survey was conducted in 2002 for a 1,000 foot by 25 feet expansion of an access road at West Point. Ten shovel tests and pedestrian survey were conducted to test the APE and recovered no cultural materials.
- 03SR54150 (same as USN 08SR58380): Stage IA Archaeological Assessment, Proposed Catskill Aqueduct Connection, Village of Kiryas Joel, Orange County, New York (Historical Perspectives 2003). This report was conducted in 2003 to assess three different pathways for an aqueduct, and the location of a new water treatment plant for the Village of Kiryas Joel. They found that the route that went by the major highway was the route that would affect the fewest number of historic resources and that the site for the water treatment plant had a potential for Precontact archaeology. Recommendations were made for future work once a route was selected.

- 03SR54166: Phase I Cultural Resource Investigation for the Proposed Mine Lake Timber Harvest, U.S. Military Academy, West Point, Orange County, New York (Panamerican Consultants 2003). This report recorded 11 archaeology USNs, none of which are within one mile of the APE. 200 acres were investigated for this work including 715 shovel test pits and pedestrian survey. Of the sites recorded, eight are Precontact and three are Historic. None have been evaluated for the NRHP.
- 05SR55183: Final Report, Cultural Resources Survey of the Range Road 21 Timber Sale, The United States Military Academy, West Point, New York (Alexander Archaeological Consultants 2005). One archaeological USN was recorded from this survey, the Carroll Place Farmstead, which is more than one mile away from the APE and is unevaluated for the NRHP. The project area was 294 acres. 368 shovel test pits were dug and the rest of the project area pedestrian surveyed.
- 06SR56194: Phase I Cultural Resource Survey for Five Tasks, the United States Military Academy, West Point, Orange County, New York (Alexander Archaeological Consultants 2006). This survey recorded 18 archaeological USNs, one of which is listed on the NRHP, and the other 17 are unevaluated. Two of these sites are within one mile of the APE (Brookside Farm and USMA ACC Field Site D Precontact Site). 1,222 shovel test pits were dug over the 663.1 acre survey area.
- 09SR59215: Phase 1 Cultural Resources Survey of Approximately 1200 Acres at the United States Military Academy, West Point, Orange County, New York (Geo-Marine 2009a). Nine archaeological USNs were recorded during this survey, none of which are within one mile of the APE. 1,100 shovel tests and pedestrian survey was conducted over 1,200 acres. The SHPO did not concur with the methods or results of this survey, and so it was revised in the following USN.
- 09SR59638: Revised - Phase 1 Cultural Resources Survey of Approximately 1200 Acres at the United States Military Academy, West Point, Orange County, New York (Geo-Marine 2009b). This is the revised version of 09SR59215. This report covered seven non-contiguous areas totaling 1,355.6 acres. One Precontact site and four new historic sites were recorded, one historic site was updated and three previously recorded historic sites inventoried.
- 10SR59884: Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York (Alexander Archaeological Consultants 2010a). 14 archaeology USNs were recorded from this survey, ten of which are within one mile of the APE. The survey area was 584 acres, and 1,717 shovel test pits were dug.
- 10SR60607: Archaeological Monitoring of the DESC Camp Natural Bridge Refueling Station, the United States Military Academy, West Point, Orange County, New York (Alexander Archaeological Consultants 2010b). This project monitored construction work on 0.11 acres to install two fuel tanks and utilities at Camp Natural Bridge on USMA land. No Significant cultural materials recovered.
- 12SR61306: Phase IB Archaeological Investigation, Catskill Aqueduct Connection, Phase I Transmission Line, Towns of Cornwall, Woodbury, and Village of Kiryas Joel, Orange County, New York (Historical Perspectives 2010). One archaeology USN was

recorded from this project, the Seven Springs Farmstead. 227 shovel test pits were dug. Only select locations of the 34,800 foot long pipeline were investigated by this project.

- 17SR00661: Addendum to Stage 1A Archaeological Assessment Proposed Catskill Aqueduct Connection Village of Kiryas Joel, Orange County, New York (Historical Perspectives 2004). This addendum adds research on a historic cemetery to Report # 03SR54150.
- 19SR00013: Phase IA Archaeological Sensitivity Assessment for the Highland Quarry Mine Permit Modification, North Quarry Orange County, New York (Johnson, Mirmiran & Thompson, Inc. 2019). This is a literature search for a 20 acre area where the Highland Quarry Mine proposes to expand onto. No cultural resources were identified in the literature search and due to previous disturbance, no further work was recommended.

Table 4. Archaeological surveys within one Mile of APE.

Report USN	Report Title	Report Reference	Survey Area Acreage	Findings
02SR52444	Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York	Panamerican Consultants 2002a	192 acres	9 archaeology USNs, all within one mile of APE
02SR53628	Phase I Cultural Resources Investigation for the Proposed Bull Hill Road Extension at the U.S. Military Academy, West Point, Orange County, New York	Panamerican Consultants 2002b	1,000 foot by 25 feet	No cultural materials
03SR54150 and 08SR58380 (duplicate)	Stage IA Archaeological Assessment, Proposed Catskill Aqueduct Connection, Village of Kiryas Joel, Orange County, New York	Historical Perspectives 2003	Literature search of three potential pathways for aqueduct	Literature search only, no sites recorded
03SR54166	Phase I Cultural Resource Investigation for the Proposed Mine Lake Timber Harvest, U.S. Military Academy, West Point, Orange County, New York	Panamerican Consultants 2003	200 acres	11 archaeology USNs

Report USN	Report Title	Report Reference	Survey Area Acreage	Findings
05SR55183	Final Report, Cultural Resources Survey of the Range Road 21 Timber Sale, The United States Military Academy, West Point, New York	Alexander Archaeological Consultants 2005	294 acres	1 archaeology USN
06SR56194	Phase I Cultural Resource Survey for Five Tasks, the United States Military Academy, West Point, Orange County, New York	Alexander Archaeological Consultants 2006	663 acres	18 archaeology USNs, two within one mile of APE
09SR59215	Phase 1 Cultural Resources Survey of Approximately 1200 Acres at the United States Military Academy, West Point, Orange County, New York	Geo-Marine 2009a	1200 acres	9 archaeology USNs
09SR59638	Revised - Phase 1 Cultural Resources Survey of Approximately 1200 Acres at the United States Military Academy, West Point, Orange County, New York	Geo-Marine 2009b	1,355.6 acres	9 archaeology USNs
10SR59884	Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York	Alexander Archaeological Consultants 2010a	584 acres	14 archaeology USNs, 10 of which are within one mile of the APE
10SR60607	Archaeological Monitoring of the DESC Camp Natural Bridge Refueling Station, the United States Military Academy, West Point, Orange County, New York	Alexander Archaeological Consultants 2010b	0.11 acres	No significant cultural materials
12SR61306	Phase IB Archaeological Investigation, Catskill Aqueduct Connection, Phase I Transmission Line, Towns of Cornwall, Woodbury, and Village of Kiryas Joel, Orange County, New York	Historical Perspectives 2010	Sections of the 34,800 foot long pipeline	1 archaeology USN

Report USN	Report Title	Report Reference	Survey Area Acreage	Findings
17SR00661	Addendum to Stage 1A Archaeological Assessment Proposed Catskill Aqueduct Connection Village of Kiryas Joel, Orange County, New York	Historical Perspectives 2004	Unspecified	Research on historic cemetery
19SR00013	Phase IA Archaeological Sensitivity Assessment for the Highland Quarry Mine Permit Modification, North Quarry Orange County, New York	Johnson, Mirmiran & Thompson, Inc. 2019	20 acres	No cultural resources identified in literature search

5.4 Building surveys

There is one building survey within one mile of the APE.

- 14SD00768: Harriman State Park. The survey report is not available on CRIS, but the NRHP determination is. The determination of eligibility states that Harriman State Park is eligible for the NRHP under criteria A and C in the areas of conservation, recreation, landscape architecture, social history and architecture as one of New York's earliest and most influential state parks, for its association with precedent-setting recreational and social welfare programs, for its enormous naturalist designed landscape, and for its outstanding collection of rustic park architecture. There are 504 building USNs under this building survey.

5.5 Building District

There is one building district within one mile of the APE.

- 7109.001181: Harriman State Park. There are 77 building USNs in this building district.

6.0 Recommendations

Based on the historic map search and CRIS literature search, this APE has high potential for both Historic and Precontact archaeological resources.

There is a high potential for Historic resources because it is known that the house on the property was built in 1840. Though the house and its immediate surroundings are not being purchased by US Military Academy, there are likely to be associated features to the historic house just into the woods within the land being purchased. During a site visit to the property, USACE archaeologists saw that there is a stone wall that divides the manicured grass lawn of the house with the wooded area behind it. The stone wall also reached further back into the woods as well. It is likely that there are other historic features in the wooded area associated with the historic stone walls, and it is also likely that there may be an artifact scatter associated with the stone walls buried beneath the leaf litter. This was the case for USN 7120.000244, which is located

within one mile of the APE and is a multicomponent Historic and Precontact site that consists of rock walls and a large associated artifact scatter of Historic and Precontact artifacts. The areas closest to the house have the highest potential for Historic resources, but the entire property is considered to have high probability for Historic resources.

There is a high potential for Precontact resources because of the large number of Precontact sites nearby the APE. Nineteen archaeological sites that are within one mile of the APE, 16 of which contain a Precontact component (seven are multicomponent sites with both a Precontact and a Historic component, and nine are single component Precontact sites). These 16 Precontact sites are highly associated with being in close proximity to streams. The nearest stream to the APE is an un-named stream that joins with Mineral Springs Brook to flow into Woodbury Creek. The western edge of the APE is the closest to this un-named stream, with a minimum distance of about 220 meters. On the eastern side of the APE there is another un-named stream that drains from a wetland into Bull Pond. The APE is 330 meters from this stream at the shortest distance. Both the far western and eastern edges of the Audi Property have the highest potential for Precontact remains because these are the locations that are the closest to streams. The center of the property is less likely to hold Precontact remains since this location is the furthest from flowing water, but nonetheless, there is still potential here.

Slope has some association with the location of Precontact archaeological sites as well. Habitation sites are often located on areas with low slope, whereas rock shelters and rock art sites are often located in areas with high slope. Due to this association, habitation/camp sites are most likely to be located in the western and far eastern portion of the property where the slopes are the gentlest, and rock shelters and rock art are most likely to be located towards the eastern/center of the property where the slopes are the greatest (Figure 8). Based on the data from the recorded Precontact sites within one mile of the APE, the most probable type of Precontact site to encounter on this property would be a lithic scatter. There is one rock shelter within one mile of the APE, so this site type could potentially be located on the APE as well. Due to these factors, the entire property should be treated as having a high potential for Precontact resources. Some slope in the APE are as steep as 73 % slope. If in the future fieldwork is carried out here, a testing strategy will need to be developed because some slopes are so steep that they cannot be safely traversed by fieldworkers. The area should be surveyed, but it may not be possible for it to receive the same survey coverage the gentler sloped areas will receive.

Since this undertaking is to acquire this property as a buffer to USMA, there will be no ground disturbing activities involved with this undertaking. Because no ground disturbing work is planned to be carried out at this time it has been determined that the undertaking will not impact cultural resources. No further work is recommended. If USMA decides in the future to conduct any ground disturbing work on this property, a Phase IB survey will need to be coordinated with the New York State Historic Preservation Office and carried out for that APE, since the Audi property has been determined by this report to have a high probability for both Historic and Precontact resources.

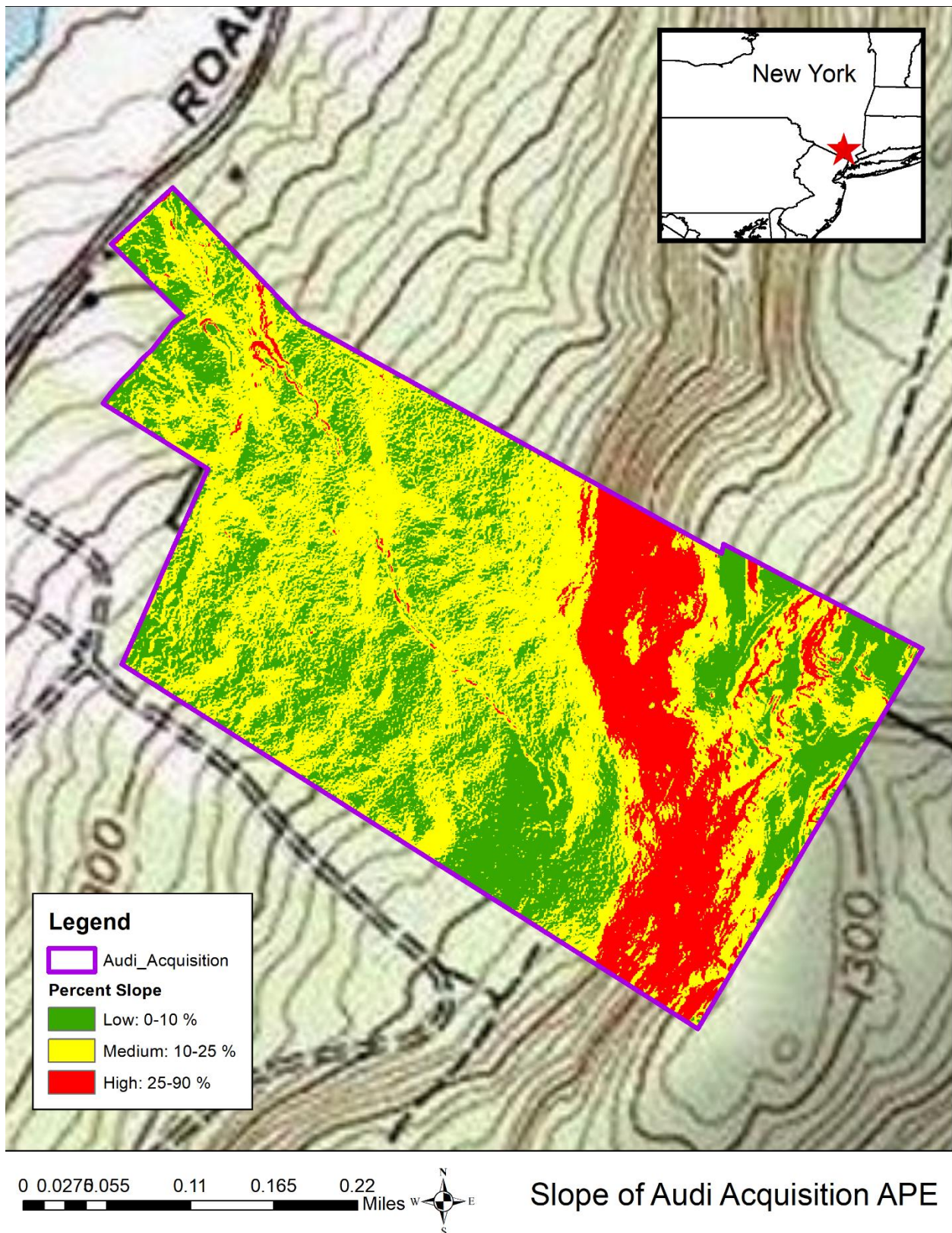


Figure 8. Slope map of APE.

7.0 References Cited

Alexander Archaeological Consultants, Inc.

2005 Cultural Resources Survey of the Range Road 21 Timber Sale, The United States Military Academy, West Point, New York. Prepared for United States Military Academy Directorate of Housing and Public Works, West Point, NY.

2006 Phase I Cultural Resources Survey for Five Tasks, The United States Military Academy, West Point, Orange County, New York. Prepared for United States Military Academy Directorate of Housing and Public Works, West Point, NY.

2010a Phase I Archaeological Reconnaissance Survey of Training Area L, United States Military Academy, West Point, Orange County, New York. Prepared for United States Military Academy Directorate of Public Works, West Point, NY.

2010b Archaeological Monitoring of the DESC Camp Natural Bridge Refueling Station, The United States Military Academy, West Point, Orange County, New York. Prepared for United States Military Academy Directorate of Public Works, West Point, NY.

Beers, Frederick W.

1875 County Atlas of Orange, New York.

Bryce, S.A., G.E. Griffith, J.M. Omernik, G. Edinger, S. Indrick, O. Vargas, and D. Carlson

2010 Ecoregions of New York (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey, map scale 1:1,250,000

Budke, George H. (ed.)

1975 Indian Deeds, 1630 to 1748. Pgs 62-65. Library Association of Rockland County, New City, New York.

Burr, David H.

1829 Map of the Counties of Orange and Rockland.

1840 Map of the Counties of Orange and Rockland.

Geo-Marine, Inc.

2009a Phase I Cultural Resources Survey of Approximately 1200 Acres at the United States Military Academy, West Point, Orange County, New York. Prepared for United States Military Academy, Directorate of Housing and Public Works, West Point, NY.

2009b Revised – Phase I Cultural Resources Survey of Approximately 1200 Acres at the United States Military Academy, West Point, Orange County, New York. Prepared for United States Military Academy, Directorate of Housing and Public Works, West Point, NY.

Historical Perspectives, Inc.

2003 Stage IA Archaeological Assessment Proposed Catskill Aqueduct Connection Village of Kiryas Joel, Orange County, New York. Prepared for Camp Dresser & McKee, Edison, NJ.

2004 Addendum to Stage IA Archaeological Assessment Proposed Catskill Aqueduct Connection Village of Kiryas Joel, Orange County, New York. Prepared for Camp Dresser & McKee, Edison, NJ.

2012 Phase IB Archaeological Investigation Catskill Aqueduct Connection Phase I Transmission Line Towns of Cornwall, Woodbury, and Village of Kiryas Joel, Orange County, New York. Prepared for CDM, Woodbury, NY.

Johnson. Mirmiran & Thompson, Inc.

2018 Phase IA Archaeological Sensitivity Assessment for the Highland Quarry Mine Permit Modification, North Quarry, Orange County, New York. Prepared for Speyside Holdings, LLC, Highland Mills, NY.

Panamerican Consultants, Inc.

2002a Phase I Cultural Resources Investigation for the Proposed Range Road 22 Timber Harvest at the U.S. Military Academy, West Point, Orange County, New York. Prepared for Barry Vittor & Associates, Inc., Mobile AL. Under contract to U.S. Army Corps of Engineers, New York.

2002b Phase I Cultural Resources Investigation for the Proposed Bull Hill Road Extension at the U.S. Military Academy, West Point, Orange County, New York. Prepared for Barry Vittor & Associates, Inc., Mobile AL. Under contract to U.S. Army Corps of Engineers, New York.

2003 Phase I Cultural Resources Investigation for the Proposed Mine Lake Timber Harvest U.S. Military Academy, West Point, Orange County, New York. Prepared for Northern Ecological Associated, Inc., Portland ME. Prepared for U.S. Army Corps of Engineers, New York.

Sidney, James C.

1851 Map of Orange County New York: from Actual Surveys.

United States Geological Survey

1946 Popolopen Lake 7.5" Quadrangle Map.

1947 Popolopen Lake 7.5" Quadrangle Map.

1957a Popolopen Lake 7.5" Quadrangle Map.

1957b Popolopen Lake 7.5" Quadrangle Map.

1994 Popolopen Lake 7.5" Quadrangle Map.