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PHASE I CULTURAL RESOURCE SURVEY OF THE SENECA ARMY AIRFIELD AND ADJACENT AREAS SOUTHEAST

SENECA ARMY DEPOT ACTIVITIES, ROMULUS, SENECA COUNTY, NEW YORK

FINAL REPORT

1997

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PREPARED FOR:

U.S. Army Corps of Engineers
New York District
CENAN-PL-EA
26 Federal Plaza
New York, NY 10278-0090

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SENECA ARMY DEPOT ACTIVITIES, ROMULUS, SENECA COUNTY, NEW YORK

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ABSTRACT

A Phase I cultural resource survey was conducted by Panamerican Consultants, Inc. at Seneca Army Depot Activities (SEDA), Romulus, Seneca County, New York, under contract to the U.S. Army Corps of Engineers, New York District. This investigation was conducted in partial fulfillment of the U.S. Army's responsibilities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. The areas of investigation included the airfield and the section southeast of the airfield and south of Section E of the Igloo munitions storage area.

The Phase I cultural resource investigations consisted of an archaeological investigation and an architectural survey of structures within the airfield. The archaeological investigation comprised archival research and field investigations. The archaeological field investigations consisted of an intensive surface inspection and shovel testing. The architectural survey evaluated each structure associated with the airfield to determine National Register of Historic Places (NRHP) eligibility. The investigation located three archaeological sites. Archaeological site PCI/Seneca Army Depot Activities No. 1 (PCI/SADA 1) was discovered in the yard area of the only extant pre-World War II structure located within the study area. Subsurface testing revealed that this site has stratigraphic integrity and a high probability exists that it contains intact cultural deposits related to the standing structure. One historic context seems relevant to the discussion of this site—the development of Rural Agriculture (1790-1939) as it relates to fruit and vegetable, or grain and speciality crop (e.g., vineyards) farming. Information gleaned from further archaeological study of the Greek Revival House lot may provide significant insights into the development of rural communities in the nineteenth century in Seneca County and central New York. Therefore, this historic property is considered potentially eligible for inclusion in the NRHP under Criterion D.

Two other archaeological sites, PCI/SADA 2 and PCI/SADA 3, are the remains of nineteenth century farmsteads whose locations were identified during archival study on historic atlases. The specific locations, however, appear to have been significantly disturbed by modern construction activities. An examination of shovel test profiles in both locations revealed that the first 10 to 20 centimeters (4 to 8 inches) of soil have been removed. The remaining surface layers in all cases appear to be a mixture of subsoil horizons. This field observation of disturbance, moreover, has been supported by subsequent laboratory analysis which indicates temporal mixing of early to late nineteenth century and modern materials. These sites are not recommended for further archaeological study and do not meet the criteria for listing to the NRHP.

A tract of land lying between Seneca Road and West Patrol Road was also examined for cultural resources. Historic background research and the SEDA cultural

resources management plan determined that approximately one dozen structures were erected in this portion of Depot lands during the mid-nineteenth century. The majority of these structures appear to have been small farmsteads. A number of small shops belonging to farmer/craftsmen, however, were also located in this area. During the acquisition and construction phases of the Depot, these properties were either moved or demolished. Although the current investigation attempted to locate all of these properties, only the three archaeological sites identified above were located.

Visual and subsurface testing of other portions of the study area revealed similar ground disturbances, including large stripped areas and three solid waste management units (i.e., SEAD-4, SEAD-11, and SEAD-38). These disturbed areas are largely associated with the Munitions Washout Facilities area along Seneca Road and the Inspection Pit located near West Patrol Road. Ground disturbance near these facilities was especially severe and no traces of intact cultural resources were encountered during the field inspection.

In addition to the archaeological investigations described above, an initial survey of the architectural resources was also conducted at the airfield site. The airfield at Seneca Army Depot Activities post-dates World War II. Most of the fifteen structures recorded during the course of the initial survey date to the Korean War era. A smaller number were constructed within the last twenty years. With the exception of the Air Control Tower, all of these structures were listed as permanent structures.

A total of seventeen structures were evaluated during the architectural survey of the airfield (Area 1) at SEDA. Based on this review of structures, it is recommended that no structures meet the criteria for listing in the NRHP, either individually or as part of an historic district. Most of the structures post-date the 1950s, and are constructed of modern materials such as plywood, concrete block, and metal siding with no distinguishing characteristics. None of the structures within the airfield are historically significant by style or possess a known association with important persons or specific or unique events. Only two structures, the Water Storage Reservoir (Building 2308) and the General Instruction Building (Building 2301), have achieved 50 years of age. Typical of those constructed in the mid-nineteenth century in central New York State, Building 2301 has undergone extensive alteration, including a loss of site integrity due to construction of the airfield. Further discussion with the State Historic Preservation Office should occur regarding Building 2301 to confirm the eligibility evaluation.

ACKNOWLEDGMENTS

Panamerican Consultants, Inc. (PCI) wishes to thank Ms. Nancy Brighton of the New York District Office of the U.S. Army Corps of Engineers for her able assistance and support throughout these investigations. We also wish to thank Mr. Randall Battaglia, Mr. Tom Enroth, Mr. Stephen Absalom, Mr. Jim Brewer, and Mr. Miguel Llanos at Seneca Army Depot Activities for their assistance, including review of background materials, installation access, and coordination of hazmat locations and sensitivity areas, and assistance in the structural evaluation.

We are especially grateful for the technical support and advice on health and safety issues provided by Mr. Peter Gorton, Mr. Mark Passuite and Mr. Martin Reagan of Dames and Moore, and Mr. Larry Welsh of the Security Department of SEDA.

We also wish to acknowledge the real heart of these investigations, our staff who performed well in less than perfect conditions: Ms. Andrea Kahler, crew chief, and Mr. David Michailof, Mr. Martin Mauro and Mr. Jack B. Mauldin, crew members.

We wish the thank Ms. Marilyn Kaplan of Preservation Architecture for conducting the architectural evaluation, and Mr. Edward Curtin of the Skidmore Archaeological Survey at Skidmore College, Saratoga Springs, New York, and Ms. Kerry Nelson for preparing the prehistoric overview.

At the Buffalo Branch Office of PCI, we appreciate the tireless efforts of Mr. Carl W. Thiel, who assisted in editing the report and preparing the graphics, Mr. Martin Lewars, who prepared the graphics for the report, and Ms. Tina Miller, who prepared the tables and logs and performed administrative tasks. We also wish to thank Mr. Mark Steinback, who prepared the historic section and edited the report, and Ms. Elizabeth Burt, who assisted in site file checks, for their important contributions to this document.

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1.0 INTRODUCTION

Panamerican Consultants, Inc., under contract to the New York District Office of the U.S. Army Corps of Engineers, conducted Phase I cultural resource investigations at the Seneca Army Airfield, Seneca Army Depot Activities (SEDA), Romulus, Seneca County, New York in the autumn of 1995. These investigations were conducted in partial fulfillment of the U.S. Army's responsibilities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended.

A facility of the United States Department of the Army, SEDA is located on approximately 10,600 acres (4,240 ha) in Romulus, Seneca County, New York (Figure 1-1). The Depot is nestled in New York State's Finger Lakes region near the eastern shore of Seneca Lake (Figure 1-2) and bounded by two state roads—State Route 96A on the west and State Route 96 on the east. It is bounded to the north by the Town of Romulus and to the south by the Town of Ovid. The Depot facilities comprise a main storage area of underground high-explosive magazines, above-ground magazines, a headquarters area, operative maintenance and service facilities, military and dependents housing areas, rail facilities and an airstrip. The stated mission of the installation is the operation of a depot for the receipt, storage, issue, maintenance, demilitarization, and disposition of weapons. Historically, the Depot provided the administrative, handling and warehousing services for the General Services Administration (GSA) and the Defense Logistics Agency (DLA) (Corps of Engineers 1995:2).

SEDA was included on the Federal Facilities National Priorities List (NPL) in 1989 as a result of contamination known to have taken place at the Ash Landfill and Open Burning Ground areas of the installation (Corps of Engineers 1995:2). While much of the property under investigation is contaminated and has been delimited, a significant portion of the land is forested and was previously used for farming and has not been affected by such contamination activities (Figure 1-3).

Dr. Michael A. Cinquino served as Project Director and Principal Investigator. Ms. Inez Reed-Hoffman served as Field Director. Ms. Andrea Kahler served as crew chief. Due to the potential for exposure to hazardous materials buried within the project area, five archaeologists and field aides have completed OSHA's 40-hour training course in the handling of hazardous waste in accordance with 29 CFR Part 1910.120.

Mr. Peter Gorton served as safety officer and Mr. Mark Passuite and Mr. Martin Reagan served as safety officer monitors for hazardous materials (e.g., unexploded

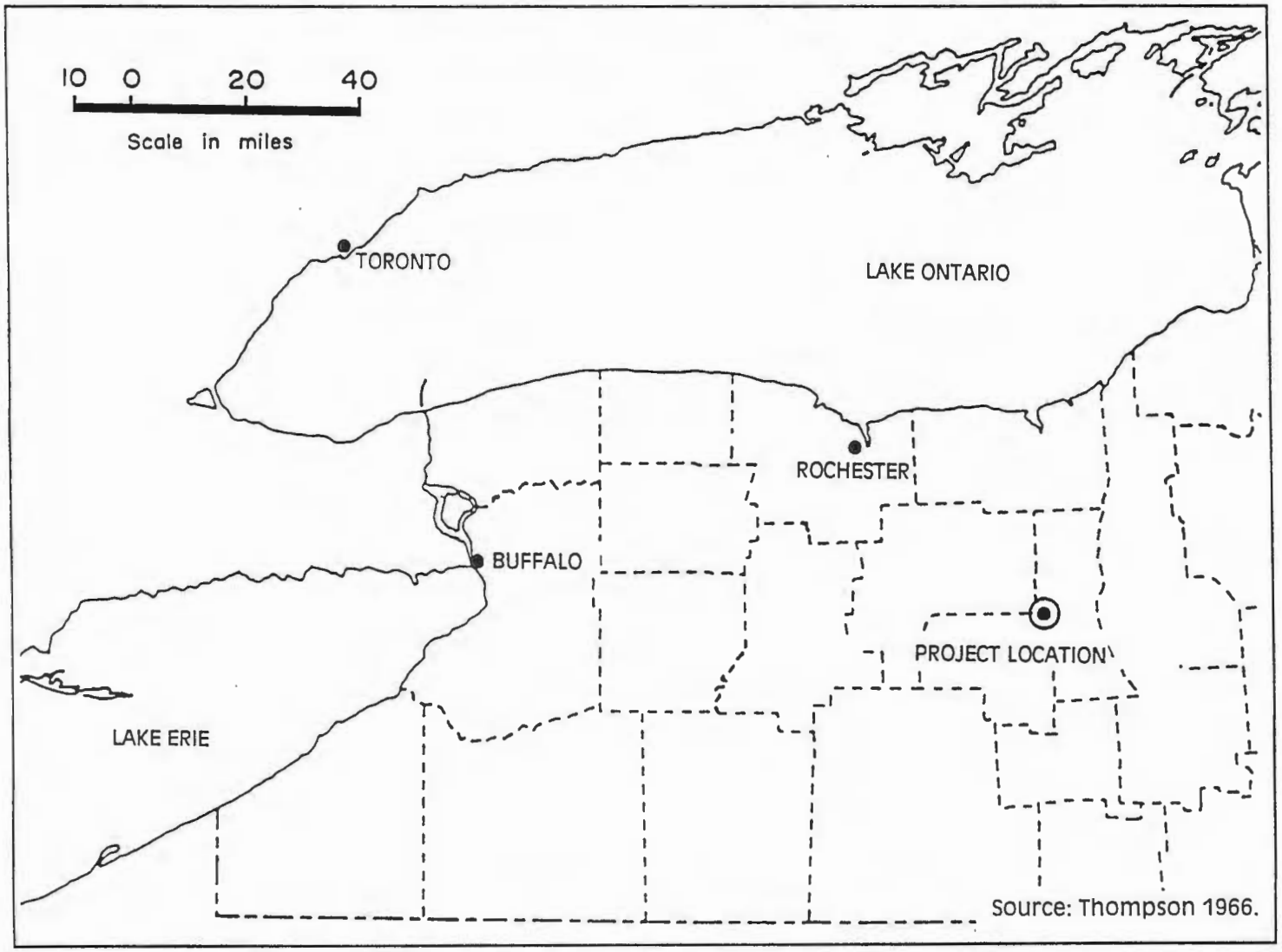

Figure 1-1. Project Location: Seneca Army Depot Activities, Romulus, Seneca County, NY.

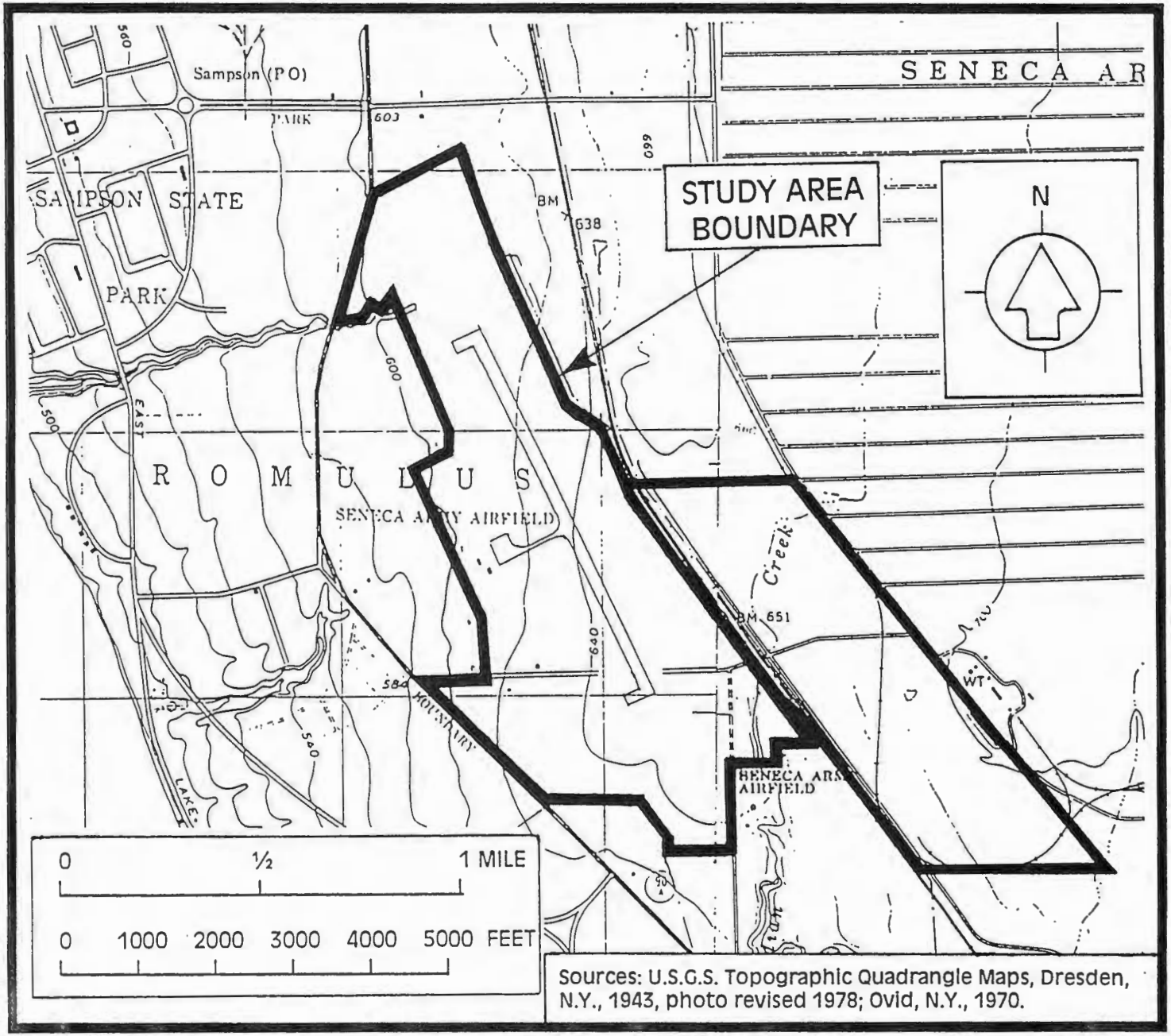

Figure 1-2. Study Area: Seneca Army Airfield, Seneca Army Depot Activities, Seneca County, NY.

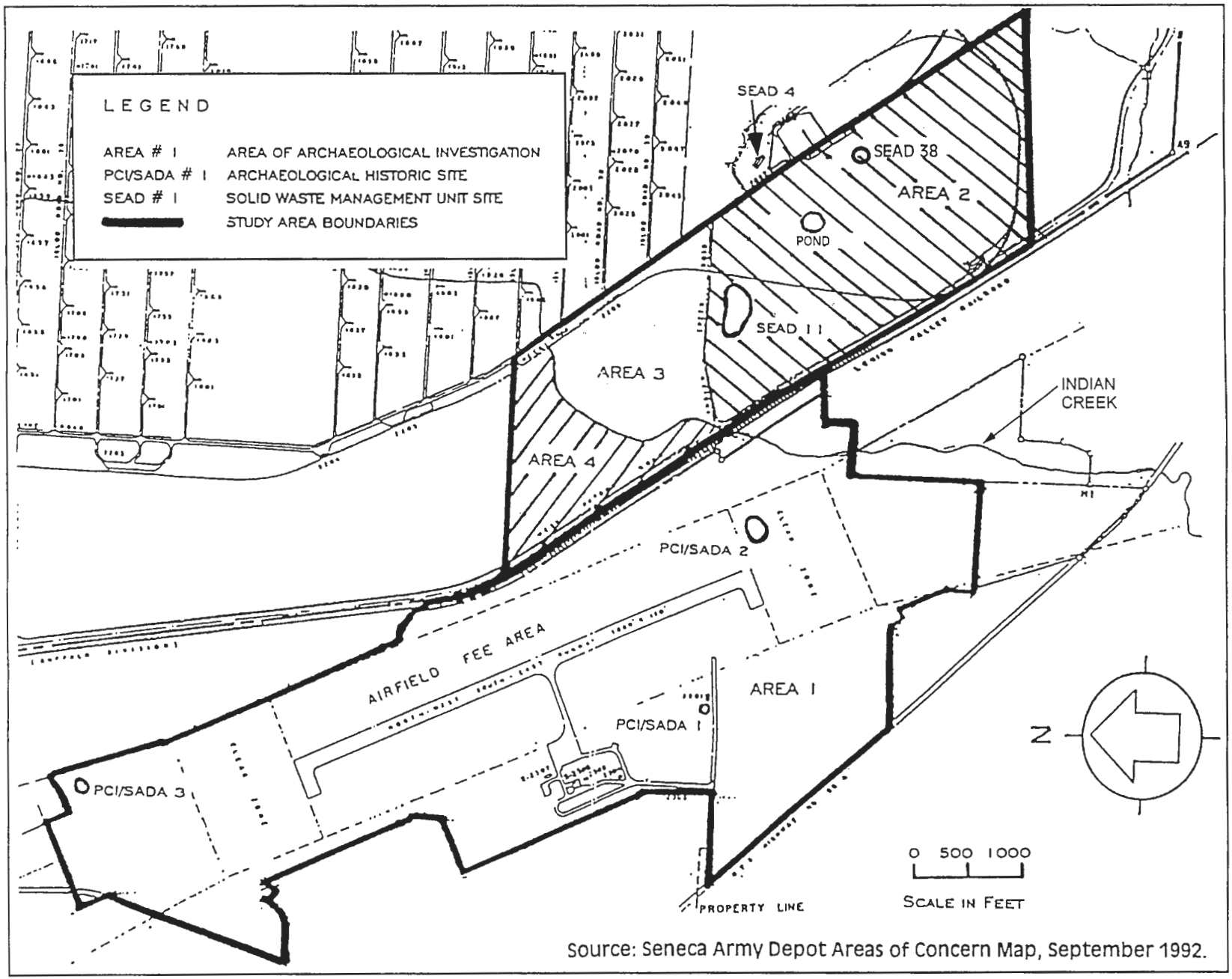

Figure 1-3. Areas of archaeological investigations, cultural resources, and solid waste management units identified. Seneca Army Depot Activities, Seneca County, NY.

ordnance, hydrocarbons, etc.) during the field investigation. The two safety officers were trained hazardous materials technicians. Before the field investigation was initiated, a formal safety plan was prepared for the project and submitted to the New York District, U.S. Army Corps of Engineers for review (Gorton and Passuite 1995).

Archival research was conducted by Mr. Mark Steinback, Ms. Inez Reed-Hoffman and Ms. Andrea Kahler. A site file check of the records at the New York State Historic Preservation Office (NYSHPO), Peebles Island, Waterford and the New York State Museum in Albany was conducted by Ms. Elizabeth Burt. Mr. Edward Curtin, Director of the Skidmore Archaeological Survey, Skidmore College, Saratoga Springs, New York, and Ms. Kerry Nelson prepared the prehistoric overview, and Mr. Mark Steinback prepared the historic overview. Ms. Marilyn Kaplan prepared the architectural evaluation. Mr. Carl W. Thiel and Mr. Martin Lewars prepared the figures for this report.

2.0 ENVIRONMENTAL SETTING

The existing management plan devised for Seneca Army Depot Activities was utilized to reduce duplication of effort, and this section summarizes information presented in more detail in *An Archeological Overview and Management Plan for Seneca Army Depot* (Klein et al. 1986). Located in the Finger Lakes region in the central portion of New York State, Seneca County lies between Cayuga Lake and Seneca Lake. Essentially rural, half the county is composed of farmland. Dairying and general farming are the most common agri-businesses. Hay is the largest crop in terms of acreage, with almost half of the acres planted with alfalfa. Winter wheat and dry field beans are the important money-making farm commodities, supplemented by milk, cheese and butter. Other significant crops are feed corn, grain, and oats (Hutton 1972:1, 3; Klein et al. 1986:2-1).

The almost one-fifth of Seneca County that is considered forested land may be found in the Montezuma National Wildlife Refuge and on non-contiguous lots throughout the county. The federal government owns about ten percent of county land, including SEDA, the Montezuma Refuge, and in the Hector Land Use Area (Hutton 1972:1).

Physiography and Drainage. Two of New York State's major physiographic regions find representation in Seneca County: the Portage Escarpment, which lies south of Ovid and is part of the Appalachian Plateau, and the Erie-Ontario-Mohawk Plain, which lies north of Ovid (Hutton 1972:136).

From west to east in the northern portion of Seneca County, land tends to range from sandy, rolling to level soil between 400 to 500 feet (122 to 152 meters) above mean sea level (AMSL) to the flat inundated land of the Montezuma Wildlife Refuge near Cayuga Lake. The sandy soils in the northwest, called Deltaic sandhills and plains, were part of an old delta formed in association with Lake Newberry, the geologic predecessor of Seneca Lake. A belt of drumlins or drumloid hills, elongated sections of elevated land that run north and south, lie to the east of this sandy land. Consisting of glacial till, the drumlins/drumloid belt crests between 20 and 75 ft (6 and 23 m) AMSL (occasionally peaking above 75 ft [23 m]) (Hutton 1972:136). Further to the east lies the submerged, mucky-marl of the Montezuma National Wildlife Refuge. "This area is generally thought to correspond with the filled northern extension of Cayuga Lake valley" (Hutton 1972:136).

Ranging between 400 to 600 ft (122 to 183 m) AMSL in elevation, Seneca County's six-mile-wide (9.6-kilometer) swath of glacial lake plain dovetails with the path of the Seneca River. Consisting of sand, silt and clay, the sedimentary deposits of this area were derived from the merging of the respective drainages of the Seneca and

Cayuga valleys. As a result, the soils here are very poorly drained and lack permeability (Hutton 1972:7, 136).

The glacial till plain, which is south of the glacial lake plain, comprises soft, silty, underlying shale and limestone from the Onondaga Formation. This formation also underlies a portion of Seneca County just north of the glacial lake plain. The land is mildly sloping, and ranges between 600 and 800 ft (183 and 244 m) AMSL in elevation, with height increasing towards the south (Hutton 1972:136).

With increasing elevation in the southern portion of the county, the Portage Escarpment separates the glacial till plain from the Appalachian Plateau near Ovid. The highest elevations in Seneca County are reached within the Appalachian Plateau—ranging from 800 to 1600 ft (244 to 488 m) AMSL (Hutton 1972:136).

Soil Characteristics. The underlying sedimentary bedrock is comprised of the Devonian Age Marcellus and Skaneateles Formation. Consisting of soft black shale interbedded with fine laminae of limestone, this formation, in turn, is covered with glacial till of varying thicknesses, giving rise to the soils of the Darien-Angola association (Figure 2-1). In general, Darien-Angola soils consist of deep, poorly drained silty-clay loams to deep clay loams in the upland areas. In the lower elevations, such as the shores of Seneca Lake, the soils are from the Honeoye-Lima association. This association comprises deep, well drained heavy silt loams to heavy loams. The topography within SEDA is generally flat to rolling. However, along the shoreline of Seneca Lake, slopes can become quite steep. Elevations within the depot range between 450 ft (137 m) AMSL along the lake to 760 ft (232 m) AMSL near its eastern boundary (Hutton 1972:6, 133-135; Klein et al. 1986:2-1).

Hydrology. In terms of water resources, SEDA is ideally situated: To the east of the facility is Cayuga Lake; to the west is Seneca Lake. Both lakes are large Pleistocene era freshwater impoundments. Supplemented by the Seneca River and the New York State Barge Canal to the north, the primary water source for SEDA is Seneca Lake. Moreover, three streams—Reeder Creek, Kendaia Creek and Indian Creek—run through the facility, draining into Seneca Lake. Cranberry Marsh is a large boggy area northeast of the Depot. The most significant changes affecting present day water supply patterns and drainage characteristics can be attributed to the land use patterns of European-American settlers. Their cultivation activities resulted in deforestation, an altered water table, erosion, pollution and subsequent ecological change (Klein et al. 1986:2/1-2).

Climate. Seneca County has humid, warm summers and long, cold, and snowy winters. Lake Ontario plays a significant role in the county's general weather pattern. Typically originating in Canada and the western United States, continental air masses are modified by the effects of the Lake Ontario: Moderating extremes in temperature,

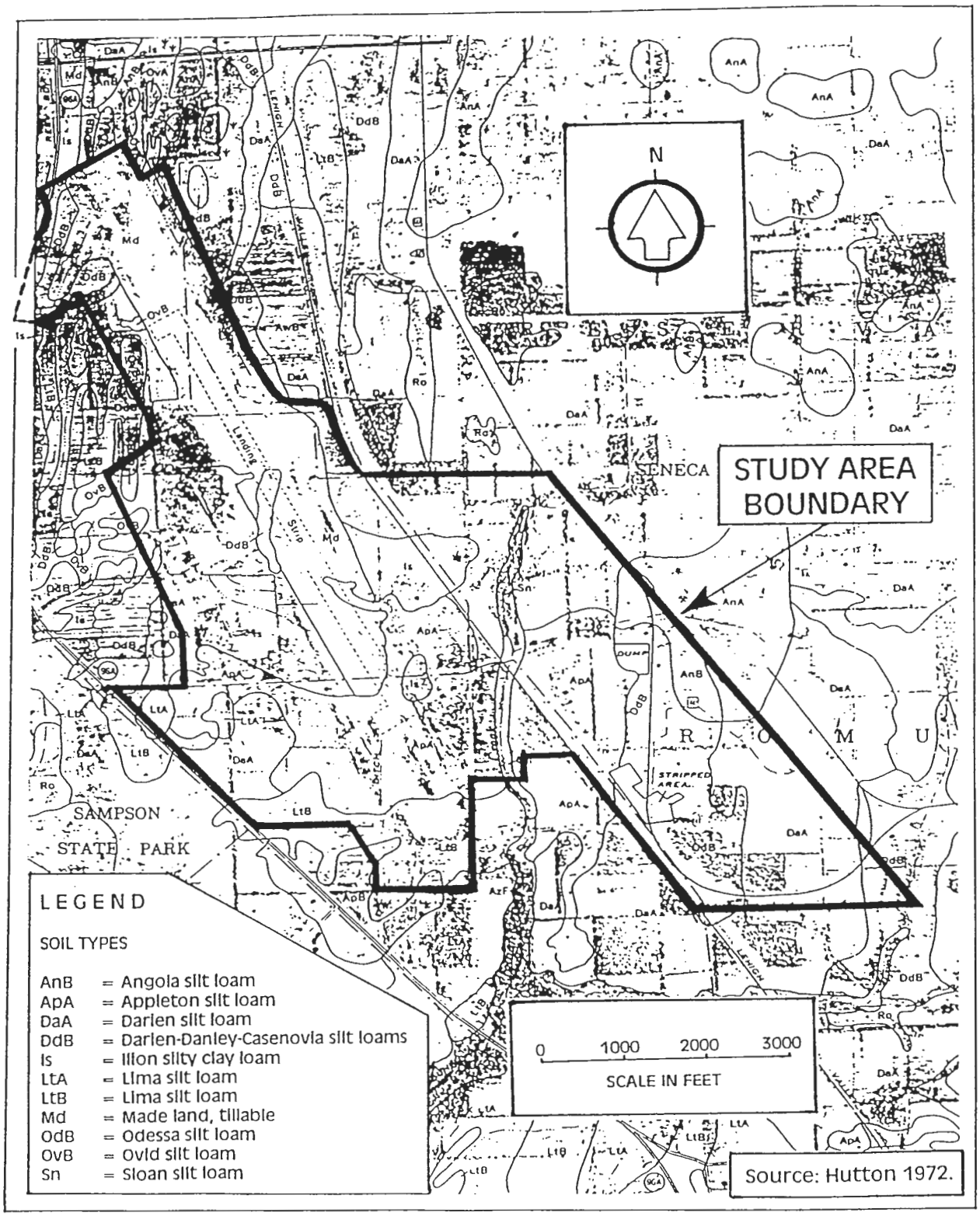

Figure 2-1. Soil series within project area boundaries. Seneca Army Depot Activities, Seneca County, NY.

but exacerbating regional snowfall accumulations, which are heavy. Such variables as topography, glacial lakes, elevation and Atlantic Ocean air masses have little effect on local weather (Klein et al. 1986:2-2; Hutton 1972:136-137).

Temperatures in the county range from freezing during late November to mid-March to a monthly average of about 50° F (10° C) from April to early-November. Generally speaking, the highest temperatures seen throughout the year fall in July and August and range between 89° and 92° F (31° and 33° C). These moderate monthly temperatures translate to about 160 frost-free days over most of the county (Hutton 1972:138; Klein et al. 1986:2-2).

Annual precipitation within Seneca County is about 33 inches (84 centimeters), which is spread fairly evenly throughout the year. The largest amount of precipitation, however, falls in the central and southern portions of the county. The fortuitous combination of relatively mild temperatures and the amount and distribution of rainfall is generally thought to be adequate for the growth and production of crops (Hutton 1972:128, 138; Klein et al. 1986 2-2).

Flora. The forests in and around SEDA are predominantly the Maple-Beech Deciduous type. This forest type is dominated by hemlock, beech, hard maple and red oak, supplemented by stands of white pine, black cherry, white ash, basswood, hickory, hophornbeam, elm and birch (Klein et al. 1986:2-2; Hutton 1972:140). Since European-American settlement, "evergreens have become increasingly rare, with maple, hickory, and various oaks as dominants with ash, beech, and black walnut also present" (Klein et al. 1986:2-2).

Cattails, sedges and swamp grasses inhabit the marshlands. Within the Depot, "[t]he natural climax forest has a dense canopy with a poorly developed understory and few clearings" (Klein et al. 1986:2-2). At present, the current vegetation consists of grasses, saplings, and shrub growth (Hutton 1972:140; Klein et al. 1986:2-3).

Fauna. Before the arrival of significant numbers of European-American settlers during the late eighteenth century and the early nineteenth century, a diverse population of wildlife inhabited the forests of Seneca County. These species included "white-tailed deer, black bear, elk, beaver, woodchucks, raccoons, otter, lynx, gray fox, timber wolf, squirrel, chipmunk, fisher, porcupine, muskrat. turkey and others" (Klein et al. 1986:2-3). Avian species included migratory waterfowl, hawks, and songbirds. Fish populated the streams and lakes, as well, and included bass, trout, pike and pickerel, among others (Shelford 1963; State of New York Conservation Department 1937; Klein et al. 1986:2-3; Hutton 1972:32).

Within the Depot's boundaries today, smaller mammals predominate—squirrel, chipmunk, beaver, woodchuck, raccoon and deer. Security measures at SEDA,

primarily fencing, has effectively reduced the gene pool within the deer population, resulting in a genotype which contains a higher percentage of white pigmentation over part or all of their coat.

3.0 BACKGROUND RESEARCH

The following presents a discussion of the prehistoric and historic development within the proposed study area and surrounding region. Prehistoric camp and village sites have been identified in the vicinity or within the study area by Parker (1920), although exact locations are difficult to identify due to his method of documentation. In general, areas adjacent to streams and rivers are sensitive for locating prehistoric sites. For the prehistoric and protohistoric periods, Section 3.1 provides a synopsis of Seneca and Cayuga Indian, Finger Lakes region and eastern New York State archaeology. This discussion complements the prehistoric archaeological context developed by Snow and Starna (1986) as a component of the state planning process, as well as syntheses by Ritchie (1969) and Ritchie and Funk (1973), and the overview edited by Trigger (1978a), that substantially inform the archaeological resource preservation planning process (Butler 1987) in New York State. Similarly, the historic background contained in Section 3.2 explicates historical information relevant to this study, so that appropriate historical contexts identified for application in New York State may be considered. Beginning during the last decades of the eighteenth century, European-American settlement involved the creation of rural communities based on farmsteads supplemented by small scale rural industries (e.g., sawmills, blacksmitheries, and granaries, etc.). In the twentieth century, farmsteads in the project area were replaced by a large military establishment—Seneca Army Depot Activities.

3.1 Prehistoric Culture History

by Edward V. Curtin and Kerry L. Nelson

The prehistory of northeastern North America is marked by three major periods spanning about 12,000 years. The earliest of these periods is the Paleo-Indian which lasted from 10,000 BC to 8,000 BC. Subsisting through hunting and gathering activities, Paleo-Indians lived in seasonal camps near fresh water sources. The Paleo-Indian Period was followed by the Archaic Period which lasted from 8,000 BC to 1,000 BC and was characterized by seasonally occupied campsites and, later, by seasonal villages. The Archaic subsistence system included hunting and gathering and possibly incipient horticulture toward the end of the period. The Woodland Period begins after 1000 BC. Native Americans of this period lived in seasonally occupied villages and campsites, subsisting through hunting, gathering and horticulture by AD 1000. During this period ceramics were first made in northeastern North America. These periods are described in more detail below.

Paleo-Indian Period. About 11,500 years ago (9,500 BC), Paleo-Indian bands colonized the Appalachian Uplands, the major river valleys, and the plain created by

the retreat of Lake Ontario to its present shore lines. Paleo-Indian cultures were adapted to a late-Pleistocene tundra or park tundra environment. They were highly mobile people who needed to travel over long distances to obtain resources such as food and lithic raw materials. About 12,000 years ago, in central New York, the land was a mosaic of tundra and forests composed of a mixture of coniferous and hardwood trees, including spruce, fir, pine and birch. This mixture eventually gave way to spruce and other conifers (10,000 years ago), and then pine (9,000 years ago) (Funk 1972:10).

At the end of the Pleistocene Era, the land now within Seneca Army Depot Activities was immediately west of the shore of the closing stage of Lake Iroquois, a glacial predecessor of Lake Ontario. Central New York provided an important habitat for large mammals and other game potentially significant for human subsistence. The area represented a major wetland/glacial lake environment that supported a large Pleistocene biomass. Laub (1995) emphasizes that both Pleistocene fauna and people concentrated in a resource rich band of lakes and wetlands reaching across western New York and southern Ontario. Evidence for the fauna and human association is seen at the Hiscock site in Genesee County. Fisher (1995) presents an interesting model of mastodon and other megafauna exploitation based on numerous sites in the Great Lakes region. This model includes disarticulation of the carcasses in the late fall or early winter, and the caching of meat over winter in ponds for springtime consumption. Fisher indicates that this was a common behavior over a broad region which may have included much of the North American continent or portions of the Old World as well. He has seen a similar treatment of mammoth and moose based on taphonomic studies. Pleistocene megafauna roamed the Northeast and included such species as Jefferson and Imperial mammoths, American mastodon, great beaver, bear and moose-elk. Other northeast species adapted to the new environment which included fossil peccary, woodland musk-oxen, white tailed deer, elk, bison and horse (Funk 1972:11; Ritchie 1969:10-11; Salwen 1975).

Grassy tundra environments like those that would have been found in higher elevations during the late Pleistocene were preferred by mammoths and caribou which were primarily grazers. Conversely, mastodons were browsers who preferred wooded spruce areas located at lower elevations in the valleys (Funk 1972:11). The remains of a mammoth were found at the northern end of Seneca Lake while those of a mastodon were found near the eastern shore toward the southern tip of Seneca Lake (Ritchie 1969:11). There has been some debate about whether or not proboscidians had become extinct by the time Paleo-Indians arrived in the Northeast (Dent 1991). However, according to Marshall, megafauna were still present when the Paleo-Indians arrived in the area. Contemporaneity of early Paleo-Indian hunters and these animals has been established by radiocarbon dated remains of the megafauna excavated from areas in northern New Jersey, New York, and Pennsylvania (Marshall 1982:18). At the Hiscock site in Genesee County, Paleo-Indian stone tools were found along with the remains of mastodon, elk, caribou, and condor (Laub 1995).

During the late glacial/early post-glacial period, caribou likely were hunted by the Paleo-Indians (Funk 1976). At the Dutchess Quarry Cave No. 1 Site, in Orange County, New York, caribou bone was found in association with a fluted point (a primary diagnostic artifact of the Paleo-Indian Period). The bone was radiocarbon dated to 10,580 ± 370 BC. Additional fluted points were found at Dutchess Quarry Cave No. 8. However, the caribou may have preceded the fluted points at the Dutchess Quarry Caves. Funk and Steadman (1994:53) have recently pointed out that the caribou bone and fluted point found at Cave No. 1 were in the same stratum but not otherwise in close association. Archaeological models of human and faunal relationships focus on a presumed strategy of hunting bands intercepting caribou herds as they migrated through the region (Funk 1976). With deglaciation, the megafauna began to decline and were replaced by more temperate species that migrated into the area. Caribou herds probably survived in central New York beyond the time of the megafauna extinction. During the 1,500 year Paleo-Indian Period, human subsistence shifted from large Pleistocene game, like caribou, to more familiar, modern, mid-latitude species, such as white tailed deer (Eisenberg 1978).

In addition to hunting, fish and plant foods were available to Paleo-Indian groups. Pollen analysis of samples from the Shawnee-Minisink site near the Delaware Water Gap has revealed the presence of many edible plants. Paleo-Indian tools were found in association with fish bone fragments and wild hawthorn plum seeds along with charcoal which dated to 10,590 ± 300 BC (Salwen 1975:45). Carbonized seeds were recovered by flotation (Kauffman and Dent 1982). Some of the plants identified by these means include: goose foot (*Chenopodium* sp.), ground cherry, blackberry, hawthorn plum, pokeweed, pigweed (*Amaranthus* sp.), smart weed (*Polygonum* sp.), wild lettuce, grape, hackberry, and meadow grass (Kraft 1986:41).

Recently, archaeologists have explored concepts of highly varied Paleo-Indian adaptations which help to integrate the diverse theories and evidence of megafaunal exploitation and subsistence based upon smaller game, including modern species of mammals, fish, and plants. Lothrop (1995) has examined differences between Paleo-Indian adaptations in New York, Pennsylvania, and Ohio and contrasted these adaptive variations with other regions of the Northeast. Tankersley (1995) discusses temporal and geographic variation among the technology and style of Paleo-Indian tool kits in eastern North America. He infers that subsistence patterns seem to integrate, rather than simply implicate, big game hunting and generalized foraging, providing an important nuance to understanding varied and complex subsistence systems.

Early Paleo-Indian chipped stone artifacts include fluted points (thin, lanceolate-shaped bifacial implements that are fluted down the center for hafting), unifacial knives, end and side scrapers, gravers, utilized flakes, and waste flakes (Marshall 1982:13; Salwen 1975). Fluted points found in the western United States in association with mammal bones suggest that they were used to hunt big game. The Potts site, a fall-

winter camp (Funk 1972:31) in Oswego County contained artifacts made of the middle formation of western Onondaga chert (Ritchie 1969:26) which is the local source. Pennsylvania jasper, flint ridge, Ohio chert, and chalcedony are also found on Paleo-Indian sites.

Archaeological settlement models include Paleo-Indian quarry and workshop sites at or near significant chert resources, kill-butchery sites, burials or caches, and isolated finds (Gramly and Funk 1990:13) as well as campsites on elevations overlooking valleys and in lowlands near water and aquatic resources. Paleo-Indian sites have not been excavated in the vicinity of SEDA, although fluted points have been found with a high frequency along the Seneca River and at Montezuma Marsh (Ritchie 1969). In fact, fluted points were once called Seneca River points in New York State prior to the discovery of their antiquity at Clovis, New Mexico (Ritchie 1944). Fluted points gradually decreased in size as larger game animals moved north or became extinct (Kraft 1986:47). Fluted points were eventually replaced in the late Paleo-Indian Period (8,000-6,000 BC) with unfluted triangular points, stemmed points and Plano points. The last are lanceolate shaped points without flutes (Kraft 1986; Ritchie 1969).

Following the Pleistocene Era, environmental conditions ameliorated leading to reforestation of the Northeast and the gradual appearance of relatively modern types of forest about 10,000 years ago. The emergence of oak stands and the concomitant increase in resource availability allowed greater human population density toward the beginning of the Archaic Period.

Archaic Period. Beginning after 8,000 BC, the Archaic Period succeeded the late Paleo-Indian. According to Ritchie and Funk (1973:337), "settlement data for a northeastern Early Archaic [episode], comparable to the southeastern Early Archaic of c. 8000-5000 BC, are almost nonexistent." Since this statement was made, accumulating evidence supporting the existence of the Early and Middle Archaic sub-periods in upstate New York has required revision of the earlier theory that the region was abandoned after the Paleo-Indian Period (Funk 1993). Funk's research in the upper Susquehanna drainage has shown a succession of Early Archaic occupations beginning no later than 7,500 BC, by people using Kirk corner notched projectile points. These early Kirk components were succeeded by undefined phases, which featured bifurcate bases and other projectile point forms, cognate with the southeastern Early and Middle Archaic subperiods. Trubowitz (1979) discusses the surface distribution of similar early projectile point types in western New York. Moreover, bifurcate base points were found incidentally during Ritchie's (1945) excavation of the Late Archaic site, Frontenac Island. Despite evidence that Early and Middle Archaic cultures occupied the Finger Lakes and Western New York, excavations have not been carried out on sites primarily related to these periods. Although archaeological sites from the Early and Middle Archaic sub-periods are rare and poorly understood for the Finger Lakes region, important sites from these sub-periods have been found in eastern New

York, in Ulster County and near Sylvan Lake, as well as western Connecticut, the upper Delaware valley and the Susquehanna valley (Dent 1991; Funk 1991, 1993; Nicholas 1988). Data from other areas in the Northeast can be used to make inferences about the lives of Early Archaic people in central New York.

Aside from occasional technological changes and gradual environmental transformation, life continued much the same as it had in the previous era. People still lived in small territorial bands that hunted, fished, and gathered plant foods. With the exception of the dog, they had no domestic animals (Kraft 1986:51). People of the Early Archaic sub-period subsisted on fish, berries, roots, tubers, eggs, nuts, and deer (Kraft 1986:51), probably moving when food supplies dwindled. Small encampments close to rivers or ponds as well as at upland marsh and swamp edges, that are typical of Early Archaic sites, reflect this mobility (Nicholas 1988).

The Early Archaic tool kit consisted of Hardaway, Dalton, Palmer corner notched, Kirk corner notched, and bifurcate base points, like Amos corner notched and LeCroy, both of which frequently had serrated edges. Bifurcate base points from the St. Albans site in West Virginia dated to between 6,500 and 6,000 BC (Funk 1993:172). According to Ritchie (1971:115) several bifurcate base points were found in Onondaga County. People of the Early Archaic also used end scrapers, side scrapers, spokeshaves, drills, gravers, choppers, hammers, and anvil stones.

The Middle Archaic sub-period lasted from 6,000 to 4,000 BC. The climate was warm and moist by 5,000 BC, and water levels continued to rise forcing groups to move inland. Oak, chestnut, beech, and elm dominated the landscape. As a result, the animal population increased in these forests because of the abundance of mast foods produced by the trees. People of the Middle Archaic subsisted on chestnuts, acorns and fish, as well as the abundant forest animals. Heavy wood working tools, along with netsinkers and fish remains found on archaeological sites suggest a riverine or lacustrine adaptation (Funk 1991; Kraft 1986).

People began to develop wood working tools during the Middle Archaic, using coarse grained stones and river cobbles as their raw materials. These stones were commonly available in large sizes and allowed tool makers to reserve high quality lithic materials for finely flaked tools. In order to work these coarse grained rocks, new shaping techniques had to be developed. The primary technique of pecking and grinding was used for shaping axes, adzes, gouges, choppers and other wood working or rough stone tools. These heavy tools may have been used for canoe building. In addition, the Middle Archaic tool kit included anvil stones, choppers, netsinkers and an array of projectile points (Braun and Braun 1994; Funk 1991; Kraft 1986).

The environment during the late Archaic sub-period (4,000-1,500 BC) was similar to that of today. Hunting, fishing, and gathering were still the principle daily

activities, although greater emphasis was placed on deer and small game like birds and turtles, shellfish, nuts and possibly wild cereal grains like *Chenopodium*. Charred acorn shells were found in hearths at the Lamoka Lake site in Schuyler County (Ritchie 1969). This shift in subsistence strategies made higher population densities possible. However, the larger population may have made it necessary to exploit these different resources. Whatever the reason, as population increased, camps became larger and more numerous. People still lived in bands whose territories may have been well-defined. They moved seasonally or when resources dwindled. Most sites of the Late Archaic sub-period were seasonal, special purpose habitation sites. These include winter hunting camps, spring fishing stations, fall nut gathering and processing stations, and shellfish processing. Principal settlements such as Lamoka Lake, Geneva, and Frontenac Island were located near major rivers or lakes and were multi-activity spring and summer villages (Ritchie and Funk 1973). Groups probably congregated cyclically for exchange and socialization. Houses of this period may have been rectangular, 14 to 16 ft (4.3 to 4.9 m) long and 7 to 13 ft (2.1 to 4 m) wide. Several such house patterns were found at the Lamoka Lake site in Schuyler County, New York (Ritchie and Funk 1973). The Wapanucket No. 6 site in Massachusetts contained circular and oval house patterns measuring 36 to 66 ft (11 to 20 m) in diameter with overlapping entrance ways (Robbins 1960).

Heavy grinding implements like mullers, mortars and pestles provided new means of preparing food from seeds, nuts, dried berries and meat. These implements were made of sedimentary and metamorphic rock like sandstone, diorite or quartzite. Late Archaic people also used bifacial, chipped stone knives, semilunar knives which were often made of slate, the atlatl or spear thrower, bolas, and plummets.

Broad, notched and triangular projectile points, along with polished stone ulus, plummets, gouges, and points are key artifacts types of the Laurentian Tradition of northeastern origin. Vosburg points, which are "medium-sized, broad, relatively thin points, with small to medium corner notches on a prevailingly short stem which is basally ground smooth" (Ritchie 1971:55) were found at the Ash Landfill site at SEDA by Heritage America, Ltd. (Oberon 1995:48). Although Oberon attributes the occupation of the Ash Landfill site to the Middle Archaic period, this attribution needs to be corrected to Late Archaic due to revisions of Archaic period terminology made by Ritchie during the 1960s and affirmed since then (Curtin 1996; Funk 1976, 1983, 1988, 1993; Kraft 1986; Ritchie and Funk 1973; Snow 1980; Tuck 1977, 1978). Sites in eastern New York have been attributed to the Vosburg complex of the Laurentian tradition by Ritchie (1971). Since Vosburg phase sites are not usually found west of the Hudson valley (Funk 1976), Oberon's report may indicate a rare or unprecedented discovery. According to Oberon, the site was occupied between 3,400-2,400 BC (Oberon 1995:48), a period coincident with the end of the Laurentian tradition (Funk 1993).

Long, narrow stemmed or narrow, weakly notched projectile points like Lamoka, Poplar Island, Bare Island, and Normanskill were characteristic of the Piedmont Tradition (also known as the Small Stemmed Tradition) which originated in the Southeast (Kraft 1986:73). These projectile points were not often reworked into scrapers, drills and gravers because of their size and shape.

More is known about the Late Archaic sub-period as a result of excavations conducted by the Rochester Museum and the New York State Museum at the Geneva, Frontenac Island, and O'Neil sites. The Geneva site, at the outlet of Seneca Lake, is the closest of these sites to the project area. Both the Geneva and Frontenac Island sites are large sites with deep middens and numerous human burials revealing a substantial focus on community life and long periods of occupation. These two sites, as well as the Oberlander No. 1 site on the Oneida River in Oswego County, contained dog burials demonstrating the importance of these animals to their human counterparts. Evidence from Frontenac Island shows participation in the widespread Late Archaic exchange of copper and marine shell artifacts. The O'Neil site provides evidence of an archaeological sequence recently interpreted to show that the Laurentian Culture, Brewerton Phase preceded the Lamoka Phase in this region (Funk 1976, 1993).

The Lamoka culture was first discovered by William A. Ritchie while excavating the Lamoka Lake site in Schuyler County about ten miles west of Seneca Lake. The site was occupied about 2,500 BC (Ritchie 1969:43). Artifacts characteristic of this phase include hammerstones, anvils, beveled adzes, and Lamoka points which are small, narrow bladed, thick stemmed or side notched points. Tools like these were also found at the north end of Cayuga Lake at the Lawson site in Seneca County and the Ross and DiSanto site in Wayne County (Ritchie 1969:36).

Ritchie and Funk (1973) argue that several of the Finger Lakes Lamoka phase sites are unique in being permanent, sedentary, or semi-sedentary villages supported by food storage in addition to an optimum mix of a broad range of food resources. Most notable among these is Lamoka Lake where numerous house sites with laminated sand floors, large roasting platforms, and deep storage pits were discovered.

Archaeologists distinguish the period between 1500 BC and 1000 BC as a transition from Archaic to Woodland material culture due to accumulated cultural changes during the Late Archaic. During this period, nut bearing trees like oak, hickory, chestnut, and beech dominated the eastern forests. People subsisted on deer, black bears, small mammals, wild turkeys, pigeons, fruits, roots, nuts, and fish.

At the end of the Archaic Period, large, broad-bladed, skillfully made spear points of the Susquehanna broadspear tradition began to appear in archaeological sites along the Atlantic coast from Georgia to Maine. According to Kraft (1986:84), this tradition probably originated in the southern Piedmont and was related to the Savannah

River culture. The local expression of this culture in central and western New York is the Frost Island Phase (Ritchie 1969; Ritchie and Funk 1973; Trubowitz 1977). Artifacts characteristic of the Frost Island phase include Perkiomen, Susquehanna Broad points, drills and strike-a-lights made of reworked Susquehanna Broad points, flake tools, celts, netsinkers, hammerstones, pitted stones, anvilstones, and milling slabs (Funk 1993:197). The hallmark of this transition is the adoption of pottery around 1200 BC. The shift to pottery appears to have been preceded by the adoption of steatite or soapstone pots which made cooking and food preparation easier. These were traded into central New York from southern Pennsylvania. Vinette 1 pottery was found in association with soapstone potsherds and Susquehanna broadspears at the Frost Island phase-type site, the O'Neil site on the Seneca River (Ritchie and Funk 1973:87). Several sherds of Vinette 1 pottery found at the Kuhr No. 1 site were located within Frost Island phase levels (Funk 1993:198). The Kuhr No. 1 site is located at the junction of Flax Island Creek and the Susquehanna River in Otsego County.

Early and Middle Woodland Periods. The term "transitional" refers to a period when the use of clay pottery was adopted by Northeastern Indians, thus a transition to the use of ceramics. More broadly, North American archaeologists identify the introduction of pottery (invented first along the Atlantic coast in the southern United States) as the beginning of a new era, the Woodland Period (1000 BC-AD 1600). The significance of pottery is that it improved the efficiency of food preparation, helping to buffer against subsistence stresses possibly caused by the post-optimum, cooling climate, or by population growth, an effect of increasingly settled life. The earliest pottery in New York State (Vinette 1 type) has been radiocarbon dated to about 1250 BC at the Frost Island component of the O'Neil site, to 1200 BC in the Susquehanna valley near Oneonta, to 700 BC in the Hudson valley near Albany, and 500 to 600 BC at the Morrow site in the Finger Lakes region.

The Early Woodland Period (1000-100 BC) is marked by several cultural phases in New York State, including the Orient, Meadowood, Middlesex, and Bushkill phases. Some of these phases, such as Meadowood, are better understood than others in central and western New York, while some arguably may not be very important in these regions. However, the sparse chronometric data available show that the less well-known Early Woodland phases, Orient, Middlesex, and Bushkill, may fill temporal gaps in Northeastern regional cultural sequences, suggesting that their conventional lack of importance in some local sequences may be due to lack of information.

The Orient phase is an important Early Woodland culture in the drainages of the Atlantic Slope as well as along the coast. This culture had been classified as the last phase of the Transitional period (Ritchie 1969), but subsequently has been reevaluated and assigned an Early Woodland status, since early ceramics are recurrently found in association with Orient fishtail points, and radiocarbon dating indicates Orient phase contemporaneity with other Early Woodland cultures, particularly the Meadowood

phase (Bender and Curtin 1990; Kraft 1986; Snow 1980). Radiocarbon dating shows an approximate 1000 to 500 BC span for the Orient phase. In the Hudson valley, Orient Fishtail points are found in association with early (Vinette 1 type) pottery at the Dennis site (Funk 1976) near Albany, and the nearby Menands Bridge site (Johnson 1979). However, for the Genesee drainage (west of the Finger Lakes), Trubowitz (1977) indicates that the Orient and related Dry Brook Fishtail point types have a weak representation. Curtin (1978) and Funk (1993) discuss the few identified Orient phase components in the Susquehanna valley (east of the Finger Lakes) as temporally intermediate between the Transitional period and the Meadowood phase.

Vinette 1 pottery is also a trait of the Meadowood phase. The Meadowood phase is strongly represented in northern, central and western New York (Granger 1978), but its presence is weaker and more sporadic east of the Susquehanna valley (Funk 1976; Lindner 1988). Settlement type information is scarce for the Meadowood phase, but evidence from the Scaccia site in the Genesee valley indicates that large storage pits, such as those found at Lamoka Lake and other Late Archaic sites, continued to be important. A single house pattern at Scaccia is rectangular, and of small extended family size. Meadowood cremation cemeteries have been found in the St. Lawrence drainage, while in the western Finger Lakes region, both skeletal and cremation burials have been recovered in an apparent cemetery context at the Morrow site, Ontario County. Other skeleton burials were found in a small cemetery at the Wray site, Monroe County (Ritchie 1969). There has been discussion in the archaeological literature of the existence of sacred burial precincts located some distance from residential sites during both the Meadowood and Orient phases (Granger 1978; Ritchie 1969).

Exchange processes involving Niagara Frontier and eastern New York cherts, Ohio banded slate (manufactured into fine polished objects such as birdstones, gorgets, and tubular pipes), and copper and marine shell (usually beads) were well developed during the Meadowood phase (Granger 1978), showing some similarities with northern Adena exchange patterns (Fitting and Brose 1970). Indeed, people with otherwise Meadowood phase material culture may have participated in the eastern Adena phenomenon (Snow and Starna 1986).

On stratigraphic grounds, the Meadowood phase post-dates the Orient phase at the Dennis site (Albany County, New York). Nonetheless, on a broader scale, radiocarbon dates associated with both phases overlap significantly, indicating that these cultures were at least partly contemporaneous (Snow 1980). Most Meadowood radiocarbon dates fall in the 1000 to 500 BC interval, with outliers at approximately 1200 BC and 200 BC (Snow and Starna 1986).

If the Orient and Meadowood phases were contemporaneous, then the two cultures may have had different adaptations, or at least used the landscape in different

ways at different times. For example, even with similar adaptations, one of these cultures might have incorporated the Finger Lakes region in a hunting and gathering strategy involving extended mobility away from a home territory, while populations of the other made a home within the region, and sent food collecting parties into adjoining drainages.

Alternatively, even though generally contemporary, the two cultures may have occupied the Finger Lakes and other regions in succession. If the latter process occurred, the stratigraphic evidence from the Dennis site suggests that Meadowood phase settlements may have followed the Orient phase. This sequence may be recurrent throughout the geographic distributions of these phases, representing a general cultural history trend. However, the lack of data from a variety of sites and regions precludes evaluation of these alternative hypotheses.

The Middlesex phase is defined in portions of the Northeast as the regional expression of Adena (Kraft 1986; Ritchie 1969; Snow 1980), a widespread cultural phenomenon characterized by similar (though variable) mortuary data (Dragoo 1963), and in portions of the Ohio drainage, central tomb mound burial and other earthwork construction (Dragoo 1963; Wright 1990). The Middlesex phase is named for the type site, an Early Woodland burial complex at Vine Valley in the Town of Middlesex, overlooking Canandaigua Lake at Bare Hill (Anderson 1996; Parker 1920).

Ritchie and Dragoo (1960) reported several Middlesex phase burial sites with classic and secondary Adena characteristics distributed from western New York to the lower Mohawk and Champlain valleys. Besides Vine Valley, the sites include Walsh (near Geneva) and Kipp Island No. 1 (Montezuma Marsh) in the Finger Lakes region. Although it has been argued that Middlesex sites are Meadowood mortuary sites (Snow 1980:268; Snow and Starna 1986), if Middlesex sites correspond to the estimated age of most Adena and Adena-related sites (Dragoo 1963), they would usually post-date the Meadowood phase. Dates on the Middlesex phase or other Adena-related sites from New Jersey, the mid-Atlantic area and Vermont range from about 600 BC to AD 300, or even later (Kraft 1986; Heckenberger et al. 1990; Thomas 1970).

Taking the potentially long chronology and various possibilities into account, the Middlesex phase, if not a separate and distinct cultural phase, may represent a specific mortuary program of both Meadowood and post-Meadowood cultures. Other mortuary programs may have been in use as well, including some commonly recognized as Meadowood, or others (Chilton 1992). Unfortunately, the period between 500 BC and AD 500 is very poorly understood in the Northeast, so much so that population decline, cultural discontinuity, and population replacement are sometimes assumed for this period (Fiedel 1991; Snow 1994). However, the Middlesex phenomenon may be part of a complex of highly varied mortuary programs, some of which involve the Meadowood as well as subsequent Middle Woodland phases (Curtin et al. 1994).

In addition, Middlesex burials may be related to another poorly understood phase, Bushkill, spanning the period 500 to 100 BC (Lindner and Folb 1996). The Bushkill phase or complex has been discussed by Kinsey (1972), Handsman and McNett (1974), and Kraft (1986). Handsman and McNett (1974) hypothesize that the Bushkill phase forms a temporal continuum with the Middle Woodland Fox Creek phase in an area along the mid-Atlantic coast and the drainages of the Atlantic Slope. Although evidences of local Bushkill phase variants are beginning to emerge in certain interior drainages, such as the Schoharie (Lindner 1990) and upper Susquehanna (Funk 1993), this phase has not been recognized in the Finger Lakes region or the Genesee valley. However, the increasing ability of archaeologists to recognize Early-Middle Woodland mortuary practices, the Bushkill-Fox Creek phenomenon, or other, as yet unidentified prehistoric cultural phenomena, may substantially close the gap between the Early and Middle Woodland Periods.

The Middle Woodland Period (100 BC-AD 1000) shows continued long distance exchange, although perhaps with varying strength at different times. In the Finger Lakes and surrounding locales in central and western New York, a sequence of occupation sites shows evidence of a long, Middle Woodland cultural tradition referred to as Point Peninsula (Ritchie 1969). The earliest of the Point Peninsula phases, Canoe Point, has connections with the widespread Hopewellian phenomenon involving long distance exchange, mound burial, and characteristic artifact classes such as platform pipes, copper earspools, panpipes, mica sheets or cut-outs, Snyders-type projectile points, and prismatic flakes ("bladelets"). This expression is sometimes referred to as New York Hopewellian or the Squawkie Hill phase. Hopewellian burial mounds are known to occur along Lakes Erie and Ontario, the Niagara, Allegheny and Genesee Rivers, and in the northern Finger Lakes, including the Rector, Bluff Point, Jackson (Wurtz Farm), and Kipp Island No. 2 sites—all near Montezuma Marsh (Pratt and Pratt 1977). A large site bordering Montezuma Marsh has produced a considerable amount of Hopewellian material, including Flint Ridge chalcedony and prismatic flakes from an apparent settlement context (Curtin 1980).

Intensive, later Point Peninsula occupation took place at Montezuma Marsh, including the Kipp Island No. 3 and No. 4 and Hunters Home sites. Ritchie has described the Kipp Island and Hunters Home phases as the culmination of the Middle Woodland and the beginning of the transition to the Late Woodland. During the Kipp Island phase, exchange with the American mid-continent declined, but new networks developed to the south, resulting in the movement of large quantities of Pennsylvania jasper into central New York. An analogous Middle Woodland development, although not yet identified in the Finger Lakes region, includes the exchange of Lockatong formation argillite from near Trenton, New Jersey, into the Susquehanna, upper Delaware and Hudson drainages (Kraft 1986; Ritchie and Funk 1973). This exchange network, associated with the Fox Creek phase of eastern regions, has so far not been identified in central-western New York (e.g., Pratt and Pratt 1977; Trubowitz 1977).

From the Finger Lakes to the Hudson valley, available evidence suggests that settlements were becoming larger and populations more sedentary during the Middle Woodland Period (Funk 1976; Ritchie 1969; Ritchie and Funk 1973; Versaggi 1987). At sites such as Kipp Island, Westheimer, Dennis, Tufano, Ford, and Black Rock thicker middens were developing, and food storage was becoming a more common practice in many locations (Funk 1976; Ritchie and Funk 1973).

Fresh water mussel shells and sturgeon plates are found at several Hudson valley Middle Woodland sites. These finds suggest that people were exploiting a greater variety of foods, perhaps as a response to stress induced by increasing sedentism and the population growth that frequently accompanies decreased mobility. Fresh water mussels also were exploited at Kipp Island No. 3. Stream rift locations may have played an increasingly important role in the intensive capture of seasonal fish resources in the Mohawk River (Snow and Starna 1986) and central New York. South of Lake Ontario, a series of Middle Woodland occupation sites at the Oneida Lake outlet near Brewerton, and along the Seneca River near Jacks Reef may be related to fishing along such rifts. The Felix site on the Seneca River contains a gradually changing record of human occupation near prime fishing locales from the Kipp Island phase into the Late Woodland Period (Ritchie 1969).

Additionally, the use of nuts and seeds of wild, native plants, such as chenopods (*Chenopodium* sp.: goosefoot, lambsquarter), smartweed/knotweed (*Polygonum* sp.) and little barley (*Hordeum pusillum*), may have intensified. Ritchie (1969:241; Ritchie and Funk 1973:161, 353) reports finding charred *Chenopodium* at the Middle Woodland Kipp Island site. In certain regions of the mid-continent during the Middle Woodland period, *Chenopodium* was being intensively cultivated, and bred as a domesticated plant under some circumstances (Gremillion 1993; Smith 1992). The pattern of Middle Woodland Period food resource intensification seems to have included the introduction of corn horticulture, AD 850 to 950, as recently documented at a series of locales, including the Hudson, Susquehanna, and Connecticut River drainages (Cassedy et al. 1993) as well as southern Ontario (Stothers 1977).

Late Woodland Period. Significant cultural changes emerging over a wide area about AD 1000 distinguish the Late Woodland Period from the preceding Middle Woodland. Nonetheless, the degree and extent of change is variable, marking the Late Woodland as a period of great cultural diversity. The most notable of these changes is the introduction of corn horticulture, which appears in a variety of community settings ranging from fortified and possibly unfortified longhouse villages, particularly in the Susquehanna drainage, southern Ontario, and the western Finger Lakes (Prezzano 1992; Ritchie and Funk 1973; Stewart 1990; Stothers 1977); unfortified villages, and camps occupied over the short term, containing limited evidence of house structures, but sometimes including small, rectangular or oblong structures in the Seneca drainage (Ritchie 1969, Ritchie and Funk 1973); and unfortified settlements of indeterminate type

in the Mohawk and Hudson drainages (Cassedy et al. 1993; Funk 1976; Ritchie 1969; Ritchie and Funk 1973).

Corn appears in these northeastern areas no later than the several decades preceding AD 1000 (Cassedy et al. 1993). Corn horticulture may have become possible in the Northeast after the development of a cold-resistant strain, Northern Flint Corn, sometime between AD 500 and 1000. Northern Flint Corn diffused broadly after its first appearance, most likely in the northern Midwest or Northeast (Fritz 1990; Stothers 1977).

The horticultural complex of corn, beans and squash, called the Three Sisters by the Iroquois, are found together in some of the earliest Late Woodland sites in this region (Ritchie and Funk 1973; Funk 1976), indicating the importance of these plants for at least some early garden systems and subsistence strategies. However, the frequency with which these crops were grown together is poorly understood. Current data indicate that squash has a much earlier period of use (beginning in the Archaic Period) than either corn or beans in several regions of the eastern woodlands; and beans, not found at all in the early sites where corn has been reported, may have become a significant crop in many areas only well after AD 1000 (Fritz 1990; Smith 1992). In addition, the mix of corn with bean horticulture, as well as hunting, gathering and fishing, may have varied during the prehistoric period and between regions. For example, Smith (1992:111) remarks that:

> The post-AD 1000 Fort Ancient populations of the Ohio River Valley and its Ohio, Kentucky, and West Virginia tributaries represent the regional manifestation that perhaps most closely matches the common perception of prehistoric agriculture in the East.

This common perception articulates that a heavy reliance on corn horticulture was supplemented by growing beans and squash, with declining roles for hunting, fishing and gathering. Many local cultures with a lower reliance on agriculture may have included wild foods in the subsistence mix to a greater extent, particularly where animal protein could be substituted for the amino acid complement provided elsewhere by beans. Primary animal prey most likely included one or more of deer, fish, and shellfish, based on faunal evidence, site locations, and the prevalence of netsinkers and other fishing technology at some sites (Cleland 1982; Funk 1976; Ritchie 1969; Ritchie and Funk 1973).

The early cultures featuring corn horticulture in the Northeast are referred to as Owasco in New York (Prezzano and Steponaitis 1995; Snow 1994, 1995), Clemson Island in central Pennsylvania (Stewart 1995), and Princess Point, Glen Meyer, and Pickering in Ontario (Snow 1994; Stothers and Abel 1995). Corn horticulture seems to have encouraged population growth, village life, and warfare in some areas,

including central New York. It is not known how long it took the horticulture/centralized village/warfare complex to spread more broadly across New York State, or whether it was adopted by indigenous populations, or introduced by colonies from areas where it had been established between AD 900 and 1100. However, this complex was near universal west of the Delaware and Hudson valleys by the protohistoric period. Nonetheless, even at that late date Delaware and Hudson valley communities appear to feature small communities, small households, and unfortified settlements (Bender and Curtin 1990; Kraft 1986). This geographical distinction correlates with historically identified Iroquois and Algonquian peoples (west and east, respectively).

Origins of the Iroquois People. The traditional model of Iroquois origins has been one of gradual, *in situ* development from the earliest Middle Woodland through Owasco and prehistoric Iroquois (Ritchie and Funk 1973; Tuck 1971). More recently, Snow, in a series of papers culminating with his book on the Iroquois (1994), has argued that the Owasco culture represents an incursion of Iroquois into a region where Algonquian populations were already established. He sees the source of the incursion as the Clemson Island culture, centered in the middle Susquehanna drainage in the tenth century. He also points to a similar, contemporary development and expansion of the Glen Meyer and Pickering cultures from Princess Point antecedents in southern Ontario. Snow argues that the agricultural complex, fortified, longhouse villages, and endemic warfare were introduced *via* the incursion. He sees fundamental differences in pottery manufacture as a cultural discontinuity indicative of population replacement, contrasting the coiling method of the Middle Woodland with the paddle and anvil technique of Iroquoian potters.

Currently there is a great diversity of opinion regarding the origins of the Iroquois and whether the commonly recognized Iroquois cultural characteristics of "Iroquoian" tradition—incised pottery, horticulture, longhouse residence, fortified settlements, and endemic warfare—are diacritical evidence of Iroquois presence, or even represent a widespread complex of co-occurring traits (see Bender and Brumbach 1992).

At present, Owasco is more notable as a ceramic style than as an ethnic unit, or even a ceramic manufacturing technology, since modern ceramic technological studies are geographically limited, and have not yet appeared in the Northeastern literature. The typological study of Owasco pottery was published nearly 50 years ago by Ritchie and MacNeish (1949). However, earlier literature provides contradictions to Snow's view of Northeastern ceramic technology (see Griffin 1935). From a different perspective, Starna and Funk (1981) note the difficulty in assuming an Owasco-Iroquois developmental continuum due to the prevalence of Owasco pottery in areas where long-term cultural continuity would lead to historically documented Algonquian groups.

Moreover, the diversity of house and settlement evidence reported for Owasco sites, including the earliest Owasco sites, requires very careful consideration before

including it as part of a pattern or complex (Curtin 1992). Also, the extent to which Owasco populations relied on horticulture is unknown, but may not be near uniform. Carbon-13 isotope evidence from the Snell site in the Middle Mohawk valley suggests variable access to corn during the lives of people who were buried at this Owasco site (Vogel and Van der Merwe 1977).

Finally, although warfare is suggested by settlement fortifications in the Susquehanna valley and central New York, and indicated further by a high percentage of deaths by arrows at the middle Owasco Sackett site cemetery (central New York), the lack of fortifications at numerous Owasco and later sites, particularly in the Mohawk, Hudson, and Delaware drainages, may indicate that warfare was intermittent, or a geographically or culturally limited threat.

Future research may indicate the likelihood of cultural continuity or discontinuity in New York State prehistory. The long-established model of *in situ* cultural growth and branching from Middle Woodland roots and stock is still viable, and the working hypothesis of many archaeologists. However, Iroquois incursion hypotheses provide exciting alternatives. A variety of incursion hypotheses exist, including Snow's, which identifies the earliest Owasco phase as the period of immigration, and post-Owasco incursion hypotheses discussed by Dincauze and Hasenstab (1989), Curtin (1992), and Swihart (1992). A broad variety of additional archaeological information would be useful to evaluate all time-space models, as certain limited cultural data, such as more, or more definitive, Iroquoian traits increasing in later contexts may be the result of either an incursion, or *in situ* development within a poorly understood time-frame. The chronology of the occupation and abandonment of Late Woodland sites, and the timing and frequency of multiple occupations, are poorly understood at present, although existing data suggest the need to revise certain assumptions about cultural sequence and the periods of site occupation (Curtin 1992). Stratigraphic data and intrasite chronology models are of fundamental importance, but currently almost unavailable. In an exception, the abandonment of the Deowongo Island site between the Middle Woodland and the Chance phase of early Iroquoian culture has been identified recently by Curtin (1993, 1994).

Despite differing opinions concerning the *in situ* development of the Iroquois, or their recent entrance into the region, archaeologists generally agree that the historic Iroquois nations were preceded in their home territories by Iroquois ancestors during the late prehistoric era. The Iroquois moved their villages at intervals that may have been related to the exhaustion of local resources such as soil and wood. Sequences of village movement spanning the prehistoric, protohistoric and historic periods have been inferred for the Senecas by Wray (Wray and Schoff 1953; Wray et al. 1987), the Senecas and Cayugas by Niemczycki (1984), the Onondagas by Tuck (1971) and Bradley (1987), the Oneidas by Pratt (1976), and the Mohawks by Ritchie and Funk (1973), Lenig (1965, 1977) and Snow (1994; Snow and Starna 1986).

Each of the five Iroquois nations is represented by a cluster of sites during the late prehistoric and protohistoric periods. In some cases, Owasco sites occur in sufficient proximity to suggest hypothetical ancestors of the Iroquois site cluster (Tuck 1971, Snow and Starna 1986), although settlement pattern change is apparent. Owasco sites are often located adjacent to rivers, other sizable streams and lakes, or on bluffs or terraces immediately overlooking these kinds of water bodies. Iroquois villages, however, tend to be located on hillier sites, often defensible elevations near springs or small creeks.

Cayuga and Seneca Tribal Emergence. Niemczycki (1987) has documented the Late Woodland Period cultural sequence in the area comprised of the western Finger Lakes (Cayuga, Seneca, Canandaigua, Keuka), the Little Finger Lakes (Honeoye, Hemlock, Conesus, Canadice), the Bristol Hills and Genesee valley. She discusses the local Owasco sites (primarily in the Finger Lakes region) and others she attributes to Ontario Iroquoians moving across the Niagara Frontier. She infers the merger or alliance of western Owasco and Ontario Iroquoian populations in order to account for prominent characteristics of later Seneca culture, including the division of the Senecas into eastern and western branches. There is substantial agreement among archaeologists regarding Seneca cultural history and village formation and abandonment sequences after AD 1500 (Niemczycki 1987; Vandrei 1988; Wray and Schoff 1953; Wray et al. 1987). As far as they are known, these developments took place west of Seneca Lake.

Niemczycki (1987:73) notes that Cayuga development is more hypothetical than Seneca tribal development, but may have occurred in several locales where clusters of Owasco sites precede the appearance of Iroquois sites. These areas include: (1) the Montezuma Marsh-Seneca River, (2) the east side of Cayuga Lake, and (3) the west side of Cayuga Lake. She also indicates that following these specific sequences into the historic record of Cayuga settlement is quite an unsure proposition. The origin of the Cayuga in earlier, Late Woodland populations in adjoining areas to the east, west or south is unsettled, although each area has figured in past reconstructions of Cayuga prehistory.

These issues are relevant as background for the prehistory of the area presently occupied by SEDA because this area is between different hypothetical areas of Cayuga tribal development: on the Seneca River and between the southern ends of Seneca and Cayuga Lakes. At a broader scale, Seneca County, New York is intermediate between the traditional Seneca and Cayuga homelands. Subsequent to the formation of these tribes, during the eighteenth century, Seneca populations moved into the vicinity establishing the village of Kendaia. However, the occurrence of other earlier Iroquois or Late Woodland sites in the vicinity of Kendaia could have an important bearing on understanding Cayuga or Seneca tribal development.

3.2 HISTORIC PERIOD

by Mark A. Steinback

The French were the first Europeans to penetrate the valley of the St. Lawrence River. As early as 1534, Jacques Cartier visited the gulf of the St. Lawrence, and the following year explored as far south as Iroquois villages near Montréal, which he named Mount Royal for the "extensive and beautiful views." By the middle of the sixteenth century European goods were reaching the native groups in the Mohawk River valley, extending as far west as the Seneca Iroquois by 1600. The source of these goods was the French outpost of Tadoussac in the lower St. Lawrence valley at the mouth of the Saguenay River where European fishing parties traded for furs with the local native groups (Cinquino et al. 1995:27; Trigger 1978b:344-347). Subsequent to these French forays into the New World wilderness, transient settlements and fortified trading stations were established, notably by Samuel de Champlain. Quebec was established in 1608 and Montréal in 1611, the latter remaining a trading outpost until 1642. Some scholars suggest that French trading activities with northern Algonquian groups, traditional enemies of the Iroquois, led to the formation of the League of the Ho-De-No-Sau-Nee (or Iroquois Confederation) to forestall Algonquian incursions into Iroquois territory Tooker 1978:419; Klein et al. 1986:2-10). Between 1450 and 1630, the area which is now Seneca Army Depot Activities was situated between the traditional lands of two members of this Confederation, the Seneca and the Cayuga. The territory of the Seneca was west of the project area, traditionally south and southeast of present-day Rochester, while the traditional territory of the Cayuga was in and around the east side of Cayuga Lake, east of the project area. However, by the beginning of the eighteenth century the Seneca Iroquois had begun to occupy lands on both sides of Seneca Lake (Tooker 1978:418-422; Klein et al. 1986:2-10; Curtin, personal communication 1996).

The fur trade in the St. Lawrence valley had become an important commercial and imperial concern by the end of the sixteenth century. As early as 1603 French traders working under the French Canadian Fur Company at Tadoussac were beginning to promise military aid to their Algonquian partners against their enemies. It appears that at this time Mohawk Iroquois had begun raiding native groups local to the St. Lawrence valley to obtain trade goods. Champlain was commissioned to fortify outposts of trade in 1608 and soon after began intervening in conflicts between Native American groups vying for control of the fur trade. 1609 was a momentous year. Exploring the St. Lawrence River valley, Champlain and a small party followed the streams and rivers inland until they reached the lake that now bears his name. Venturing further south below the falls, Champlain encamped on the western shore where the French would much later establish Fort St. Frederick (called Crown Point by the English), and forever engendered the enmity of the Iroquois by engaging them in bloody skirmish. Also in that year, the Englishman Henry Hudson, sailing for the United Provinces of the Netherlands, sailed up the river that now bears his name, reaching as far north as what is now Albany. At this location Dutch merchants, recognizing the

potential value of the area for the trade in furs, established a trading outpost called Fort Orange in 1624. From these early settlements the penetration and exploration of inland New York began (Cinquino et al. 1995:27; Trigger 1978b:346-348; Klein et al. 1986:2-10; Tooker 1978:430).

While the French remained preoccupied with their territories in Canada and along the Great Lakes and with their allies among the local Huron and Algonquian populations, Dutch ships arrived to trade with the native groups they encountered. The presence of the Dutch, and later the English, broke the French monopoly of providing European trade goods to native groups, especially the Iroquois, and allowed for the establishment of peace between the Iroquois and the Algonquians north in the St. Lawrence valley. "Throughout the first half of the seventeenth century, all the Iroquoian speaking peoples of the Northeast grew increasingly dependent on European trade goods" (Trigger 1978b:352). Now that an alternative for trade existed, the Iroquois no longer had to fight for economic control of the St. Lawrence River. However, the arrival of the Dutch under the guise of the Dutch West India Company in 1621 initiated an era of sometimes rabid competition among imperial powers for the lucrative fur trade. The conflicts this competition engendered spilled over to the native groups with whom the Europeans dealt. During the later seventeenth and early eighteenth centuries, the Iroquois became increasingly involved in successful conflicts with other Native American groups to the south and west as the supply of beaver pelts within their traditional domain declined (Trigger 1978b:348-355; Cinquino et al. 1995:27-28; Abler and Tooker 1978:506-507).

For almost all of the seventeenth and eighteenth centuries European activities in the area that would become known as the Finger Lakes were limited to commercial, religious and military endeavors. In 1664 the British seized New Netherland from the Dutch, renaming it New York and, thereby, becoming the patrons of the Iroquois. For the British, as it had earlier for the French, the fur trade became an essential imperial concern, and subsequent competition with the French in Canada resulted in the erection of fortified trading posts along the frontier. Moreover, the imperial rivalry between the English and the French over the fur trade affected their Native American clients, who were forced to ally themselves with one or the other power. While attempting to play one European power against the other, native groups continued to be drawn into the sporadic conflicts which marked the European's struggle for colonial empire. The Seneca and Cayuga Iroquois were pinched between the French fur traders at Fort Niagara on the west near what would become Niagara Falls and the British fur traders at Fort Oswego on the east (Klein et al. 1986:2-11; Abler and Tooker 1978: 506-507).

The territory of Seneca and Cayuga Iroquois was also infiltrated by Christian missionaries, the first of whom were the Jesuits. The earliest recorded Jesuit contact occurred in 1656 when Father Pierre Joseph Marie Chaumonot visited the Seneca from

the short-lived Jesuit mission of Sainte Marie among the Onondaga. Father Chaumonot reported that the Seneca Iroquois had two large villages in addition to several smaller ones. In the same year, the Jesuits visited the Cayuga, where Father René Ménard established a mission for a brief period. As hostilities intensified between the Iroquois and the French over territorial issues related to the fur trade, the Jesuits were forced to evacuate Sainte Marie in 1658. Several years later, upon invitation from the Cayuga, Simon Le Moyne briefly left the Onondaga to visit the Cayuga for a few weeks during the winter of 1661-1662. The Jesuits finally returned in 1668 when permanent missions were established among the Seneca under the direction of Father Jacques Frémin and Father Julien Garnier and among the Cayuga at a mission called Saint Joseph. While its endeavors to convert the Seneca and Cayuga Iroquois to Christianity were generally a failure, the missions had modest effects on reducing the hostility between the Iroquois and the French. Also in 1668, René-Robert Cavelier de La Salle and a small party of men solicited the Seneca for guides to direct them to the Ohio River (Abler and Tooker 1978:505-506; White et al. 1978:500-501). From an imperial perspective, the French sought to establish dominion over the interior of the continent, including central and western New York, and their Jesuit missionaries provided an obvious tool to acquire influence with the resident native groups of each region. Other missionaries followed the Jesuits. During the years 1750-1755 Moravian missionaries from Pennsylvania visited the Cayuga, but were forced to leave with the outbreak of the French and Indian War. In 1764-1765, Samuel Kirkland attempted to establish a Protestant mission among the Seneca, but found them so unreceptive that he gave up and established a mission among the Oneida instead (Abler and Tooker 1978:509).

As the rivalry between the British and the French grew more intense during the course of the eighteenth century, the strategic importance of western New York as a nexus of trade and commerce increased as the area became enmeshed in the struggle between the two European powers for control over North America. The Seneca Iroquois, as Keepers of the Western Door in the Confederacy, were closest to the rich beaver forests and adamant in their protection of their position as suppliers of furs. However, they did allow the French under La Salle to build a fortified trading post at Niagara in 1679 (which accidentally burned down later that year). Competition between the Seneca and the French and their Native American allies for control over the western fur trade erupted in violence when Jacques René de Brisay, Marquis de Denonville, governor of Canada, lead an attack against the Seneca Iroquois. On 13 July 1687, the Seneca ambushed the French invaders before Denonville reached their principal eastern village, which the Seneca themselves burned prior to the ambush. After the attack, the Seneca, badly outnumbered, fled the field, and the French destroyed the ripening corn crop before retreating to reconstruct the fort at Niagara. The French launched punitive expeditions against other members of the Confederacy in 1693 and 1696, but, for some reason, the Cayuga were spared a French assault. The Iroquois did not reach a final peace with the French until 1701 (Abler and Tooker 1978:506-7; White et al. 1978:501; Tooker 1978:431-432).

Peace allowed the Iroquois to adopt a policy of neutrality towards the Europeans, trading with both the French and the English and hoping to remain free of their warring. As a result, to avoid provoking the Iroquois to violence and to facilitate further trade in furs, French and British policy during the early eighteenth century was to forbid settlers from establishing homesteads in Iroquois territory. With peace, both the Cayuga and the Seneca expanded their areas of settlement. After the Denonville incident, the eastern Seneca moved further east, establishing villages on Canandaigua Lake and Seneca Lake. From there, they established settlements along both sides of Seneca Lake. The western Seneca moved west, settling along the Genesee River and points further south and west. The settlements of the Cayuga also became more dispersed, and during this period the Cayuga had settlements on the west side of Cayuga Lake (White et al. 1978:501; Abler and Tooker 1978:507; Curtin, personal communication 1996). As a result, the area which would become SEDA and the immediate project area was becoming the scene of increasing Native American activity and occupation.

As early as 1736 British fur traders working in the area around Fort Oswego (established in 1725 to attract the beaver pelt trade from the west) petitioned the New York Assembly for the construction of a fort at the Carrying Place at the upper end of the Mohawk River. The resulting Fort Stanwix formed the western boundary of legal British settlement from 1768 to 1783, and remained a frontier settlement with a small population until the 1800s. During the French and Indian War, while the western Seneca remained pro-French, the eastern Seneca were pro-British and permitted Sir William Johnson to build a fort at Canadasaga, their village at the foot of Seneca Lake in 1756. After the French defeat and their loss of North American colonies, the western Seneca, remaining loyal to the French, joined Pontiac's uprising against the English-American settlers (Tooker 1978:434; Abler and Tooker 1978:507; Cinquino et al 1995:29-30).

While the migration of homesteaders into frontier and Native American territory recommenced with the return of peace, Fort Stanwix was allowed to fall into disrepair. This stream of European-American settlers into frontier/wilderness areas aggravated relations with the native groups who already lived and hunted there. Europeans overseas and colonial governors in the New World dispensed grants of land, manors and patents with scant regard for the rights of the native groups on the land. In the western areas of the colonies of Virginia and Pennsylvania this conflict flared into what is known as Pontiac's War (1763-1764), which affected New York along the Niagara frontier. However, lands belonging to the Iroquois had been granted to colonials without the Iroquois' consultation. While no permanent settlements had been established in the lands along the Mohawk valley west of German Flatts, the erection of forts and trading posts had caused uneasiness among these native groups (Cinquino et al. 1995:30; Tooker 1978:434).

By the middle of the eighteenth century the land issue had become so troubling and so important that a great council was convened at Fort Stanwix during the autumn of 1768 for the discussion and adjustment of the matter. Attended by commissioners of New York, Pennsylvania, New Jersey and Virginia and chiefs of the Six Nations of the Iroquois under the supervision of Sir William Johnson, Superintendent of Indian Affairs, the council resulted in the "Property Line Treaty of 1768." Through this treaty the Iroquois ceded to the British all lands east of the Allegheny Mountains (including territory not actually under Iroquois control), excepting reservations of Mohawks and others, for the purposes of settlement. The area of present-day SEDA is west of the 1768 Property Line and its control remained with the Iroquois under the provisions of the treaty. "Although the Revolutionary War shortly thereafter served to terminate the treaty where it favored the Indians, land titles to this day rest upon the Treaty of Fort Stanwix of 1768 far down into Pennsylvania as well as [in] portions of New York" (Cinquino et al. 1995:30; Tooker 1978:434-435).

During the American War for Independence fighting on the frontier remained generally east of the area which would become SEDA, and consisted of raids in the Mohawk valley culminating with the famous Battle of Oriskany, near Fort Stanwix in August 1777. The colonial's victory here stopped British forces (with assistance from the Seneca and other Iroquois) under Lt. Colonel Barry St. Leger from joining up with General John Burgoyne troops near Albany, and played a role in the important colonial victory at Saratoga. After the Battle of Oriskany, all settlements in the area around Fort Stanwix were razed and the garrison would ultimately relocate to more defensible territory, closer to German Flatts (Cinquino et al. 1995:30-33). However, by spring 1778 fighting on the western frontier had moved southward and eastward into the Wyoming and Cherry Valleys. As part of Britain's strategy to cripple the frontier economy by disrupting agricultural activities, the English enlisted their Iroquois allies to participate in these successful raids on frontier farming communities (Abler and Tooker 1978:507-508; Klein et al. 1986:2-12; Wallace 1970:131-140).

In summer 1779, General George Washington launched a punitive, four-pronged assault into the heart of Iroquois country in an effort to halt the incursions of the Seneca and other Iroquois allies of the British against American settlers. First, a preliminary attack under the command of Colonel Goose Van Schaick was directed against the Onondaga. This attack was followed by a foray under the command of General James Clinton which went down the Susquehanna River from Canajoharie to Tioga, where the expedition was joined by the main force of troops under General John Sullivan. The third component involved Sullivan's army moving from Easton, Pennsylvania, through the Wyoming valley and up the Susquehanna River. From their rendezvous at Tioga, the large invading army of between 3,200 and 5,000 soldiers advanced up the Chemung River to Newtown (the future city of Elmira) where they engaged and dispersed a force of 500 Native Americans and 250 British Rangers. From there, the Americans moved north, up the east side of Seneca Lake, adopting "scorched earth"

tactics by destroying everything in their path (Abler and Tooker 1978:508; Klein et al. 1986:2-12; Anonymous 1876:6-7, 96; Wallace 1970:142-143; McVarish and Cook 1996:7-8). The swath of destruction stretched from Newtown all the way to Canandaigua and Honeoye up to the Genesee River.

Lieutenant Adam Hubley, who served under the command of Sullivan during this expedition, recorded the army's activities in his journal for 4 September 1779:

> We destroyed several fields of corn, and after a march of thirteen miles we encamped in the wood in front of a very large ravine, and half a mile from Seneca Lake. On account of some difficulty with the pack-horses, the main army did not reach so far as the infantry, and encamped about two miles in the rear [Anonymous 1876:96].

It is believed that the site of the infantry's encampment was south of Ovid Landing, southwest of the immediate project area. The next day the army continued to move north along the lake, finally encamping near the Seneca village of Kanadia or Kendaia that night. The soldiers found the village the finest they had seen, describing it as standing:

> upon rising ground, surrounded by an extensive apple and peach orchard within a half mile of Seneca Lake. The village of some forty well-finished houses, with neat and improved surroundings, was destroyed. A portion of the Indian orchards escaped notice, and on September 21, 1791, twelve years later, the party of Elkanah Watson pitched their tent on the site of the former village.... He wrote, 'Many of the trees are girdled, and marks of the destructive axe of the soldiery are yet to be seen in every direction' [Anonymous 1876:149].

Some scholars suggest that this village might possibly be the location of NYSM site 4824, which is in the vicinity of SEDA (Klein et al.1986:2-12; Curtin, personal communication 1996).

McVarish and Cook (1996:8-11) quote conflicting sources regarding the location and condition of Kendaia or Appletown, as it is sometimes referred. They cite one source averring that the location of the village was the property owned by Edward Van Vleet in 1894 (1996:8). Van Vleet's land appears to be in the west-central portion of Military Lot 79, and encompassed in the present Sampson State Park, adjacent to and southwest of the SEDA. This location for Kendaia is reinforced by Bodner and Ewing (1993:45-49), who describe the excavation of numerous Native American gravesites by avocational archaeologists at this location in 1940 and the early 1950s. Other sources indicate that Kendaia was located about 300 yards (~275 meters) from the lake and consisted of approximately 30 houses and an orchard of fruit trees (McVarish and Cook 1996:8, 9). From the evidence above, Kendaia seems to be located across the state highway from the Depot's airfield on the grounds of Sampson State Park.

Wherever its actual location, Sullivan's men left Kendaia in ashes and girdled its fruit trees. The army continued its march of destruction north and then turned west, reaching the Genesee River.

After razing a village of approximately 130 houses near the Genesee, the force returned to Tioga, tracing its previous route. Not limited to destroying villages and other settlements, Sullivan's marauders destroyed the Iroquois food supply of vegetables and produce, including beans, squash, potatoes, watermelons, cucumbers, as well as an enormous quantity of corn, much of it still standing in the field. Apple, peach, and other fruit trees did not escape the American's wrath and were cut down as well (Abler and Tooker 1978:508).

After flattening Seneca villages, the army set their sites on Cayuga Iroquois communities around Cayuga Lake. One detachment under Colonel William Butler destroyed the Cayuga villages on the east side of Cayuga Lake and a smaller detachment under Henry Dearborn devastated those on the west side of the lake (White et al. 1978:501-502). Klein et al. (1986:2-12) report that this annihilation included all the principal Cayuga villages and all but two of the Seneca villages, including twelve villages between Seneca and Cayuga Lakes, possibly including NYSM site 4824, one-half mile (.8 kilometers) from Seneca Lake near Kendaia (see also Anonymous 1876:149; McVarish and Cook 1996:11). The fourth prong of the assault involved troops under the command of Colonel Daniel Broadhead who marched from Fort Pitt up the Allegheny River destroying Seneca villages along the way (Abler and Tooker 1978:508; Wallace 1970:142-143).

Badly beaten, the Iroquois retreated to Niagara where they suffered through a miserable winter of deprivation. By the spring of 1780 they were rejuvenated and participated in renewed attacks on American settlements in the Mohawk valley, devastating the region to the degree that Schenectady was considered the westernmost limit of safety. Provisioned and armed by the British, the Iroquois harassed colonial settlements until the end of the conflict. Abandoned by their British allies after the Treaty of Paris (1783) ended the Revolutionary War, the Iroquois were forced to deal with the Americans, who aspired to usurp Iroquois lands. The Americans argued that since the British had ceded their claim to territory south of Canada to the Americans, and that this cession included land traditionally occupied by the Iroquois, Seneca land was now part of the new United States. Furthermore, the argument continued, as allies of the British, the Iroquois also had to forfeit control of their land to the new nation. As a result, in the Second Fort Stanwix Treaty (1784) the Iroquois lost all their land east of the Genesee River, except for small reservations. This treaty was disputed by several groups of Iroquois until 1794, when a treaty was signed at Canandaigua between the United States and the Six Nations which defined the boundaries of Seneca lands and the reservations to the Oneida, Cayuga and the Onondaga Iroquois. By 1789, the Seneca Iroquois had vacated the area around the

future Seneca Army Depot Activities for reservations elsewhere, and the Cayuga Iroquois had relinquished title to their tracts (Klein et al. 1986:2-13: Abler and Tooker 1978:508).

With the return of peace, settlers and land speculators again began to trickle westward, exerting pressure to open up land formerly occupied by Native Americans. Some of these initial settlers were those soldiers who had served under Sullivan and Clinton during their campaign of destruction against the Iroquois. Further, states, especially New York, viewed the granting of former Indian lands as a cheap way to compensate Continental soldiers for serving in the fight for American independence and to settle their claims of being owed back pay. Although the land was physically open for white settlement with the removal of the Seneca and the Cayuga, border disputes between New York and Massachusetts, which both claimed the new territory, frustrated the actual, legal sale of these lands. Under an agreement signed in Hartford, Connecticut, in 1786, the land once claimed by the Iroquois came under the jurisdiction of New York State. However, the Commonwealth of Massachusetts maintained the right to sell the land west of Seneca Lake. During the next decade large grants of land in western New York would be sold to private investors who would attempt to open the land to settlement (Schein 1993:5-8; Abler and Tooker 1978:507-509; Child 1867:27-28; Klein et al. 1986:2-13; Anonymous 1876:7-11).

The position of land office commissioner was created by the New York State Legislature in May 1784 in order to begin the process of providing land to compensate veterans of the Revolutionary War and to encourage migration into and settlement of land once considered property of Native Americans. The procedures of surveying and appraising land commenced under New York State Surveyor-General Simeon De Witt, who had a penchant for Classical history—hence future town names like Junius, Romulus, and Ovid, etc. By treaty with the Onondaga Iroquois in 1788, all the territory that would be divided and organized into the future counties of Onondaga, Seneca, Cayuga and Cortland, including portions of the counties of Oswego, Wayne, Schuyler and Tompkins, was set aside by the land commissioners for bounties for soldiers. This area was known as the Military Tract and constituted the original Onondaga County. From this territory a total of twenty-eight townships were created in central New York: twenty-five 60,000 acre (24,000 hectares) townships with three additional townships set aside as hospital wards. Each named after an individual in Roman history, the townships were resurveyed into lots of 600 acres (240 ha). The territory that would become Seneca County contained a total of 900 Military Lots, each approximately 600 acres (240 ha) in area, organized into the townships of Junius, Ovid and Romulus (Schein 1993:16; Anonymous 1876:7, 96; Oberon 1995:9-11; Klein et al. 1986:2-13).

At this point, in 1789, the New York State was strapped for cash and quickly sold off the land to speculators. These lots were advertised for public sale and any lot unsold could be taken by any applicant for a one-quarter down and an agreement to

pay off the rest at a specific interval. While most of the land in what would become Seneca County was reserved as part of the Military Tract whose lands would be distributed officially by lot in 1791, actual settlement began much earlier. The first recorded settlement in Seneca County occurred in 1787 with the building of a log home at Seneca Falls (Anonymous 1876:7, 96; Oberon 1995:9-11; Klein et al. 1986:2-13).

The first settler in the vicinity of the project area was Andrew Dunlap who arrived from Pennsylvania to settle on 600 acres (240 ha) of Military Lot 8 in Ovid in May 1789. Other squatters filtered into the area at the same time. The first settler in the Town of Romulus was David Wisner who also arrived in 1789, settling on Lot 95. Most of the early settlers were from either Pennsylvania or New Jersey, but some also arrived from eastern New York counties (Okada 1985:6-7; Child 1867:27-28, 38; Child 1894:36; Anonymous 1876:97, 149). The license for these bounty lots were a valuable commodity on the early national market, and most were sold to speculators so that few actual veterans established homesteads on their allotted lands. These speculators neither made capital improvements on the lots they purchased nor invested in the creation of an infrastructure to facilitate settlement, but relied on selling the property quickly to make a profit (Klein et al. 1986:2-13; Schein 1993:21; McVarish and Cook 1996:12, 14). In general, these pioneers utilized the path Sullivan's forces followed in 1779, moving in from the south along the western portion of the future Town of Ovid.

Homesteaders had generally settled the county by 1795, farming an average plot of about 100 acres (40 hectares). Ovid became a local center for commerce during the early years of the nineteenth century, and John McGrath kept the first store there in 1797, which later became the first inn in 1800. (Previously, in order to get groceries, early settlers had to make the long 40-mile [64-kilometer] trek south to Newtown [later the city of Elmira]). Benajah Boardman built the first mill in the town in 1793, but it relied on manual power for operation and not water power. The Town of Ovid's population was 4,535 in 1810 (Child 1867:36; Anonymous 1876:11-12, 32; Klein et al. 1986:2-13).

Initially a part of Onondaga County and later Cayuga County, the towns of Romulus and Ovid were incorporated on 5 March 1794. Seneca County was formed from Cayuga County on 24 March 1804, although portions were removed to create Tompkins County in 1817 and to create Wayne County in 1823 (Child 1867:21, 38; Anonymous 1876:32). After 1794, with the construction of the Geneva Road (also known as the Mohawk Turnpike), which connected Whitestown (near the future city of Utica) to Geneva (once known as Canadasaga), the number of immigrants who came to till the fertile soil increased. However, the majority of the county lay well south of this road, and Seneca County remained generally an isolated area which served as a stopover for those settlers heading further west. The inclination of settlers to move further west intensified with the extension of the Mohawk Turnpike from the Genesee River to Buffalo, completed by 1803. Seneca County remained a farming area

throughout the nineteenth century with the cultivation of wheat and barley a general agricultural focus, but dairying and sheep raising were an important supplement (Child 1867:28; Klein et al. 1986:2-14; Okada 1985).

The original settlers of the Military Lots of Seneca County were largely tradesmen-mechanics who had developed important skills "back east" before moving their families west to farm. These pioneers had been blacksmiths, carpenters, wheelwrights, and shoemakers before becoming farmers, and many still practiced their trade after they put down stakes in Seneca County. These early settlers also developed local commerce and industry by starting the first mills in the Town of Romulus during the first two decades of the nineteenth century: grist (Benajah Boardman in Ovid on Lot 97), cider (Ralph Swarthout on Lot 94), saw (James Bailey Lot 88), distillery (John St. Clair on Lot 71), and ashery to manufacture potash (Isaac Johnson on Lot 89). Inns, taverns and stores also developed during the early 1800s. "The settlement pattern consisted of dispersed small clusters of cabins [made from hewn logs] (the first permanent frame construction was build in 1794) and isolated farmsteads" (Klein et al. 1986:2-13). Near the intersections of roads, mill locations and along the lakes, several small rural centers developed, such as Varick, Seneca Falls, Romulusville, and Ovid, though ambitious speculators tried to create several communities. These "planned" communities included Plymouth in 1800, which was located on Lot 79 on the shore of Seneca Lake, and Ovid Landing in 1794 at the mouth of Indian Creek. Ovid Landing was also called Lancaster and Baleytown. Ovid, incorporated in 1816, was one of a few villages which developed during the early years of the county. However, since transportation was easier along the lakeshore, these areas received the attention of early settlers. Surveyed before settlement during the creation of the Military Lots, roads ran mostly north-south through the county, although some roads ran diagonally (Anonymous 1876:97, 149-153; Okada 1985; Klein et al. 1986:2-13-2-14; Child 1867:32.38). The immediate project area appears to be located on parts of Military Lots 73, 79, 80, 86 and 87.

The earliest settlers of Military Lot 73 appear to be William Brewster and Daniel Sayre in 1801. William Brewster built a house in the central part of the lot on the old road which runs north-south, and Daniel Sayre lived in the northern part of the lot on the lake road which runs east-west. Both of these men sold their property to John Finton in 1805. When Finton died the farm passed to his descendants (Anonymous 1876:149). Confirming Anonymous (1876), the 1874 Nichols map (Figure 3-1) of the Town of Romulus depicts the houses of three Fintons on Lot 73. All three are west of the road that divides the lot and appear to be just west of the project area, near the northern clear zone of the airfield. Walter Carson bought a 50-acre (20 ha) field on the west side of the lot from Brewster (Anonymous 1876:149). The 1874 Nichols map depicts a structure on the west side of the belonging to J.S. Finton. "John Fleming, in 1790, moved to a farm on the east side of the lot. John and Robert Fleming, his sons, were his successors" (Anonymous 1876:149). Historic maps depict several

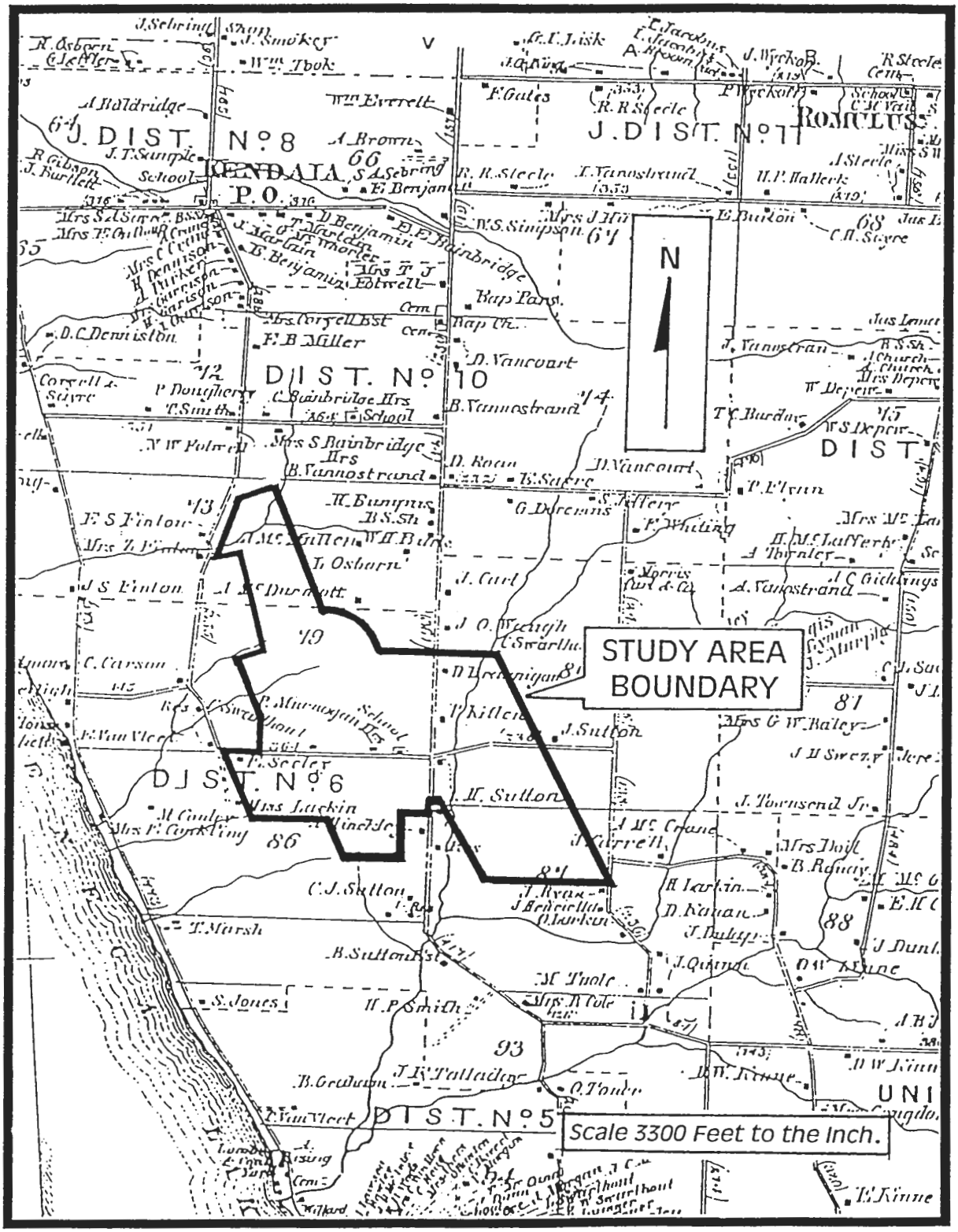

Figure 3-1. Study Area depicted on Nichols 1874 *Map of Seneca County.* Seneca Army Depot Activities, Seneca County, NY.

structures along the north-south running road which divides Lot 73 from Lot 74, one of which is occupied by R. Fleming (McVarish and Cook 1996:23-25). These structures appear to be north of the immediate project area.

> In 1800, John Green lived upon one hundred acres [40 ha] of a farm in the north part [of the Lot], on the east side of the road. No house now stands upon the old site. Joshua Tuttle was on the central portion, and Stephen Reeder, a mason, lived near by. In time he sold to McLafferty and moved away. Robert Chambers is named as an inhabitant of the lot in 1805. This part of the town is notable as the birthplace of Elsie Fleming, the first white child native to the Town of Romulus. Her birth dates to 1790, and a child is a present resident of the city of Rochester [Anonymous 1876:149].

None of these names appear on the 1874 Nichols map. However, historic maps (McVarish and Cook 1996:23-25) do depict structures in the vicinity of the locations of those names.

The early settlers of Lot 79 were Joseph Folwell, William Seeley, James Watrus, Walter Watrus and Dr. Ethan Watson. An immigrant from Pennsylvania, Folwell owned 100 acres (40 ha) on the south side. Seeley lived in a cabin near the center part of the Lot, on the west side of the old road, and, later, moved on the lot south (Anonymous 1876:151). Folwell's name does not appear on the Nichols map (Figure 3-1), but the map depicts the center-southern portion of Lot 79 with a number of structures concentrated around the intersection of two roads or a fork in one road. Ed Seeley is depicted as owning or occupying several structures near the border between Lots 79 and 86. James Watrus, a road-overseer in 1799, owned and died on 100 acres (40 ha) on the west side near Seneca Lake. Walter Watrus lived in a house that was purchased by J.H. Gilmore (Anonymous 1876:151). Historic maps (McVarish and Cook 1996:23-25) depict three Watruses along the road near Seneca Lake, but these names do not appear on the 1874 Nichols map. However, the Nichols map does depict a structure along this road near Seneca Lake occupied by a J.H. Gilmore. Dr. Ethan Watson occupied a farm on the southwest corner and his wife taught a school at an early day in a small frame building that stood on this lot (Anonymous 1876:151). The Watsons are not depicted as occupants of any structure on the 1874 map, but School House No. 6 is noted near the intersection of two roads dividing this lot from Lots 86 and 80.

In the central part of Lot 79 lived John Caten, a Baptist preacher, who sold his land to S. Merritt, who later sold the property to J. Van Vleet (Anonymous 1876:151). The 1874 Nichols map shows a structure near this location, but no name is attached to it. "John Dey, came in early, and, purchased four hundred acres [160 ha] from the north side. Sale was made to Anthony Schuyler. The farm is now owned by Edward Van Vleet and Mr. Murnogan" (Anonymous 1876:151). The 1874 map depicts P.

Murnogan occupying a structure on the southeast portion of this lot, and shows E. Van Vleet as occupying land on the southwest portion of the lot. This area is in the vicinity of the immediate project area near the airfield, and Nichols depicts a C. Swarthout directly between the lands occupied by Murnogan and Van Vleet. Van Vleet's property is reputed to be the site of the Seneca village (Kendaia) razed by Sullivan in 1779 (Bodner and Ewing 1993). Anonymous reports that an Indian orchard flourished on the southwest part of this lot, as well as a short-lived hamlet called Plymouth. Plymouth was laid out with a Main Street and a Seneca Street by speculators, and half a dozen cabins were erected near that intersection prior to 1800. Phineas Tuthill and Asa Smith were residents of Plymouth in 1800. By 1876, a warehouse, between the road and Seneca Lake, stood opposite the site of "this premature and short-lived hamlet" (Anonymous 1876:151). The 1874 map portrays a warehouse near the lake at the aforementioned location.

According to Anonymous 1876 Lot 80 is the northeastern part of School District No. 6. The earliest settler on the lot was William Shattuck, a blacksmith who lived on the southern portion in 1795. His son, William, a lawyer, built a house on the southwest corner of the lot. Both Shattucks and another son, Clinton, who taught a school in a log house which stood on the northwest corner of Lot 87, sold their land to Joseph Sutton in 1812 (Anonymous 1876:151). The 1874 Nichols map shows a structure occupied by J. Sutton in the middle portion of Lot 80. This map also depicts a number of Suttons living in the vicinity of the project area: H. Sutton in a structure on the border between Lots 80 and 87, two structures occupied by C.J. and B. Sutton near the boundary between Lots 86 and 87. This location appears to be in the vicinity of the SEDA railroad loop, southwest of SEAD-4. On the northern part of the lot, in 1803, John Stone, formerly a shoemaker in Barleytown, came over from Cayuga County, and built a house. The farm was owned by Colonel Swarthout in 1876. "A man named Dalls lived for a time on the east part of the lot, then sold [his property] to B. Sutton, who deeded [it] to John, his son. The marriage of Dr. Eliphalet Shattuck to Jane Wiley, both residents of this section, took place on January 18, 1798' (Anonymous 1876:151). The 1874 Nichols map depicts a C. Swarthout in the vicinity of that historic farm.

The earliest resident of Lot 86, Benjamin Sutton, a carpenter, came west in 1791 from Orange County, New York, and settled 40 acres (16 ha) on the south side of the lot. It is uncertain whether Benjamin Sutton was related to Joseph Sutton (see above).

> In making the journey in company with his wife, two boxes were carried upon a horse upon which Mrs. Sutton rode, while her husband walked alongside. Those who came in this manner were in search of a permanent home, and gave character to [the] settlement, [illegible] villages were the resort of gamblers and other disreputable classes, which precede and go with our American pioneers [Anonymous 1876:149].

The 1874 Nichols map depicts B. Sutton Est. (estate?) on the southwest corner of Lot 87 near the border with Lot 86. Three structures occupied by C.J. Sutton are rendered on the 1874 Nichols map just north of B. Sutton Est.

On Lot 87, Timothy Jaynes established a blacksmith shop in 1790. In the vicinity of the project area, David DePue, a squatter on the northwest corner of the lot, started an orchard in 1789. His sprouts were allegedly obtained from the old Indian orchard, and a few of the trees were said to remain on the farm of Helim Sutton, who occupied the land in 1876 (Anonymous 1876:152). Again, it is uncertain whether any of these Sutton's are related, although one would expect that it is likely. David Depue would later relocate to Lot 75 where he would open one of the earliest Romulan taverns. The 1874 Nichols map show an H. Sutton as occupying land in the northwest portion of Lot 87. Just south of the project area, Peter Ruttan established a blacksmithery in 1812 on Lot 93 in the structure occupied by H.P. Smith in 1876 and James Woodruff labored as a shoemaker in his house on the northern part of the lot (Anonymous 1876:152).

As noted, most of the homesteaders, while initially mechanics and tradesmen, settled on Military Lots in Seneca County to become farmers. However, after several generations, the tendency of land tenure was the subdivision of the family farm among the heirs of the original settler with a subsequent reduction of the area under a single cultivator (see Lockridge 1970). A Military Lot of 600 acres (240 ha) purchased by a pioneer would be divided among his children or lots would be sold off to strangers. By 1876, "as a result the greater number of farms contain[ed] but 100 acres [40 ha], down to 25 [10 ha] and less, while but two or three reach the size of six to nine hundred acres [240 to 360 ha]" (Anonymous 1876:37-38; Lockridge 1970; Dykstra 1968). Farming was the chief occupation of those people who owned the land which would become Seneca Army Depot. In 1867, Peter Depue farmed 200 acres (80 ha), David W. Kinne farmed 331 acres (132.4 ha) in Romulus and Ovid, and Coe Swarthout farmed 121 acres (48.4 ha) (Child 1867:129, 167, 199). The major crop was wheat. In 1876, 25 percent of all plowed land grew wheat, raising 500,000 bushels (17,620 kiloliters) up from 350,500 bushels (12,351 kl) in 1840. Other grains grown included Indian corn, oats and barley. Corn increased from 175,000 bushels (6,172 kl) in 1840 to 497,750 bushels (17,555 kl) in 1864, and oats rose from 213,826 bushels (7,541 kl) in 1840 to 337,821 bushels (11,915 kl) by 1864. Barley production remained stagnant with 125,000 bushels (4,409 kl) grown in both 1840 and 1864. Rye, potatoes and flax were also grown on a small scale basis. Grazing was also a prominent agricultural activity. Farmers raised horses, sheep, dairy cows, supplemented with poultry and pigs. As the nineteenth century progressed, competition with Midwestern grain farmers forced Seneca County farmers to switch their agricultural emphasis from cereal grains to more market gardening, cattle raising and dairying (Anonymous 1876:37-39; Okada 1985:6; McVarish and Cook 1996:22,26). Fruit trees, such as apple, pear and peach, were also a part of the Romulan agricultural landscape (Anonymous 1876:33).

By the closing decades of the nineteenth century farming was well-established as the primary occupation of the residents of Seneca County. In 1880 the amount of land under the plow had risen to 204,258 acres (81,703 ha) with the average farm comprising 86 acres (34 ha). The primary agricultural products were corn (542,412 bushels [19,130 kl]), wheat (475,626 bushels [16,775 kl]), oats (470,012 bushels [16,577 kl]) and barley (421,012 bushels [14,849 kl]). Dairying was an important aspect as well with 206,681 gallons (782 kl) of milk, 769,512 pounds (346,280 kilograms) of butter and 1,876 pounds (844 kg) of cheese produced. The Sutton brothers, Edwin and Natt, farmed 140 acres (56 ha) which had originally been cleared by their grandfather, Benjamin, possibly as early as 1792. Their 140 acres (56 ha) grew grapes, apples, peaches and grazed horses, cows and sheep. They also had 52 colonies of bees (Child 1894:225). By the close of the century, grape-growing and wine-making expanded, with the founding of the Seneca Lake Niagara Vineyard in the Romulus area in 1889. Six years later, in October 1895, the successful vineyard had used the depot in Romulus to ship 300 tons (270 metric tons) of grapes (McVarish and Cook 1996:26). In 1926, the Romulus depot saw 45 railroad cars full of grapes shipped to markets throughout the northeast (McVarish and Cook 1996:28-30).

One of the earliest roads in the in the vicinity of the project area was begun in March 1796, when a "road was surveyed from Lancaster [later, Ovid Landing] to 'Boardmansburg' through Lots 93 and 87, between [Lots] 86 and 87 northward to the place of Peter Bainbridge, on the creek" (Anonymous 1876:153). This road is present on the Nichols 1874 map, and ran directly through the project area. Also in 1796,

> a road was run from the southeast corner of Lot 94 on the Ovid Line northwest to the lake road through Lots 93 and 86, and about the same time one from Lancaster [Ovid Landing] along and near the town line, passing David Wisner's [Lot 95], and running east to the house of B. Bryant, on the town line [Anonymous 1876:153].

Disputes arose pertaining to the location of some of these early roads. One such dispute concerned the road from James McKnight's (Lot 64) to Plymouth along Seneca lake. In 1805, the Court of Common Pleas determined that:

> Whare as [sic] James McKnight & Benjamin Dey, of the town of Romulus, have appealed to us Judges of the Court of Common Pleas of the County of Seneca respecting a road runing [sic] from the house of s[ai]d McKnight's in Romulus, to Plymouth, we are of [the] opinion that the road confirmed by the Superintendents is the best and most eligibelst [sic] road, for bublick [sic] travle [sic], and we hereby direct the same to be put on record as the Bublick [sic] road the s[ai]d McKnight to Plymouth.... This road on the south line of the reservation was laid in 1805 [Anonymous 1876:153].

Opening in 1810 to provide an avenue of access for settlers and goods, the Ithaca and

Geneva Turnpike became an important north-south road that ran east of the current study area. This road appears to follow the route of the present-day State Route 96. However, water transportation was a primary means of both shipping goods and transporting people (Anonymous 1876:42; McVarish and Cook 1996:20-21).

A problem facing many rural farming communities is ensuring that agricultural goods produced locally can reach places where they can be purchased. To offset this problem of a lack of adequate transportation, the Erie Canal was begun in 1817. Linking Buffalo and Lake Erie with New York City, the canal opened in 1825 and reduced both shipping time (from twenty days to eight days) and freight rates (from $100 per ton to $15 per ton). As a result, proximity to the canal had an advantageous affect on the value of area farms, especially those farms along a wide swath adjoining it, raising farm values by between two to four times. Location gave an added boost to the farming economy, though it was relatively short-lived. Portions of Seneca County were connected to the Erie Canal by both the Seneca-Cayuga Canal, which ran between the north ends of both lakes and opened in 1828, and the Crooked Lake Canal, which connected Seneca and Keuka Lakes and opened in 1822. Landings and warehouses to store locally-produced grain were erected on Seneca Lake at such places as Lancaster, Plymouth, and Cooley's and Dey's Landing (McVarish and Cook 1996:21; Klein et al. 1986:2-14). One side effect of the area's relatively close proximity to the canal was that "the area became depopulated as the canal, in addition to providing cheap transport for goods coming east, provided cheap passage for migrants going west. Many residents of Seneca County moved to the Prairie states, Michigan in particular" (Klein et al. 1986:2-14). Economic downturns, especially the Panic of 1837, had motivating effect on westward migration as people changed locations to improve their economic chances.

While the settlers of the Finger Lakes region were buffeted by forces of social change during the nineteenth century, none of these movements originated in the vicinity of Seneca Army Depot Activities. The Second Great Awakening, a religious and intellectual movement with social/humanitarian overtones, swept over central New York during the 1820s and 1830s. Part of the so-called "Burnt-Over District," central New York saw social reform, utopian and millenarian movements during the years before the Civil War. These movements included the founding of the Church of Jesus Christ of the Latter Day Saints (Mormonism) by Joseph Smith in Palmyra, New York, in 1830, the establishment of the Oneida Community to the east in 1848, and the assembling of the first women's rights convention at Seneca Falls to the north by Elizabeth Cady Stanton and Susan B. Anthony also in 1848 (Cinquino et al. 1995:37-39; Klein et al. 1986:2/14-15; Ryan 1981:11-14, 230-242).

One humanitarian by-product of the antebellum social ferment was the establishment of the Willard State Hospital shortly after the Civil War. Located partly in the Town of Romulus and partly in the Town of Ovid (south of the project area),

Willard State Hospital was founded in 1868. Willard itself is a port on Seneca Lake and was not only a station on the Lehigh Valley Railroad, but the terminus of the H.C.O. and W. Railroad. The hospital was founded on 600 acres (240 ha) west of the village of Ovid on farmland previously reserved for the New York State Agricultural College. The college was incorporated in 1853 and construction of campus buildings commenced shortly thereafter. The main building was partially finished when the project ran out of funds. The property was purchased by the Commissioners of the Willard Asylum for the Chronic Insane, who built the facility west of the planned college closer to Seneca Lake. As of 30 June 1894, the Willard State Hospital for the Insane employed 400 workers and served 2,153 "inmates" (Child 1867:33; Child 1894:547).

During the middle decades of the nineteenth century, railroads became an important component in the economy. In 1841, a railroad line connecting Syracuse to Rochester was completed. The line ran just north of the Finger Lakes through northern Seneca County and Geneva. This line was consolidated into the New York Central Railroad in 1853 and provided market access for goods produced by Seneca County farmers. Several railroad spurs ran north-south through the county, including the Geneva and Ithaca Railroad, which was capitalized on 6 May 1870 and ran through Romulus by 1873 (Anonymous 1876:42). The line ran diagonally east of the project area. In 1867 Ovid Center (just south of the project area) was a station on the Lehigh Valley Railroad, connecting central New York with Pennsylvania (Child 1867:160). By 1894 the station at Romulus provided direct transportation of goods and people from Seneca County to Rochester, New York City and other points in the northeast.

The twentieth century saw a continuation of the trends begun during the nineteenth century. Seneca County continued to be the home of many farmers and rural industries. Many of the farmers in the Towns of Romulus and Varick worked over 100 acres (40 ha), conducting diversified agricultural activities: growing fruit trees, planting grains and vegetables, and dairying small herds of cows. Most of these products were consumed locally. By 1940, due to its close proximity to the Atlantic coast, its low population density and its accessible transportation linkages, Seneca County attracted the attention of the U.S. government which was looking to construct an army ordnance storage and refitting facility and, later, to site a navy training station. The Depot site would encompass almost 11,000 acres (4,400 ha) of prime Seneca County farmland on which over 100 families lived. These farm families were paid for their land, and generally were given between three and thirty days notice to vacate the property. Houses and barns that were not removed from future Depot land by the previous farm owners were either demolished or used as building material for constructing Depot facilities (McVarish and Cook 1996:36-40, Appendix III; Klein et al. 1986:2-15).

Construction of the Depot began in July 1941 and proceeded amid emergency wartime conditions until about 1943. A total cost for World War II construction activities

at SEDA was approximately $11 million. By November 1941, a total of 502 semi-subterranean ammunition storage igloos had been completed. Igloo construction involved significant earth-moving activity—the ammunition storage magazines were recessed about six feet (1.8 meters) into the ground. Additionally, each of these igloos was about ten feet (31 m) high, 80 to 100 hundred feet (24 to 31 m) in diameter and covered with earth, which gave them a subterranean look. Designed in 1928, they were barrel arched, reinforced with concrete and equipped with lightning protection systems. Located within the central portion of base, the igloo magazines covered 3339 acres (1,336 ha). The site was entirely surrounded by 20 miles (32.2 kilometers) of steel security fence (McVarish and Cook 1996:39; Klein et al. 1986:3/2-3). During World War II, Italian prisoners of war were housed in SEDA barracks, while German POWs were held at the Sampson Naval Training Station, which was created nearby (McVarish and Cook 1996:Appendix III/7-8).

In 1942, after the commissioning of Seneca Army Depot Activities, construction began on the Sampson Naval Training Center, which was sited on the eastern shore of Seneca Lake, between the lake and the western boundary of the Depot. From 1942 to 1946, this facility trained over 400,000 naval recruits (Bodner and Ewing 1993:30). After a brief career as a college for returning veterans (1946-1949), the Sampson facility was transferred to the United States Air Force in November 1950 (Bodner and Ewing 1993:42). A landing strip—the Sampson Air Field—was built in 1953 on approximately 630 acres (252 ha) between the Depot and the Sampson Air Force Base (275.5 acres (110 ha) of that total represented the runway area of the landing strip). To prepare for the building of the runway and establish clear zones, the airfield area underwent extensive grading, filling and compression activities. The Air Force Training Center and the airfield were decommissioned in 1956 by the Air Force, which transferred the airfield to SEDA. A large portion of the one-time Sampson facility is contained within the current Sampson State Park (Bodner and Ewing 1993:43-44; Klein et al. 1986:3-5, 1-6).

The Depot underwent technological upgrades in the late 1940s, and endured another phase of construction in the mid-1950s (1955-57). The mission of the Depot involves the receipt, storage, issuance, maintenance, demilitarization and disposition of weapons and ordnance. Since 1979, the U.S. Coast Guard has operated a Long Range Aid to Navigation (LORAN) transmitting station in the southwest corner of the Depot (Klein et al. 1986:1-6; Oberon 1995:2)

3.3 Literature and Site File Search

The primary document pertaining to the identification and management of the resources located within Seneca Army Depot Activities is the management plan developed for the National Park Service and the U.S. Army Material Development and

Readiness Command (Klein et al. 1986). Providing a general overview of the prehistory and history of the region, the plan contains a review of the historic maps and serves as the basis for the identification of previously unrecorded historic properties. In addition, the plan also provides a pragmatic framework for future archaeological investigations to be conducted at SEDA. Archaeological investigations since the adoption of this plan have included fieldwork conducted at the Ash Landfill site (Oberon 1995) as well as the work undertaken for the current study.

Map sources consulted prior to the field investigations included: *Topographical Map of Seneca County, New York* (Gibson 1850, 1852), *Map of Cayuga and Seneca Counties, New York* (Gray and Lothrop 1859), and *Atlas of Seneca County, New York* (Nichols 1874). Site specific maps were reviewed in the map room located at the offices of the Directorate of Engineering and Housing, SEDA, Romulus, New York. These sources included aerial photographs, and *General Land Map* (1941), *Tract Register Map* (1954), and the *Real Estate Map* (1947). Secondary sources were reviewed at the Ovid Town Library, Ovid, New York, the map room, archives and special collections library at Cornell University, Ithaca, New York, the New York State Library in Albany, New York, and the Lockwood Library at the University of Buffalo.

Documentary records, such as local histories, historic maps and atlases, and oral histories, provide information of predictive value for locating historic period archaeological sites. For example, historic maps present probable site occupations as well as potential spatial patterns of site structures, although one-to-one correspondence between field-identified archaeological sites and historic map depictions may not be obtained due to inaccurate or incomplete map information, or complex and potentially long term site formation. "A spatial pattern of variously clustered and dispersed archaeological features, such as foundations, depressions and stone concentrations, may show a general correspondence with similar patterns of house or other sites on historic maps, although the history of site abandonment, differential disturbance and new construction may result in a degree of dissonance between the archaeological pattern depicted at the Phase I survey level, and individual maps or map composites" (Edward Curtin, personal communication 1996). With this in mind, Klein et al. (1986:4/6-22) enumerates historic sites potentially located within SEDA based on their review of historic maps. Table 3.1 below presents the sites the management plan suggests may be located within the current project area.

A site file search was conducted at both the New York State Historic Preservation Office (NYSHPO), Peebles Island, Waterford, New York, and the New York State Museum (NYSM), Albany, New York. These site file checks revealed four prehistoric sites recorded within the boundaries of SEDA. In addition to these sites, eight historic properties were recorded within a one-mile (1.6 km) radius of the project area. These resources included an historic homestead, and seven prehistoric sites. The results of these checks are presented in more detail below.

Table 3.1 Historic Sites Potentially Located in the Vicinity of SEDA Airfield (Source: Klein et al. 1986).

SAD #	Designation	Historic Map Reference
107	J. Van Fleet Farmstead	Gray 1859 (information pertinent to site location determined to be unreliable [Klein et al. 1986:4-14]).
141	Schoolhouse No. 6	Gibson 1850; Brown 1850; Nichols 1874
142	Col. G.O. Swarthout Farmstead	Gibson 1850; Brown 1850; Gray 1859; Nichols 1874
143	Eliza Scoby/P. Murnogan Farmstead	Brown 1850; Gray 1859; Nichols 1874
144	Ed Seel[e]y Farmstead	Brown 1850; Gray 1859
146	J. Sutton Farmstead	Gibson 1850; Brown 1850; Gray 1859; Nichols 1874
152	B.B. Sutton Farmstead	Brown 1850; Gray 1859
154	H. Sutton Blacksmith Shop	Brown 1850; Gray 1859; Nichols 1874
176	James Carroll Farmstead	Brown 1850; Gray 1859; Nichols 1874
189	J. Gleason Farmstead	Gray 1859 (information pertinent to site location determined to be unreliable [Klein et al. 1986:4-20]).
228	Timothy Jaynes Blacksmith Shop	Anonymous 1876 (information pertinent to site located determined to be unreliable [Klein et al. 1986:4-22]).

While four prehistoric sites were recorded within the bounds of Seneca Army Depot Activities, NYSM-4824 is the only site reported within the bounds of the current project area. The site was identified as the possible location of the Iroquois village of Kendaia, which was destroyed in 1779 by Colonel John Sullivan. This village was reported to contain at least 40 houses and was surrounded by orchards. New York State Museum site files list two loci for NYSM-4824: One locus within Sampson State Park, west of State Route 96A (outside the airfield) and one locus to the southeast of Indian Creek between the Lehigh Valley Railroad tracks and Igloo Section E within SEDA.

The second site, NYSM-4826, was described by Parker (1920) as an "early" site containing hearths, Indian relics and European artifacts. The site was also thought to have been associated with shell middens or refuse pits on the North bank of Kendaia Creek within SEDA.

The third site within the Depot is another prehistoric village site, designated UB-1260. A number of pipe bowls, pipe bowl fragments, and assorted lithics were recovered from this site. Based on informant interviews and late nineteenth century correspondence (Monroe 1879), UB-1260 is alleged to have been located within the property of the old Hunt farm (ca. 1870). However, UB-1260 is believed to be centered near Bunker 1525 and lies outside the study area (Klein et al. 1986).

The fourth site located at SEDA is designated NYSM-4825. NYSM-4825 is located near the head of a tributary of Reeder Creek, south of Igloo Section Bravo. The exact temporal and cultural association(s) of this site are unknown (Parker 1920). No further information on this site is available. NYSM-4825 is located northwest of the project area.

The four sites discussed above are similar in size, temporal association and complexity to the other known archaeological resources within a one mile area of SEDA. These sites include: NYSM-4838, NYSM-4830, NYSM-4827, NYSM-8685, NYSM-4830, and NYSM-4840. All of these sites were reported as prehistoric occupations by Arthur Parker in the early 1920s. Parker's accounts of many of these sites, however, were often based on secondary information and his site designations tend to be somewhat generalized. His descriptions of these sites range from "traces of occupation" (NYSM-4838) to "village, earthwork with holes in centers" (NYSM-4830)(Parker 1920).

The site files also contained information on a prehistoric camp site, the Hoser Site (A-099-02-0011), and an historic structure, the Peter Dey House (A-099-02-0010), both of which were reported by the Rochester Museum of Science.

3.4 Historic and Recent Land Use and Research Context

A review of previous cultural resource management reports and planning documents was made to ascertain patterns of land use within Seneca Army Depot Activities. *An Archeological Overview and Management Plan for Seneca Army Depot* (Klein et al. 1986) divides land use at the facility into two periods: pre-base agricultural activities and base-related construction and military storage endeavors. The first period can be further divided into three phases: (1) subsistence and horticultural activities conducted by Native Americans prior to the invasion of Seneca Iroquois territory by American soldiers in 1779; (2) diversified agricultural activities which included the cultivation of market garden crops and orchards during the Frontier/early settlement period by European-American settlers; and, (3) intensified agricultural pursuits, including the monocropping of grain and fodder crops, as well as community development during the nineteenth and twentieth centuries. These three phases are discussed above in Sections 3.1 and 3.2. The management plan's second land use

period, construction activities associated with the creation of SEDA, beginning in 1941-1942, involved the replacement of structures associated with the agricultural period of the area and the subsequent, dramatic land alterations inherent in the erection of a U.S. Army storage depot. Essentially, second period land use activities, almost by definition, eradicated or attempted to eradicate traces of initial period land use activity (Klein et al. 1986:chapter 3).

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) maintains a comprehensive list of contexts and study units relevant to New York State history and prehistory. One OPRHP historic context seems relevant to the discussion of cultural resources recovered from archaeological endeavors at the Depot—the development of Rural Agriculture (1790-1939) as it relates to fruit and vegetable, and grain and speciality crop (e.g., vineyards) farming. Information gleaned from further study of the Greek Revival House lot discovered within the airfield area at SEDA may provide significant insights to advance the knowledge of the development of rural communities in the nineteenth century.

During the nineteenth century, the majority of the households in Seneca County were dependent upon subsistence level farming for their livelihoods. Individual households augmented this income through the production of agricultural products (e.g., hams, apples, butter and cider) and small craft production, such as the manufacture of architectural hardware at local blacksmith's shops, or finished leather goods (e.g., machine belting and harnesses). The production of these goods allowed local farmers to enter into a growing regional economy that included nascent light industries in Seneca Falls and Geneva through sales or trade.

Development of regional markets, however, was hindered by poor road systems that constricted the flow of goods and materials overland between Seneca County and such cities as Buffalo, Rochester or New York. True cash economies would have to wait for the building of canals and railroads during the second quarter of the nineteenth century and later. Following these improvements in transportation networks and technologies, trade and commercial activities expanded and permitted the flow of relatively inexpensive consumer goods into previously isolated markets and pushed small scale rural industries out of business (Klein et al. 1986:2/14-15; McVarish and Cook 1996:20-30).

The project area does have the potential to reveal significant information on the development of rural communities and the patterns of life inherent in small nineteenth century settlements. These types of farmsteads and rural communities were a ubiquitous form of settlement in the northeastern United States. The study of the historical and economic changes affecting these communities has the potential to yield significant data on the changing social relationships both within the rural community and larger, more urban communities nearby.

The second period of land use activity involved the construction of Seneca Army Depot Activities and the replacement of the then-existing agricultural community. Primary construction activities at SEDA were initiated in 1941, and proceeded through 1943. Subsequent construction episodes at SEDA and the creation of the airfield took place in the late 1940s and early 1950s, the direct result of technological upgrades associated with the facilities and its mission. A later phase of construction activity occurred later in the 1950s (Klein et al. 1986:3-2).

This initial phase of construction under stressful conditions dictated by World War II had a profound effect on the area's historic properties. Many of the pre-existing structures were razed and much of the land surface was altered. These large scale earth-moving activities included extensive grading, filling and stripping which removed signs of previous cultural (and natural) surfaces and subsurface features. The heaviest earth-moving activity involved the area where the igloo magazines were built. Over 500 of these semi-subterranean structures were hurriedly constructed amid wartime conditions. Under the terms of this national emergency, numerous individual homesteads and community buildings were condemned and either moved off military lands or cannibalized in the building of Depot facilities (Klein et al. 1986:3/2-7).

In order to assess the anticipated degree of site disturbance and the potential affects upon the preservation of archaeological resources, a number of factors are considered to be predictors of site preservation. These factors include: construction type, demolition techniques, subsequent activities and adaptive reuse of the facilities (Klein et al. 1986:3-2). The following summarizes the extent of ground disturbance expected within each survey area and Figure 3-2 presents the approximate areal limits of these disturbances as outlined in the SEDA management plan (Klein et al. 1986). This information was used to assess the archaeological potential of the project area. Brief descriptions of the observed degree of disturbance within Ground Disturbance Areas (GDA) and solid waste management units (swmu) detailed in the management plan are presented below.

The runway area at the airfield (Figure 3-2, Area A) was constructed ca. 1953 and contains approximately 275 acres (110 ha). Referred to as GDA-11 in the SEDA management plan (Klein et al. 1986), the area underwent severe ground disturbances "including extensive grading, filling and compression in preparation of the landing strip and the clear zones at the ends of the runway" (Klein et al. 1986:3-5). Based on field observations and soil features, the bulk of this area has been stripped to culturally sterile soils and to depth of eight feet (2.4 meters) in some areas. These observations support the management plan's estimate that 70 percent of the area was disturbed (Klein et al. 1986:3-5).

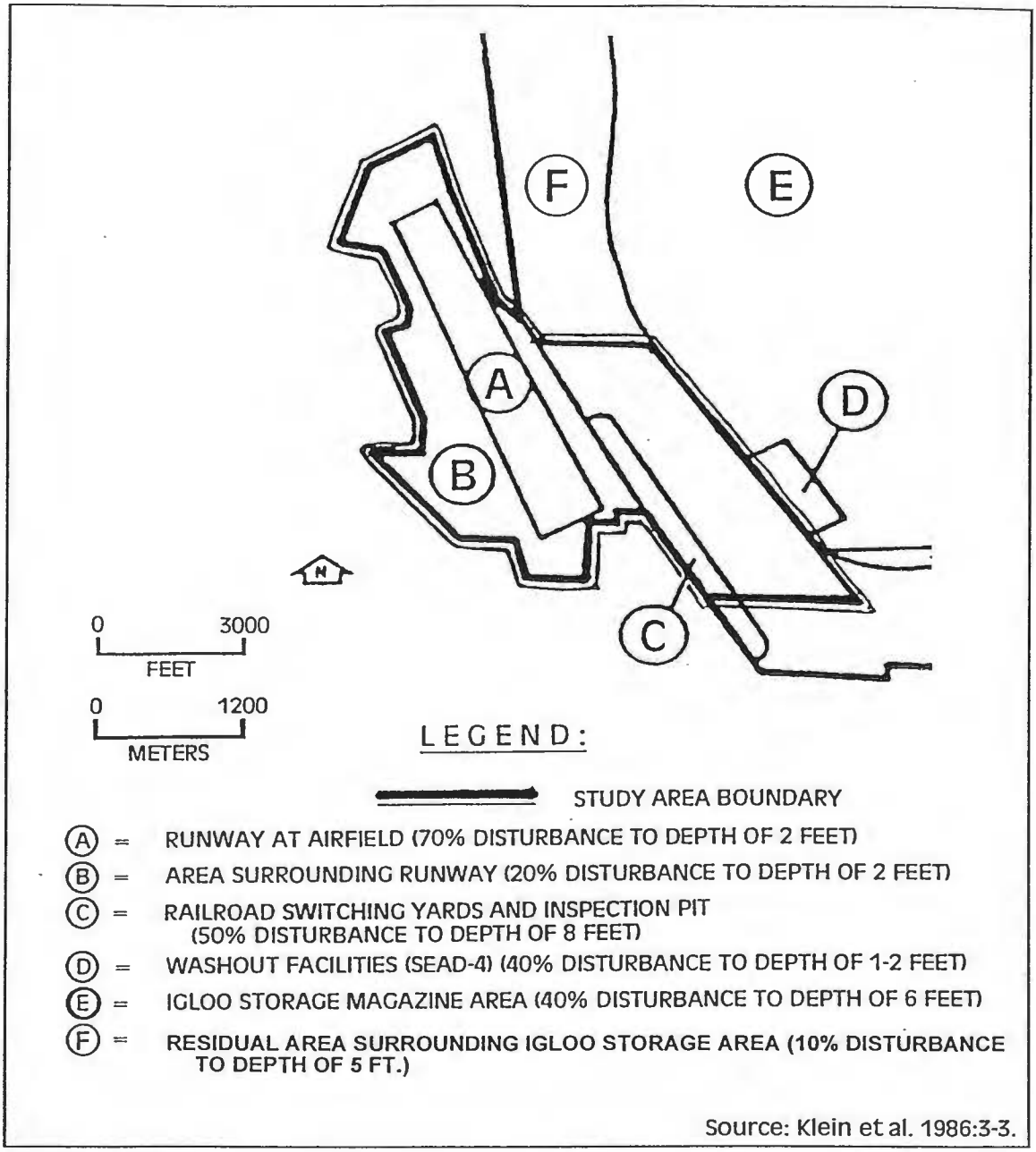

Figure 3-2. Major areas of ground disturbance within study area as presented in Klein et al. 1986. Seneca Army Depot Activities, Seneca County, NY.

The area surrounding, but exclusive of, the runway (Figure 3-2, Area B) comprises over 350 acres (140 ha) of the land related to the operation of the airfield. Referred to as GDA-12 in the SEDA management plan (Klein et al. 1986), the area includes taxiways, roads, service areas and navigational facilities. The plan estimates that 20 percent of the area has been disturbed to a depth of two feet (.6 m) (Klein et al. 1986:3-5). This estimate, however, proved to be extremely conservative. Field

investigations revealed that most areas around these structures have been stripped to bedrock, or about 80 percent of the ground surfaces have been severely disturbed.

The area southeast of the airfield (Figure 3-2, Area C) contains approximately 40 acres (16 ha) which are severely disturbed. Referred to as GDA-13 in the SEDA management plan (Klein et al. 1986), the area was the former switching yards for the Lehigh Valley Railroad and the Depot inspection pit, which dates to 1941. The construction of the facility involved the elimination of several farm houses and a portion of an historic roadbed. While the construction of these features appears to be on fill and involved little below-grade disturbance, the question of site or grade preparation and the origin of the fill used in its construction remains unanswered. While the management plan estimates that 50 percent of this area has been disturbed (Klein et al. 1986:3-5), it appears that approximately 90 percent of the ground surfaces near these features have been stripped to underlying glacial till.

Classified in the management plan (Klein et al. 1986:3-7) as a residual area comprising the periphery of SEDA, the area between the airfield and the Igloo Storage Magazine Area (Figure 3-2, Area F) was impacted by site preparation activities which included grading and filling for road construction and the laying of underground utility lines. A portion of this area was included within the project area and contained three solid waste management units, SEAD-4, SEAD-11 and SEAD-38. These units were also assessed for archaeological potential, although subsurface testing and pedestrian survey were not permitted in these areas due to the probability of encountering possible contamination according to the Scope of Work (Corps of Engineers 1995:4-5). These swmu were classified as of moderate to high priority on the CERCLA site list.

SEAD-4, a Munitions Washout Facility Leach Field, is located along Seneca Road and is listed as a "high priority" site. Mostly out of the project area, this location was treated with extreme caution (Figure 3-2, Area D). In addition, a possible small unexploded ordnance (UXO) dump site, about the size of a file cabinet, was reputed to be northwest of Building 2084, in the vicinity of SEAD-4 and SEAD-38 (Randall W. Battaglia, personal communication October 1995). Seneca Road runs through the area which the SEDA management plan refers to as GDA-14 (Klein et al. 1986:3-5).

SEAD-11, an old Construction Debris Landfill, is located south of Indian Creek Road and due west of the Lehigh Valley Railroad tracks. Described as the location of an Ash Landfill, this site is estimated to extend over 250 ft (76.25 m) north to south and 350 ft (106.75 m) east to west (Figure 1-2). The surface was visually inspected by walking transects 30 m (~99 ft) apart. The ground surface was found to be highly irregular and marked by large exposures of what appeared to be glacial till. This observation was especially true in the area located immediately south of the Ash Landfill where water had collected in an apparently impermeable basin formed from these gravels. The area was excluded from subsurface testing in accordance to the

Scope of Work (U.S. Army Corps of Engineers 1995:4-5). No significant cultural deposits or features were discovered during the course of the systematic pedestrian survey. This area was either undefined or determined undisturbed, according to the SEDA management plan (Klein et al. 1986:3-3).

SEAD-38, Building 2079—Boiler Plan Blowdown Leach Pit, is an area of contaminated soils and ground water related to a pond and drainage canals northwest of Building 2084. Associated with SEAD-4, the site is an area of suspected dumping and of severe disturbance. This general area was group under GDA-24 by the SEDA management plan, which stated that the area in general did not experience "significant use" (Klein et al. 1986:3/3, 7). Despite the evaluation of the management plan, this area saw extensive land modification activities in relation to the construction of the SEDA railroad tracks and its use for swmus.

3.5 National Register of Historic Places Evaluation Criteria

The criteria for evaluation of National Register eligibility are briefly presented in conjunction with the discussion of research questions and relevant New York State historic contexts (Section 3.4) and the cultural background of the project area (Sections 3.1 and 3.2). This research is framed in terms of regional research questions of general importance to New York State archaeology, as well as historic contexts identified by the NYSHPO. These criteria will be evaluated for each of the archaeological sites and structures assessed during this study. For a more detailed discussion consult various National Park Service (NPS) Bulletins (e.g., NPS Bulletins 15, 16A, 24, 36, 39, etc.).

For a cultural resource to be considered for eligibility to the National Register it must be evaluated within its historic context and shown to be significant for one or more of the following the four Criteria for Evaluation (Code of Federal Regulations, Title 36, Part 60) listed below:

> Criterion A: Event) Properties that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> Criterion B: Person) Properties that are associated with the lives of persons significant in our past; or
>
> Criterion C: Design/Construction) Properties 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 may lack individual distinction; or

Criterion D: Information Potential) Properties that have yielded, or may be likely to yield, information important in prehistory or history (NPS Bulletin 15, referencing Code of Federal Regulations, Title 36, Part 60).

These criteria will be applied to each cultural resource identified during the Phase I investigation. In applying Criterion A, a property can be associated with either (or both) of two types of events:

- A specific event marking an important moment in American prehistory or history, and
- A pattern of events or a historic trend that made a significant contribution to the development of a community, a state, or the nation [NPS Bulletin 15, page 12].

In applying Criterion B:

- *The persons associated with the property must be* individually *significant within a historic context. A property is not eligible if its only justification for significance is that it was owned or used by a person who is a member of an identifiable profession, class, or social or ethnic group. It must be shown that person gained importance within his or her profession or group* [NPS Bulletin 15, page 15].

Applying Criterion C to the portion related to architectural styles and construction practices, a property must clearly illustrate through distinctive characteristics, the following:

- *The pattern of features common to a particular class of resources,*
- *The individuality or variation of features that occurs within the class,*
- *The evolution of that class, or*
- *The transition between classes of resources* [NPS Bulletin 15, page 18].

A property can also be significant under Criterion C,

- For historic adaptation of the original property ... *not only for the way it was originally constructed or crafted, but also for the way it illustrates changing tastes, attitudes, and uses over a period of time* [NPS Bulletin 15, page 19].

- Represents the work of a master if the property *... expresses a particular phase in the development of the master's career, an aspect of his or her work, or a particular idea or theme in his or her craft* [NPS Bulletin 15, page 20].

- Expresses high artistic value, for example, ... *if it so fully articulates a particular concept of design that it expresses an aesthetic ideal* [NPS Bulletin 15, page 20].

Criterion D has two requirements which must be met to qualify for eligibility:

- *The property must have, or have had, information to contribute to our understanding of human history or prehistory*. For example, if it has been used as a source of data and contains more, as yet unretrieved data; or it has not yet yielded information but, through testing or research, is determined a likely source of data (NPS Bulletin 15, page 21).

- *The information must be considered important*, (and evaluated within the appropriate context to determine importance). For example, having a significant bearing on a research design that addresses current data gaps or alternative theories that challenge existing theories; or priority areas identified under a State or Federal agency management plan (NPS Bulletin 15, page 21).

In applying Criterion D, the archaeological site contains or is *likely* to contain

information bearing on an important archeological research question. The property must have characteristics suggesting the likelihood that it possesses configurations of artifacts, soil strata, structural remains, or other natural or cultural features that make it possible to do the following:

- *Test a hypothesis about events, groups, or processes in the past that bear on important research questions in the social or natural sciences or the humanities; or*

- *Corroborate or amplify currently available information suggesting that a hypothesis is either true or false; or*

- *Reconstruct the sequence of archeological cultures for the purpose of identifying and explaining continuities and discontinuities in the archeological record for a particular area* [NPS Bulletin 15, page 21].

The property, to be eligible, must be associated with human activity and be critical for understanding the historic environment of the site. Normally, natural features are not eligible under Criterion D (NPS Bulletin 15).

The information the archaeological site yields, or will yield, must be evaluated within an appropriate historic context; and how the potential information will affect the definition of the context. The sources of appropriate historic contexts include the state planning process, but may include other well formed designs to contribute to theoretical or substantive knowledge (Butler 1987).

The archaeological site also must retain historic integrity of those features necessary to convey its significance. This information likely to be recovered from the archaeological site, must confirm, refute, or supplement in an important way existing information. It is not eligible if it cannot be related to a particular time period or cultural group and, thereby, lacks any historic context to evaluate the importance of the information to be collected (NPS Bulletin 15, pages 3, 22). Section 3.4 above presents specific historic contexts.

Integrity is defined as *the ability of a property to convey its significance* (NPS Bulletin 15, page 44). To merit eligibility a property must be significant and must also have integrity. Seven aspects or qualities of integrity which are recognized by the National Register are location, design, setting, materials, workmanship, feeling, and

association. A description of each aspect is briefly described as follows:

- *Location is the place where the historic property was constructed or the place where the historic event occurred.*
- *Design is the combination of elements that create the form, plan, space, structure, and style of a property.*
- *Setting is the physical environment of a historic property.*
- *Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern of configuration to form a historic property.*
- *Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.*
- *Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.*
- *Association is the direct link between an important historic event or person and a historic property* [NPS Bulletin 15, page 44-45].

Generally, under Criterion D, the most important aspects of integrity to understand the property's significance and its essential physical features focus primarily on the location, design, and materials (NPS Bulletin 15, page 48-49). In defining the essential physical features of an archaeological site to meet eligibility under Criterion D, *integrity is based upon the property's potential to yield specific data that addresses important research questions, such as those identified in the historic context documentation* . . . (NPS Bulletin 15, page 46). Section 5.4 below presents specific historic contexts.

4.0 FIELD METHODS

The field methods for the Phase I cultural resources survey conducted at the Seneca Army Depot Activities Airfield Area consisted of an intensive surface and subsurface investigation of the complete study area. The area under review was divided into high and low sensitivity areas based on environmental factors and known areas of contamination and ground disturbance. This strategy was designed to locate all prehistoric and historic resources within the study area while limiting exposures to potentially harmful materials (i.e., hazardous waste, unexploded ordnance, etc.). Based on the background research, the potential exists for locating various types of cultural resources in the vicinity of the study area. These cultural resources include potential prehistoric sites (i.e., village sites, mortuary sites, and lithic scatters) and historic sites (e.g., a number of nineteenth century farmsteads).

High probability areas included portions of elevated topographic features located within 500 feet (153 meters) of a permanent water source and areas within the vicinity of previously reported sites. Low probability designations included areas of known ground disturbance or earth movement, areas with slopes greater than fifteen percent, locations with poorly drained or hydric soils and areas of standing water. These areas were sampled. Severely disturbed areas (e.g., areas with extensive earth movement and in which more than 50 percent of the surface has been disturbed) have been documented by Klein et al. (1986) and supported by field examination, and were tested opportunistically.

In areas of high sensitivity, shovel test transects and shovel test pits were spaced 10 to 15 m (33 to 49 ft) apart. In areas of moderate sensitivity, shovel test pits were spaced at 15 to 30-m (49 to 98-ft) intervals. In areas of low sensitivity, shovel test transects and shovel test pits were spaced 30 to 45 m (98 to 147-½ ft) apart. Shovel test pits measured approximately 40 centimeters (15-¾ inches) square and were excavated into culturally sterile subsoil. All shovel tests were screened through ¼-inch hardware mesh.

4.1 Survey Protocols

In keeping with this general testing strategy, a series of protocols (Cinquino et al. 1995:80-89) were adopted in order to direct field observations through the investigative stages, and to identify areas where no further investigation would be necessary.

Protocol 1—Prior Disturbance and Earth Movement. Areas of extensive land modification through intensive building, deep land filling, timber cutting and old

agricultural tracts were identified during a review of existing conditions. This review included an initial windshield survey, interviews with base personnel and a literature review. Incidental field observations made later during the walkover of selected survey areas supplemented this overview.

Protocol 2—Suspected Hazardous Materials. Areas of suspected hazardous materials and one area of unexploded ordnance (UXO) were identified. The general vicinity of any hazardous or life-threatening materials was identified by SEDA personnel and field inspection (i.e., drums) throughout the study area.

Protocol 3—General Prehistoric Archaeological Sensitivity. In accordance with the coarse-grained archaeological sensitivity analysis, the areas within approximately 500 ft (153 m) of Indian and Silver Creeks within the project area, or well-drained lands closest to these streams, were considered to have a high sensitivity for the occurrence of prehistoric archaeological sites, and were identified as areas for intensive archaeological survey. The corollary consideration of identifying the well-drained sections of the study area, either partially or entirely within this distance, at the time of the walkover survey was stipulated in order to deal realistically with existing conditions.

Protocol 4—Specific Prehistoric Archaeological Sensitivity. This protocol is governed by fine-grained environmental variability most suited for identification during the walkover survey. It allows for the placement of survey transects within areas having a relatively low, coarse-grained prehistoric archaeological sensitivity if relatively flat, well-drained ground in association with small or seasonal streams, springs or wet areas are encountered during the walkover.

Protocol 5—Historic Archaeological Sensitivity. This protocol identifies the need to search for foundations, cellar holes, and features, such as wells or privies, associated with historic farmsteads. It also identifies the suitability of excavating shovel test pits in areas where historic maps indicate the former presence of roads and houses or other buildings, if historical archaeological sites are not visible at ground surface.

4.2 Units of Analysis

For analytical purposes, the project area was divided into four areas of investigation based on geographic or man-made boundaries (Figure 1-3). These areas have been given numeric designations and are listed below:

Area 1: The airfield and adjacent property east of State Route 96A and west of the Lehigh Valley Railroad (Conrail);

Area 2: An area bounded on the east by Seneca Road, on the west by West Patrol Road, on the north by Indian Creek, and on the south by the area just south of (adjacent to) the SEDA railroad track loop;

Area 3: An area in an upland section of the Depot which is bounded on its northern edge by Indian Creek, the southern end by Indian Creek Road, the eastern end by a small portion of West Patrol Road, and the western end by Seneca Road; and,

Area 4: The area located north of Indian Creek, east of West Patrol Road, west of Seneca Road, and north by an east-west line from a point opposite the fourth row of Igloos in Section E between those roads.

4.3 Laboratory Methods: Analysis, Treatment, and Curation

Artifacts recovered in the field were bagged, labeled by shovel test number, transect number, survey area number, date and crew member (Appendix A). General laboratory procedures began with an inventory of all material collected. Appropriate conservation methods begun in the field have been continued in the laboratory.

In the laboratory, materials were washed or dry-brushed, depending on artifact type, air-dried, put in labeled plastic bags with air holes to inhibit corrosion or the development of fungus, and stored in a dry location. All artifacts received an individual catalog bag number for inventory and curation purposes. As a precautionary measure, additional labels were placed inside each plastic bag (self-closing) containing artifacts.

Preliminary analysis consisted of the identification of historic artifacts by type, form and by temporal period. This included the identification of all diagnostic artifacts and individual site and intrasite provenience. As noted, all bags and boxes were labeled with pertinent information to ensure provenience control and accessibility for further study and curation. This included the use of black indelible markers for all labeling.

Additional treatment procedures were not required due to the nature and stability of the artifacts collected. However, additional procedures were in place, if required. These procedures included methods for recovering delicate organic materials (e.g., vegetable matter, leather, bone, etc.) which might include partial consolidation of the object *in situ*; separate bagging and labeling of the material; cushioning and immobilization the artifact for transportation; installation in a form-fitted, shock-resistant container; and placement of damp artifacts in a solution of distilled water and, in required cases, fungicide.

The artifact collection from this survey will be curated in a permanent repository acceptable to the U.S. Army Corps of Engineers and Seneca Army Depot Activities personnel. The future curation site must meet National Park Service regulations (36 CFR Part 79), which is required for all federally-owned and administrated archaeological collections.

5.0 RESULTS OF THE PHASE I SURVEY

The results of the Phase I cultural resource field survey are presented below and include a discussion of the major ground disturbances within each area. In order to facilitate field documentation, the study area was divided analytically into four areas (Figure 1-3). The general field strategy consisted of an intensive surface inspection and the placement of shovel test pits in accordance with a preliminary assessment of archaeological sensitivity within each analytical unit.

An assessment of archaeological sensitivity was made based on an examination of reported sites in the general area, soils maps, engineering records, and prior disturbances. Based upon this information, it was determined that site selection could be anticipated reasonably within certain physical settings. The factors expected to favor site selection included: soil type, drainage characteristics, distance to potable water, and slope. In addition, a number of factors were determined that could be expected to affect archaeological site preservation. The factors that would limit site preservation primarily included erosion and large scale earth-moving activities associated with construction episodes.

The background research identified two levels of archaeological sensitivity within the project area: 1) areas of high to moderate sensitivity located north of Indian Creek, and potentially undisturbed areas located in various sections throughout the study area; and 2) areas of low potential in locations where naturally occurring soils have been removed and altered, and in highly developed areas such as the railroad car inspection pit and the airfield. In areas of anticipated high archaeological sensitivity, shovel test transects and shovel test pits were spaced 10 to 15 meters (33 to 49 feet) apart. In areas of moderate sensitivity, shovel test pits were spaced at 15 to 30-meter (49 to 98-foot) intervals. In areas of low sensitivity, shovel test transects and shovel test pits were spaced 30 to 45 meters (98 to 147-½ feet) apart. A detailed discussion of the field strategy and testing protocols is presented in Section 4. A hazardous materials specialist accompanied the field crew at all times and inspected the areas of investigation, including subsurface tests, to ensure that no hazardous materials were encountered during the survey. The safety plan prepared by Dames and Moore (Gorton and Passuite 1995) was also followed throughout the field investigation. Shovel tests measured approximately 40 centimeters (15-¾ inches) square and were excavated into culturally sterile subsoil. All shovel tests were screened through ¼-inch hardware mesh. Shovel test results are presented in Appendix B.

5.1 AREA 1

Area 1 consists of the airfield and the adjacent property (Figure 5-1). The investigation was conducted within the boundaries of the airfield which included: (1)

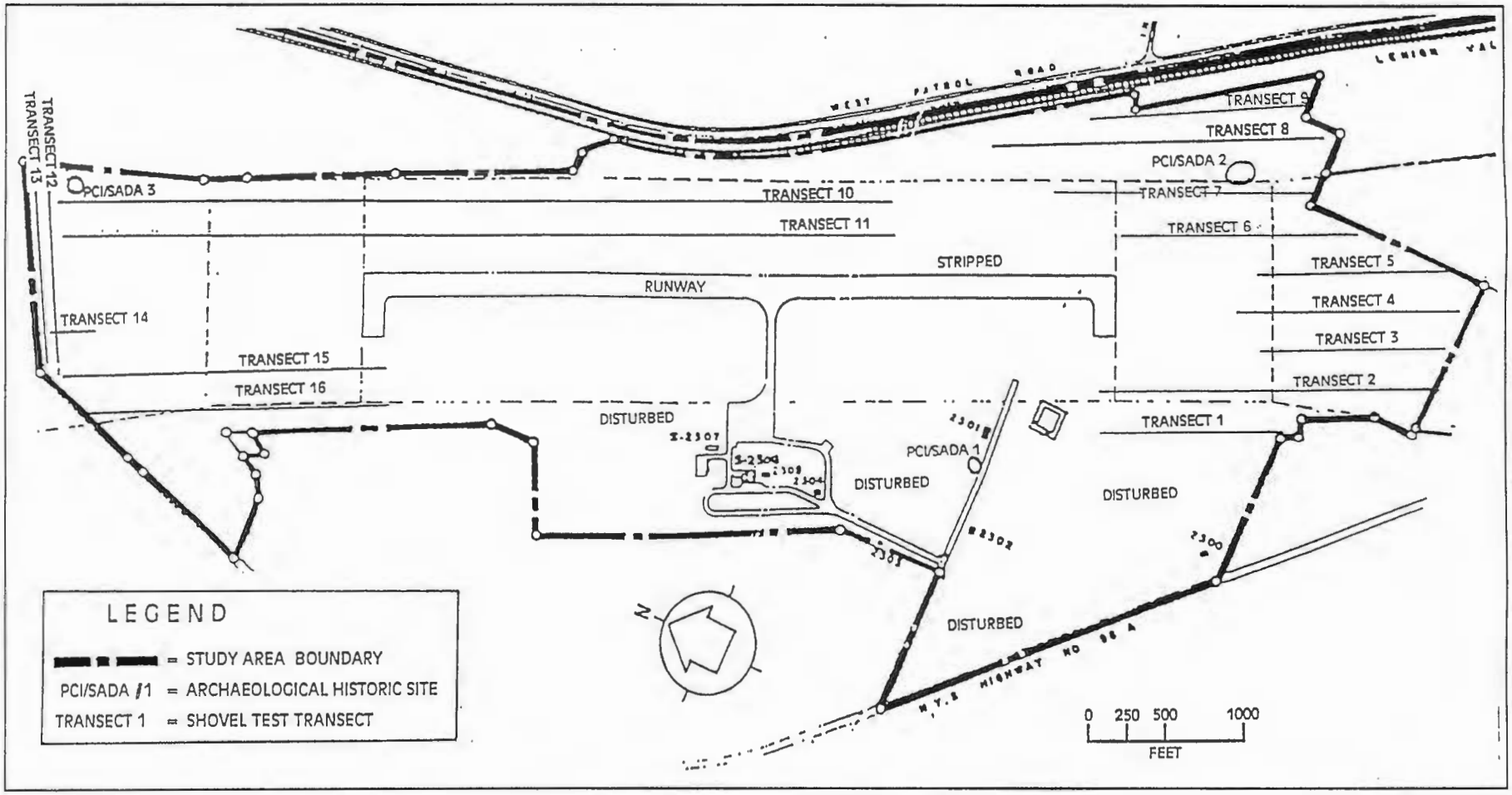

Figure 5-1. Locations of shovel tests and transects in Area 1 (the Airfield). Seneca Army Depot Activities, Seneca County, NY.

the airfield and surrounding support and training facilities, and (2) the yard of a mid-nineteenth century farm house (Building 2301).

The airfield contains areas around the runway, structures and navigational facilities that have been cleared of vegetation. The ground cover in these areas is limited to a thick carpet of wild grasses and flowers (Figure 5-2). A small section of the facility located south of Building 2301 and east of the Small Arms Baffled Range contains a stand of second growth trees. Ground cover in this area consists of a combination of young, mixed hardwoods and an understory of briars, grasses and shrubs.

The natural soils within the airfield include the Appleton (ApA), Ilion (Is) and Darien (DaA) series (Figure 2-1). The Appleton series consists of somewhat poorly-drained soils which were formed in deep, calcareous, firm, medium-textured glacial till derived from limestone, calcareous shale and calcareous sandstone (Hutton 1972:82). A typical soil profile for this series has a surface layer of a very dark grayish brown silt loam about 27 cm (10-⅔ in) thick. The thin subsoil is leached, mottled, brown, friable silt loam to very fine sandy loam which extends to a depth of 40 cm (15-¾ in). This soil has been described as a distinctly mottled, firm heavy loam to silt loam which is grayish brown to light olive brown (Hutton 1972:82). This layer extends to a depth of about 63 cm (24-¾ in) and becomes light reddish brown. These layers are underlain by a substratum of calcareous till at ~80 cm (31-½ in). This till comprises shales and gravel (Hutton 1972:82). All of the Appleton soils within the airfield are Appleton (ApA) silt loam.

The second soil series within the airfield is Darien silt loam (DaA). This soil is described as a somewhat poorly-drained soil which was formed in glacial till derived primarily from local alkaline and calcareous dark-gray and black silty shale and a small quantity of limestone (Hutton 1972:95). Darien soils are nearly level to gently sloping. A typical soil profile for this series is a surface layer of very dark grayish brown silt loam which ranges from 0 to 27 cm (0 to 10-⅔ in) in thickness. It is underlain by a thin subsurface layer which is a mottled, yellowish-brown silty clay loam and ~54 cm (21-¼ in) thick. Beneath this layer the subsoil is a mottled dark grayish brown gravelly silty clay loam (Hutton 1972:95).

The final major natural soil series within the airfield is Ilion (Is) soil. Encountered southeast of the clear zone at the end of the runway, this soil is described as a poorly-drained silty clay loam which was formed in calcareous glacial till consisting mostly of local shales with a small amount of limestone. Shale bedrock occurs at a depth of about 70 to 140 cm (27-½ to 55 in) (Hutton 1972:105). Typically, this series presents a soil profile which has a dark-gray silty clay loam surface layer which contains root mottles and is about 12 cm (4-¾ in) thick (Hutton 1972:105). The surface layer is underlain by a slightly sticky, mottled gray silty loam to a depth of 39 cm (15-⅓ inches).

Figure 5-2. Vegetation and ground cover east of runway near Indian Creek at the Airfield, facing northeast. Seneca Army Depot Activities, Seneca County, NY.

A substratum comprising a dark grayish-brown silty clay loam and shale is located at about one meter (39 in) beneath the ground surface.

Moreover, large sections of made-land (Md) constituted sections within the airfield. These areas were are located primarily around the runway and its clear zones. Made-land consists of areas in which the original surface layer and subsoil are not evident (Hutton 1972:115). Some areas of made-land may have been filled with soil material, while others consist of trash and rubbish that have been leveled. While preliminary research has not revealed the exact nature of the original mapping units, some inferences can be made based upon: (1) bearing properties of extant soils; (2) drainage characteristics; (3) a review of historic maps of the area in the vicinity of the modern airfield. A summary of the soil features for the known soil series contained within the airfield is presented in Table 5.1.

A review of historic period maps (Gibson 1852 and Nichols 1874) revealed that a significant portion of the areas adjoining the airfield contained marsh. Site planners selected this tract to avoid these wet and poorly-drained areas. Ideally, sites suited for the construction of airfields are located in relatively well-drained and level areas. While most of the Depot and airfield lands are level, drainage properties in most areas can only be described as moderately well-drained. Surface conditions, therefore, would have to have been modified by the installation's engineers to enhance the grade and drainage properties before construction could proceed. The most cost effective solution for the improvement of the airfield site apparently involved stripping it to bedrock and compacting, filling and leveling stripped soils (Klein et al. 1986:3-5).

Results of the Field Investigations. Estimates from background research suggested that as much as 70 percent of the ground surfaces near the airfield and 20 percent of the areas around the runways had been disturbed to a depth of 2 ft (61 cm) (Figure 3-2; Klein et al. 1986:3-5). As a result of shovel testing, however, it was established that as much as 90 percent of the ground surfaces near the landing field were disturbed during the original and subsequent construction episodes. Based on this information, the potential for site preservation and integrity is considered to be extremely low within the airfield.

Several areas of major ground disturbance were observed within the airfield (Figure 5-3). The first major disturbance encountered is located in the vicinity of the Small Arms Baffled Range Complex (Figure 5-4). The land around the pistol range, rifle range and covered reservoir had been extensively graded for the construction of earthenwork buffers. These broad-based earthenwork buffers for the structures rise several meters over the surrounding landscape. The soil used to construct these features was obtained from within the airfield. Several large borrow pits were observed east of the pistol range and covered reservoir. This area was subjected to a systematic

Table 5.1 Soil Feature Properties, Airfield, Seneca Army Depot Activities, Romulus, NY.

Soil Feature	Appleton (ApA) Silt Loam	Darien (DaA) Silt Loam	Ilion (Is) Silty Clay Loam	Made-Land
Depth to Bedrock	No Information	1 to 2 m (3.3 to 6.6 ft)	1 to 5 m (3.3 to 16.4 ft)	Not applicable
Flooding	Not prone	Not prone	Not prone	Not applicable
Permeability	Moderately slow to slowly permeable	Slowly permeable	Slowly permeable	Not applicable
Seasonal Wetness	Seasonally high water table	Seasonally high water table	Prolonged high water table	Not applicable
Slope and Erosion	0 to 3 percent; slopes unstable	Generally level; slope stability problems	Generally level; cut slopes unstable	Not applicable
Stability/Bearing Properties	Moderately high bearing capacity; good stability	High bearing capacity; good stability	Moderately high bearing capacity; fair to good stability	Not applicable

(Source: Hutton 1972)

surface inspection at 30-m (98-ft) intervals, but was excluded from subsurface testing due to extensive ground disturbance.

Another area of visible and extensive ground disturbance is located at the northern end of the airfield (Figure 5-5). Historically, this area appears to have been near or part of wetlands adjoining Indian Creek (Gibson 1852). Soil in this area is poorly drained and slowly permeable, and has required the construction of several canals and culverts to facilitate drainage. Two of these canals divert surface run-off from the airstrip. A portion of Indian Creek that had once coursed through this area has been channelized by this set of canals. The ground has been extensively graded, and the banks of these features appear to have been stripped to a depth of about 2.5 m (8 ft) (Klein et al. 1986:3-5). The ground nearest these features was visually inspected, which documented extensive disturbance and erosion.

A number of small, discrete areas associated with modern earthen mounds and pits were surface inspected but not shovel tested due to severe disturbance (Figures 5-5 and 5-6). In addition to these features, a number of below ground conduits for water and power lines traverse the field. These conduits are substantial features which were constructed to provide ease of access for routine maintenance or repair. Ground disturbance around these features and the buildings which ring the airfield is extensive.

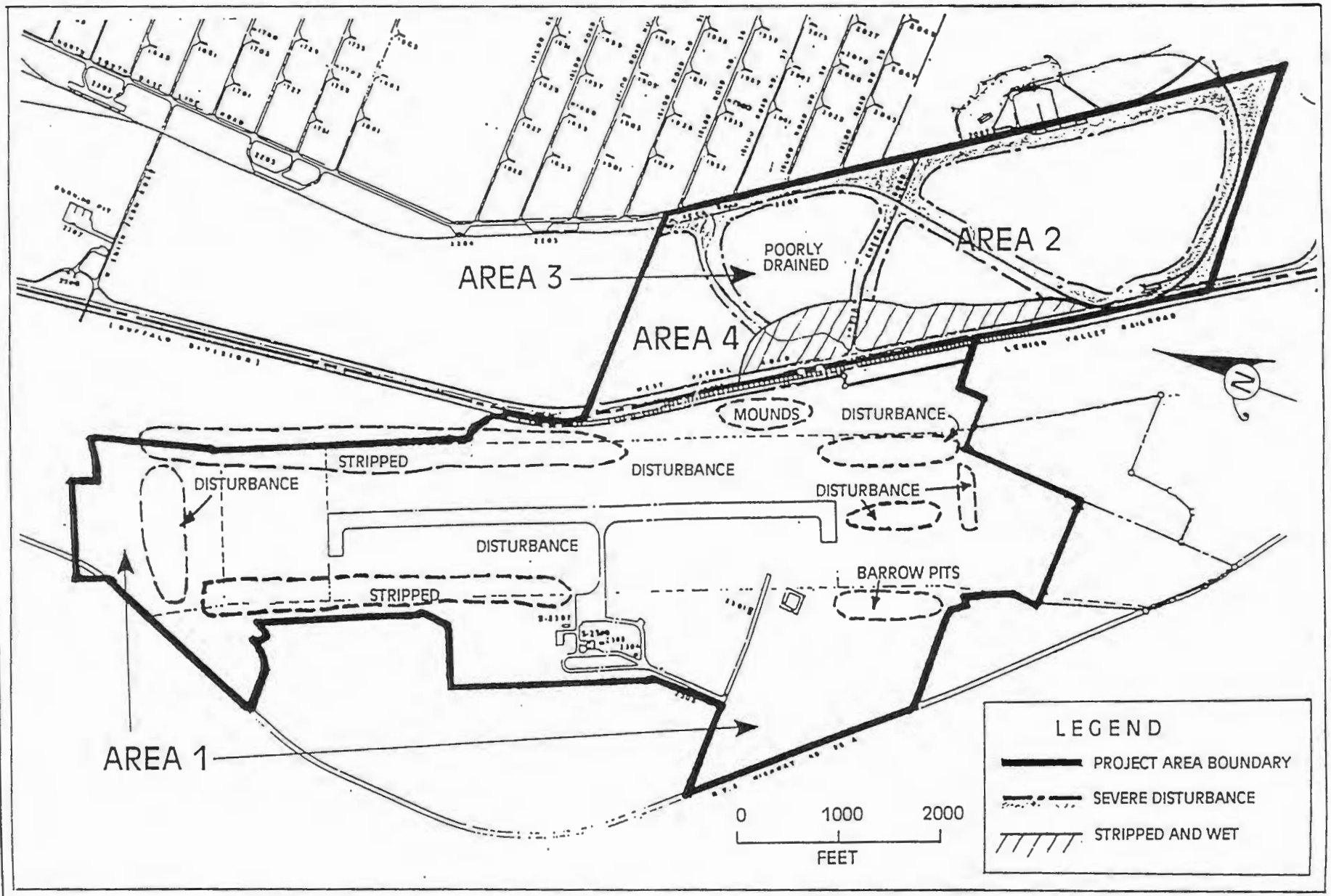

Figure 5-3. Locations of major areas of ground disturbance and poor drainage identified by PCI within the Airfield during Phase I survey. Seneca Army Depot Activities, Seneca County, NY.

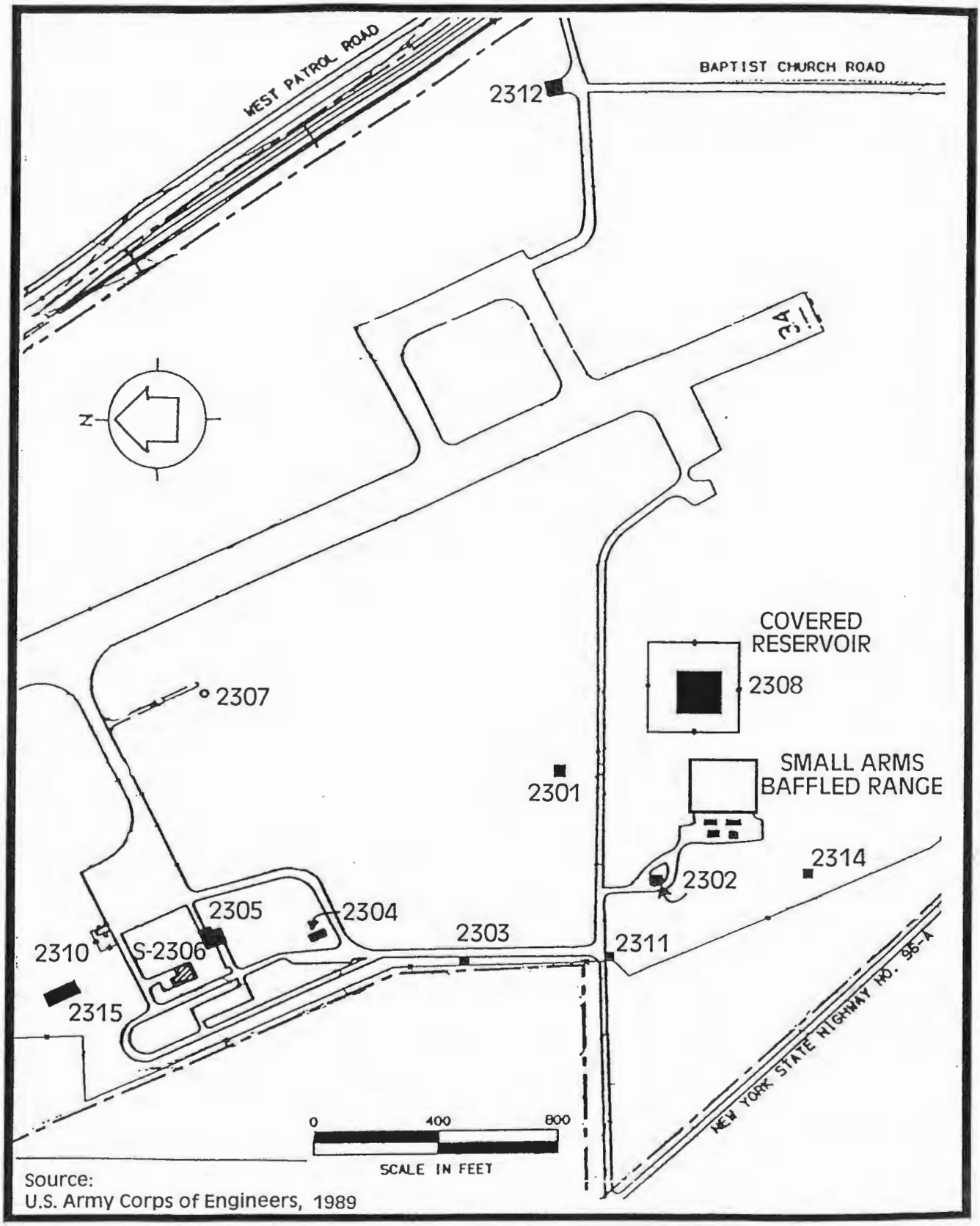

Figure 5-4. Standing structures located within the Airfield. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-5. Ground disturbances and previously stripped areas within Area 1 (the Airfield), note Hazmat monitoring, facing southwest. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-6. Ground disturbance within Area 1 (the Airfield), facing south-southwest toward Air Control Tower. Seneca Army Depot Activities, Seneca County, NY.

The following discussion focuses first on the areas south of the Small Arms Baffled Range Complex (Figure 5-4) and south of the runway, then on the area west of Baptist Church Road and along the eastern side of the runway, and finally, the areas at the northern and western edges of the runway. Structures in the vicinity of the Small Arms Baffled Range Complex are discussed in Section 6.

Transect 1 was located in an open field west of a stand of young trees and several borrow pits east of the Small Arms Baffled Range Complex (Figure 5-1). This transect consisted of 11 shovel test pits, dug at a 10-m (33-ft) interval. Transect 2 was placed 30 m (98 ft) east of Transect 1 near the cut line of the stand of secondary growth trees south of the Small Arms Baffled Range Complex. A total of 13 shovel test pits were placed in this transect.

Shovel test pit profiles revealed a surface layer of approximately 20 cm (8 in) of very dark grayish brown silty clay. This layer was underlain by a mottled brown and yellowish brown silty clay which often contained assorted glacial till and shale. Closing depths of the tests within these transects was generally between 30 and 50 cm (12 to 19-⅔ in) below ground surface.

During the initial walkover, several poorly-drained areas with standing water were identified at the reservation's southern boundary. This portion of the airfield was heavily rutted and much of its ground surface were visibly disturbed. Subsequent analysis of shovel test pit information confirmed this observation and documented that at least 35 percent of the ground surfaces were disturbed.

Transects 3, 4 and 5 were placed parallel in the southern over-run or clear section of the airstrip, running north-northwest to south-southeast, similar to the orientation of the runway (Figure 5-1). Placed in the transitional area between the runway and the limits of the approach-departure zone, Transect 3 included nine shovel tests excavated at a 10-m (33-ft) interval. The transitional surface slope between the runway and the approach-departure zone is relatively gentle. Disturbance was documented in 67 percent of the shovel tests excavated. Shovel test profiles revealed a surface layer which consisted of approximately 20 cm (8 in) of very dark grayish brown silty clay. This layer was underlain by a mottled brown and yellowish brown silty clay which often contained unsorted glacial till and shale. Closing depths of the tests within these transects were generally between 30 and 50 cm (12 and 19-⅔ in) below ground surface.

Transects 4 and 5 were placed south of the runway entirely within the limits of the over-run zone. The shovel tests were placed at 30-m (98-ft) intervals in each transect. While eight shovel tests were placed in Transect 4, fourteen shovel tests were placed in Transect 5, but one shovel test pit (5-13) was not excavated due to standing water. The end of the overrun zone is marked by an abrupt drop to the

adjoining clear zone. The marked slope at the end of the over-run zone was designed to facilitate rapid drainage of water from the runway's impermeable surfaces to the more permeable surfaces skirting it. All eight of the shovel tests placed in Transect 4 showed signs of disturbance. Disturbance was also documented in 11 of the 13 shovel tests excavated in Transect 5.

An examination of shovel test profiles in Transects 4 and 5 revealed a surface layer which consisted of a very dark grayish brown silty clay which ranged, on average, in thickness from between 14 and 20 cm (5-½ and 8 in). Most of the shovel test profiles revealed a disturbed, shallow soil column which appeared to consist entirely of a mixture of A- and B-Horizon soils. Bedrock was encountered at about 30 cm (12 in) along these transects.

Three transects, Transects 6, 7 and 8, were placed in the clear zone east of the runway (Figure 5-1). Transect 6 was placed within the transitional surface closest to the runway. Transects 7 and 8 ran parallel to Transect 6 and all were spaced 30 m (98 ft) apart. Transect 8 was placed just west of the fence at its boundary with the ordnance storage area.

A total of 20 shovel tests were placed at 10-m (33-ft) intervals along Transect 6. Historic period material—a piece of whiteware—was recovered from one shovel test pit (STP 6-7) along Transect 6. No cultural material was recovered from the remaining shovel tests in this transect. Historic period materials were recovered, however, from Transect 7 (STP 7-4). As a result, additional shovel tests were placed at the cardinal points around this positive shovel test. Historic period ceramics and architectural materials were recovered from Shovel Tests 7-4 (10 North), 7-4 (10 East) and 7-4 (10 West). These materials included: blue bottle glass fragments, wire nails, window glass, pearlware and whiteware sherds. This material was found within the upper 10 to 30 cm (4 to 12 in) of the shovel test pit. A total of 18 shovel tests were placed along this transect. This location of historic materials was identified as archaeological site PCI/SADA 2.

Transects 8 and 9 were located south of Building 2312 and southwest of a channelized portion of Indian Creek (Figure 5-1). These transects were spaced 30 m (98 ft) apart, and consisted of individual shovel tests pits excavated at 15-m (49-ft) intervals along each transect. Transect 8 contained 14 shovel tests and 13 shovel tests were excavated along Transect 9. Although these transects were deliberately placed in this area in an attempt to identify portions of prehistoric site NYSM 4824, reported by Parker (1920), no prehistoric materials were recovered from any of the shovel tests. However, three of the 13 shovel tests pits along Transect 9 (STPs 9-1, 9-6, and 9-10) produced a limited amount of historic materials, including wire fragments, barbed wire and a fragment of a modern machine made bottle.

Shovel test pit profiles within Transects 6, 7, 8 and 9 exhibited a remarkable degree of similarity. Most of the shovel tests within these transects contained two soil strata. A limited number of shovel tests, however, contained one deep surface layer, generally 30 cm (12 in) in thickness. These thick surface layers consisted of a very dark grayish brown silty clay with a noticeable amount of unsorted glacial till, shale and cobbles (greater than 10%). This layer was underlain by a layer of heavily mottled silty clay and unsorted glacial till (greater than 30%). The maximum closing depth of tests in these transects was approximately 50 cm (19-⅔ in).

Two lines of shovel test pits were excavated east of the runway along Transects 10 and 11 (Figure 5-1) which were spaced 30 m (98 ft) apart. Shovel tests were excavated at 30-m (98 ft) intervals within each of the transects. Seventy shovel test pits were placed (64 excavated) along Transect 10, and 66 shovel test pits were placed (60 excavated) along Transect 11 (Appendix B, this report). These transects ran in a northwest-southeast direction and traversed a flattened terrain which had been visibly modified by earth moving activities.

Shovel test pit profiles revealed that the surface layer in this area comprised a very dark grayish brown silty clay with a large percentage of unsorted glacial till. This layer was approximately 20 cm (8 in) thick and was underlain by a substratum of unsorted glacial till in a thin matrix of mottled silty clay. Final excavated depths of these shovel test pits were generally shallow, on average 28 cm (11 in). While most of the shovel test pits contained two strata, a significant number of the shovel tests either contained one stratum or had been stripped to bedrock. STP 69 along Transect 10 contained historic ceramics mixed with modern materials. This area was designated archaeological site PCI/SADA 3.

Transects 12, 13, and 14 were placed in the northern over-run zone (Figure 5-1). These transects were spaced 30 m (98 ft) apart, and shovel tests were excavated at 10-m (33 ft) intervals within each transect. Ground disturbance in this area was moderate with only one shovel test reported as disturbed in Transect 12 (n=6) and roughly half of the shovel tests in Transects 13 (n=10) and Transect 14 (n=2) recorded disturbance. No cultural material was recovered from any of the shovel test pits excavated along these transects.

The shovel test profiles for Transects 12, 13, and 14 revealed that the surface layer comprised a very dark grayish brown silty clay with a large percentage of glacial till. This layer ranged in thickness from 10 to 20 cm (4 to 8 in) and was underlain by a thin layer of silty clay or clay. The drainage in this area was very poor and most of the subsoils were saturated. A substratum of decayed bedrock was encountered at about 30 centimeters below the ground surface.

Transects 15 and 16 were located west of the runway and north of the administrative area of the airfield. These transects were spaced 30 m (98 ft) apart. This area was visibly disturbed and was divided by two large drainage ditches which appeared to have been excavated to about 2.5 m (~8 ft) below the historic grade. Because of the areal extent and depth of these disturbances, the shovel test interval was increased to 45 m (147-½ ft). Fourteen shovel test pits were excavated along Transect 15, and 12 shovel test pits were excavated along Transect 16.

Along Transects 15 and 16, shovel test pit profiles revealed a top layer which consisted of approximately 18 cm (7 in) of clayey silt and unsorted glacial till. This layer was underlain by a thin, 8-cm (3 in) band of silty clay mixed with unsorted rock and gravel. The average shovel test pit was excavated to a depth of 36 cm (14 in). No cultural material was recovered from any of the shovel tests pits placed in Transects 15 and 16.

Shovel tests were placed in the yard around Building 2301(Figure 5-7). A two-story brick farmhouse which dates to the middle of the nineteenth century, this structure is a vernacular expression of the Greek Revival period (1820-1860) and comprises a gabled main section and side wing (Figures 5-7 and 5-8). A total of six shovel tests, STP 1, 10 West, 5 West/10 South, STP 2, STP 3, and STP 4 were placed around this farmhouse. Deposits recovered at this location were identified as archaeological site PCI/SADA 1.

The first shovel test (STP 1) located at Building 2301 encountered a feature (Feature 1) and produced numerous historic period materials. This feature was characterized by a dark, compact band of soil which contained wood ash and architectural materials. Materials recovered included fragments of pearlware and other refined earthenware vessels, fragments of an iron pot, wrought and cut nails, and the fragmentary remains of other architectural materials. Figure 5-9 presents the north wall profile of STP 1 near Building 2301.

Additional shovel tests were placed around STP 1. However, only two shovel test pits were excavated near this shovel test pit (STP 10 West and STP 5 West/10 South) because of the placement of the house and yard features (tree, walkway, porch) and subsurface obstacles (large rocks). What appears to be Feature 1 was encountered in both of these subsurface tests at a depth of approximately 20 cm (8 in). Again, Feature 1 comprised a dense layer of soil which contained wood ash and brick fragments. Cultural material was recovered from both of these shovel tests and included: sherds of transfer-printed pearlware, undecorated porcelain, grey salt-glazed stoneware, locally-made red-bodied earthenwares, square nails, the butchered bones of domestic animals (pigs), mortar and brick. STP 2 yielded one brick fragment. No cultural materials were recovered from either STP 3 or 4.

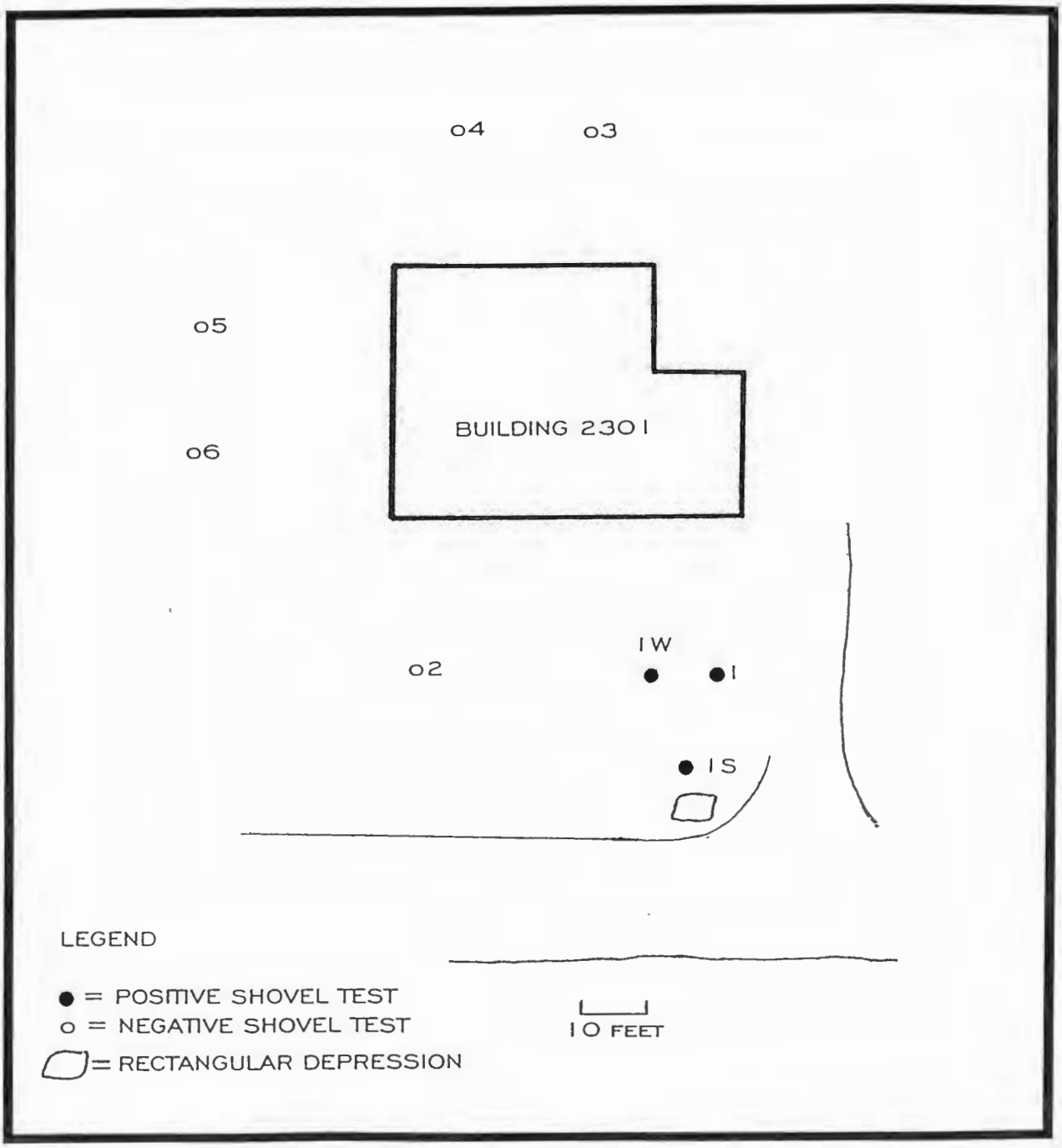

Figure 5-7. Plan of the shovel tests pit locations, Building 2301 (PCI/SADA 1 Site), Area 1. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-8. Building 2301. A Greek Revival Period (1820-1860) farmhouse, Area 1, facing north, near PCI/SADA 1. Seneca Army Depot Activities, Seneca County, NY.

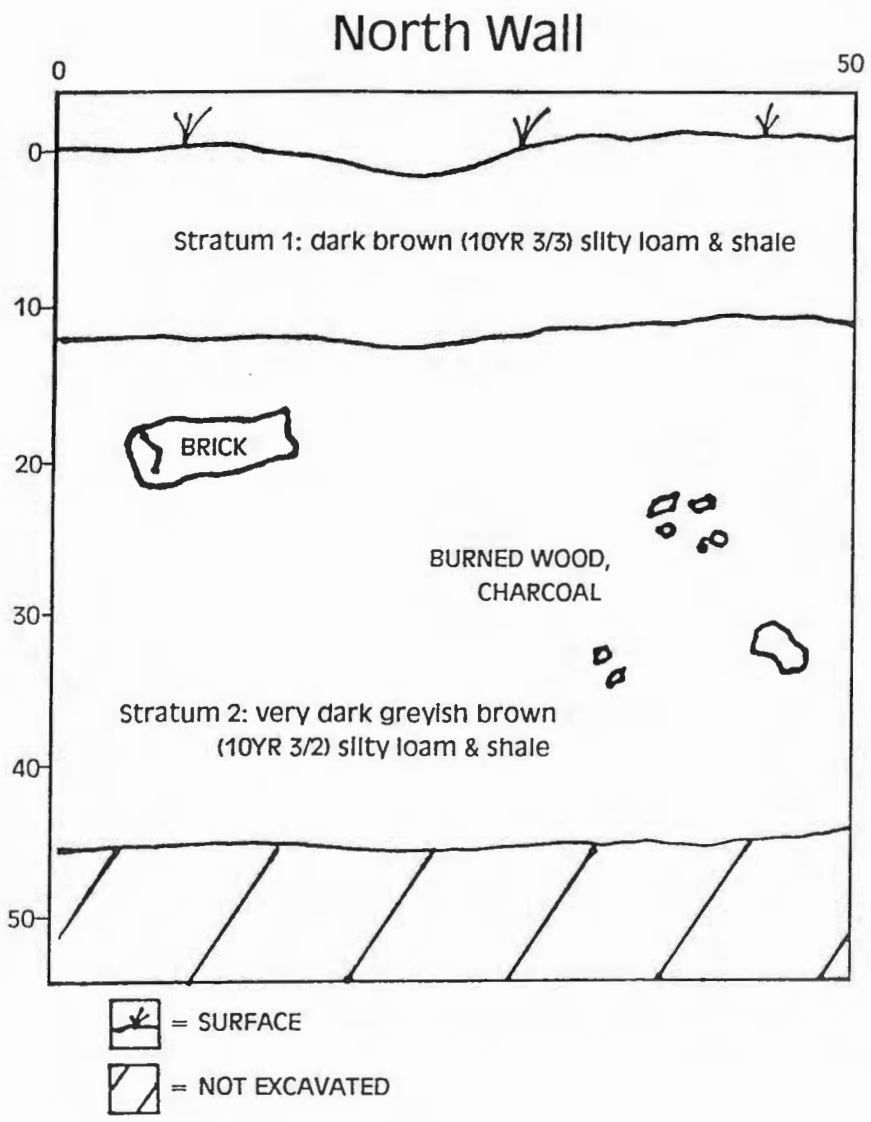

Figure 5-9. PCI/SADA 1: Area 1, STP 1, North Wall Profile, Building 2301. Seneca Army Depot Activities, Seneca County, NY.

In summary, a total of 296 shovel test pits were excavated at the airfield (Figure 5-1). Soil profiles from tests excavated around the landing strip (Transects 1 through 16) generally consisted of two strata: a surface layer of about 15 cm (6 in) of a very dark grayish brown or mottled dark yellow silty loam with gravel, and an underlying layer of approximately 15 to 25 cm (6 to 10 in) of mottled dark yellow, gray and brown silty clay, gravel and unsorted glacial tills. Ground disturbances within the airfield range

from moderate (Transects 1 through 4) to heavily disturbed (Transects 10 and 11). Shovel test pits excavated along the transects closer to the airstrip were often shallow (less than 10 cm [4 in] deep) or were in or near areas of exposed bedrock. These exposures were often as large as 20 m (65-½ ft) in diameter (Transects 10 and 11). Specific shovel test pit results are presented in Appendix B.

Cultural material was recovered from 16 of the 296 shovel tests excavated within the airfield (Appendix A). A small amount of this material was recovered from 12 positive shovel tests placed around the facility. Most of this material was found in two areas: 1) at the southeastern edge of the airfield near Baptist Church Road; and 2) at the northeastern edge of the landing strip near State Route 96A. These locations have been designated PCI/SADA 2 and PCI/SADA 3, respectively. All of the material recovered at these sites appears to derive from disturbed contexts. This disturbance is evidenced by temporal mixing of diagnostic materials within the first 20 cm (8 in). Fragments of pearlware vessels, for example, were observed within the same stratum as modern machine-made bottles. No cultural materials were recovered from the second stratum.

The remaining four positive shovel tests were located within the yard area of Building 2301 and designated site PCI/SADA 1. These shovel tests yielded historic period ceramics which included locally-produced red-bodied earthenwares, pearlwares, refined earthenwares, hand wrought nails, architectural materials, harness fragments, and the butchered bones of domestic animals.

Cultural Resources Identified. Three historic period sites were located during the course of the Phase I archaeological survey. These sites, designated PCI/SADA 1, PCI/SADA 2 and PCI/SADA 3, were identified during the course of shovel testing, and subsequently delineated, primarily, on the basis of positive shovel tests. Correlating these positive shovel tests with the remains of historic properties once located within the bounds of the Depot has, to date, been problematic. The biggest obstacle to establishing the precise location of house sites within the study area has been the extent of earth-moving activities at the Depot. A number of historic maps derived from secondary sources, however, have provided an outline of the general spatial relationships of the houses and larger features, such as streams or roads. The results of this cartographic review have been incorporated in the following discussion.

The first of these sites, PCI/SADA 1, is associated with a Greek Revival period farmhouse located in the southwestern section of the airfield. Cartographic evidence (Burr 1838; Gibson 1850, 1852) indicates that the structure was probably not erected prior to 1850. This house probably dates to the middle of the nineteenth century and appears to have been the residence of a member or members of the Swarthout family with either Coe Swarthout or Colonel G.O. Swarthout as family head.

Preliminary laboratory analysis indicates that the recovered cultural materials appear to be contemporaneous to the structure. Historic period ceramics dating to the middle of the nineteenth century were recovered from Feature 1 in shovel tests (STP 1, STP 10 West, STP 5 West/10 South and STP 2) placed within the door yard of the farmhouse. The majority of the sherds recovered consist of transfer printed refined earthenwares. In addition to pieces associated with domestic use, a number of fragments of hand-forged architectural hardware and ornamental harness leather cut-outs were also present.

The second cluster of positive shovel tests, PCI/SADA 2, is located east of the standing structure near the fence separating the airfield from a group of houses outside the airfield on Baptist Church Road. Historic material was recovered from Transect 7 and three of its radials. This material may be associated with Schoolhouse No. 6 or the holdings of Eliza Scoby, and could date to the middle of the nineteenth century (Gibson 1850, 1852). Structures potentially associated with this property were razed during the construction of the airfield in the late 1940s or early 1950s. However, beyond the configuration of a handful of mature trees and ornamental plantings, little evidence remains to suggest that this location was once the site of a residence or school. No significant amounts of architectural materials or evidence of in-ground features (e.g., foundations, cellar holes) for a house or outbuilding were observed.

The final location, PCI/SADA 3, was defined by a light scatter of historic period trash observed on the surface of Transect 11 between STPs 60 through 65. Located near the northern end of the airstrip, this area falls within the bounds of the airstrip's clear zone. Devoid of trees and shrubs, the property has been extensively graded and contoured to facilitate drainage. Situated in the approximate location of a marshy area southwest of Indian Creek, this scatter consisted of modern bottles and glass fragments from discarded runway lamps. Preliminary laboratory analysis indicates that this material dates to the middle of twentieth century. Although several homesteads appear to have skirted this marsh (Gibson 1850, 1852), parcel ownership and the location of house sites could not be determined for this area with certainty.

PCI/SADA 3, however, is located in an area of soil which has been listed as "Made-land" by the Soil Conservation Service (Hutton 1972). Made-land is soil which has been extensively altered by stripping, filling, or grading, and lacks any of the physical attributes which allow classification. The presence of Made-land is indicative of ground surfaces which are severely disturbed and not natural. Although the nineteenth century homesteads that were once located near PCI/SADA 3 are now gone, a derelict structure was present near the site at the time of the survey. An abandoned batting cage was observed approximately 40 m (131 ft) from the northern boundary of the airfield and appeared to post-date the Korean War.

5.2 AREA 2

Area 2 is bounded on the east by Seneca Road, on the west by West Patrol Road, on the north by Indian Creek Road, and on the south by the area just south of and adjacent to the SEDA railroad track loop (Figure 5-10). The area is divided into two distinct physical sections by the SEDA railroad which bisects Area 2 in an approximately north-south direction from the east end of Indian Creek Road to the southwest end of West Patrol Road.

The southernmost section of Area 2 is a generally open parcel of land with irregular ground surfaces covered by mixed hardwoods and a thick understory of shrubs, sedges, and grasses to the east (Figure 5-11). The northern portion of Area 2 has been stripped to bedrock or glacial till in most places (Figure 5-12). Most of these stripped areas are covered by wild grasses, sedges and stands of old trees previously used as windrows (Figure 5-13). Several poorly drained areas can be found west of Seneca Road near the former Ammo Works Shops (Figure 5-14). This shop area was once quite extensive and included the Munitions Washout Facilities and Leach Field which were located on both sides of Seneca Road just south of its intersection with Indian Creek Road. The site of the Munitions Washout Facilities and the adjoining Leach Field grounds is designated SEAD-4, a solid waste management unit (swmu). Also located within this section of Area 2 is an area of generalized ground disturbance and ground water contamination associated with Building 2079—Boiler Plan Blowdown Leach Pit. Designated SEAD-38, this area of general contamination is another swmu (Corps of Engineers 1995:4). These features are depicted in Figures 1-3 and 5-10. In addition, a possible small unexploded ordnance (UXO) dump site, about the size of a file cabinet, was reputed to be between 90 and 100 ft (27.5 and 30.5 m) northwest of Building S-2084, in the vicinity of SEAD-4 and SEAD-38 (Randall W. Battaglia, personal communication October 1995).

Although some of the soil profiles examined during the course of the survey exhibited some evidence of disturbance (i.e., thin surface layers of glacial till near the surface), most soils still possessed recognizable properties which permitted classification. The following soils could be identified in Area 2: the Angola (AnA), Appleton (ApA) and Darien (DaA) series. Like the Appleton and Darien series discussed above, the Angola series consists of somewhat poorly-drained, moderately deep soils which were formed in glacial till and derived from underlying shale (Hutton 1972:81). All of the Angola soils, however, were found in the northern section of Area 2 in locations known to be sites where potentially hazardous wastes or unexploded ordnance were deposited.

Results of the Field Investigations. Prior to subsurface testing, a visual inspection of Area 2 was conducted by walking pedestrian transects spaced at 30-m (98-ft) intervals (Figure 5-10). During the course of this survey, ground surfaces were

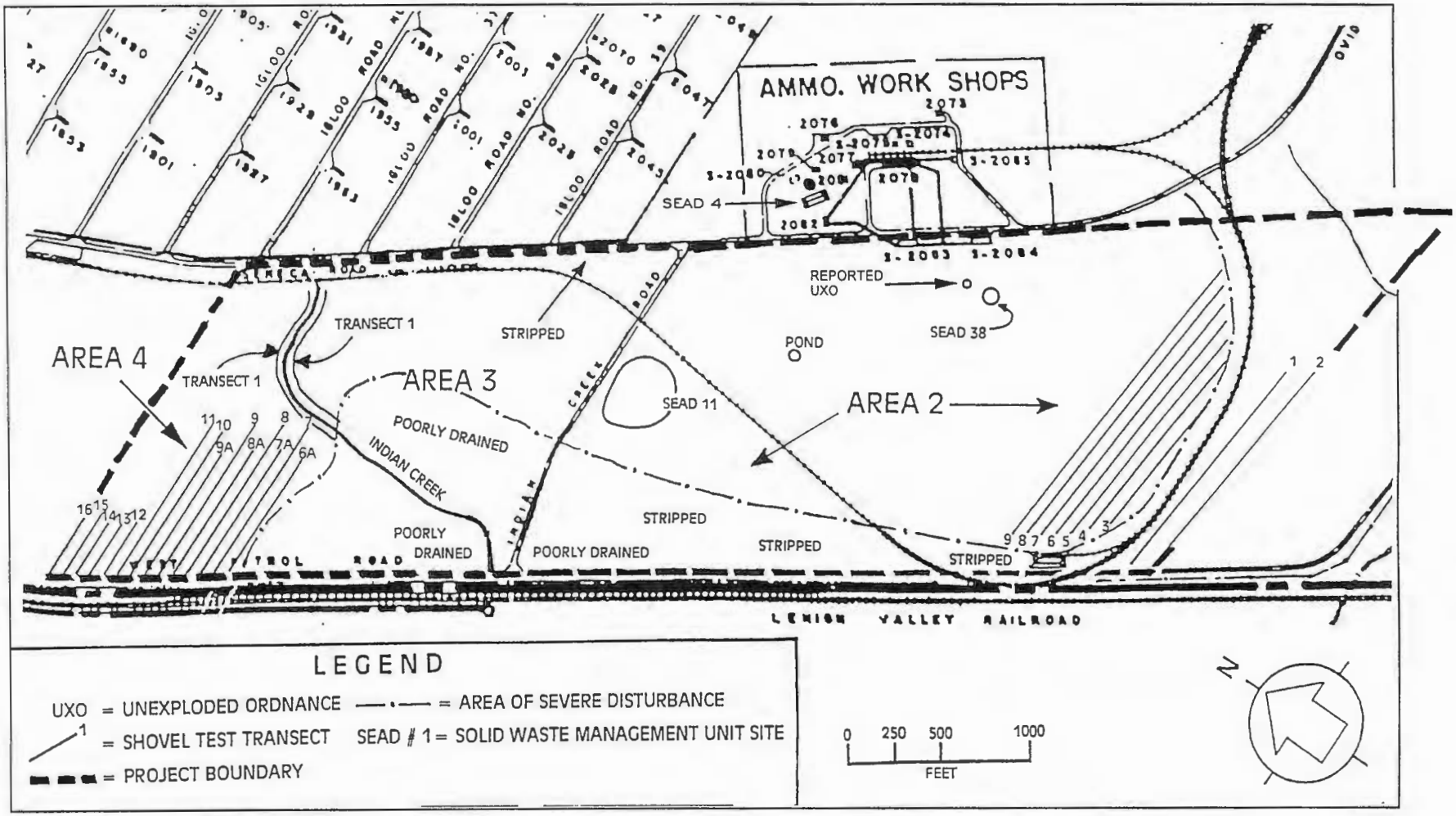

Figure 5-10. Location of shovel test transects in Area 2, 3, and 4. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-11. Area 2 southeast of old railroad gate facing north. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-12. Ground surface of a portion of Area 2 east of West Patrol Road, facing east, with glacial till in foreground. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-13. Ground cover and poorly drained soil in stripped portion of Area 2, south of Indian Creek Road, looking southeast. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-14. Poorly drained area off Seneca Road, west of Washout Facilities in Area 2, drainage ditches in foreground. Seneca Army Depot Activities, Seneca County, NY.

observed to have been heavily disturbed since the construction of the facilities in this section of the Depot during the 1940s. A large open reservoir, several graded road beds and a number of drainage ditches were noted during the pedestrian survey. These features were located east of Seneca Road and extended south to the intersection of the railroad tracks and Seneca Road south of Building S-2084. These features, moreover, may be part of what has been described as a "Leach Field," which was once associated with the old Ammo Shop/Munitions Washout Facility (Corps of Engineers 1995:4).

The most common disturbance in the area was the presence of glacial till and clays at the surface, indicating the removal of the A-horizon soil. Also, the absence and/or truncation of soil surface layers was observed from the cuts in the banks of the large drainage ditches. Based on surface inspection, it was concluded that over 90 percent of this area appears to have been disturbed to a depth of 1 to 2.5 m (3-¼ to 8 ft) below the historic grade. Several areas are known to have been sites of dumping activities for swmus (e.g., SEAD-4, SEAD-11, SEAD-38) and one small area is reputed to be the site of UXO (Randall Battaglia, personal communication 1995) (Figure 5-10). These areas were avoided for health and safety concerns as required in the Scope of Work (Corps of Engineers 1995:4-5).

The apparent cause of ground disturbances along the western frontage of Seneca Road was the razing of a number of pre-World War II farmsteads (Figure 3-1, Nichols 1874 map) for the construction of support facilities for ordnance storage. Construction episodes included: new sections of railroad, a railroad car inspection pit, a Washout Facility, drainage ditches, and a water reservoir. Further, the Soil Conservation Service identified a large stripped area located near the railroad gate off West Patrol Road (Hutton 1972: Map 28). This area is depicted in Figure 2-1. Other specific and well-defined areas of disturbance within the area include: an area of UXO located near Building S-2084, a large stripped area north of the inspection pit, a generalized area of disturbance and ground water contamination (SEAD-38), and the foundation and surrounding parking aprons of a large building located west of the Munitions Washout Facility which was razed after 1970 (Figure 5-3; U.S.G.S., Ovid Quadrangle 1942 and 1970). These features will be discussed in greater detail below.

The northern section of Area 2 comprised stripped lands which were bounded by Indian Creek Road to the north, the SEDA railroad lines to the east and south, and by West Patrol Road to the west. Portions of this section were used as a dump site (SEAD-11) for ash and unburned portions of ordnance material. Moreover, a stripped area extends down both sides of the SEDA railroad line in the southwestern section of Area 2. Both of these ground disturbances are documented by the Soil Conservation Service (Hutton 1972) and are depicted in Figure 2-1. The landfill area (SEAD-11) was not subjected to subsurface testing due to health and safety concerns as indicated in the Scope of Work (Corps of Engineers 1995:4-5). Therefore, due to these overriding

health and safety issues, the only investigations conducted in this low probability section of Area 2 were a systematic visual inspection and photo-documentation.

The visual inspection, which included the walking of pedestrian transects spaced at 30-m (98-ft) intervals, revealed that a significant portion of the land surfaces had been stripped to impermeable bedrock (Figure 5-15). The evidence of this activity was the presence of a large pond which extended from the intersection of Indian Creek Road and West Patrol Road to just west of the intersection of Indian Creek Road and the SEDA railroad lines (Figure 5-16). At the time of survey, water extended eastward to the edge of the landfill (SEAD-11) and into elevated portions of the area near the rail lines. The remaining surfaces east of this impoundment were irregular and had obviously been stripped of both soil and vegetation (Figure 5-17).

During the course of the pedestrian survey, numerous large exposures of glacial tills and gravels were observed. The only observed areas of soil were within the landfill (SEAD-11) or along the shoulders of West Patrol Road. Furthermore, all of the sections of the railroad line and West Patrol Road which border this section of Area 2 were constructed on raised beds of earth or of earth and stone. These observations strongly suggest that this tract was extensively reworked to provide the necessary materials (fill) to cover the landfill, and to level existing grades in the railroad and road corridors. This area is severely disturbed from these past activities.

Within the southern section of Area 2, a wooded lot straddles the SEDA railroad line. This wooded lot is roughly bounded to the west by West Patrol Road, to the south by the great bend of the SEDA railroad line, and to the north by a line from the edge of the old railroad car inspection pit to the southwestern corner of the parcel on which Building S-2084 is located. An intensive surface inspection was conducted in this area. The remains of the railroad car inspection pit, numerous berms and push piles, several fire lanes and old road beds were observed during the visual inspection. During the course of this survey, several bank cuts associated with the construction of the SEDA railroad line were also inspected. This examination revealed that portions of the area's surface layers, although truncated, were fairly well preserved and should be subjected to shovel testing.

During the course of visual inspection, two separate areas of archaeological sensitivity could be identified in Area 2: A low to moderate probability area located in the lands adjoining the Washout Facility (SEAD-4), and a high probability area south of the railroad track loop. The testing interval was adjusted subsequently to reflect these differences in sensitivity. Shovel test transects in high probability areas were spaced at 10-m (33-ft) intervals, while transects in less sensitive areas were spaced at 30-m (98-ft) intervals.

Figure 5-15. Railroad tracks and disturbed area from construction activities, Area 2 located near SEAD-11, facing south-southwest. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-16. Standing water in previously stripped area in Area 2 near intersection of West Patrol Road and Indian Creek Road. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-17. Ground cover in previously stripped area in Area 2 northwest of intersection of Indian Creek Road and rail line, facing northeast. Knoll in background may be the site of J. Sutton homestead. Seneca Army Depot Activities, Seneca County, NY.

Transects 1 and 2 were placed south of the great bend of the SEDA tracks. These transects were located in what had been determined to be an archaeologically sensitive area and were spaced 10 m (33 ft) apart. Individual shovel tests within these transects were also spaced 10 m (33 ft) apart. In general, soil profiles from Transects 1 (n=7) and 2 (n=7) exhibited some signs of disturbance, which was indicated by the presence of unsorted tills higher up in the soil column than would be expected (~20 cm [8 in]). Shovel testing confirmed that surface layers had been truncated by grading in some sections south of the tracks.

Prominent features within Area 2 are the SEDA railroad lines, which include the railroad gate, freight inspection facility, and a railroad car inspection pit. These facilities were located southwest of the Munitions Washout Facilities (SEAD-4). The railroad gate was located at the point where the SEDA lines entered the inspection facility which was once located east of West Patrol Road. The railroad gate marked the facility's first security perimeter. Invoices and papers were checked and cars received a cursory inspection from security personnel. From this point trains proceeded to the railroad car inspection pit, which consisted of a raised spur line that facilitated a more detailed examination of the undercarriage of the freight cars entering the Washout Facility. An inspection of the Depot's maps indicated that a large structure once stood immediately west of the railroad car inspection pit. Construction of this work area resulted in a substantial amount of ground disturbance (Figure 5-18) and a preliminary visual assessment of the area indicated that this area had a low to moderate degree of archaeological sensitivity.

Subsurface testing of this section of Area 2 was initiated just north of the railroad tracks near the freight inspection facility. Seven transects (Transects 3 through 9) were placed in a low to moderate probability area north of the railroad tracks, accordingly at 30-m (98-ft) intervals. Individual shovel test pits were also excavated at 30-m (98-ft) intervals within these transects. Transects 3 through 9 exhibited signs of disturbance. Similar to the results of shovel test pits along Transects 1 and 2, unsorted glacial tills were observed higher up in the soil column than expected (i.e., at ~20 cm [8 in]). No remains associated with the structure once located near the inspection pit were recovered. The remains of the railroad car inspection pit, however, were located and documented. These remains consisted of a large concrete trench excavated below a section of track on a siding. Portions of this feature were located at the western end of both shovel test Transects 3 and 4. Above ground indicators of the inspection pit included a large earthen berm at the end of the railroad siding and a trench about 2.5 m (8 ft) deep running parallel to the siding. Ground disturbance in the vicinity of these features was extensive, and included several large mounds of earth approximately 5 m (16-⅓ ft) in height.

Transects 3 and 4 were laid out perpendicular to the remains of the old freight inspection facility, which was razed following its demobilization. The western end of

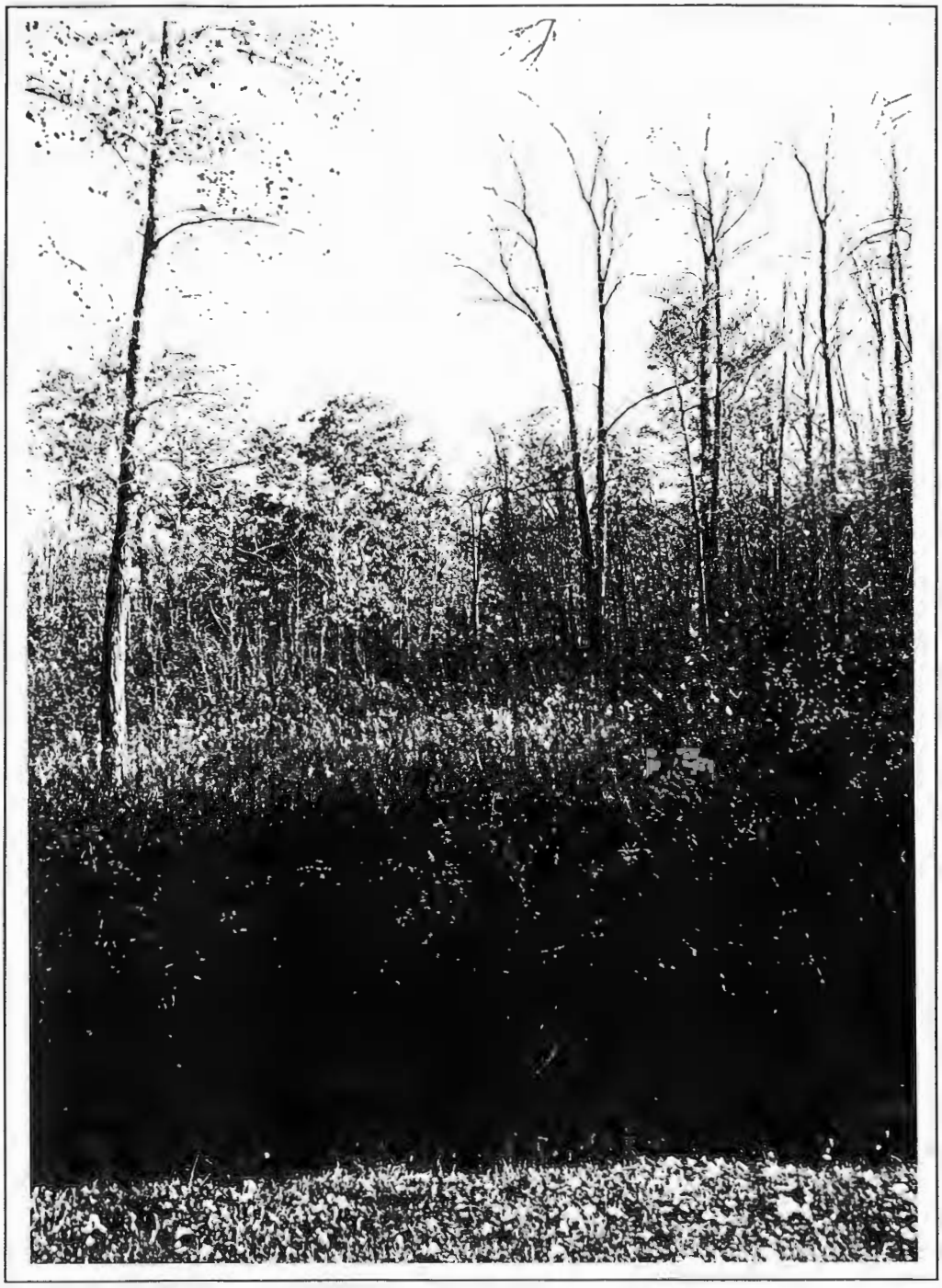

Figure 5-18. Ground disturbance in Area 2 near old inspection pit (in background), facing southwest. Seneca Army Depot Activities, Seneca County, NY

these transects lie within a zone of disturbance associated with the construction and demolition of the railroad inspection facility. One-third of the western portion of Transects 3 and 4, moreover, were in slopes with gradients ranging from 3 to 5 percent. Although the gradients were not particularly severe in sections of these transects, some eroded surfaces were observed.

A total of 21 shovel test pits were excavated in Transects 3 and 4 (Figure 5-10). Transect 3 (n=9) ran roughly parallel to the spur line and terminated at the edge of the ground disturbance associated with the railroad car inspection pit. Ground disturbance in this area was much more extensive than observed at the end of Transect 4 (n=12). An examination of the shovel test pit profiles indicated that while the surface layer was thin in some places (~15 cm [6 in]), it generally averaged 24 cm (9-½ in) of silty loam. With a substratum of silty clay or clay, the average depth of the excavations was somewhat more shallow (37 cm [14-½ in]) than those excavations along Transects 1 and 2 discussed above. Shale and gravel were noted throughout the soil column. Approximately 20 percent of the shovel tests exhibited signs of disturbance. These disturbed tests, however, were located at the eastern end of the transects and are believed to represent disturbance associated with an earlier road. No cultural material was recovered from any of the shovel test pits along either Transects 3 or 4. However, a scatter of large mammal bones (post-cranial elements from at least two cows) was observed, but not collected, near the inspection pit between Transects 3 and 4.

Transects 5 (n=12), 6 (n=13) and 7 (n=14) ran parallel to both Transects 3 and 4. Transects 5, 6 and 7 traversed irregular ground surfaces and crossed both push-piles or bermed areas at their eastern edge and sloped areas in their western portion. The survey started roughly 15 m (49 ft) in from an old road or fire break and proceeded westward. Transects were spaced 30 m (98 ft) apart, and shovel test pits were excavated at 30-m (98-ft) intervals.

A total of 39 shovel test pits were excavated over the course of these three transects. An examination of shovel test pit profiles revealed that the surface layer of silty loam (~23 cm [9 in]) continued to thin as testing proceeded northward. Total excavated depth for shovel tests dug along Transect 7 averaged 32 cm (12-½ in) with a substratum of silty clay. The ground surfaces appeared to be more disturbed moving northward and at the western ends of the transects.

Three shovel test pits in this area produced cultural materials. Each of these positive shovel tests, however, were located in disturbed contexts. One fragment of a pig rib was recovered from STP 13 at the eastern edge of Transect 6. The second positive test, STP 7-8, was located at the edge of the woods along a fire break. This shovel test produced a fragment of what appeared to be fire-cracked rock, recovered from the first 10 cm (4 in) of the surface soil layer. Radials were excavated at cardinal points 10 m (33 ft) from this shovel test. One of the four radials (7-8 10 West) was

positive for cultural material at about the same depth as the possible fire-cracked rock: A blank shell casing was also recovered from the first 10 cm (4 in) of the surface layer.

The final two shovel test transects north of the railroad were placed near a large stripped area that had been recorded by the Soil Conservation Service in the early 1970s (Hutton 1972). These shovel test transects were spaced at 30-m (98-ft) intervals north of the previous lines of shovel tests. These transects traversed an area that had a mosaic of ground cover including dense stands of young mixed hardwoods, cleared grassy areas, and areas with thin vegetation along its stripped western edges near the railroad tracks (Figure 5-15).

A total of 28 shovel tests were placed along Transects 8 (n=13) and 9 (n=15). The surface layer exhibited in these shovel tests was also relatively thin (~23 cm [9 in]). Soils in the western portion of these transects, moreover, were inclined to be poorly-drained or had large areas of standing water. Total depth of the tests excavated in this area was about 38 cm (15 in) because of what appeared to be poorly-drained soils.

Cultural material consisting of a brass rifle shell casing was recovered from the surface layer of STP 9-13 at ~10 cm (4 in). This shell casing was recovered from a disturbed context, which was previously documented within a broader area of ground disturbance (Figures 5-12 and 5-14; Klein et al. 1986:3-5).

In summary, a total of 106 shovel test pits were placed between the great bend of the SEDA railroad line and the least disturbed area southeast of Building S-2084 (Figure 5-10). As mentioned previously, this area has been subjected to extensive earth-moving activities since the initial construction period at the Depot in the early 1940s. This section of Area 2 was believed to have a low archaeological sensitivity or a limited potential to contain any *in situ* cultural deposits. Nine transects spaced between 10 and 30-m (33 and 98-ft) intervals were placed in the southwestern portion of Area 2, including the least disturbed area southeast of Building S-2084.

Based on an examination of soil profiles from this area, the southern portion of Area 2 has been stripped and extensively regraded. The first level of soil comprises a mixture of topsoil and B-horizon soils. This level ranges in color from a very dark grayish brown to a dark yellowish brown, while the texture of the topsoil ranges from a silty loam, in relatively undisturbed contexts, to a silty clay mixed with unsorted glacial till in more disturbed areas. The second level, or B-horizon, also exhibited some mixing with underlying C-horizon soils.

Cultural Resources Identified. With the exception of a large mound of earth located near the site of the old railroad gates and the inspection pit, no evidence of military structures or pre-SEDA farmsteads were located in this area. The remains of wire fences were observed at several locations between the site of the old railroad

gates and the great bend of the SEDA railroad line. Ground disturbance maps, shovel testing and an intensive visual survey of this area confirmed that most of Area 2 had been severely disturbed by extensive earth-moving activities during the past 50 years. A limited amount of modern material was found throughout the area. In addition, an isolated occurrence of probable fire-cracked rock (STP 7-8) was found in a disturbed context. No significant cultural materials were discovered in Area 2.

5.3 AREA 3

Located in an upland section of SEDA, Area 3 is bounded on its northern edge by Indian Creek, the southern end by Indian Creek Road, the west end by Seneca Road, and the east end by a small portion of West Patrol Road. This area consists of cleared areas along its southern edge and poorly-drained, wooded areas which lie along Indian Creek (Figure 5-10). Drained by a seasonal stream which generally flows in an east-west direction, this area experiences periods of prolonged flooding (Hutton 1972:126). While the terrain is gently rolling or undulating (Figures 5-19), the southern sections of Area 3 have been stripped of most of its topsoil (Figure 5-20). This depleted soil supports only wild grasses, sedges and shrubs. Wooded areas support a variety of water-loving trees and shrubs. Most of southwestern corner of Area 3 was underwater at the time of survey and provided a refuge for beavers and ducks (Figure 5-21).

Very few natural soils were observed during the course of the survey. The Soil Conservation Service (Hutton 1972) lists two soil series for this area, Darien (DdB) and Sloan (Sl). The Darien soils were discussed above (see Section 5.1). The Sloan series soils consist of deep, poorly drained and very poorly drained soils that were formed in recent alluvium (Hutton 1972:126). Typical Sloan soils exhibit a very dark gray silty clay loam surface layer which is about 50 cm (19-¾ in) thick and has a high organic content. The subsurface layer consists of a very dark gray mucky silt loam that contains a few wood fragments. These layers are underlain by a substratum of silty clay loam at about 66 cm (26 in). Sloan soils are prone to flooding and endure prolonged periods of water retention (Hutton 1972:126).

Results of the Field Investigations. The upland section of Area 3, lying closest to the SEDA railroad tracks, has been adversely affected by earth-moving activities associated with the initial construction period at the Depot. No intact ground surfaces were found between the rail lines. Further, ground surfaces were severely disturbed to about 60 m (197 ft) from the edge of the railroad right-of-way (Figures 5-22 and 5-2). An intensive surface inspection of this parcel also revealed that the remaining dry portions of the area was moderately disturbed. Portions of Indian Creek, moreover, have been diverted through a large box culvert and ground surfaces near this feature were also found to be severely disturbed.

Figure 5-19. General overview of the terrain in Areas 2 and 3, Indian Creek Road, facing west. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-20. Culvert at West Patrol Road north of Indian Creek Road, facing north. Seneca Army Depot Activities, Seneca County, NY.

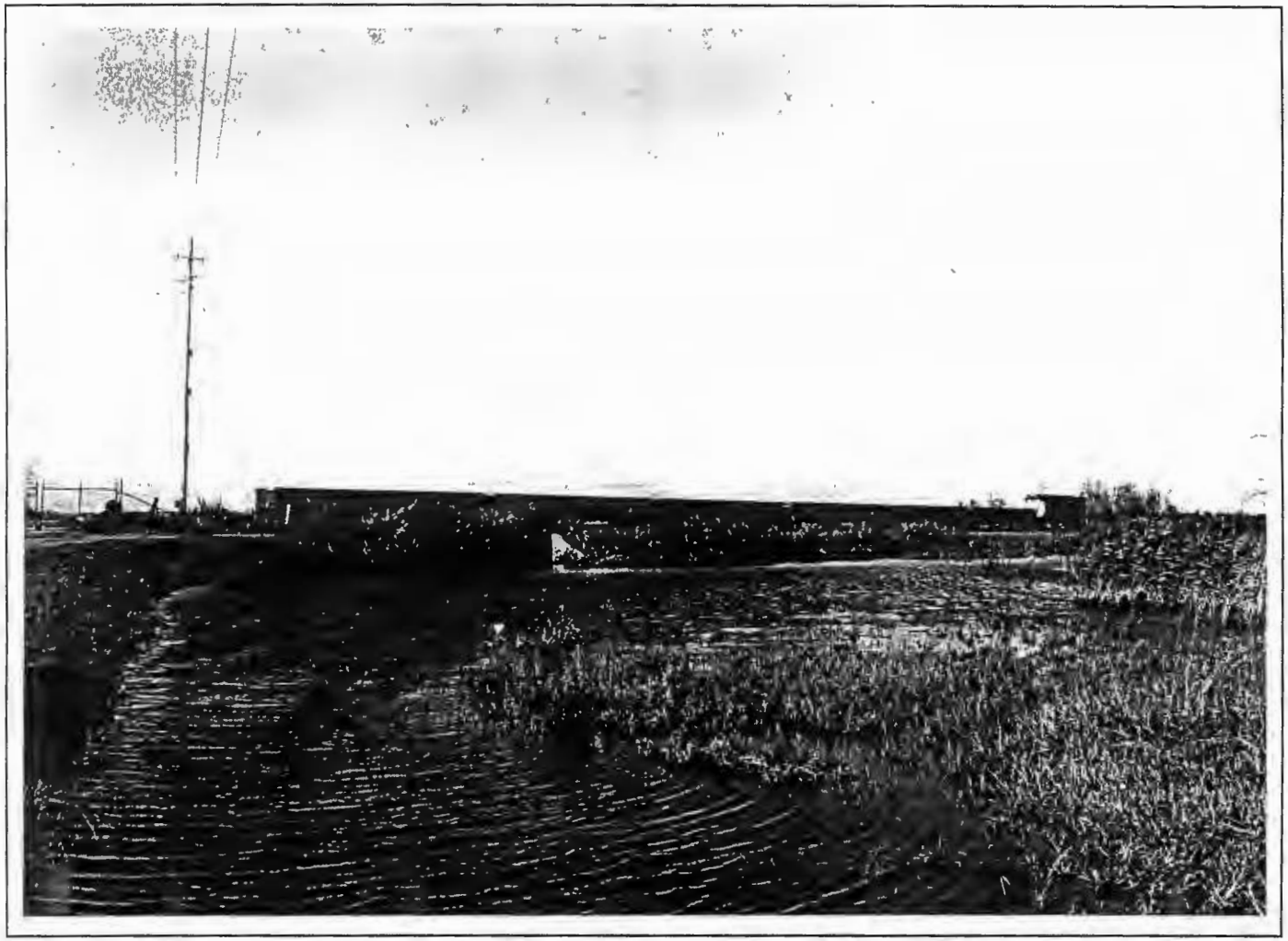

Figure 5-21. Southwestern corner of Area 3, note poor drainage near intersection of West Patrol Road and Indian Creek Road, facing west. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-22. Railroad siding and loading ramp in Area 3 west of Seneca Road, facing south-southwest. Seneca Army Depot Activities, Seneca County, NY.

Several farms dating from the mid-nineteenth century had been located on historic maps along two north-south running roads between Romulus and Ovid in this area (Gibson 1850; Nichols 1874). Beginning in the early 1940s, all of the structures associated with these farms and one of the two roads have been razed, moved or abandoned. Located east of the SEDA railroad tracks and fronting Seneca Road, a low, bulldozed earthen mound surrounded by a few derelict ornamental plants is only evidence of any of these homesteads. Based on archival evidence (Nichols 1874, Anonymous 1876, Klein et al. 1986), this mound appears to be the remains of the J. Sutton homestead. The back portion of this lot appears to have been disturbed to a depth of 2 m (6-½ ft) (Figure 5-23).

Area 3 is drained by Indian Creek and lies east of what is reported to have been the site of a large Iroquois village (Parker 1920). Because of its proximity to water, portions of this area presented a high probability for archaeological resources. This favorable environmental factor was off-set by the area's poorly drained soils which suggest that this well-watered area is prone to seasonal and prolonged periods of flooding or water retention (Figure 5-21). The area near the creek, moreover, was adversely affected by the construction of ammunition bunkers on the upland area to the north and by the construction of the railroad and its sidings in the 1940s. Water run-off in this area appears to have increased since the grading associated with these facilities. Furthermore, land modification activities have apparently altered the flow and channel patterns of the creek.

Attempts to enhance the drainage in this area are suggested by a channel and culvert, which were constructed to direct the flow of Indian Creek between the igloos. This channelization passes under the railroad tracks. While Indian Creek returns to its natural channel southeast of the tracks, the land near the creek remains low-lying and poorly drained (Figure 5-24). Furthermore, a significant portion of the wooded section of Area 3 appears to be disturbed. This ground disturbance was especially pronounced in a band of ruts and berms which extended from the creek's bank 30 m (98 ft) into the woods.

Within 150 m (500 ft) of Seneca Road, the stream bed became braided and shallow. Intermittently poorly drained areas gave way to wetlands with hydric soils and hydrophilic species of trees and shrubs. Standing water and hydric and disturbed soils constitute approximately 20 to 30 percent of the total ground surfaces within Area 3. The southwestern portion had been flooded through beaver-related activities (Figure 5-25) and was totally inaccessible to pedestrian traffic. Reaching a depth of nearly 2 m (6-½ ft), the water surrounding the beaver lodges extended more than 500 m (1,640 ft) along West Patrol Road and included areas on the south side of Indian Creek Road.

Placed along the southern bank of Indian Creek, Transect 1 was the only transect excavated in Area 3. A total of 12 shovel test pits were excavated along this

Figure 5-23. Former site of the J. Sutton homestead at intersection of railroad line and Indian Creek Road, facing north-northeast. Seneca Army Depot Activities, Seneca County, NY.

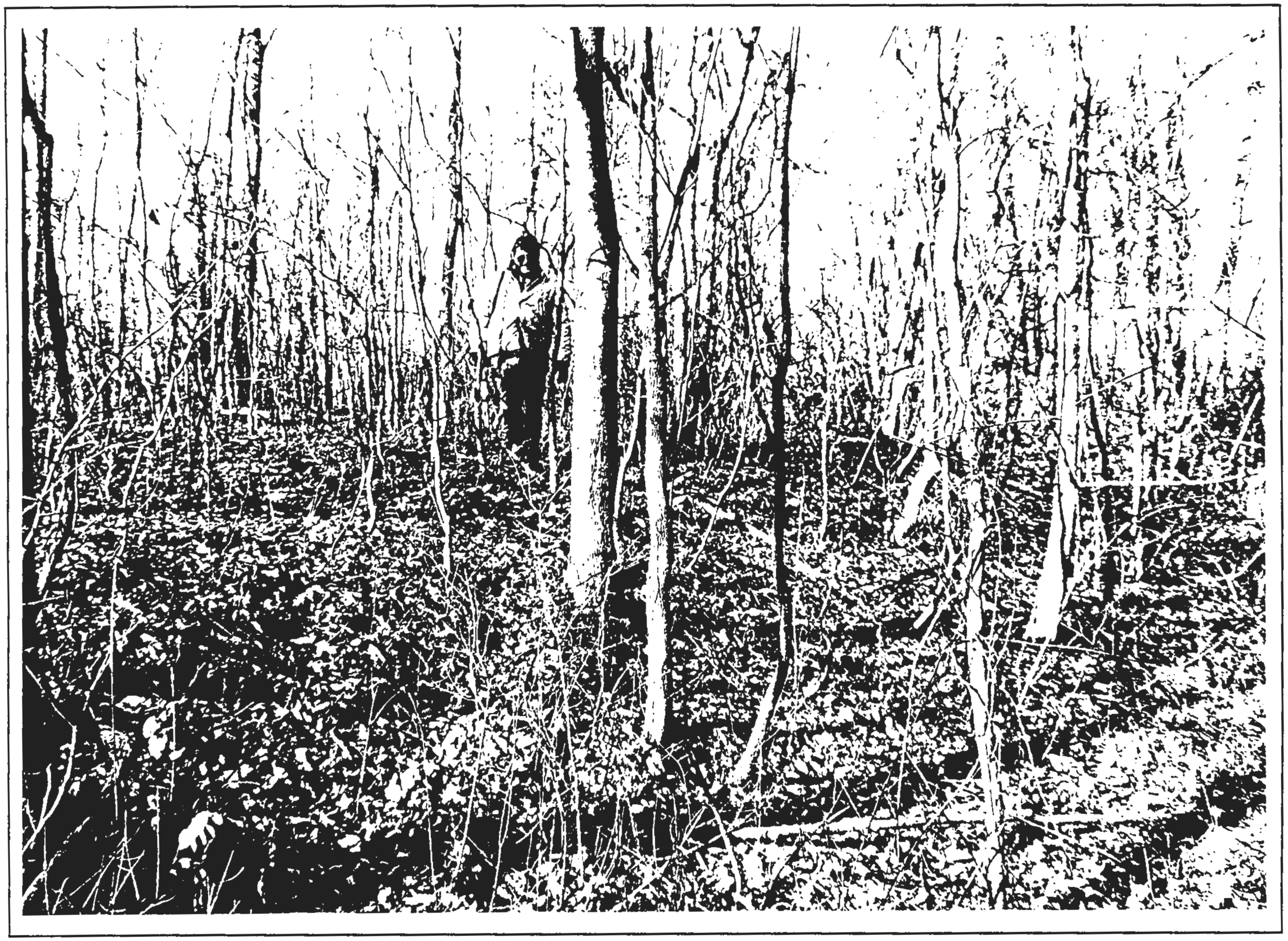

Figure 5-24. Safety Officer Martin Reagan on disturbed berm north of Indian Creek in Area 4, facing east-northeast. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-25. Beaver Habitat, Area 3, northeast of West Patrol Road, Seneca Army Depot Activities, Seneca County, NY.

transect at a 15-m (49-ft) (Appendix B). Initiated about 30 m (98 ft) away from the zone of disturbance associated with the railroad, the transect continued along the creek through increasingly saturated areas, extending well into the wetlands. Transect 1 terminated at the edge of the beaver habitat (Figure 5-25).

Cultural Resources Identified. No archaeological sites were identified in Area 3. No cultural material was recovered from any of the subsurface tests. A handful of modern cans were found scattered throughout the area. No significant cultural resources were identified for Area 3.

5.4 AREA 4

This area is located north of Indian Creek, east of West Patrol Road, and west of Seneca Road with the northern boundary an east-west line from Igloo Road No. 36 between these roads (Figure 5-10). With the exception of slightly elevated, moderately well-drained stand of mixed hardwoods, most of this area consists of low-lying, poorly drained, and hydric soils. The ground cover comprised young, mixed hardwoods.

Soils in Area 4 included the Angola (AnA), Darien (DdB), Ilion (Is), and Romulus (Ro) series. Deep and poorly drained, Romulus soils were formed in glacial tills comprising worked, reddish, lacustrine clays (Hutton 1972:123). These soils were nearly level or depressed in this area. A typical profile for this soil has a very dark gray silty clay loam surface layer which is about 24 cm (9-½ in) thick. The subsoil is gray in the uppermost portions grading to reddish gray at about 45 cm (17-¾ in). The substratum is mottled, reddish gray to dark reddish gray silty clay loam till (Hutton 1972:123).

Results of the Field Investigations. The majority of the ground surfaces within Area 4 were under water at the time of the survey. These ground surfaces had been flooded by a beaver pond northeast of the intersection of Indian Creek and West Patrol Roads (discussed above, Section 5.3). On land not under water, large stripped or disturbed areas were observed within 60 m (197 ft) of the railroad tracks and throughout parcels immediately east of the beaver habitat. These saturated and severely disturbed areas were located along the northern bank of Indian Creek.

Sixteen transects were placed within the bounds of a slight knoll (Figure 5-10). This knoll was treated as an area of high archaeological sensitivity because it was located within 500 ft (152.5 m) of a permanent water source and the area around it was relatively well-drained. With the exception of the 15 shovel test pits excavated at a 15-m (19-ft) interval along Transect 1, the low lying portions of this area were only surface inspected due to ground surface disturbance. This visual inspection was conducted by walking four transects (Transects 2 through 6) spaced 15 to 20 m (49 to 65-½ ft) apart.

The area inspected during the pedestrian survey was south of the small knoll area and adjacent to land covered by a stand of mature mixed hardwoods (Figures 5-26 and 5-27). Fifteen shovel test pits were excavated along Transect 1 and revealed disturbance within the first soil layer, which averaged 28 cm (11 in). No cultural material was recovered from any shovel test in Transect 1 or from the pedestrian survey along Transects 2 through 6.

North of the pedestrian survey, shovel test pits were excavated along 15 transects. These transects were numbered sequentially following the visual transects (Transects 2 through 6) and were designated Transects 6A through 16 (Appendix B). Transects 6A and 7 were placed approximately 5 m (16 ft) from the southern edge of the slight knoll east of West Patrol Road and ran roughly perpendicular to the road. These tests traversed a woodlot of mixed hardwoods that had very little understory or ground cover. Four shovel tests were excavated along Transect 6A and six shovel tests were excavated along Transect 7.

An examination of soil profiles for these test pits revealed that the surface layer of soil in this area was especially thin (16 cm [6-¼ in]), and comprised a silty loam with some glacial tills and gravels which overlaid a thin layer of clayey silt or clay. On average, depth to decayed bedrock was 28 cm (11 in). No cultural material was recovered from shovel test pits placed along Transects 6A and 7.

A total of nine shovel test pits was excavated in Transects 7A (n=3) and 8 (n= 6). These transects also traversed the moderately well-drained woodlot east of West Patrol Road (Figure 5-10). An examination of soil profiles for these tests revealed that the first layer of silty loam was only slightly thinner (15 cm [6 in]) than in the first two transects. Decayed bedrock was encountered at about 30 cm (11-¾ in). Excavation was terminated along Transect 7A because of ground disturbance.

A total of 11 shovel tests were excavated along Transects 8A (n=4) and 9 (n=7). An examination of the soil profiles revealed that the first layer of soil in tests along Transect 8A was a relatively thin (14 cm [5-½ in]) silty loam. This layer was slightly thicker throughout test pits along Transect 9 (17 cm [6-½ in]). Decayed bedrock was encountered between 22 cm (8-¾ in) (along Transect 8A) and 29 cm (11-½ in) (along Transect 9). No cultural material was recovered from shovel test pits along either of these transects.

A total of 14 shovel tests was excavated along Transects 9A (n=7) and 10 (n=7). An examination of the soil profiles revealed that the first layer of soil from tests along both transect was a silty loam approximately 13 cm (5-¼ in) thick. This soil layer was underlain by a dark yellow silty clay. A dense layer of unsorted glacial till and decayed bedrock was encountered at approximately 22 cm (8-¾ in). No cultural material was recovered from shovel test pits along either of these transects.

Figure 5-26. Vegetation north of Indian Creek, Area 4, facing east-southeast. Seneca Army Depot Activities, Seneca County, NY.

Figure 5-27. Shovel testing in Area 4. Safety Officer Martin Reagan inspecting soil for hydrocarbon emissions. Seneca Army Depot Activities, Seneca County, NY

A total of 12 shovel tests was excavated along Transects 10A (n=5) and 11 (n=7). An examination of the soil profiles indicated that the top layer of soil in tests along both transects comprised a silty loam which averaged 14 cm (5-½ in) in thickness. Under this surface stratum lay a dark yellowish brown silty clay loam with a large percentage of unsorted glacial till. Bedrock was encountered at 30 cm (12 in). No cultural material was recovered from shovel test pits along either of these transects.

A total of 19 shovel tests was excavated along Transects 12 (n=9) and 13 (n=10). The top soil layer from tests along both transects comprised a very dark grayish brown silty loam which measured approximately 19 cm (7-½ in) thick. Bedrock was encountered at approximately 30 cm (12 in). No cultural material was recovered from shovel test pits along either of these transects.

Eight shovel test pits were excavated in the most northern section of Area 4 along Transects 14 (n=5), 15 (n=2), and 16 (n=1). The ground surface in the vicinity of these tests was extremely irregular, which was reflected in the shovel test profiles. The surface layer of silty loam in Transects 14 and 15 was approximately 22 cm (8-¾ in) thick. One brick fragment and a small fragment of a wire nail were recovered from the two shovel test pits excavated in Transect 15.

In Transect 16, the top layer of soil comprised a thick layer (38 cm [15 in]) of very dark grayish brown silty loam which overlaid a dark yellowish brown layer of silty clay with some shale and unsorted glacial till. Excavations were terminated at 50 cm (19-¾ in). The deepest layer of soil encountered was within the one shovel test pit excavated in Transect 16, although decayed bedrock was located at an average 37 cm (14-½ in) beneath the ground surface for tests along the three transects). No cultural material was recovered from shovel test pits excavated in either Transect 14 or 16.

In summary, with the exception of a number of deeper shovel tests, the 98 shovel test pits dug in this area revealed an A-horizon which ranged in thickness from 6 to 38 cm (2-½ to 15 in). This topsoil layer may have been intermixed over the years with the underlying strata. In areas, this mixing is very visible and is evidenced by large exposures of bedrock or unsorted glacial tills. This layer of soil, in general, has a silty loam texture and ranges in color from a very dark grayish brown to a dark yellowish brown. It is underlain by a B-horizon which ranges from 8 to 10 cm (3-¼ to 4 in) in thickness. Most of these soils have a silty clay or clayey silt texture and include a higher portion of unsorted glacial till.

Cultural Resource Identified. No archaeological sites were discovered in Area 4 during the course of the Phase I subsurface testing. A scatter of ornamental shrubs which may have been associated with a nearby house site were located east of West Patrol Road near the only shovel test pit along Transect 16. Two fragments of architectural materials were also recovered from the two shovel test pits excavated in

Transect 15. Only a limited amount of modern cultural material was observed in this area. These few artifacts were surface finds and included cans and fragments of modern broad point arrows, probably discarded by recent bow hunters. No significant cultural resources were identified in Area 4.

5.5 Expected Historic Sites in Areas 1 through 4

Table 3.1 (Section 3, above) enumerates the historic sites potentially located within the current project area at the SEDA Airfield area. The locations of these potential sites were determined through cartographic research conducted for and presented in the SEDA cultural resources management plan (Klein et al. 1986:4/6-22). An intensive inspection to locate the remains of these potential sites was undertaken during the field investigation portion of the Phase I survey. Table 5.2 summarizes the current investigation's assessment of the presence of these potential sites within the current project area.

In sum, the management plan (Klein et al. 1986) placed 11 potential historic sites and one potential prehistoric site in the vicinity of the SEDA airfield. Based on the current field investigation, the potential prehistoric site (NYSM 4824) and two of the potential historic sites (SAD 176 and 189) were outside of the project area. Three potential historic sites (SAD 142 [PCI/SADA 1], SAD 141 [PCI/SADA 2], and SAD 107 [PCI/SADA 3]) were tentatively located, although the latter two sites were located in very disturbed contexts. The remaining six potential historic sites (SAD 143, 144, 146, 152, 154, and 228) either were destroyed by construction activities associated with the Depot Airfield and the railroad tracks and inspection facility or were located in areas which were untestable due to severe disturbance or very poor drainage (i.e., standing water).

Table 5.2 Assessment of Potential Historic Archaeological Sites in Project Area, SEDA Airfield

SAD #	Historic Map Designation	Result
107	J[ared] Van Fleet Farmstead	Site abandoned after 1852 (no record of structure in Gray 1859). Site destroyed by runway, artifacts in disturbed context. PCI/SADA 3
141	Schoolhouse No. 6	Site destroyed by runway, artifacts in disturbed context. PCI/SADA 2
142	Col. G.O. Swarthout Farmstead	PCI/ SADA 1
143	Eliza Scoby/P. Murnogan Farmstead	Potential residence with ancillary buildings Site destroyed by runway.
144	Ed Seel[e]y Farmstead	Potential residence with ancillary buildings. Site destroyed by construction of covered reservoir, small arms baffled ranged, post-1941.
146	J. Sutton Farmstead	Potential residence. Site destroyed by soil-stripping for railroad tracks in Area 3.
152	B.B. Sutton Farmstead	Potential residence with ancillary buildings. Site probably destroyed by soil-stripping for railroad tracks, underwater near boundary between Areas 3 and 4.
154	H. Sutton Blacksmith Shop	Potential residence with shop. Site probably destroyed by soil-stripping for railroad tracks, underwater near western boundary of Area 2.
176	James Carroll Farmstead	Outside Project Area
189	J. Gleason Farmstead	Outside Project Area
228	Timothy Jaynes Blacksmith Shop	Potential residence with shop. Site probably destroyed by soil-stripping for railroad tracks, along eastern boundary of Area 3 near Igloo Section E.

6.0 ARCHITECTURAL SURVEY AND EVALUATION

The following presents a discussion of the architectural structures within the Airfield (Area 1) of the study area at Seneca Army Depot Activities. All of the structures associated with the SEDA Airfield have been evaluated by historical architect Marilyn E. Kaplan of Preservation Architecture. With the exception of the Greek Revival period farmhouse, all of the properties within the airfield are in some way related to aerial training exercises, including: air control tower, fire station, navigational structures, and service and administration buildings. Although the lands now within the boundaries of the airfield have been continuously occupied by European-Americans since the end of the eighteenth century, no above ground features from that period remain in the study area. In the nineteenth century, agricultural enterprises and light industry dominated the local economy. During the 1940s these rural activities were replaced by SEDA.

6.1 ARCHITECTURAL SURVEY

The goal of the architectural survey was to evaluate all of the structures associated with the airfield to determine if they are significant either as an historic district or as individual structures and eligible for inclusion in the National Register of Historic Places (NRHP) (Corps of Engineers 1995:6-7). The historic architectural significance of SEDA lies primarily with its association with the World War II mobilization and supply efforts and the Cold War period. This facility has recently become 50 years old and, therefore, meets the age guidelines for listing in the NRHP.

A baseline inventory was conducted on those buildings contained within the Seneca Army Airfield. Preliminary research was undertaken in the Map Room at the Environmental Offices at SEDA. While 17 extant structures were recorded during the review of the study area, this survey established that currently only one pre-World War II structure is standing within the airfield grounds. Every building and structure located within the airfield was inspected in the field. The collection of field data entailed photographing exteriors and compilation of a narrative text describing each structure. Interior access was limited to three buildings: 2301, 2305, and 2306.

6.2 INVENTORY OF THE STANDING STRUCTURES AT THE AIRFIELD

by Marilyn E. Kaplan

A total of seventeen structures were located during the initial phase of the architectural survey at the airfield at SEDA (Figure 6-1). This total included a covered reservoir, navigational facility, and a pre-World War II structure. Also included in the total is the Small Arms Baffled Range Complex. This complex includes: the Pistol

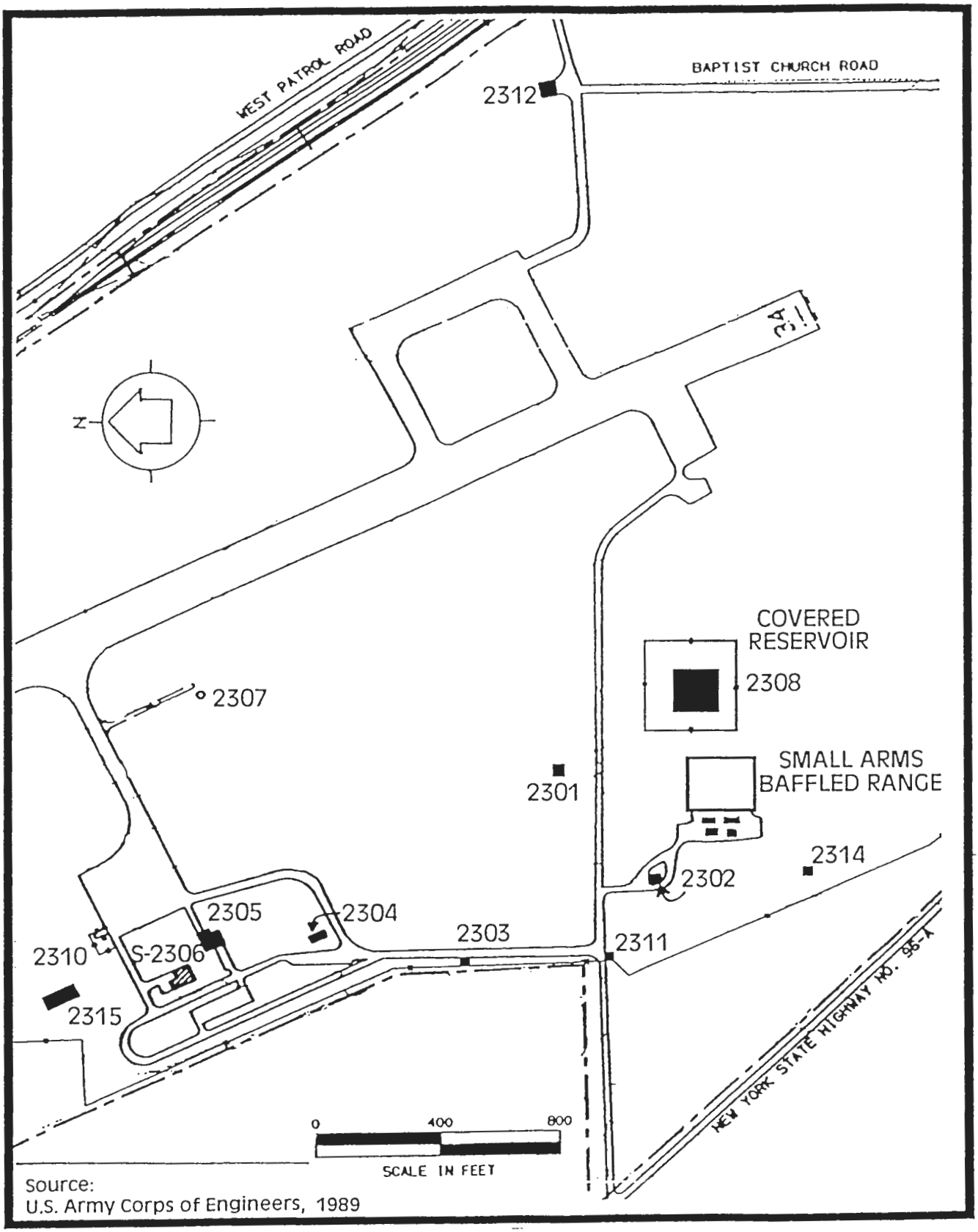

Figure 6-1. Standing Structures evaluated within the Airfield. Seneca Army Depot Activities, Seneca County, NY.

Range, the Small Arms Baffled Range, the Range House and Ammunition Distribution Point. Table 6.1 presents each structure within the airfield, its SEDA designation (including name and number) and its date of construction. Dates of construction have been determined by a review of maps, drawings and real property records at the facility, discussions with SEDA staff (Tom Enroth and Ed Miller), and visual inspection of properties.

Table 6.1 Buildings Evaluated within SEDA Airfield

Building Number	Building Name	Date of Construction
2301	General Instruction Building	ca. 1850
2302	Troop Command Ammunition Supply Point (TCASP) Inspection Building	1953
2303	Beacon Light	1955
2304	Transformer House	1951
2305	Air Field Operations Building	1954
2306	Air Control Tower and Readiness Group Offices	1952
2307	TVOR/DME	1978
2308	Underground Water Storage	1942
2310	Jet Fuel Storage Facility and Pump House	ca. 1980
2311	Access Control Facility	1983
2312	Administration—General Purpose	1986
2314	Gas Chamber	ca. 1990
2315	Garage	1992
	Small Arms Baffled Range*	post-1970
	Pistol Range*	post-1980
	Range House*	post-1970
	Ammunition Distribution Point*	post-1970

* included within the Small Arms Baffled Range Complex

Building 2301—General Instruction Building. The General Instruction Building (Figures 6-2 and 6-3) was constructed as a simple, two-story farmhouse in the

Figure 6-2. Building 2301. A Greek Revival Period (1820-1860) house, facing northeast, near PCI/SADA 1. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-3. Building 2301. A Greek Revival Period (1820-1860) house, main section and side wing, facing north, near PCI/SADA 1. Seneca Army Depot Activities, Seneca County, NY.

early to mid-nineteenth century. Archival research indicates that it may have been erected in the 1850s by Colonel G.O. Swarthout (Gibson 1850, 1852; Nichols 1874; Anonymous 1876:151). The building is a two-story, gable end brick structure, constructed in the Greek Revival style. With its additions, it encloses 4,877 square feet (439 square meters), according to real property records. The building, on land once belonging to Sampson Naval Training Center, became part of the airfield area for the Sampson Army Airfield when it was constructed after 1950. With the complete transfer of deeds in 1959, the property became part of the Depot. The building remained operational until it was shut down in early 1996. Designated with a Category Code 171-20, the building was noted as permanent construction (Facilities Engineer's Office n.d.).

The original structure is 27 ft (8.2 m) wide and 36 ft (11 m) deep with a three bay front facing south. The building was constructed with stone lintels and sills and brick laid in a Flemish bond pattern. Other elevations of the original structure are laid in 5/1 common bond, and have stone or splayed brick lintels. The foundation is ashlar on the front elevation, and rubble on the other elevations. The water table appears to be a limestone. The brick was originally treated with a Venetian-red wash. The building has a gable roof, now covered with asbestos shingles, 6/6 lite double hung sash, and a wood cornice with a plain box rake. The main entrance has a wood paneled door with sidelights and transom. Two chimneys once located on the west elevation have been removed (Facilities Engineer's Office n.d.; HABS/HAER 1983).

A 1-½ story wing exists to the east of the original structure. Possibly dating to the nineteenth century, the wing has a 30 ft (9 m) wide front elevation of three bay configuration and is 22 ft (6.7 m) deep. The first floor windows are boarded up. Doors on the south and east elevation are wood and glass. The front porch to the south of the wing has square wood columns, and a gabled roof with a shed dormer addition. All roofs are covered with asphalt shingles. The east elevation has a gable roof attachment in the same general location of evidence suggestive of the existence of a previous wing. While a large second floor picture window was installed in the east elevation in 1978, a 6 x 11 ft (1.8 x 3.4 m) concrete block offset was added at the north side of the original building in 1982 (HABS/HAER 1983).

The interior of the original structure retains a fine, spiral staircase, likely to be original. The entry vestibule is intact in plan and trim. Wooden mantels, door and window surrounds and baseboard on the first floor appear to be original as well. The wood flooring is a later alteration, and the addition and second floor have undergone substantial alterations as well.

The Historic Properties Report prepared by BTI in July 1984 includes the following description:

> No records documenting the building's date of construction were found, but it is typical of classical revival structures built in the area during the first several decades of the nineteenth century. During its early history, the building is said to have been a tavern and inn, but no records substantiating this were found. Since acquisition by the military, it has served a number of uses, including family housing, offices, and the depot rod and gun clubhouse. During the late 1950s, the building and the adjacent airstrip were leased by North Star Aviation.

Available property records and drawings, while providing an incomplete list of alteration work that has occurred, note:

> Interior improvements and exterior painting [occurred] between 1959 and 1962, 1972, 1973 (installation of paneling and hung ceiling in meeting room), 1979, 1983, and 1988. MacKnight-Fuligni-Fragola Architects were responsible for the 1983 alterations. In 1982, masonry repairs included chemical cleaning and sealing of the brick, and the addition of the concrete block enclosure at the north [Facilities Engineer's Office n.d.; HABS/HAER 1983].

Building 2302—Troop Command Ammunition Supply Point (TCASP) Inspection Building. This simple structure was built in 1953 or 1954 as part of the airfield for Sampson Air Force Base. The TCASP Inspection Building (Figures 6-4 and 6-5) retained its inspection function until the Air Force Base closed. Transferred to the Army in 1958, the structure remained operational until it was shut down in early 1996. The building was designed by architects/engineers Spector and Montgomery of Falls Church, Virginia. Designated with a Category Code of 442-21, the building was noted as permanent construction (Facilities Engineer's Office n.d.).

The one-story structure has a 24 x 40 ft (7.3 x 12 m) footprint, and contains 1,022 sq ft (92 sq m), according to real property records (Facilities Engineer's Office n.d.). It has a concrete foundation, concrete floor, concrete walls, and a flat roof. The north, south and east elevations are painted. Steel windows have louvers below, and the north and south elevations contain metal passage doors. A chimney exists at the south elevation. The 1955 Master Plan of Sampson Air Force Base refers to the structure as "Comm. Trans. Bldg. No. 1A," while a sign on the building notes "Inspection Point" (U.S. Air Force 1955).

Building 2303—Beacon Light. The Beacon Light (Figure 6-6) was constructed in 1955 as part of the airfield for Sampson AFB. Retaining this function until the Air Force Base closed, the building was transferred to the Army in 1957/8. Designated with a Category Code of 134-50, the structure was noted as permanent construction (Facilities Engineer's Office n.d.; U.S. Air Force 1955).

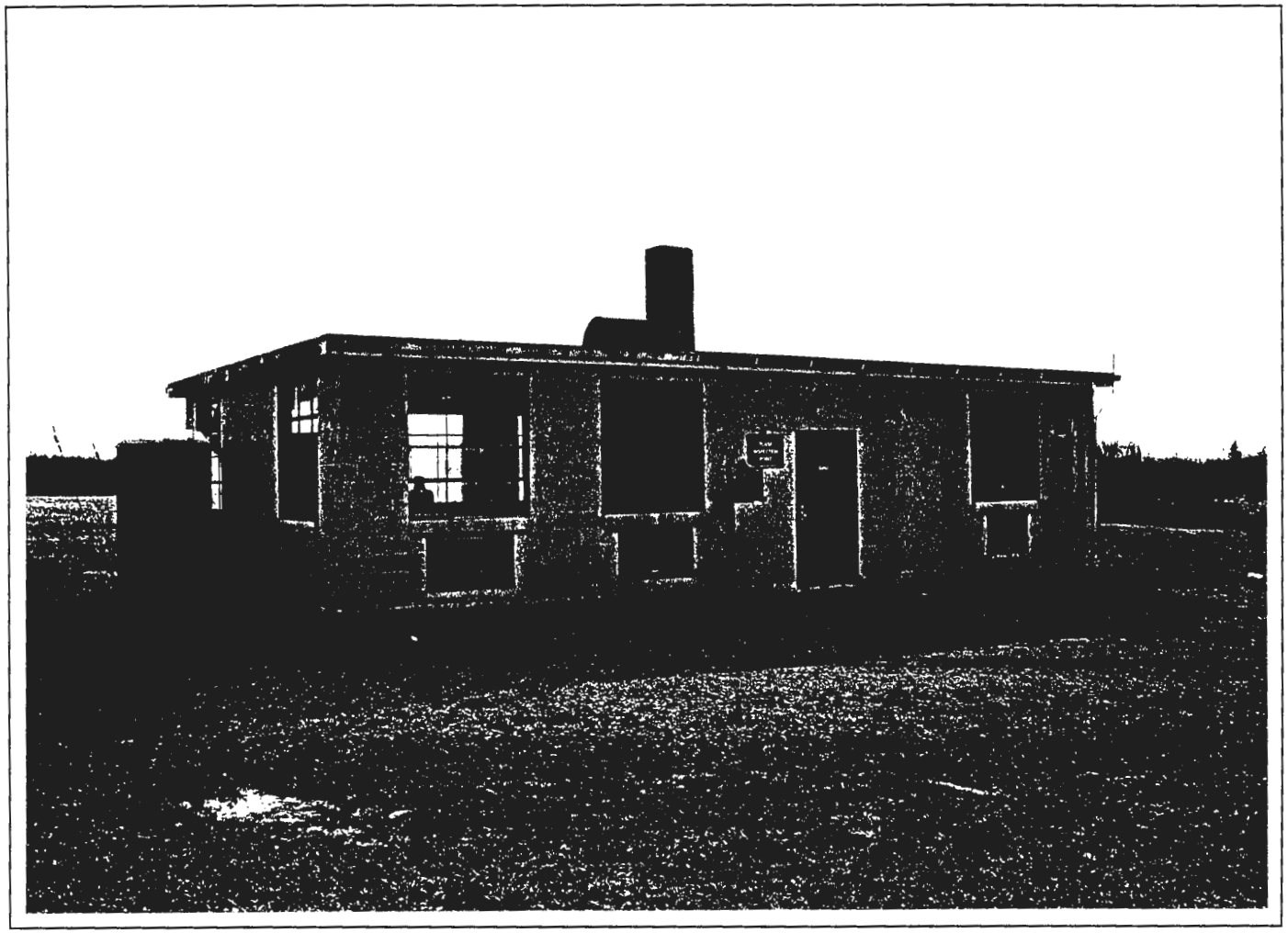

Figure 6-4. Building 2302, front view, facing southeast. Seneca Army Depot Activities, Seneca County, NY.

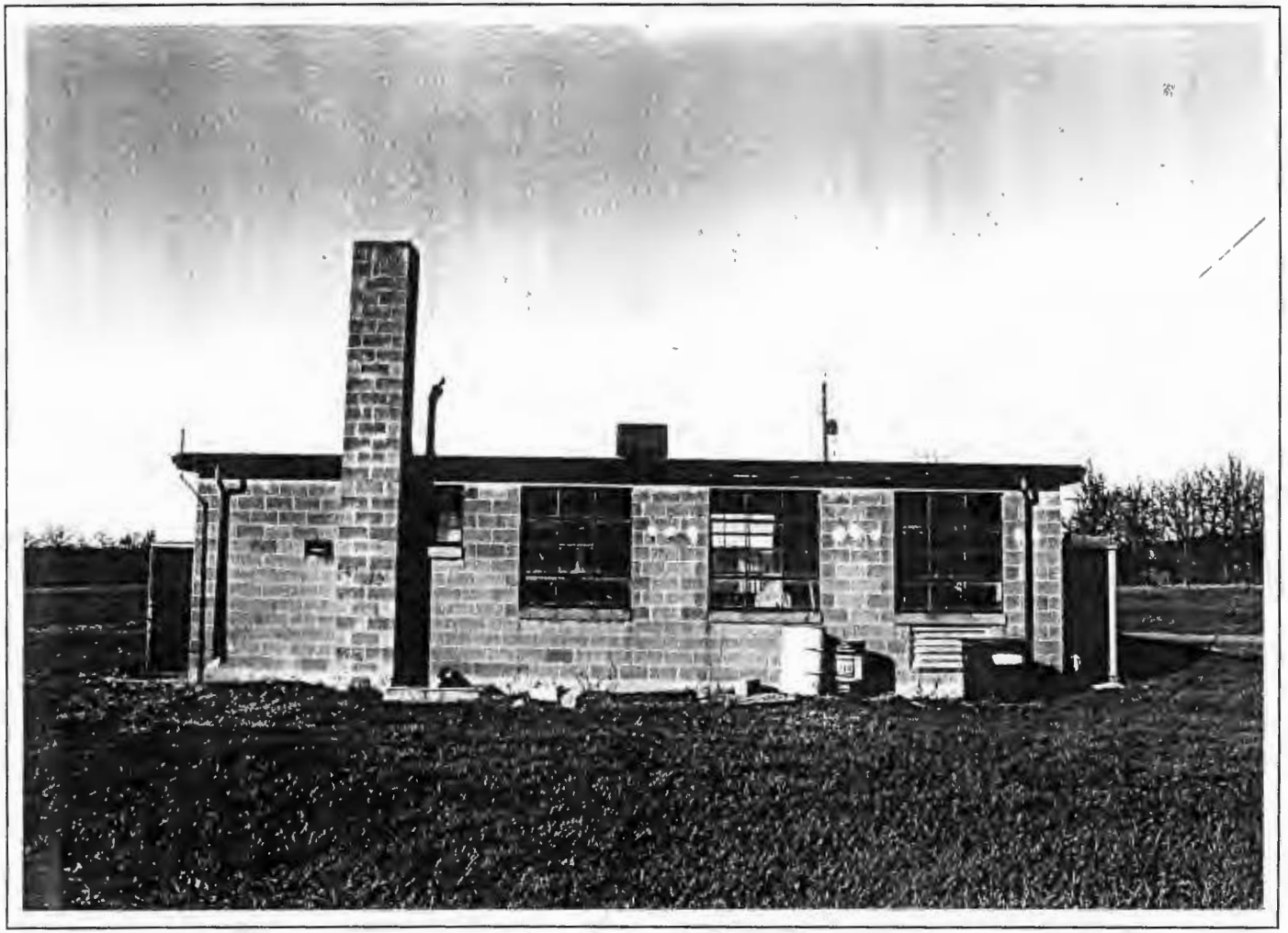

Figure 6-5. Building 2302, rear elevation, facing south. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-6. Building 2303. Beacon Light. Seneca Army Depot Activities, Seneca County, NY.

The tower supporting the beacon is constructed of angle iron framing and bracing, and is 14 levels or 75 ft (23 m) tall. The supports of the eastern half of the structure have been encased in concrete to provide additional stability. A ladder extends from grade to the top of the tower, where an open steel floor provides a base for maintenance work. The structure has its own transformer.

Building 2304—Transformer House. The transformer house (Figure 6-7) was designed in 1951 by the Binghamton, New York, architectural/engineering firm of McFarland and Brown as part of the airfield for Sampson AFB. Retaining this function until the Air Force Base closed, the building was transferred to the Army between 1957 and 1959. It remained operational until it was shut down in early 1996. Designated with the Category Code of 812-90, the structure is noted as permanent construction (Facilities Engineer's Office n.d.; U.S. Air Force 1955).

The one-story building is 26 x 42 ft (8 x 12.8 m), and contains 1,092 sq ft (98 sq m), according to real property records (Facilities Engineer's Office n.d.). A utility structure, the transformer house has a poured in place foundation, concrete block walls, a flat roof with metal drip edge, metal windows and grills with concrete lintels and protruding sills, and a wood entrance door in a metal frame on the north elevation. At the exterior is an above ground 285 gallon (1,079 liter) diesel storage tank. The structure contains three transformers. The 1955 Sampson AFB Master Plan refers to this building as "vault, power building" (Facilities Engineer's Office n.d.; U.S. Air Force 1955).

Building 2305—Air Field Operations Building. This building (Figure 6-8) was constructed in 1954 as the operations center and fire house for the airfield at Sampson AFB. The structure includes the three-story administrative block, a two-story two-bay truck garage on the east elevation, a four-story observation tower at the southeast, one story additions on the south and west elevations and a three-story administrative section. In 1958, it was transferred to the Army and incorporated as part of Seneca Army Depot Activities. Designated with a Category Code of 141-10, this structure is noted as permanent construction (Facilities Engineer's Office n.d.).

Of masonry construction, the Air Field Operations Building contains a shop and ready room on the first floor with dormitory space and administrative offices on the second floor. Dimensions provided by real property records note that the main building is 56 ft, 6 in x 45 ft, 6 in x 28 ft, 3 in (17.2 x 13.9 x 8.6 m), and an offset of 15 ft x 36 ft, 7 in x 17 ft (4.6 x 11 x 5 m) in height. According to real property records, the total square footage of the structure is 5,589 sq ft (503 sq m) (Facilities Engineer's Office n.d.).

The foundation of the structure is concrete. While the floors are concrete and tile, the walls are concrete block covered with an exterior insulation system, and the

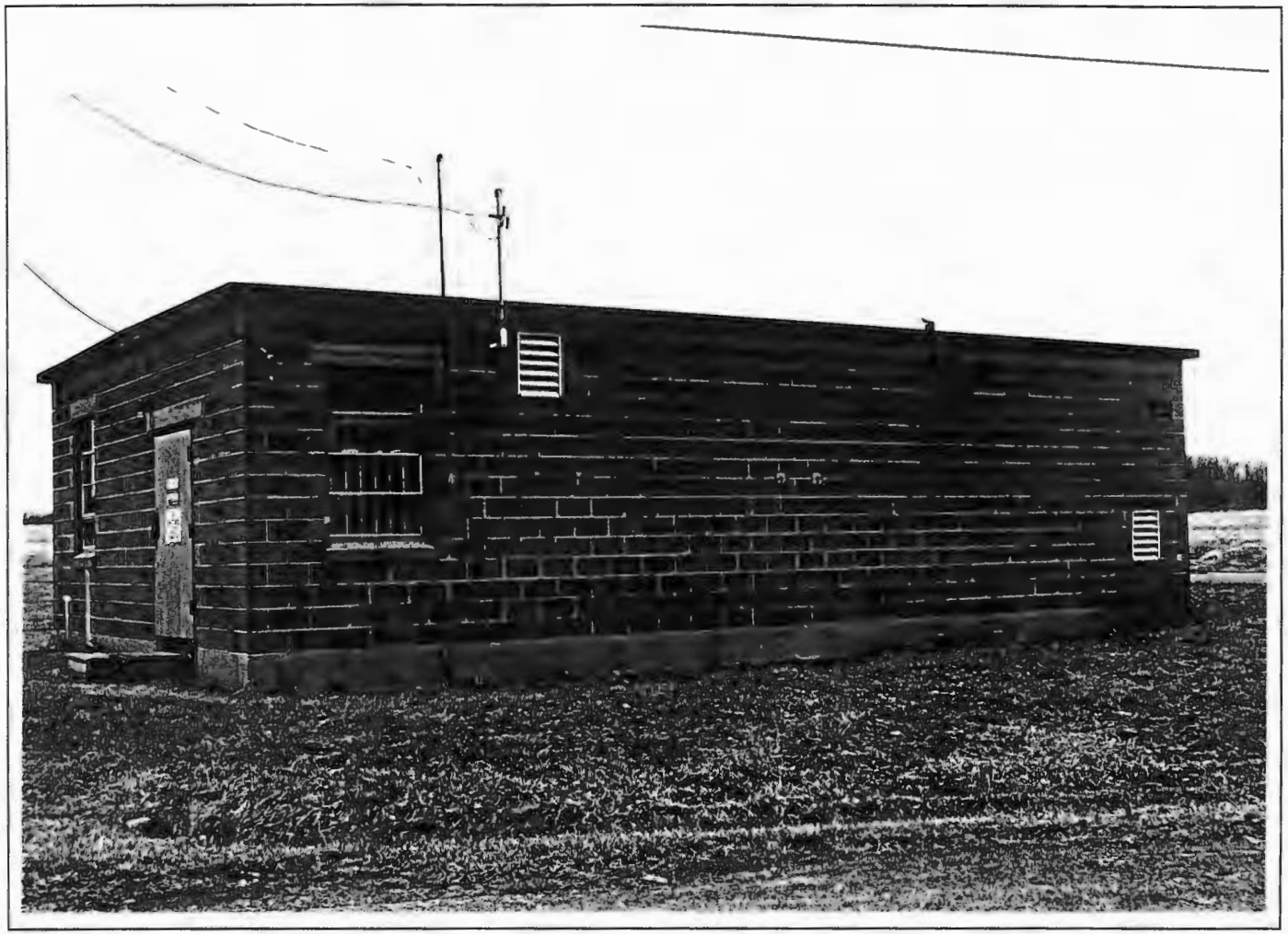

Figure 6-7. Building 2304. Transformer Room, side view. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-8. Building 2305. Air Field Operations Building. front view. Seneca Army Depot Activities, Seneca County, NY.

roof is flat. The simple fascia of the building is wood with a fire escape is on the north elevation. Windows are metal with vinyl storm windows, and garage doors are metal. The building has a steam boiler, and its own septic system. A chimney exists at the southwest corner of the building, and wire mesh security panels have been added to most window openings. Both the wood trim and exterior insulation system exhibit signs of deterioration.

Modifications noted in the real property records include the installation of a grease trap and other unspecified work in 1960; exterior painting in 1973; an addition at the east side and interior alterations in 1974; and, in 1982, the installation of storm windows, security screens, and rolling doors. Windows size at that time were reduced (Facilities Engineer's Office n.d.).

Building S2306—Air Control Tower and Readiness Group Offices. The Air Control Tower and Readiness Group Offices (Figure 6-9) is a two-story building with a hexagonal control tower on the east side. It was constructed in 1952 to the design of Binghamton, New York, architects McFarland and Brown. The building appears to have been constructed in two stages, since the tower and northern end of the building have poured in place concrete foundations, but the southern end has a concrete block foundation. The original drawings for the observation tower note complete wall glazing and an exterior observation desk. Designated with a Category Code of 141-10, the structures are noted as permanent construction (Facilities Engineer's Office n.d.; HABS/HAER 1983; U.S. Air Force 1955).

The main building is 40 x 26 ft (12.2 x 8 m), although real property records indicate that the second floor area measures 36 x 42 ft (11 x 12.8 m). The actual footprint of the structure has an L-shaped configuration. The total square footage of the structure is 8,774 sq ft (790 sq m), according to real property records (Facilities Engineer's Office n.d.).

The structure has wood and concrete floors, a flat roof with a rusting metal drip edge, and wood framing clad with deteriorating and patched asbestos cement shingles. The tower is of steel construction with corrugated, (transite) asbestos walls. Sash are 1/1 double hung vinyl units, and the double doors on the east and west elevations are wood and aluminum, respectively. The entrance door on the south elevation is wood. Mounted on the roof are several meteorological devices. A chimney exists at the northeast corner of the building. The first floor windows and doors are boarded up.

The interior of the building is nondescript: walls are painted concrete block, paneling, or painted dry wall. Interior spaces contain hollow wood doors, suspended ceilings, and vinyl or carpet flooring. The structure was steam heated, and had its own septic tank.

Figure 6-9. Building 2306. Air Control Tower and Readiness Group Offices. Seneca Army Depot Activities, Seneca County, NY.

Records indicate the following modifications were made to the structure: 1960, unspecified (perhaps painting and plumbing); 1974, installation of suspended ceiling and wall paneling in conference room, offices, lounge, and walls in day room; 1982, storm windows, security screens, rolling doors, and possibly reduction of window sizes. The eastern extension was constructed in 1973. The 1955 Sampson AFB Master Plan refers to this structure as "Operations, AC & W" (Facilities Engineer's Office n.d.; HABS/HAER 1983; U.S. Air Force 1955).

Building 2307—TVOR/DME. According to file drawings, this one story cylindrical structure (Figure 6-10) was built in 1978, possibly replacing an earlier structure depicted in the 1955 Master Plan. The structure was originally used as a navigational aid, and perhaps contained a radio transmitter. It is constructed of prefabricated steel, which was government supplied. It has two sections: a conical navigational tower rising above the structure, and a lower drum-shaped control or service room. Entry to the controls is through a single metal bulkhead. Designated with a Category Code of 134-20, it was noted as permanent construction (Facilities Engineer's Office n.d.; U.S. Air Force 1955).

The 14 exterior panels are bolted together and set on a circular cement pad. The diameter of the steel paneled structure is 21 ft, 6 in (6.6 m), with a height of 8 ft (2.4 m). The structure contains 363 sq ft (32.7 sq m). Real property records note it has a steel floor, and curved foundations. Housed within is the terminal VHF omniranger (TVOR) equipped with distance measuring equipment (DME). The structure has a gas generator, an electrical system, forced air heating, and a fuel tank (Facilities Engineer's Office n.d.).

Building 2308—Water Storage Reservoir. This large, covered reservoir was designed by architects Shreve, Lamb and Harmon in 1942 for the Sampson Naval Training Center. It is an 169 x 169 ft (51.5 x 51.5 m) underground structure with banked earthen walls and earth covering. It is assumed that the top was covered to limit falling debris from contaminating the water supply. The structure was designated with a Category Code of 841-40. Most recently, the reservoir has been used for domestic and heating water sources for Buildings 2305 and 2306 (Facilities Engineer's Office n.d.).

Building 2310—JP-4 Jet Fuel Storage Facility and Pump House. Building 2310 (Figure 6-11) is a one-story structure, approximately 10 x 12 ft (3 x 3.7 m), which appears to have been constructed in the 1980s. It has metal vertical siding, and a slightly pitched roof with gable ends to the north and south. Awning windows exist on the north and south elevations, and a single passage door entrance protected by a small open metal canopy on the east elevation. At grade, the structure is surrounded by concrete and stone. Two underground storage tanks are west of the structure, and the site is enclosed within a metal security fence (Facilities Engineer's Office n.d.).

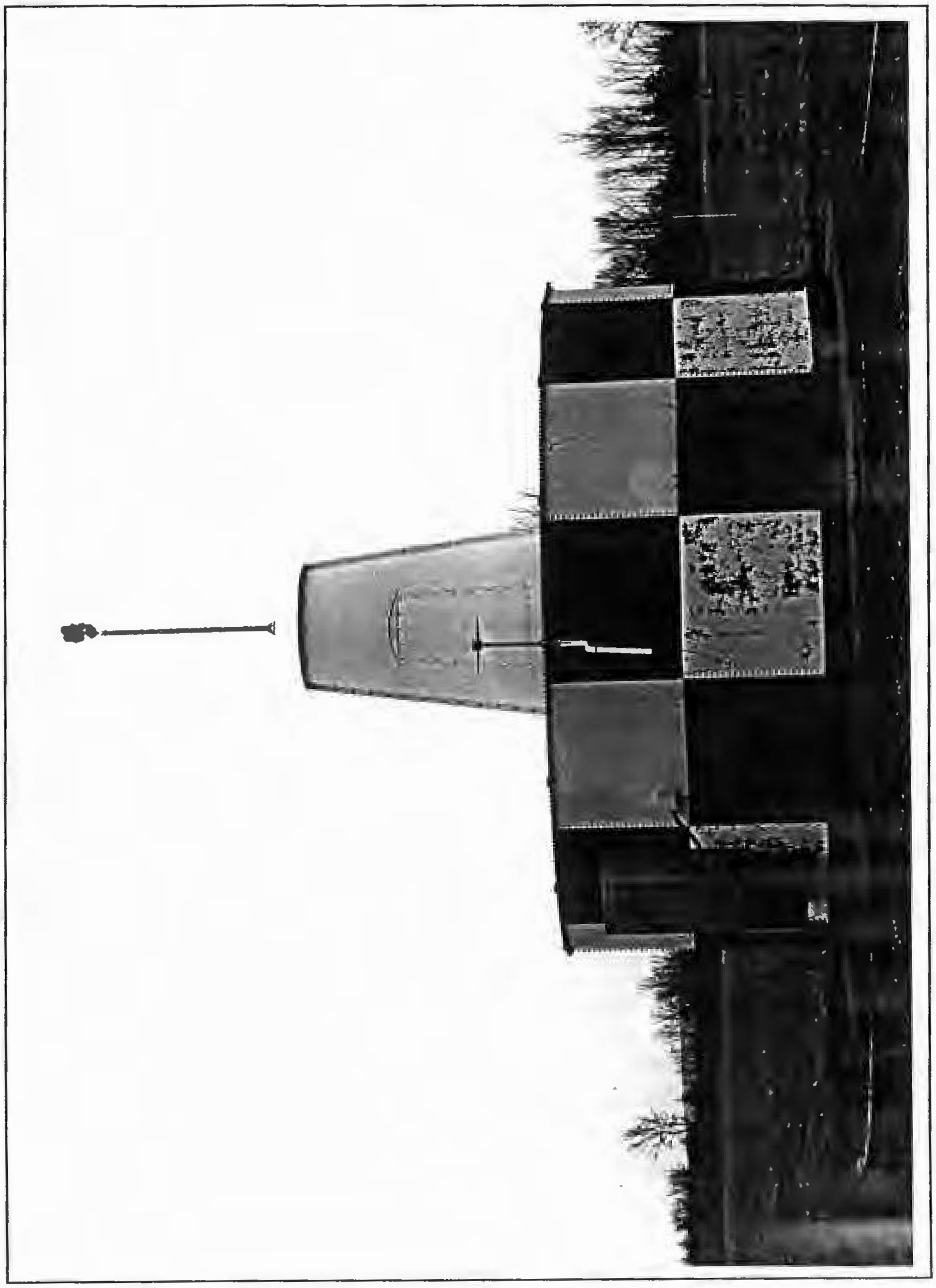

Figure 6-10. Building 2307. TVOR/DME. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-11. Building 2310. Jet Fuel Storage Facility and Pump House. Seneca Army Depot Activities, Seneca County, NY.

Building 2311—Access Control Facility. Building 2311 (Figure 6-12) was constructed in the mid-1983. It has a pitched roof with gable ends on the east and west, an asphalt shingle roof, vinyl siding, wood door and trim, vinyl windows, and metal soffits and vents. The entrance is on the north elevation (Facilities Engineer's Office n.d.).

Building 2312—Administration-General Purpose. Building 2312 (Figure 6-13) is a 40 x 60 ft (12 x 18 m) metal garage structure constructed in 1986. It has a low pitched roof with gable ends to the north and south. The exterior is clad with vertical metal siding. Two garage doors and a passage door exist on the south elevation (Facilities Engineer's Office n.d.).

Building 2314—Gas Chamber. This simple, small one-story, unpainted concrete block structure (Figures 6-14 and 6-15) was constructed ca. 1990. It has a flat roof and a flat wood frieze. Its original purpose was to simulate tear gas conditions. It has a 'T' configuration with the upper portion of the 'T' facing north. Entrances to the building and the interior chambers are on the east and west elevations (Facilities Engineer's Office n.d.).

Building 2315—Garage. Constructed in 1992, this steel, one-story high bay structure (Figure 6-16) is 50 x 80 ft (15.25 x 24.5 m) and is reputed to have been built to house the airstrip's fire trucks. It has a poured in place foundation, vertical metal siding, metal doors, and pitched roof with gable ends to the north and south. Two overhead garage doors and one passage door exist on the east elevation. Vents for the building have been provided on the north, south, and west sides of the building and on the roof (Facilities Engineer's Office n.d.).

Small Arms Baffled Range Complex: Pistol Range, Small Arms Baffled Range, Range House and Ammunition Distribution Point. This modern complex (Figure 6-17) is comprised of a pistol range, a small arms baffled range, a range house and an ammunition distribution point. The four buildings within this complex were constructed using semi-permanent building materials. With the exception of the concrete pads along the western apron of the ranges, none of the structures appeared to be attached to the earth with a foundation.

Pistol Range. The current configuration of the Pistol Range (Figure 6-18) was created in the mid-1980s. The structure has an open, rectangular frame on a concrete pad that was designed to shelter ten lanes of trainees and their instructors during training exercises. This building has a flat roof and was constructed of treated plywood sheathing and stock lumber. The structure sits within the perimeter of a banked earthen baffle (Facilities Engineer's Office n.d.).

Figure 6-12. Building 2311. Access Control Facility. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-13. Building 2312. Administration-General Purpose. Seneca Army Depot Activities, Seneca County, NY.

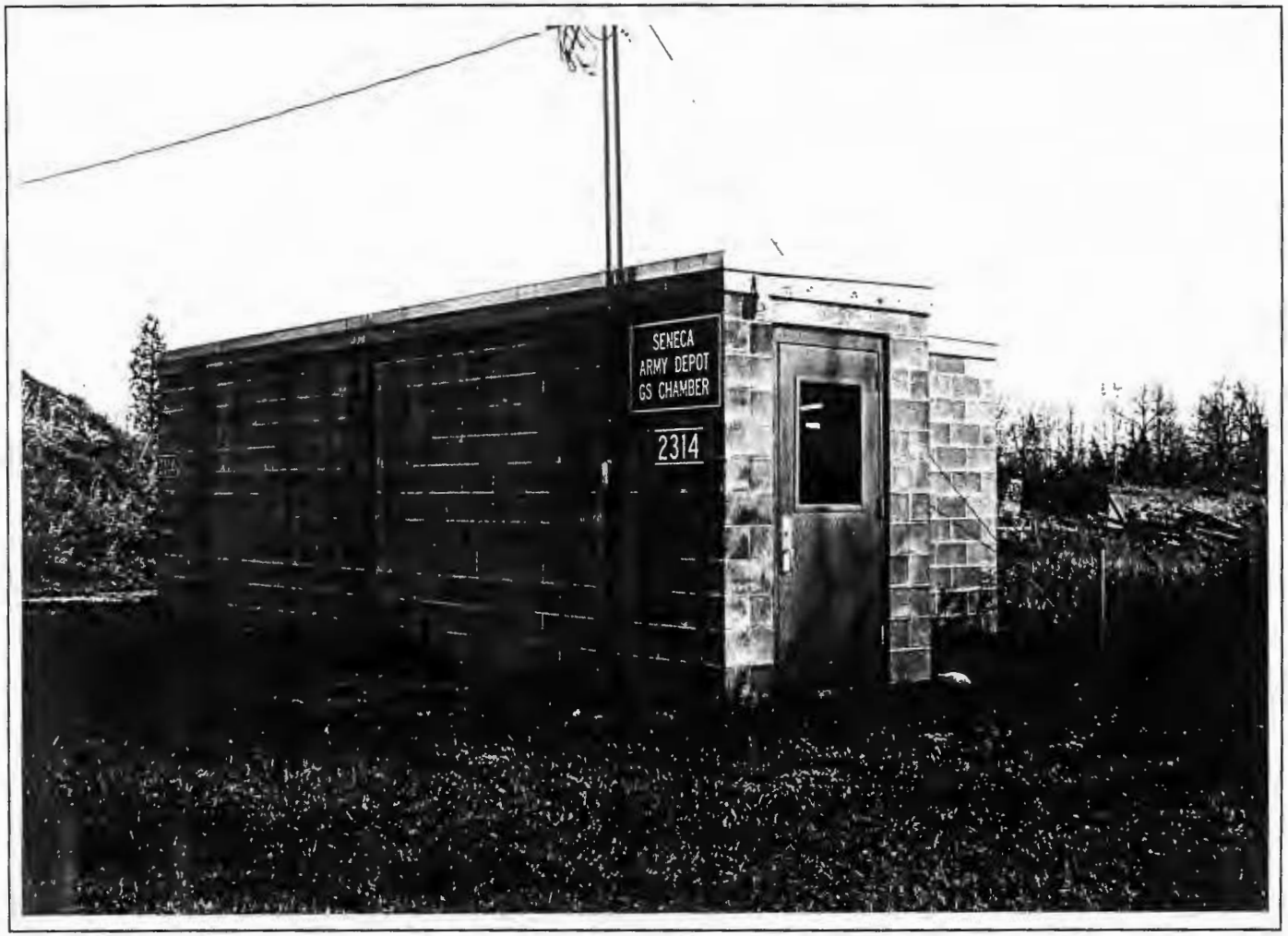

Figure 6-14. Building 2314. The Gas Chamber, facing southwest. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-15. Building 2314. The Gas Chamber, rear elevation, facing west. Seneca Army Depot, Seneca County, NY.

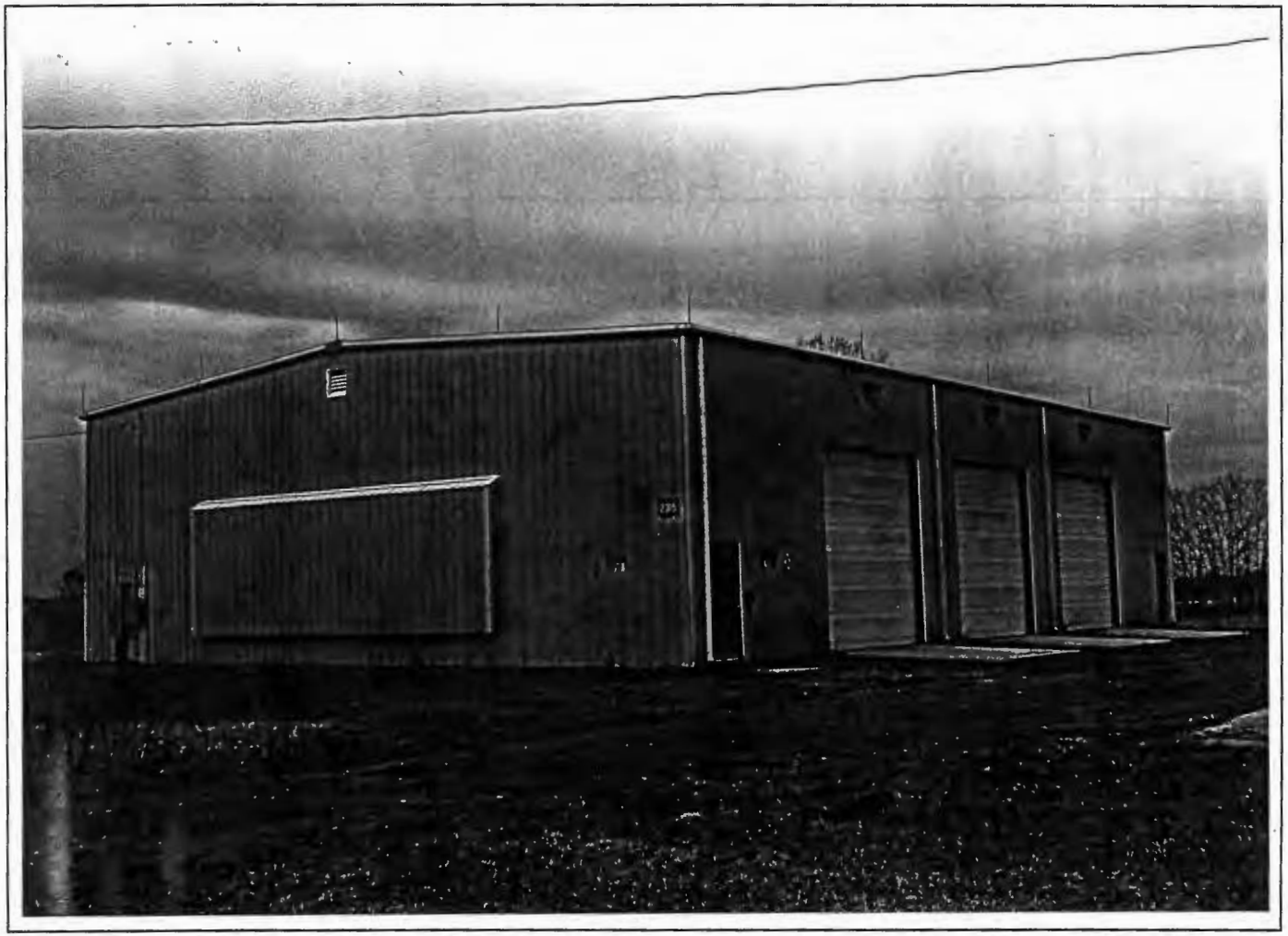

Figure 6-16. Building 2315. Garage. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-17. Small Arms Baffled Range. General overview, facing southeast. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-18. Small Arms Baffled Range, detail of rifle range, facing south. Seneca Army Depot Activities, Seneca County, NY.

Small Arms Baffled Range. The Small Arms Baffled Range (Figures 6-19 and 6-20) is a small, two bay frame structure located south of the pistol range. It has a gable roof covered by corrugated metal. The range includes large diameter concrete tubes into which the trainees, positioned on a raised platform, discharge their weapons. It is presumed that these tubes direct fire to targets positioned before the large earthen baffle. This structure appears to post-date 1970 (Facilities Engineer's Office n.d.).

Range House and Ammunition Distribution Point. These two structures (Figures 6-21 and 6-22) are small single pen buildings designed to coordinate the training activities of troops in the care, handling and discharge of small arms. Constructed post-1970, the Range House is a small structure erected on posts west of the Rifle Range. It has a nearly flat roof over an enclosed observation room with awning windows. The observation room is accessed by a single flight of steps and an entry door at the rear of the structure. Personnel receive rounds of ammunition at an open air distribution point located behind the range house. This structure has a nearly flat roof and is constructed of treated lumber. A small table situated next to the distribution point is used for cleaning and loading of small arms (Facilities Engineer's Office n.d.).

6.3 National Register of Historic Places Eligibility

For a cultural resource to be considered for eligibility to the National Register it must be evaluated within its historic context and shown to be significant for one or more of the four Criteria for Evaluation (Code of Federal Regulations, Title 36, Part 60) discussed above (Section 3.5). Typically, properties can be considered for eligibility if they are associated with the lives of persons significant in our past (Criterion B: Person); or they 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 (Criterion C: Design/Construction). However, in applying Criterion D: Information Potential), the property must contain or is *likely* to contain information bearing on an important archeological research question. In order to provide such information a property must have characteristics suggesting the likelihood that it possesses configurations of artifacts, soil strata, structural remains, or other natural or cultural features that make it possible to answer those research questions. Simplistically, the property, to be eligible, must be associated with human activity and be critical for understanding the historic environment of the site (NPS Bulletin 15, referencing Code of Federal Regulations, Title 36, Part 60).

The cultural background contained in Section 3 of this report details historical information relevant to this study, so that appropriate historical contexts identified for

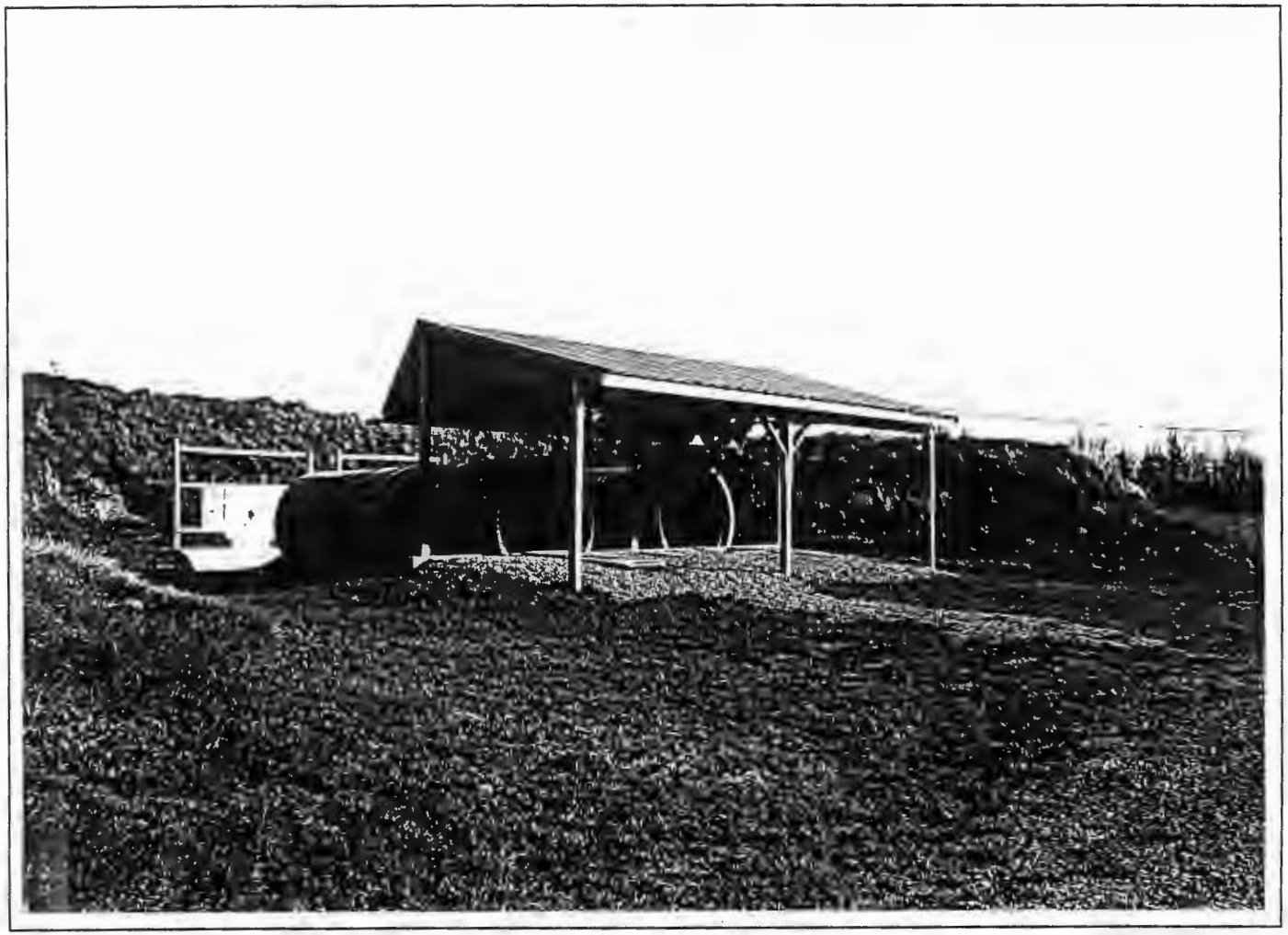

Figure 6-19. Pistol Range, general overview, facing southeast. Seneca Army Depot Activities, Seneca County, NY.

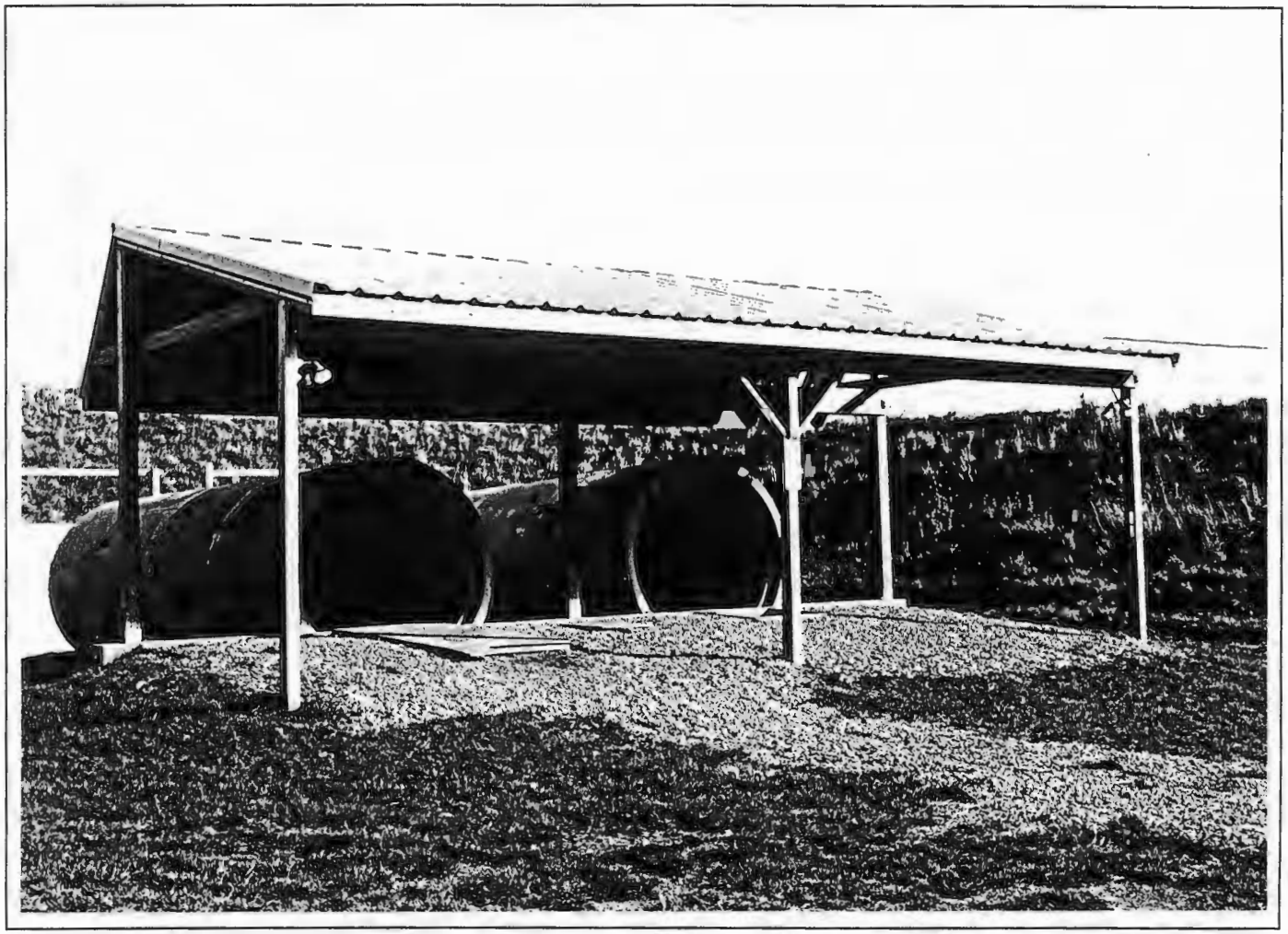

Figure 6-20. Pistol Range, facing southeast. Seneca Army Depot Activities, Seneca County, NY.

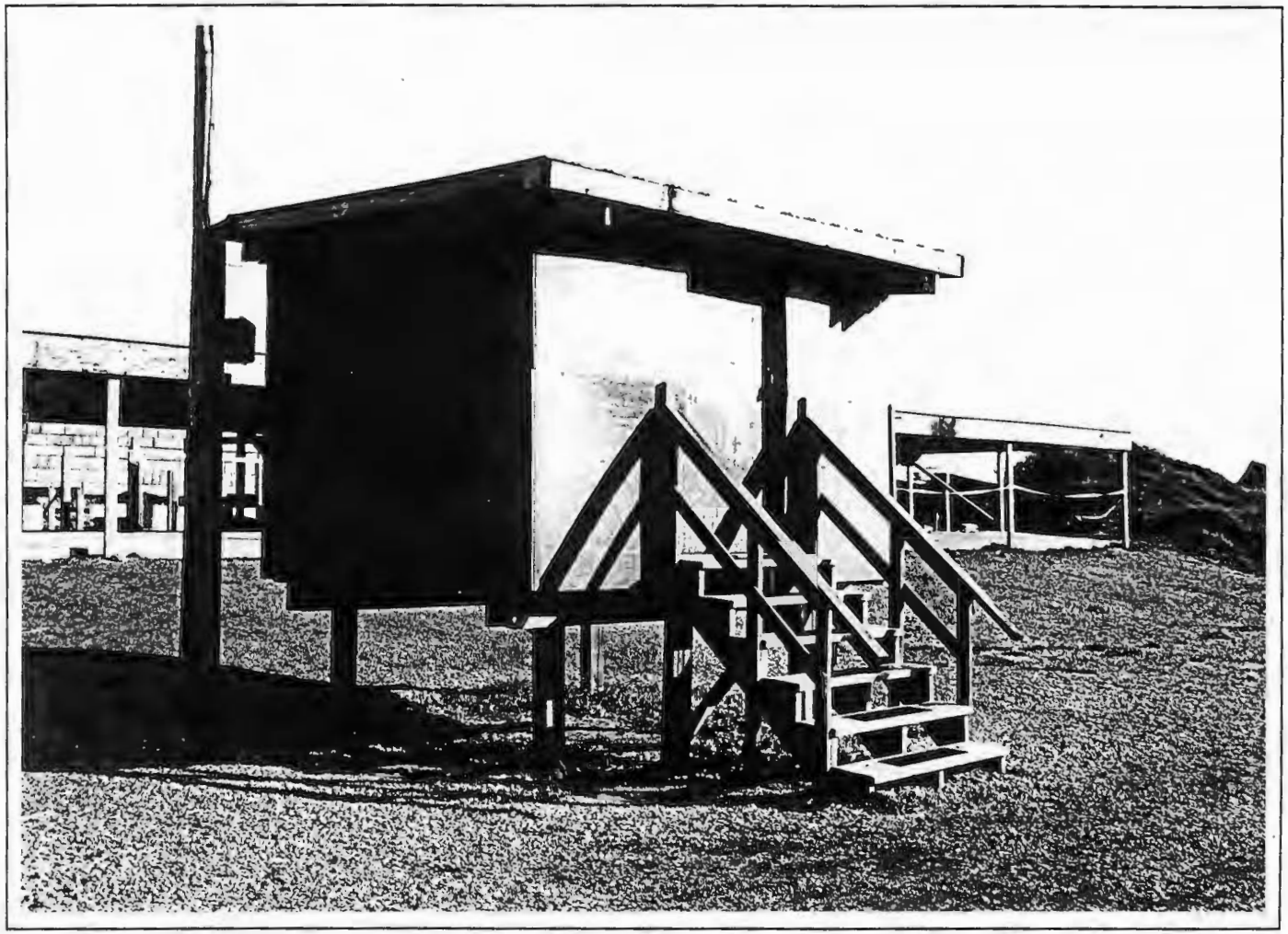

Figure 6-21. Range House at Small Arms Baffled Range, facing southeast. Seneca Army Depot Activities, Seneca County, NY.

Figure 6-22. Ammunition Distribution Point at Small Arms Baffled Range, facing southwest. Seneca Army Depot Activities, Seneca County, NY.

application in New York State may be considered. For a more detailed discussion consult various National Park Service (NPS) Bulletins (e.g., NPS Bulletins 15, 16A, 24, 36, 39, etc.).

Based on the review of the structures only within the airfield at the Seneca Army Depot Activities, it is recommended that no structures meet the criteria for listing in the NRHP, either individually or as part of an historic district. Most of the structures were erected after the 1950s, and are constructed of modern materials such as plywood, concrete block, and metal siding with no distinguishing characteristics. Further, none of the structures within the airfield are historically significant by style or possess a known association with important persons or specific or unique events. Only two structures, the Water Storage Reservoir (Building 2308) and the General Instruction Building (Building 2301), have achieved 50 years of age. Building 2301 has undergone extensive alteration, including a loss of site integrity.

To complete the eligibility determinations for the structures within the airfield, Buildings 2301 and 2308 require evaluation in the overall context of SEDA, and, more importantly, in the context of the Cold War, once a nationwide context statement is developed. The relationship of the airstrip at SEDA to the Air Combat Command should also be established. There is nationwide interest in the potential significance of resources linked to the Cold War, although no materials establishing a methodology for assessment have yet been published. It appears, at least in New York State, that the majority of work on the potential eligibility of Cold War structures has focused on the Air Combat Command. Two relevant documents prepared by or for the U.S. Army Corps of Engineers are:

Mariah Associates, Inc.
1994 *Draft: Historic Context and Methodology for Assessment of Air Combat Command Cold War Material Culture.* Prepared for the U.S. Army Corps of Engineers, Fort Worth District. May.

U.S. Air Force, Air Combat Command.
1995 *A Systematic Study of Air Combat Command Cold War Material Culture; Volume 1: Historic Context and Methodology for Assessment.* Prepared at Langley Air Force Base, VA. December.

These works provide a foundation for the development of an historic context for the Cold War period and for the development of a methodology to discuss structures created during that period (Nancy Todd, personal communication 1996).

Further discussion with the New York State Historic Preservation Office (NYSHPO) should occur regarding Building 2301 to confirm the above eligibility evaluation. This vernacular farmhouse is typical of those constructed in the mid-

nineteenth century in central New York State, and its contextual integrity has been lost due to construction of the airfield. Additionally, exterior alterations have included a shed gable addition on the wing, the installation of a large picture window on the east elevation, and the construction of a one-story concrete block offset to the north.

7.0 SUMMARY AND RECOMMENDATIONS

A Phase I cultural resource survey was conducted at Seneca Army Depot Activities in the vicinity of the SEDA Airfield. This survey included archival research, surface and subsurface investigations, and a structural evaluation within the airfield. The project area was divided into four analytical units, Area 1 through 4 (Figure 1-3). A total of 512 shovel test pits were excavated in addition to the intensive surface inspection throughout the study area. The results of the investigations are summarized and presented below.

Area 1. Three potential archaeological sites were identified during the investigation. All of these archaeological sites were discovered within the bounds of the airfield. Table 7.1 summarizes information regarding these sites and includes a date of site activity, the site's condition/integrity, a summary of artifact types recovered, and an historical reference for site occupation. The first of these archaeological sites, PCI/SADA 1, lies within the front yard of a nineteenth century farmhouse, and contained two features which appear to be associated with the earliest known period of occupation of this farmhouse.

Archival research indicates that this house was probably the residence of a member of the Swarthout family: either Coe or Col. G.O. Swarthout. The house stylistically dates to the Greek Revival Period (1820-1860). A construction date ca. 1850 for the house is proposed based on available cartographic evidence and the dates of manufacture for historic period ceramics recovered at the site. An examination of shovel test pit profiles revealed potentially intact cultural features in the yard area of the farmhouse. The archaeological deposit site is potentially eligible for nomination to the National Register of Historic Places (NRHP) under the terms of Criterion D (Information Potential), based upon the apparent stratigraphic integrity of the site, its association with the existing structure, limited disturbance areas adjoining the property, and a potential to provide additional information during subsequent investigations. Therefore, further archaeological studies are recommended to determine National Register eligibility.

In addition to this historic property, the remains of two historic farmsteads were located within the airfield. These locations were designated PCI/SADA 2 and PCI/SADA 3. The location of these sites has been severely compromised by military construction in the area since the outbreak of World War II. Below ground disturbances within the airfield have been documented to a depth between one and 2.5 m (3 and 8 ft). Moreover, the extent of these ground disturbances has severely limited the potential of these resources to yield substantive information on the development of local and regional economies. No further archaeological investigations have been

Table 7.1 Summary of Cultural Resources Identified at the Airfield at Seneca Army Depot Activities

Archaeological Site	Date	Location	Condition/ Integrity	Artifacts Recovered	Source	Historical Reference	Potential Significance
PCI/SADA 1 (Historic)	1820-1860	Airfield (Area 1)	undisturbed	Historic ceramics, Architectural debris, Butchered bone*	PCI Field Survey 1995	Anonymous 1876; Nichols 1874	Potentially Eligible
PCI/SADA 2 (Historic)	1850-1941	Airfield (Area 1)	disturbed	Historic ceramics, Bottles, Architectural debris*	PCI Field Survey 1995	Anonymous 1876; Nichols 1874	Not Eligible
PCI/SADA 3 (Historic)	1850-1941	Airfield (Area 1)	disturbed	Machine made bottle fragments*	PCI Field Survey 1995	Anonymous 1876; Nichols 1874	Not Eligible

* = For a more detailed discussion of artifacts recovered see Appendix A.

recommended for these locations based upon their lack of stratigraphic integrity, and the subsequent failure of these historic properties to meet any of the criteria established for nomination for inclusion in the NRHP.

Recommendations. The site designated PCI/SADA 1 is potentially eligible under the terms of Criteria D of the NRHP. It is recommended that the site be evaluated to determine National Register eligibility, including archaeological and archival research to fully evaluate the research potential of this historic property. PCI/SADA 2 and PCI/SADA 3, however, are located in disturbed contexts and lack stratigraphic integrity. Therefore, these sites have a very limited potential to provide substantive information on the development of local and regional economies. Since these locations do not meet any of the criteria established for inclusion in the NRHP, no further archaeological investigations are recommended for PCI/SADA 2 and PCI/SADA 3.

Area 2. This area is located south of the Munitions Washout Facilities (SEAD-4) and its primary activity area was the railroad inspection pit located in the southwestern corner of the study area. This location is the heart of an industrialized area dedicated to the neutralization and disposal of potentially hazardous materials. This location had several large-scale staging areas for the transport of materials (e.g., railroad lines, sidings), the receipt of shipments (e.g., inspection pits), warehouse areas (i.e., west of Seneca Road), and disposal areas (e.g., three solid waste management units, construction debris, ash). Ground disturbances in this area are extensive. The review of historic maps established that a large portion of this area had been stripped to bedrock (Hutton 1972; Klein et al. 1986). Other areas have been stripped and regraded, large drainage canals have been cut, and a large, open reservoir was excavated. In addition, a possible small unexploded ordnance (UXO) dump site, about the size of a file cabinet, was reputed to be northwest of Building S-2084, in the vicinity of SEAD-4 and SEAD-38 (Randall W. Battaglia, personal communication 1995)

Other portions of the area had been used as dump sites for potentially hazardous materials (Hutton 1972; Klein et al. 1986). Subsurface testing was restricted to areas which had been documented to be free of any contaminated or potentially hazardous materials. An intensive surface inspection of these areas was conducted, but failed to reveal indicators of intact ground surfaces. An inspection of bank profiles in several drainage ditches in this area revealed that the surface layers of soil had been either removed or partially removed and reworked with subsurface materials.

Recommendations. No significant cultural resources were identified in Area 2. No further archaeological investigations are recommended in this area.

Area 3. This area was located near the site of the transport of materials into the Munitions Washout Facilities area, a disposal area for the incinerated waste of

explosive components, and a railroad car inspection area. Archival research indicated that although approximately one dozen farmsteads and rural craftsmen were located in this general vicinity during the nineteenth century and early twentieth century, none of these properties survived the acquisition and construction episodes associated with the Depot during and after World War II. Field studies revealed that farmsteads in this area were razed in the mid-to-late 1940s with substantial portions of the historic grade removed and recontoured for improvements of SEDA's rail line. See Table 5.2 in Section 5 for a summary of the field investigation pertinent to the potential historic sites within the study area.

Recommendations. No significant cultural resources were identified in Area 3. No further archaeological investigations are recommended in this area.

Area 4. Area 4 includes a portion of Indian Creek which is located between the munitions storage area (Igloo Section E) and the airfield. A field inspection of ground surface conditions, cross sections and the scale of structural features (i.e., drainage ditches, box culverts, railroad right-of-way corridors and grades, and probable staging areas for Igloo construction) revealed that broad sections of this study area had been extensively disturbed in the mid-to-late 1940s. Shovel test pit profiles in this area revealed that surface layers of soil appear to have been stripped or replaced by mixtures of underlying subsoil materials. This apparent lack of stratigraphic integrity severely limits any research potential of lands within this study area to resolve research questions about local development or nineteenth century rural communities.

Recommendations. No significant cultural resources were identified in Area 4. No further archaeological investigations are recommended in this area.

In sum, the SEDA cultural resources management plan (Klein et al. 1986) placed 11 potential historic sites and one potential prehistoric site in the vicinity of the SEDA airfield. Based on the current field investigation, the potential prehistoric site (NYSM 4824) and two of the potential historic sites (SAD 176 and 189) were determined to be outside of the project area. Three potential historic sites (SAD 142 [PCI/SADA 1], SAD 141 [PCI/SADA 2], and SAD 107 [PCI/SADA 3]) were tentatively located, although the latter two sites were located in very disturbed contexts. The remaining six potential historic sites (SAD 143, 144, 146, 152, 154, and 228) either were destroyed by construction activities associated with the Depot airfield and the railroad tracks and inspection facility or were located in areas which were untestable due to severe disturbance or very poor drainage (i.e., standing water).

Architectural Evaluation. A total of 17 structures were evaluated during the architectural survey at the airfield (Area 1) at SEDA. This total included a covered reservoir, navigational facility, and a pre-World War II structure. Also included in the total is the Small Arms Baffled Range Complex. This complex includes the Pistol

Range, the Small Arms Baffled Range, the Range House, and Ammunition Distribution Point. Only two structures, the Water Storage Reservoir (Building 2308) and the General Instruction Building (Building 2301), have achieved 50 years of age. Building 2301 has undergone extensive alteration, including a loss of site integrity. Further discussion with the State Historic Preservation Office should occur regarding Building 2301 to confirm the eligibility evaluation. This vernacular farmhouse is typical of those constructed in the mid-nineteenth century in central New York State, and its contextual integrity has been lost due to construction of the airfield.

Recommendations. No structures meet the criteria for listing in the NRHP either individually or as part of an historic district. Most of the structures were erected after the 1950s, and are constructed of modern materials, such as plywood, concrete block, and metal siding with no distinguishing characteristics. Further, none of the structures within the airfield are historically significant by style or possess a known association with important persons or specific or unique events.

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APPENDIX A

ARTIFACT INVENTORY

Appendix A
Artifact Inventory

Area	Transect	STP #	Site Designation	Quantity	Artifacts
1	5	2	Isolated find	1	Clear bottle body fragment, melted
1	6	7	Isolated find	1	Whiteware body sherd
1	7	4	PCI SADA #2	1	Pearlware rim sherd
				2	Whiteware rim sherds
				1	Whiteware rim sherds
				10	Whiteware body sherds
				3	Amber bottle body fragments, modern machine made
				4	Clear screw top bottle neck fragments, modern machine made
				4	Clear bottle shoulder fragments, modern machine made
				41	Clear bottle body fragments, modern
				1	Clear bottle base, modern machine made
				1	Green bottle neck fragment, modern machine made
				1	Green bottle body fragment, modern machine made
				5	Body fragments, milk glass vessel
				14	Ferrous metal fragments
				1	Brick fragment, extruded
				1	Window glass fragment
1	7	4 East	PCI SADA #2	1	Window glass fragment
1	7	4 West	PCI SADA #2	3	Clear glass bottle body fragments, modern machine made
				5	"Bromo" blue bottle body fragments
				1	Soda glass bottle body fragment, modern machine made
				1	Wire fragment
				3	Ferrous metal fragments, unidentified
				1	Bone fragment, unidentified element and species
1	7	4 North	PCI SADA #2	4	Clear bottle body fragments, modern machine made
				3	Fragments, window glass
				2	Wire nail fragments
				21	Unidentified ferrous metal fragments
				1	Lump of coal
1	9	1	Modern	1	Clear, machine made bottle, basal fragment, modern
1	9	6	Modern	1	Fragment, barbed wire
1	9	10	Modern	1	Fragment of wire
1	10	7	Isolated find	1	Fragment plate glass
1	10	69	PCI SADA #3	1	Rim sherd, clear glazed, buff-bodied, nonvitreous, utilitarian vessel

Appendix A
Artifact Inventory

Area	Transect	STP #	Site Designation	Quantity	Artifacts
				2	Amber bottle body fragments, modern machine made
				2	Clear bottle body fragments, modern machine made
				1	Green bottle body fragment, modern machine made
1	11	43	Modern	1	Wire fragment
1	Bldg. 2301	1	PCI SADA #1, Feature 1	1	Transferprinted pearlware rim sherd, dark blue scroll band, neo-classical motif
				1	Transferprinted pearlware body sherd, stippled floral motif
				1	Transferprinted pearlware rim sherd
				19	Refined earthenware body sherds
				2	Refined earthenware rim sherds, annular decoration with stamped bead and feather design, "mocha" type
				3	Refined earthenware body sherds, green exterior glaze with annular decoration
				1	Refined earthenware body sherd, annular decoration
				1	Clear glazed redbodied earthenware body sherd
				1	Handle fragment, cutlery
				1	Rim fragment, possible iron cooking vessel
				2	Brick fragments
				3	Fragments window glass
				5	Mortar fragments
				1	Hand wrought strap handle fragment
				1	Cut nail
				1	Wrought nail
				1	Horse shoe nail fragment
				1	Nail fragment
				1	Hand wrought horse shoe
				1	Pit, mulberry or cherry, burned
				1	Caudal vertebra, possibly pig
				1	Phalanges fragment, large mammal, possibly pig
1	Bldg. 2301	2	Isolated find	1	Brick fragment
1	Bldg. 2301 10 West	1	PCI SADA #1 Feature 1	1	Undecorated porcelain body sherd
				1	Pearlware rim sherd
				1	Transferprinted pearlware rim sherd

Appendix A
Artifact Inventory

Area	Transect	STP #	Site Designation	Quantity	Artifacts
				1	Undecorated refined earthenware body sherd
				1	Handpainted pearlware body sherd
				2	Undecorated pearlware basal sherds
				3	Undecorated pearlware body sherds
				1	Slip decorated red bodied earthenware
				1	Clear glazed red bodied earthenware body sherd
				1	Grey salt glaze stoneware body sherd
				1	Knife fragment
				1	Metal canning disc or seal
				6	Square nails
				6	Mortar fragments
				8	Unidentified cranial elements, large mammal, probably pig
				1	Coastal portion, rib fragment, juvenile
				1	Rib fragment, juvenile pig, knife marks, pig
				1	Sacrum fragment, large mammal, probably pig
				1	Vertebra fragment, large mammal, probably juvenile pig
				1	Fragment of the anterior portion, left maxilla, juvenile pig
				1	Cuspid, pig
				1	Fragment of enamel, large mammal
				1	Fragment clam shell
1	5W/10 South	1	PCI SADA #1, Feature 1	2	Refined earthenware rim sherds, undecorated
				6	Refined earthenware body sherds
				2	Red bodied earthenware rim sherds, pie crimped edge, clear glazed interior
				1	Rim sherd red bodied earthenware, thin bodied vessel
				6	Red bodied earthenware body sherds
				3	Fragments, window glass
				1	Leather punch out, possible harness waste, decorative element
				1	Posterior portion of right mandible, rodent, possibly squirrel
1	Bldg. 2301	2	PCI SADA #1	1	Brick fragment
1	11	43	Isolated find	1	Wire fragment
2	6	13	Isolated find	1	Rib fragment, pig
2	7	8, 0-17 cmbs disturbed	Isolated find	1	Fire cracked rock

Appendix A
Artifact Inventory

Area	Transect	STP #	Site Designation	Quantity	Artifacts
2	7	8 West, 0 26 cmbs disturbed	Modern	1	Rifle shell casing
2	9	13, 0-35 cmbs	Modern	1	Rifle shell casing
3					No cultural materials were recovered from Area 3
4	15	1	Isolated find	1	Brick fragment
4	15	2	Isolated find	1	Wire nail

APPENDIX B

SHOVEL TEST LOG

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	1-1	0-17	V DK GR BR	SI CL		NEGATIVE
1	1-1	17-32	GR BR AND V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	1-2	0-17	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	1-2	17-29	DK YEL BR	SI CL	DISTURBED	NEGATIVE
1	1-2	29-42	GR BR, V DK YEL BR AND DK YEL BR	SI CL	DISTURBED	NEGATIVE
1	1-3	0-15	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	1-3	15-42	GR BR, DK YEL BR AND V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	1-4	0-20	V DK GR BR	SI CL		NEGATIVE
1	1-4	20-38	DK YEL BR AND GR BR	SI CL	MOTTLED	NEGATIVE
1	1-5	0-34	V DK GR BR AND DK YEL BR	SI CL W/ROAD GRAVEL AND FILL	DISTURBED, MOTTLED	NEGATIVE
1	1-6	0-24	DK BR	SI CL		NEGATIVE
1	1-6	24-36	DK YEL BR AND GR BR	SI CL AND SHALE		NEGATIVE
1	1-7	0-31	V DK GR BR AND DK YEL BR	SI CL AND SHALE	DISTURBED	NEGATIVE
1	1-8	0-15	V DK GR BR	SI CL AND SHALE	DISTURBED	NEGATIVE
1	1-8	15-33	DK YEL BR AND GR BR	SI CL AND SHALE	MOTTLED, DISTURBED	NEGATIVE
1	1-9	0-38	V DK GR BR	SI CL		NEGATIVE
1	1-9	38-52	V DK GR BR AND DK YEL BR	SI CL		NEGATIVE
1	1-10	0-28	V DK GR BR	SI CL		NEGATIVE
1	1-10	28-43	DK YEL BR AND GR BR	SI CL	MOTTLED	NEGATIVE
1	1-11	0-24	V DK GR BR	SI CL		NEGATIVE
1	1-11	24-42	DK YEL BR	SI CL		NEGATIVE
1	2-1	0-30	DK GR	SI CL	BADLY DISTURBED	NEGATIVE
1	2-1	30-40	YEL	CL	BADLY DISTURBED	NEGATIVE
1	2-2	0-28	DK GR	SI LO	BADLY DISTURBED	NEGATIVE
1	2-2	28-35	YEL	CL	BADLY DISTURBED	NEGATIVE
1	2-3	0-26	DK GR	SI LO		NEGATIVE
1	2-3	26-36	YEL	SI LO		NEGATIVE
1	2-3 10 EAST	0-30	DK GR	SI LO		NEGATIVE
1	2-3 10 EAST	30-40	YEL	SI LO		NEGATIVE
1	2-3 10 WEST	0-18	V DK BR	SI CL		NEGATIVE
1	2-3 10 WEST	18-31	DK YEL BR	SI CL		NEGATIVE
1	2-3 10 SOUTH	0-18	V DK GR BR	SI CL		NEGATIVE
1	2-3 10 SOUTH	18-33	DK YEL BR AND V DK GR BR	SI CL		NEGATIVE
1	2-3 10 NORTH	0-30	DK GR	SI LO		NEGATIVE
1	2-3 10 NORTH	30-40	YEL	CL W/GRAVEL		NEGATIVE
1	2-4	0-36	V DK GR BR, DK YEL BR AND GR BR	SI CL W/GRAVEL	DISTURBED	NEGATIVE
1	2-5	0-30	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	2-5	30-44	DK YEL BR AND BL	SI CL	MOTTLED, POORLY DRAINED, DISTURBED	NEGATIVE
1	2-6	0-35	DK GR	SI LO		NEGATIVE
1	2-6	35-45	YEL	CL		NEGATIVE
1	2-7	0-38	V DK GR BR	SI CL		NEGATIVE
1	2-7	38-52	DK YEL BR AND GR BR	SI CL		NEGATIVE
1	2-8	0-30	DK GR	SI LO	DISTURBED	NEGATIVE
1	2-8	30-40	YEL	SI CL	DISTURBED	NEGATIVE
1	2-9	0-20	V DK GR BR	SI CL		NEGATIVE
1	2-9	20-34	GR BR AND DK YEL BR	SI CL		NEGATIVE
1	2-10	0-31	DK GR	SI LO		NEGATIVE
1	2-10	31-41	YEL	CL W/SMALL AMT OF GRAVEL		NEGATIVE
1	2-11	0-25	DK GR	SI LO		NEGATIVE
1	2-11	25-35	YEL CL	CL W/SMALL AMT OF GRAVEL		NEGATIVE
1	2-12	0-29	DK GR	SI LO		NEGATIVE
1	2-12	29-39	YEL	CL		NEGATIVE
1	2-13	0-29	DK GR	SI LO		NEGATIVE
1	2-13	29-39	V DK GR BR	SI CL		NEGATIVE
1	3-1	0-20	V DK GR BR	SI CL W/SHALE		NEGATIVE
1	3-1	20-48	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	3-2	0-35	DK GR	SI LO		NEGATIVE
1	3-2	25-45	YEL	CL		NEGATIVE
1	3-3	0-23	V DK GR	BR SI CL		NEGATIVE
1	3-3	23-39	DK YEL BR & BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	3-4	0-19	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	3-4	19-31	YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	3-5	0-11	DK GR	SI LO	POORLY DRAINED	NEGATIVE
1	3-5	11-21	YEL	CL	POORLY DRAINED	NEGATIVE
1	3-6	0-19	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	3-6	19-36	DK YEL BR, V DK GR BR & GR BR	CL W/SHALE	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	3-7	0-30	DK GR	SI LO	DISTURBED	NEGATIVE
1	3-7	30-40	DK & YEL	CL	DISTURBED	NEGATIVE
1	3-8	0-9	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	3-8	9-32	DK YEL BR, V DK GR BR & GR BR	SI CL W/SHALE	HEAVILY MOTTLED, POORLY DRAINED, DISTURBED	NEGATIVE
1	3-9	0-14	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	3-9	14-30	V DK GR BR, DK YEL BR & GR BR	SI CL W/SHALE	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	4-1	0-14	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	4-1	14-30	YEL BR & GR BR	SI CL W/SHALE	SM. AMT OF UNSORTED GLACIAL TILL, DISTURBED	NEGATIVE
1	4-2	0-14	DK GR	SI LO	DISTURBED	NEGATIVE
1	4-2	14-24	DK GR & YEL	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	4-3	0-20	V DK GR BR	SI CL	UNSORTED GLACIAL TILL, DISTURBED	NEGATIVE
1	4-3	20-32	DK YEL BR & GR BR	SI CL W/SHALE	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	4-4	0-30	DK GR	SI LO	DISTURBED	NEGATIVE
1	4-5	0-20	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	4-5	20-36	DK YEL BR & BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	4-6	0-15	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	4-6	15-27	DK YEL BR & GR BR	SI CL	DISTURBED	NEGATIVE
1	4-6	27-41	DK BR	SI CL	DISTURBED	NEGATIVE
1	4-6	41-57	DK YEL BR & GR BR	SI CL	DISTURBED	NEGATIVE
1	4-7	0-15	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	4-7	15-27	DK GR & YEL	SI CL	DISTURBED	NEGATIVE
1	4-7	27-41	DK GR	SI CL	DISTURBED	NEGATIVE
1	4-7	41-57	YEL & DK GR	SI CL	DISTURBED	NEGATIVE
1	4-8	0-26	DK GR & YEL	SI LO	DISTURBED	NEGATIVE
1	5-1	0-19	V DK GR BR	SI CL W/GRAVEL	DISTURBED	NEGATIVE
1	5-1	19-36	DK YEL BR & V DK GR BR	SI CL W/GRAVEL	MOTTLED, DISTURBED	NEGATIVE
1	5-2	0-34	V DK GR BR & DK YEL BR	SI CL	DISTURBED	MODERN CLEAR GLASS VESSEL FRAGMENT, (BURNED)
1	5-3	0-35	DK GR & YEL	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	5-4	0-20	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	5-4	20-36	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	5-5	0-21	V DK GR BR	SI CL		NEGATIVE
1	5-5	21-34	DK YEL BR	SI CL		NEGATIVE
1	5-6	0-25	DK GR	SI LO	DISTURBED	NEGATIVE
1	5-6	25-35	YEL	CL	DISTURBED	NEGATIVE
1	5-7	0-15	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	5-7	15-34	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	5-8	0-25	DK GR	SI LO		NEGATIVE
1	5-8	25-35	YEL	CL W/SM AMT OF GRAVEL		NEGATIVE
1	5-9	0-24	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	5-9	24-36	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	5-10	0-30	DK GR & YEL	SI LO	MOTTLED, DISTURBED	NEGATIVE
1	5-11	0-41	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	5-11	41-54	DK YEL BR & GR BR	SI CL W/GRAVEL	MOTTLED, DISTURBED	NEGATIVE
1	5-12	0-30	DK GR & YEL	SI CL W/GRAVEL	DISTURBED	NEGATIVE
1	5-13	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	5-14	0-20	V DK GR BR	SI CL		NEGATIVE
1	5-14	20-34	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	6-1	0-18	V DK GR BR	SI CL		NEGATIVE
1	6-1	18-36	DK GR & YEL	SI CL		NEGATIVE
1	6-2	0-24	V DK GR BR	SI CL		NEGATIVE
1	6-2	24-37	DK GR & YEL	SI CL		NEGATIVE
1	6-3	0-23	V DK GR BR	SI CL		NEGATIVE
1	6-3	23-37	DK GR & YEL	SI CL		NEGATIVE
1	6-4	0-26	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-4	26-37	DK GR & YEL	SI CL	DISTURBED	NEGATIVE
1	6-5	0-14	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	6-5	14-32	DK YEL BR & V DK GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	6-6	0-20	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	6-6	20-32	DK YEL BR & V DK GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-7	0-24	V DK GR BR	SI CL	DISTURBED	POSITIVE (WHITEWARE)
1	6-7	24-36	DK YEL BR & V DK GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-8	0-16	V DK GR BR	SI CL		NEGATIVE
1	6-8	16-27	DK YEL BR	SI CL		NEGATIVE
1	6-9	0-14	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-9	14-27	V DK GR BR & DK YEL BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	6-10	0-14	V DK GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-10	14-30	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-11	0-18	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	6-11	18-30	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-12	0-19	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-12	19-26	DK YEL BR	SI CL	EXCAVATION STOPPED BY LARGE ROCK, DISTURBED	NEGATIVE
1	6-13	0-13	V DK GR BR	SI CL W/SHALE		NEGATIVE
1	6-13	13-27	V DK GR BR, DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-14	0-13	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-14	13-24	V DK GR, DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-15	0-14	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-15	14-26	V DK GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-16	0-14	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	6-16	14-30	V DK GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	6-17	0-9	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-17	9-23	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	6-18	0-12	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	6-18	12-21	DK YEL BR & GR BR	SI CL	UNSORTED GLACIAL TILL, DISTURBED	NEGATIVE
1	6-19	0-9	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	6-19	9-21	DK YEL BR & GR BR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	6-20	0-12	DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	6-20	12-21	DK YEL BR & DK GR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	7-1	0-18	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	7-1	18-40	DK YEL BR & GR BR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	7-2	0-13	V DK GR BR	SI CL	UNSORTED GLACIAL TILL, DISTURBED	NEGATIVE
1	7-2	13-35	DK YEL BR & GR BR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	7-3	0-28	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	7-3	28-34	DK YEL BR & V DK GR BR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	7-4	0-33	V DK GR BR	SI CL	DISTURBED (PCI SADA #2)	POSITIVE (PEARLWARE, WHITEWARE, BOTTLE GLASS, METAL FRAGMENTS, BRICK FRAGMENTS
1	7-4	33-40	DK YEL BR & GR BR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED (PCI SADA #2)	NEGATIVE
1	7-4 (10 WEST)	0-24	V DK GR BR	SI CL	PCI SADA #2	POSITIVE (WINDOW GLASS, BLUE BOTTLE GLASS, UNIDENTIFIED NAIL)
1	7-4 (10 WEST)	24-37	DK YEL GR	SI CL	UNSORTED GLACIAL TILL (PCI SADA #2)	NEGATIVE
1	7-4 (10 NORTH)	0-18	V DK GR BR	SI CL	PCI SADA #2	POSITIVE (MODERN BOTTLE GLASS, WIRE NAILS, WINDOW GLASS
1	7-4 (10 NORTH)	18-33	DK YEL BR	SI CL	WATER AT 33 CENTIMETERS (PCI SADA #2)	NEGATIVE
1	7-4 (10 EAST)	0-10	V DK GR BR	SI CL	PCI SADA #2	POSITIVE (WINDOW GLASS)
1	7-4 (10 EAST)	10-35	DK YEL BR	SI CL	PCI SADA #2	NEGATIVE
1	7-4 (10 SOUTH)	0-14	V DK GR BR	SI CL	PCI SADA #2	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	7-4 (10 SOUTH)	14-35	DK YEL BR	SI CL	PCI SADA #2	NEGATIVE
1	7-5	0-18	V DK GR BR	SI CL		NEGATIVE
1	7-5	18-30	DK YEL BR	SI CL		NEGATIVE
1	7-6	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	7-7	0-10	V DK GR BR	SI CL	POORLY DRAINED	NEGATIVE
1	7-7	10-20	DK YEL BR	SI CL	POORLY DRAINED	NEGATIVE
1	7-8	0-16	V DK GR BR	SI CL	POORLY DRAINED	NEGATIVE
1	7-8	16-29	DK YEL BR	SI CL	POORLY DRAINED	NEGATIVE
1	7-9	0-35	V DK GR BR TO V DK GR BR & GR BR	SI CL	GRADING TO MOTTLED	NEGATIVE
1	7-10	0-26	V DK GR BR	SI CL		NEGATIVE
1	7-10	26-40	DK YEL BR & V DK GR BR	SI CL		NEGATIVE
1	7-11	0-19	V DK GR BR	SI CL		NEGATIVE
1	7-11	19-30	DK YEL BR	SI CL		NEGATIVE
1	7-12	0-15	V DK GR BR	SI CL		NEGATIVE
1	7-12	15-25	DK YEL BR	SI CL		NEGATIVE
1	7-13	0-15	DK GR BR	SI CL		NEGATIVE
1	7-13	15-30	DK YEL BR	SI CL		NEGATIVE
1	7-14	0-30	V DK GR BR	SI CL		NEGATIVE
1	7-15	0-13	V DK GR BR	SI CL		NEGATIVE
1	7-15	13-40	DK YEL BR & GR BR	CL	MOTTLED	NEGATIVE
1	7-16	0-30	V DK GR BR	SI CL W/SHALE	WATER AT 30 CENTIMETERS	NEGATIVE
1	7-17	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	7-18	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	8-1	0-17	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	8-1	17-28	DK YEL BR & BR	SI CL	DISTURBED, MOTTLED	NEGATIVE
1	8-2	0-19	V DK GR BR	SI CL W/SLAG & CINDERS	DISTURBED	NEGATIVE
1	8-2	19-31	DK YEL BR & GR BR	SI CL W/SLAG & CINDERS	MOTTLED, DISTURBED	NEGATIVE
1	8-3	0-18	V DK GR BR	SI CL W/SLAG & CINDERS	DISTURBED	NEGATIVE
1	8-3	18-29	DK YEL BR	SI CL W/SLAG & CINDERS	DISTURBED	NEGATIVE
1	8-4	0-16	V DK GR BR	SI CL W/SLAG & CINDERS	DISTURBED	NEGATIVE
1	8-4	16-28	DK YEL BR, GR BR & DK BR	SI CL W/SLAG & CINDERS	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	8-5	0-34	DK BR	CL SI		NEGATIVE
1	8-5	34-45	DK YEL BR	CL SI		NEGATIVE
1	8-6	0-36	DK BR	SI		NEGATIVE
1	8-6	36-48	DK YEL BR & GR BR	SI	MOTTLED	NEGATIVE
1	8-7	0-44	V DK GR BR, DK YEL BR & GR BR	SI	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	8-8	0-19	DK BR	SI CL	DISTURBED	NEGATIVE
1	8-8	19-38	DK YEL BR, V DK GR BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	8-9	0-10	V DK GR BR	SI CL		NEGATIVE
1	8-9	10-40	DK YEL BR, GR BR & BK	SI CL W/COBBLES	MOTTLED, DISTURBED	NEGATIVE
1	8-10	0-10	V DK GR BR	SI CL	HEAVILY DISTURBED	NEGATIVE
1	8-10	10-25	DK YEL BR, GR BR & V DK GR BR	SI CL W/SHALE & COBBLES	MOTTLED, HEAVILY DISTURBED	NEGATIVE
1	8-11	0-12	V DK GR BR	SI CL W/SHALE		NEGATIVE
1	8-11	12-30	DK YEL BR, GR BR & V DK GR BR	SI CL, W/SHALE & COBBLES	MOTTLED, HEAVILY DISTURBED	NEGATIVE
1	8-12	0-30	V DK GR BR	SI		NEGATIVE
1	8-12	30-46	DK YEL BR & V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	8-13	0-15	BK	SI CL	DISTURBED	NEGATIVE
1	8-13	15-39	DK YEL BR & V DK GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	8-14	0-24	BK	SI CL	DISTURBED	NEGATIVE
1	8-14	24-39	DK YEL BR & V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-1	0-33	V DK GR BR	SI CL	DISTURBED	POSITIVE (CLEAR BOTTLE GLASS FRAGMENTS)
1	9-1	33-43	DK YEL BR & V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-2	0-25	V DK GR BR	SI CL W/GRAVEL	MOTTLED	NEGATIVE
1	9-2	25-35	DK YEL BR & V DK GR BR	CL W/GRAVEL	MOTTLED	NEGATIVE
1	9-3	0-15	V DK GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	9-3	15-26	DK YEL BR & V DK GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	9-4	0-14	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-4	14-24	DK YEL BR & V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-5	0-35	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-5	35-45	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	9-6	0-27	V DK GR BR	SI CL	MOTTLED	POSITIVE (WIRE FRAGMENT)
1	9-6	27-37	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	9-7	0-32	V DK GR BR	SI CL W/GRAVEL	MOTTLED	NEGATIVE
1	9-7	32-42	DK YEL BR & V DK GR BR	SI CL W/GRAVEL	MOTTLED	NEGATIVE
1	9-8	0-28	V DK GR BR	SI CL W/GRAVEL	MOTTLED	NEGATIVE
1	9-8	28-38	DK YEL BR & GR BR	SI CL W/GRAVEL	MOTTLED	NEGATIVE
1	9-9	0-33	GR BR	SI CL	MOTTLED	NEGATIVE
1	9-9	33-43	DK YEL GR & GR BR	SI CL	MOTTLED	NEGATIVE
1	9-10	0-30	V DK GR BR	SI CL	MOTTLED	POSITIVE (WIRE FRAGMENT)
1	9-10	30-40	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	9-11	0-33	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-11	33-43	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	9-12	0-35	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-12	35-46	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	9-13	0-19	B DK GR BR	SI CL	MOTTLED	NEGATIVE
1	9-13	19-31	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-1	0-7	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-1	7-20	DK YEL BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-2	0-19	V DK GR	SI CL W/SHALE	HEAVILY DISTURBED	NEGATIVE
1	10-2	19-30	V DK GR BR, DK YEL BR & GR BR	SI CL W/SHALE	HEAVILY MOTTLED, POORLY DRAINED, DISTURBED	NEGATIVE
1	10-3	N/A	N/A	N/A	NOT EXCAVATED, AREA HAS BEEN STRIPPED, EXPOSED BEDROCK	
1	10-4	0-14	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	10-4	14-30	DK YEL BR & GR BR	CL	MOTTLED, DISTURBED	NEGATIVE
1	10-5	0-18	V DK GR BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
1	10-6	0-40	V DK GR BR	SI	MOTTLED	NEGATIVE
1	10-6	40-52	DK YEL BR & GR BR	SI CL W/COBBLES	MOTTLED	NEGATIVE
1	10-7	0-40	V DK GR BR	SI CL	DISTURBED	POSITIVE (PLATE GLASS)
1	10-7	40-51	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-8	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	10-9	0-26	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	10-9	26-38	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-10	0-16	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	10-10	16-30	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	10-11	0-17	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	10-11	17-30	DK YEL BR	SI CL	DISTURBED	NEGATIVE
1	10-12	0-18	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	10-12	18-36	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-13	0-23	V DK GR BR	CL SI	MOTTLED	NEGATIVE
1	10-13	23-40	DK YEL BR	SI CL	MOTTLED	NEGATIVE
1	10-14	0-30	V DK GR BR	CL SI	MOTTLED	NEGATIVE
1	10-14	30-41	DK YEL BR & GR BR	CL SI	MOTTLED	NEGATIVE
1	10-15	0-29	V DK GR BR	CL SI	MOTTLED	NEGATIVE
1	10-15	29-42	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-16	0-17	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	10-16	17-28	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-17	0-30	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-18	0-22	V DK GR BR	CL SI W/SHALE & GRAVEL		NEGATIVE
1	10-18	22-32	DK YEL BR & GR BR	CL SI	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	10-19	0-19	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-19	19-30	DK YEL BR & V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-20	0-19	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-20	19-30	DK YEL BR & GR BR	CL SI	MOTTLED, DISTURBED	NEGATIVE
1	10-21	0-8	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-21	8-19	DK YEL BR & GR BR	SI CL W/SHALE	THIS AREA HAS BEEN STRIPPED, MOTTLED, DISTURBED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	10-22	0-17	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-22	17-30	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, POORLY DRAINED	NEGATIVE
1	10-23	0-14	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-23	14-27	DK YEL BR & GR BR	CL SI	MOTTLED, DISTURBED	NEGATIVE
1	10-24	0-10	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-24	10-30	DK YEL BR & GR BR	CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	10-25	0-8	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-25	8-28	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	10-26	0-14	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-26	14-30	DK YEL BR & GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-27	0-22	V DK GR BR & DK YEL BR	SI CL W/SHALE	STRIPPED, MOTTLED, DISTURBED	NEGATIVE
1	10-28	0-8	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-28	8-20	DK YEL BR	SI CL W/SHALE	MOTTLED, HEAVILY DISTURBED	NEGATIVE
1	10-29	0-8	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-29	8-20	DK YEL BR & V DK GR BR	SI CL W/SHALE	MOTTLED, HEAVILY DISTURBED	NEGATIVE
1	10-30	0-8	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-30	8-28	DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	10-31	0-13	V DK GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED, STRIPPED, EXCAVATED TO BEDROCK	NEGATIVE
1	10-32	0-13	DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED, EXCAVATED TO BEDROCK	NEGATIVE
1	10-33	0-15	DK BR	SA SI W/SHALE	DISTURBED	NEGATIVE
1	10-33	15-27	V DK GR BR	SA W/SHALE	DISTURBED	NEGATIVE
1	10-34	0-16	DK BR & DK YEL BR	SI W/SHALE	MOTTLED, DISTURBED, EXCAVATED TO BEDROCK	NEGATIVE
1	10-35	N/A	N/A	N/A	NOT EXCAVATED, EXPOSED BEDROCK, STRIPPED	
1	10-36	0-16	DK BR & DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED, EXCAVATED TO BEDROCK	NEGATIVE
1	10-37	0-28	DK BR & V DK GR BR	SI CL W/SHALE	MOTTLED, DISTURBED, EXCAVATED TO BEDROCK	NEGATIVE
1	10-38	0-27	V DK GR BR	SI W/SHALE		NEGATIVE
1	10-38	27-36	DK YEL BR & BR	SI CL W/SHALE	MOTTLED, EXCAVATED TO BEDROCK	NEGATIVE
1	10-39	0-9	V DK GR BR	CL SI W/SHALE	SHALE	NEGATIVE
1	10-39	9-30	DK YEL BR & BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-40	0-13	V DK GR BR	CL SI W/SHALE	SHALE	NEGATIVE
1	10-40	13-27	DK YEL BR & BR	SI CL W/SHALE	MOTTLED, SHALE	NEGATIVE
1	10-41	0-12	DK BR & DK YEL BR	SI CL W/SHALE	MOTTLED, SHALE	NEGATIVE
1	10-41	12-32	DK YEL BR & BR	SI CL W/SHALE	MOTTLED, SHALE	NEGATIVE
1	10-42	0-24	DK BR	CL SI W/SHALE	SHALE	NEGATIVE
1	10-42	24-36	DK YEL BR & BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-43	0-24	BR	CL SI W/SHALE	SHALE	NEGATIVE
1	10-43	24-33	DK YEL BR & BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-44	0-18	BR	SI W/SHALE	SHALE	NEGATIVE
1	10-44	18-31	DK YEL BR & BR	SI CL W/SHALE	MOTTLED, SHALE	NEGATIVE
1	10-45	0-18	BR & V DK GR BR	CL SI W/SHALE	MOTTLED, SHALE	NEGATIVE
1	10-45	18-30	DK YEL BR & BR	SI CL W/SHALE	MOTTLED, SHALE	NEGATIVE
1	10-46	0-23	BR	CL SI		NEGATIVE
1	10-46	23-35	DK YEL BR & DK BR	SI CL W/SHALE & COBBLES	MOTTLED, SHALE	NEGATIVE
1	10-47	0-25	BR	CL SI		NEGATIVE
1	10-47	25-38	DK YEL BR & BR	SI CL	MOTTLED	NEGATIVE
1	10-48	0-39	BR	CL SI W/SHALE		NEGATIVE
1	10-48	39-49	DK YEL BR & BR	SI CL	MOTTLED	NEGATIVE
1	10-49	0-18	BR	CL SI W/SHALE		NEGATIVE
1	10-49	18-32	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-50	0-27	BR	CL SI	SHALE	NEGATIVE
1	10-50	27-40	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-51	0-31	BR	CL SI W/SHALE	EXCAVATED TO BEDROCK	NEGATIVE
1	10-52	0-25	BR	CL SI		NEGATIVE
1	10-52	25-38	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	10-53	0-28	BR	CL SI	EXCAVATION STOPPED BY LARGE ROCK	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	10-54	0-41	BR	CL SI	WATER AT 41 CENTIMETERS	NEGATIVE
1	10-54	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	10-55	0-33	V DK GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	10-56	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	10-57	0-36	V DK GR BR	CL SI		NEGATIVE
1	10-57	36-48	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-58	0-9	DK BR	CL SI W/SHALE	DISTURBED	NEGATIVE
1	10-58	9-25	DK YEL BR, V DK GR BR & GR BR	SI CL W/SHALE & GRAVEL	HEAVILY DISTURBED	NEGATIVE
1	10-59	0-30	V DK GR BR	SI CL	EXCAVATION STOPPED AT LARGE ROCK, DISTURBED	NEGATIVE
1	10-60	0-29	V DK GR BR, DK YEL BR & BR	SI CL W/SHALE & GRAVEL	HEAVILY MOTTLED, EXCAVATION STOPPED AT LARGE ROCK, DISTURBED	NEGATIVE
1	10-61	0-7	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	10-61	7-26	V DK GR BR, DK YEL BR & DK BR	SI CL W/SHALE & GRAVEL	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	10-62	0-13	V DK GR BR	SI CL W/SHALE	DISTURBED	NEGATIVE
1	10-62	13-30	DK YEL BR, DK BR & BR	SI CL W/SHALE	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	10-63	0-10	V DK GR BR	SI CL W/SHALE & GRAVEL	DISTURBED	NEGATIVE
1	10-63	10-29	V DK GR BR, DK YEL BR & DK BR	SI CL W/SHALE & GRAVEL	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	10-64	0-14	V DK GR BR	SI CL		NEGATIVE
1	10-64	14-32	STRONG BR & BR	SI CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
1	10-65	0-39	V DK GR BR	CL SI W/SHALE		NEGATIVE
1	10-65	39-51	DK YEL BR & BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	10-66	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	10-67	0-9	V DK GR BR	CL SI W/GRAVEL	DISTURBED	NEGATIVE
1	10-67	9-25	DK YEL BR & GR BR	SI CL W/GRAVEL & SHALE	MOTTLED, DISTURBED	NEGATIVE
1	10-68	0-17	V DK GR BR, DK YEL BR & GR BR	CL SI W/SHALE	HEAVILY MOTTLED, DISTURBED	NEGATIVE
1	10-68	17-28	DK YEL BR & GR BR	SI CL	UNSORTED GLACIAL TILL, MOTTLED, DISTURBED	NEGATIVE
1	10-69	0-8	V DK GR BR & DK YEL BR	CL SI W/SHALE	PCI SADA #3, HISTORIC CERAMICS, MODERN GLASS BOTTLE FRAGMENTS	POSITIVE (CLEAR MODERN BOTTLE)
1	10-69	8-29	DK YEL BR & GR BR	SI CL W/GRAVEL	MOTTLED, DISTURBED	NEGATIVE
1	10-70	0-18	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	10-70	18-32	DK YEL BR & GR BR	SI CL	DISTURBED	NEGATIVE
1	11-1	N/A	N/A	N/A	NOT EXCAVATED	
1	11-2	0-32	V DK GR BR	SI CL		NEGATIVE
1	11-2	32-43	GR BR & DK YEL BR	SI CL	MOTTLED	NEGATIVE
1	11-3	0-5	V DK GR BR	SI CL		NEGATIVE
1	11-3	5-15	GR BR & DK YEL BR	SI CL	MOTTLED	NEGATIVE
1	11-4	0-30	V DK GR BR	SI CL	POORLY DRAINED	NEGATIVE
1	11-5	0-35	V DK GR BR	SI CL	POORLY DRAINED	NEGATIVE
1	11-6	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	11-7	0-25	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	11-7	25-36	DK YEL BR	CL W/GRAVEL	DISTURBED	NEGATIVE
1	11-8	0-30	V DK GR BR	SI CL	POORLY DRAINED	NEGATIVE
1	11-9	0-38	V DK GR BR	SI CL	POORLY DRAINED	NEGATIVE
1	11-9	38-48	GR BR & DK YEL BR	SI CL	MOTTLED	NEGATIVE
1	11-10	0-30	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	11-11	0-30	V DK GR BR	SI CL	MOTTLED	NEGATIVE
1	11-12	0-6	V DK GR BR	SI LO	DISTURBED	NEGATIVE
1	11-12	6-25	GR BR & DK YEL BR	SI LO	MOTTLED	NEGATIVE
1	11-13	0-30	V DK GR BR	SI LO	HEAVILY DISTURBED	NEGATIVE
1	11-14	0-32	V DK GR BR	SI LO		NEGATIVE
1	11-14	32-42	DK YEL BR	SI CL		NEGATIVE
1	11-15	0-15	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	11-16	0-15	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-17	0-15	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-18	0-15	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-19	0-15	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-20	0-15	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-21	0-17	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-22	0-16	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-23	N/A	N/A	N/A	NOT EXCAVATED, EXPOSED BEDROCK	
1	11-24	0-15	V DK GR BR	CL W/LG PERCENTAGE OF SUBANGULAR ROCKS	IN SLOPE, ERODED	NEGATIVE
1	11-25	0-30	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK	NEGATIVE
1	11-26	0-15	V DK BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-27	0-10	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK, STRIPPED	NEGATIVE
1	11-28	0-10	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK, STRIPPED	NEGATIVE
1	11-29	0-15	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK, STRIPPED	NEGATIVE
1	11-30	0-30	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK, DISTURBED	NEGATIVE
1	11-31	0-24	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK, DISTURBED	NEGATIVE
1	11-32	0-16	V DK GR BR	SI CL	EXCAVATION STOPPED AT BEDROCK, STRIPPED	NEGATIVE
1	11-33	N/A	N/A	N/A	NOT EXCAVATED, EXPOSED AT BEDROCK	
1	11-34	N/A	N/A	N/A	NOT EXCAVATED, EXPOSED AT BEDROCK	
1	11-35	N/A	N/A	N/A	NOT EXCAVATED, EXPOSED AT BEDROCK	
1	11-36	0-10	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-37	0-16	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-38	0-20	V DK GR BR	SI CL	EXCAVATED TO BEDROCK, STRIPPED	NEGATIVE
1	11-39	0-35	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	11-40	0-30	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	11-40	30-40	DK YEL BR	SI CL W/ROCK	DISTURBED	NEGATIVE
1	11-41	0-25	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	11-41	25-35	DK YEL BR	SI CL W/ROCKS	DISTURBED	NEGATIVE
1	11-42	0-33	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	11-42	33-43	DK YEL BR	SI CL W/ROCK	DISTURBED	NEGATIVE
1	11-43	0-35	V DK GR BR	SI LO	DISTURBED	POSITIVE (WIRE FRAGMENT)
1	11-44	0-25	V DK GR BR	SI CL	DISTURBED	NEGATIVE
1	11-44	25-35	DK YEL BR	SI CL	DISTURBED	NEGATIVE
1	11-45	0-40	V DK GR BR	SI CL		NEGATIVE
1	11-46	0-35	V DK GR BR	SI LO		NEGATIVE
1	11-46	35-45	DK YEL BR	SI LO		NEGATIVE
1	11-47	0-35	V DK GR BR	SI LO		NEGATIVE
1	11-47	35-46	DK YEL BR	SI LO		NEGATIVE
1	11-48	0-3	THIN VENEER OF V DK BR	SI CL	IN SLOPE ERODED	NEGATIVE
1	11-48	3-13	V DK GR BR	SI CL W/SUBANGULAR ROCK FRAGMENTS	SHALE	NEGATIVE
1	11-49	0-10	V DK GR BR	SI LO		NEGATIVE
1	11-49	10-20	DK EL BR	SI CL		NEGATIVE
1	11-50	0-20	V DK GR BR	SI LO	VERY WET	NEGATIVE
1	11-51	0-20	V DK GR BR	SI CL	VERY WET	NEGATIVE
1	11-52	0-30	V DK GR BR	SI CL	WET	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	11-53	0-28	V DK GR BR	SI CL	WET	NEGATIVE
1	11-53	28-38	DK YEL BR	SI CL	WET	NEGATIVE
1	11-54	0-35	V DK GR BR	SI CL	WET	NEGATIVE
1	11-55	0-14	V DK GR BR	SI CL	WET	NEGATIVE
1	11-55	14-35	DK YEL BR	SI CL	WET	NEGATIVE
1	11-56	0-20	V DK GR BR	SI CL		NEGATIVE
1	11-57	0-26	V DK GR BR	SI CL		NEGATIVE
1	11-57	26-35	DK YEL BR	SI CL		NEGATIVE
1	11-58	0-20	V DK GR BR	SI CL		NEGATIVE
1	11-59	0-20	V DK GR BR	SI CL		NEGATIVE
1	11-60	0-5	V DK GR BR	THIN VENEER OF SI LO	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-61	0-20	V DK GR BR	SI CL	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-62	0-18	V DK GR BR	SI CL	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-62	18-40	DK YEL BR	SI CL	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-63	0-20	V DK GR BR	SI CL	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-64	0-20	V DK GR BR	SI CL	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-65	0-20	V DK GR BR	SI CL	MODERN TRASH SCATTER (SURFACE CONSISTING OF BOTTLE FRAGS, WIRE FRAGS, RUNWAY LAMP FRAGS AND COAL)	NEGATIVE
1	11-66	0-22	V DK GR BR	SI CL	NEAR CULVERT	NEGATIVE
1	12-1	0-13	DK BR	CL SI	MODERN TRASH SCATTER	NEGATIVE
1	12-2	0-10	DK BR	CL SI		NEGATIVE
1	12-2	10-25	DK YEL BR	SI CL		NEGATIVE
1	12-3	0-13	DK BR	CL SI		NEGATIVE
1	12-3	13-28	DK YEL BR	SI CL		NEGATIVE
1	12-4	0-32	DK BR	CL SI		NEGATIVE
1	12-4	32-40	DK YEL BR	SI CL		NEGATIVE
1	12-5	0-30	DK BR	CL SI	DISTURBED	NEGATIVE
1	12-6	0-32	DK BR	CL SI		NEGATIVE
1	12-6	32-42	DK YEL BR	SI CL		NEGATIVE
1	13-1	0-21	DK BR	CL SI		NEGATIVE
1	13-1	21-37	DK YEL BR	SI CL		NEGATIVE
1	13-2	0-21	DK BR	CL SI		NEGATIVE
1	13-2	21-34	DK YEL BR	SI CL		NEGATIVE
1	13-3	0-20	DK BR	CL SI		NEGATIVE
1	13-3	20-33	DK YEL BR	SI CL W/SHALE		NEGATIVE
1	13-4	0-22	DK BR	CL SI		NEGATIVE
1	13-4	22-34	DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	13-5	0-13	DK YEL BR	CL SI	DISTURBED	NEGATIVE
1	13-5	13-19	DK BR & DK YEL BR	CL SI	MOTTLED, DISTURBED	NEGATIVE
1	13-5	19-33	DK YEL BR	SI CL W/SHALE	DISTURBED	NEGATIVE

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AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	13-6	0-10	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	13-6	10-35	V DK GR	CL SI	DISTURBED	NEGATIVE
1	13-6	35-50	DK YEL BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	13-7	0-10	DK YEL BR	SI CL	DISTURBED	NEGATIVE
1	13-7	10-22	V DK GR	SI CL	DISTURBED	NEGATIVE
1	13-7	22-35	DK YEL BR	SI CL	MOTTLED, DISTURBED, LOOKS LIKE SUB ON TOP	NEGATIVE
1	13-8	0-23	V DK GR BR	CL SI		NEGATIVE
1	13-8	23-33	DK YEL BR	SI CL	MOTTLED	NEGATIVE
1	13-9	0-26	V DK GR BR	CL SI		NEGATIVE
1	13-9	26-36	DK YEL BR	SI CL	MOTTLED	NEGATIVE
1	13-10	0-10	V DK GR	CL SI	DISTURBED	NEGATIVE
1	13-10	10-29	DK YEL BR & GR BR	SI CL	MOTTLED, DISTURBED	NEGATIVE
1	14-1	0-35	V DK GR	CL SI		NEGATIVE
1	14-1	35-45	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	14-2	0-16	V DK GR BR	CL SI		NEGATIVE
1	14-2	16-30	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	15-1	0-30	V DK GR BR	CL SI		NEGATIVE
1	15-1	30-40	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	15-2	0-37	V DK GR BR	CL SI		NEGATIVE
1	15-2	37-45	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	15-3	0-34	V DK GR BR	CL SI		NEGATIVE
1	15-3	34-45	DK YEL BR GR BR	SI CL	MOTTLED	NEGATIVE
1	15-4	0-34	V DK GR BR	CL SI		NEGATIVE
1	15-4	34-50	DK YEL BR GR BR	SI CL	MOTTLED	NEGATIVE
1	15-5	0-33	V DK GR BR	CL SI		NEGATIVE
1	15-5	33-45	DK YEL BR GR BR	SI CL	MOTTLED	NEGATIVE
1	15-6	0-24	V DK GR BR	CL SI		NEGATIVE
1	15-6	24-30	DK YEL BR GR BR	SI CL	MOTTLED	NEGATIVE
1	15-7	0-20	V DK GR BR	CL SI		NEGATIVE
1	15-8	0-28	V DK GR BR	CL SI		NEGATIVE
1	15-8	28-38	DK GR BR	SI CL	MOTTLED	NEGATIVE
1	15-9	0-18	V DK GR BR	CL SI		NEGATIVE
1	15-9	18-30	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	15-10	0-29	V DK GR BR	CL SI		NEGATIVE
1	15-10	29-40	GR BR	SI CL	MOTTLED	NEGATIVE
1	15-11	0-15	V DK GR BR	CL SI		NEGATIVE
1	15-11	15-25	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	15-12	0-30	V DK GR BR	CL SI		NEGATIVE
1	15-13	0-26	V DK GR BR	CL SI		NEGATIVE
1	15-13	26-35	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	15-14	0-33	V DK GR BR	CL SI		NEGATIVE
1	15-14	33-43	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
1	16-1	0-15	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	16-1	15-26	GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED, DISTURBED	NEGATIVE
1	16-2	0-21	V DK GR	CL SI W/SHALE		NEGATIVE
1	16-2	21-36	DK YEL BR & BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	16-3	0-30	V DK GR BR	CL SI		NEGATIVE
1	16-3	30-42	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	16-4	0-23	GR BR	CL SI	SHALE	NEGATIVE
1	16-4	23-33	DK YEL BR & GR BR	SI CL W/SHALE	MOTTLED	NEGATIVE
1	16-5	N/A	N/A	N/A	NOT EXCAVATED, CULVERT & STANDING WATER	
1	16-6	0-10	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	16-6	10-23	DK YEL BR & V DK GR BR	SI CL W/GRAVEL & SHALE	MOTTLED, DISTURBED	NEGATIVE
1	16-7	0-8	V DK GR BR	CL SI	DISTURBED	NEGATIVE
1	16-7	8-24	DK YEL BR & V DK GR BR	SI CL W/GRAVEL & SHALE	MOTTLED, DISTURBED	NEGATIVE
1	16-8	0-20	V DK GR BR	CL SI		NEGATIVE
1	16-8	20-31	DK YEL BR & V DK GR BR	SI CL W/GRAVEL & SHALE	MOTTLED	NEGATIVE
1	16-9	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
1	16-10	0-25	V DK GR BR	CL SI		NEGATIVE
1	16-10	25-38	DK YEL BR & BR	SI CL W/GRAVEL & SHALE	MOTTLED	NEGATIVE
1	16-11	0-30	V DK GR BR	CL SI		NEGATIVE

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AREA 1: AIRFIELD						
AREA	TRANSECT-STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	16-11	30-42	DK YEL BR	CL W/SHALE		NEGATIVE
1	16-12	0-23	DK YEL BR & V DK GR BR	CL SI W/GRAVEL & SHALE	MOTTLED	NEGATIVE
1	16-13	0-9	BK	CL SI	DISTURBED	NEGATIVE
1	16-13	9-21	DK YEL BR & V DK GR BR	SI CL W/GRAVEL & SHALE	MOTTLED, DISTURBED	NEGATIVE
1	16-14	0-33	V DK GR BR	CL SI		NEGATIVE
1	16-14	33-45	DK YEL BR & V DK GR BR	CL SI	MOTTLED	NEGATIVE

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Shovel Test Pit Log

AREA 1: AIRFIELD, BUILDING 2301						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
1	1	0-12	V DK GR BR	SI LO W/SHALE	PCI SADA #1	NEGATIVE
1	1	12-46	V DK GR BR	SI LO W/SHALE	PCI SADA #1	POSITIVE (TRANSFER PRINTED PEARLWARES, RED BODIED EARTHENWARES, BRICKS, WROUGHT IRON FRAGMENTS)
1	1	46-54	DK YEL BR	SI LO	PCI SADA #1	NEGATIVE
1	10 WEST	0-23	V DK GR BR	SI LO	PCI SADA #1	NEGATIVE
1	10 WEST	23-77	V DK GR BR	SI	WOOD ASH, ARTIFACTS, 7 METERS EAST OF TREE (PCI SADA #1)	POSITIVE (PEARLWARE, RED BODIED EARTHENWARES, BONE, METAL)
1	5W/10S	0-20	V DK GR BR	SI LO	PCI SADA #1	NEGATIVE
1	5W/10S	20-37	BLACK	SI LO W/ASH & SHALE	PCI SADA #1	POSITIVE (EARTHENWARES, BONE, LEATHER)
1	5W/10S	37-45	V DK GR BR	SI W/SHALE	PCI SADA #1	POSITIVE (HISTORIC ARTIFACTS)
1	5W/10S	45-57	BLACK	SI CL	PCI SADA #1	NEGATIVE
1	2	0-35	DK YEL BR	SI LO	PCI SADA #1	NEGATIVE
1	2	35-45	DK YEL BR	SI LO W/SHALE	PCI SADA #1	POSITIVE (BRICK FRAGMENTS)
1	3	0-32	V DK GR BR	SI LO	PCI SADA #1	NEGATIVE
1	3	32-42	BLACK	SI LO W/SHALE	PCI SADA #1	NEGATIVE
1	4	0-30	BLACK & DK YEL BR	SI LO	PCI SADA #1	NEGATIVE
1	4	30-40	DK YEL BR	SI LO W/SHALE	PCI SADA #1	NEGATIVE

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Shovel Test Pit Log

AREA 2						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
2	1-1	0-15	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	1-1	15-30	DK BR & DK YEL BR	SI CL	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-2	0-30	BK	SI LO W/SHALE	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-2	30-40	WEAK RED	SI LO CL W/SHALE	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-3	0-34	V DK GR BR	SI LO	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-3	34-49	GR BR & DK YEL BR	SI CL	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-4	0-28	V DK GR BR	SI LO	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-4	28-46	DK BR & DK YEL BR	SI CL	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-5	0-35	V DK GR BR & DK YEL BR	SI CL	MOTTLED, UNSORTED GLACIAL TILL, DISTURBED	NEGATIVE
2	1-6	0-35	V DK GR BR	SI LO	MOTTLED, UNSORTED GLACIAL TILL, DISTURBED	NEGATIVE
2	1-6	35-45	DK BR & DK YEL BR	SI CL	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-7	0-28	V DK GR BR	SI LO	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-7	28-42	DK BR & DK YEL BR	SI CL	MOTTLED, UNSORTED GLACIAL TILL	NEGATIVE
2	1-7	42-63	DK YEL BR	CL	UNSORTED GLACIAL TILL	NEGATIVE
2	1-8	N/A	N/A	N/A	NOT EXCAVATED - ROADWAY LEVEE	
2	2-1	0-30	BK	SI LO W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-1	30-45	BR	O CL W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-2	0-28	BK	SI LO W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-2	28-46	BR	O CL W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-3	0-35	BK	SI LO W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-3	35-45	BR	O CL W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-4	N/A	N/A	N/A	NOT EXCAVATED, BERM AREA	
2	2-5	0-28	BK	SI LO	MOTTLED	NEGATIVE
2	2-5	28-40	BR	LO CL	MOTTLED	NEGATIVE
2	2-6	0-35	BK	SI LO	MOTTLED	NEGATIVE
2	2-6	35-45	BR	LO CL	MOTTLED	NEGATIVE
2	2-7	0-33	BK	SI LO W/GRAVEL & SHAL	MOTTLED	NEGATIVE
2	2-7	33-43	BR	O CL W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	2-8	0-32	BK	SI LO WSHALE & GRAVEL	MOTTLED	NEGATIVE
2	2-8	32-45	BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	3-1	0-20	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	3-1	20-34	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	3-2	0-33	BK	SI LO W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	3-2	33-43	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	3-3	0-20	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	3-3	20-31	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	3-4	0-27	BK	SI LO W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	3-4	27-40	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	3-5	0-20	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	3-5	20-35	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	3-6	0-28	BK	SI LO W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	3-6	28-38	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	3-7	0-16	V DK GR BR	SI LO	MOTTLED	NEGATIVE
2	3-7	16-34	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	3-8	0-31	BK	SI LO W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	3-8	31-41	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	3-9	0-27	BK	SI LO W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	3-9	27-40	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	4-1	0-10	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	4-1	10-19	V DK GR	CL SI W/GRAVEL	MOTTLED	NEGATIVE
2	4-1	19-24	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	4-1	24-29	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	4-2	0-34	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	4-2	34-48	V DK GR BR & DK YEL BR	SI CL W/SHALE	MOTTLED	NEGATIVE
2	4-3	0-23	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	4-3	23-45	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	4-4	0-23	V DK GR BR	CL SI	MOTTLED	NEGATIVE
2	4-4	23-30	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	4-5	0-20	V DK GR BR	SI LO	MOTTLED	NEGATIVE

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Shovel Test Pit Log

AREA 2						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
2	4-5	20-44	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	4-6	0-23	V DK GR BR	SI LO	MOTTLED	NEGATIVE
2	4-6	23-36	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	4-7	0-22	V DK GR BR	SI LO	IRREGULAR SURFACE	NEGATIVE
2	4-7	22-26	DK YEL GR	SI CL	IRREGULAR SURFACE	NEGATIVE
2	4-8	0-18	V DK GR BR	SI CL	IRREGULAR SURFACE	NEGATIVE
2	4-8	18-36	DK YEL BR	SI CL	IRREGULAR SURFACE	NEGATIVE
2	4-9	0-23	V DK GR BR	SI LO	IRREGULAR SURFACE	NEGATIVE
2	4-9	23-40	DK YEL BR	SI CL	IRREGULAR SURFACE	NEGATIVE
2	4-10	0-23	V DK GR BR	SI LO	IRREGULAR SURFACE	NEGATIVE
2	4-10	23-36	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
2	4-11	0-20	V DK GR BR	SI LO	SLIGHTLY WET	NEGATIVE
2	4-11	20-31	DK YEL BR	SI CL	SLIGHTLY WET	NEGATIVE
2	4-12	0-18	V DK GR BR	SI LO	IRREGULAR SURFACE	NEGATIVE
2	4-12	18-30	DK YEL BR	CL SI	IRREGULAR SURFACE	NEGATIVE
2	5-1	0-21	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-1	21-31	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-2	0-31	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-2	31-45	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-3	0-29	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-3	29-43	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-4	0-32	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-4	32-43	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-5	0-27	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-5	27-38	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-6	0-29	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-6	29-41	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-7	0-26	BK	SI LO W/SHALE & GRAVE	IRREGULAR SURFACE	NEGATIVE
2	5-7	26-37	DK YEL BR	CL W/SHALE & GRAVEL	IRREGULAR SURFACE	NEGATIVE
2	5-8	0-34	RED BR	SI LO	IRREGULAR SURFACE	NEGATIVE
2	5-8	34-42	RED BK & VERY DUSKY RE	CL	MOTTLED	NEGATIVE
2	5-9	0-29	V DK GR	SI LO W/SHALE	MOTTLED	NEGATIVE
2	5-9	29-40	V DK YEL BR	CL W/SHALE	MOTTLED	NEGATIVE
2	5-10	0-26	V DK GR	SI LO W/SHALE	MOTTLED	NEGATIVE
2	5-10	26-39	DK YEL BR	CL W/SHALE	MOTTLED	NEGATIVE
2	5-11	0-26	BK	SI LO W/SHALE & GRAVE	MOTTLED	NEGATIVE
2	5-11	26-37	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	5-12	0-24	BK	SI LO	MOTTLED	NEGATIVE
2	5-12	24-35	DK YEL BR	CL W/SHALE & GRAVEL	MOTTLED	NEGATIVE
2	6-1	0-17	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-1	17-27	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-2	0-33	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-2	33-45	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-3	0-33	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-3	33-45	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-4	0-18	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-4	18-30	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-5	0-23	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-5	23-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-6	0-25	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-6	25-34	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-7	0-28	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-7	28-37	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-8	0-23	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-8	23-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-9	0-22	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-9	22-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-10	0-26	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-10	26-38	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-11	0-22	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-11	22-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-12	0-33	DK GR	SI LO	MOTTLED	NEGATIVE
2	6-12	33-45	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	6-13	0-24	V DK GR	SI LO	MOTTLED	POSITIVE (PIG BONE FRAGMENT)
2	6-13	24-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	7-1	0-20	V DK GR	CL SI W/GRAVEL	MOTTLED, DISTURBED	NEGATIVE
2	7-1	20-26	V DK GR BR	CL SI W/GRAVEL	DISTURBED	NEGATIVE
2	7-1	26-34	DK YEL BR	CL SI	DISTURBED	NEGATIVE
2	7-2	0-30	V DK GR BR	SI LO	MOTTLED	NEGATIVE
2	7-2	30-53	DK YEL BR	SI CL	MOTTLED	NEGATIVE
2	7-3	0-27	V DK GR BR	SI LO	MOTTLED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 2						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
2	7-3	27-34	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-4	0-27	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-4	27-40	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-5	0-27	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-5	27-34	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-6	0-19	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-6	19-33	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-7	0-20	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-7	20-34	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-8	0-17	V DK GR BR	SI LO	DISTURBED	POSITIVE (FIRE-CRACKED ROCK - QUARTZITE)
2	7-8	17-32	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-8 10 NORTH	0-17	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-8 10 NORTH	17-32	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-8 10 WEST	0-26	V DK GR BR	SI LO	DISTURBED	POSITIVE (RIFLE SHELL CASING)
2	7-8 10 WEST	26-38	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-8 10 EAST	0-22	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-8 10 EAST	22-32	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-8 10 SOUTH	0-26	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-8 10 SOUTH	26-38	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-9	0-18	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-9	18-40	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-10	0-19	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-10	19-40	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-11	0-18	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-11	18-36	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-12	0-27	V DK GR BR	SI LO	DISTURBED	NEGATIVE
2	7-12	27-38	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	7-13	0-24	BLACK	SI LO		NEGATIVE
2	7-13	24-50	DK GR	SI CL		NEGATIVE
2	7-14	0-25	V DK GR BR	SI LO		NEGATIVE
2	7-14	25-37	YEL	SI CL		NEGATIVE
2	8-1	0-34	V DK GR	SI LO	DISTURBED	NEGATIVE
2	8-1	34-45	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-2	0-27	V DK GR	SI LO		NEGATIVE
2	8-2	27-37	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-3	0-35	V DK GR	SI LO		NEGATIVE
2	8-3	35-45	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-4	0-16	V DK GR	SI LO		NEGATIVE
2	8-4	16-25	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-5	0-27	V DK GR	SI LO		NEGATIVE
2	8-5	27-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-6	0-26	V DK GR	SI LO		NEGATIVE
2	8-6	26-36	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-7	0-29	V DK GR	SI LO		NEGATIVE
2	8-7	29-35	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-8	0-25	V DK GR	SI LO		NEGATIVE
2	8-8	25-36	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-9	0-33	V DK GR	SI LO		NEGATIVE
2	8-9	33-43	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-10	0-28	V DK GR	SI LO		NEGATIVE
2	8-10	28-39	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-11	0-24	V DK GR	SI LO	EXCAVATION STOPPED BY LARGE ROOT	NEGATIVE
2	8-12	0-30	V DK GR	SI LO		NEGATIVE
2	8-12	30-40	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-13	0-33	V DK GR	SI LO		NEGATIVE
2	8-13	33-40	LT BR GR & YEL	CL	MOTTLED	NEGATIVE
2	8-14	N/A	N/A	N/A	NOT EXCAVATED, PUSH PILE	
2	9-1	0-18	V DK GR BR	SI CL W/GRAVEL		NEGATIVE
2	9-1	18-36	DK YEL BR	SI CL W/GRAVEL		NEGATIVE
2	9-2	0-16	V DK GR	SI LO		NEGATIVE
2	9-2	16-32	DK YEL BR	SI CL		NEGATIVE
2	9-3	0-17	V DK GR BR	SI LO		NEGATIVE
2	9-3	17-33	DK YEL BR	SI CL		NEGATIVE
2	9-4	0-25	V DK GR BR	SI CL		NEGATIVE
2	9-4	25-34	GR	CL		NEGATIVE
2	9-5	0-29	V DK GR BR	SI CL	SLIGHTLY WET	NEGATIVE
2	9-5	29-41	DK YEL BR	SI CL	SLIGHTLY WET	NEGATIVE
2	9-6	0-27	V DK GR BR	SI CL	SLIGHTLY WET	NEGATIVE
2	9-6	27-41	DK YEL BR	SI CL	SLIGHTLY WET	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 2						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
2	9-7	0-16	V DK GR BR	SI CL		NEGATIVE
2	9-7	16-34	DK YEL BR	SI CL		NEGATIVE
2	9-8	0-25	V DK GR BR	SI CL		NEGATIVE
2	9-8	25-37	DK YEL BR & GR BR	SI CL	MOTTLED	NEGATIVE
2	9-9	0-23	V DK GR BR	SI CL		NEGATIVE
2	9-9	23-41	DK YEL BR	SI CL	DAMP	NEGATIVE
2	9-10	0-28	V DK GR BR	SI CL		NEGATIVE
2	9-11	0-20	BK	SI LO	SLIGHTLY WET	NEGATIVE
2	9-11	20-40	DK YEL BR	SI CL	SLIGHTLY WET	NEGATIVE
2	9-12	0-23	BK	SI CL	SLIGHTLY WET	NEGATIVE
2	9-12	23-37	DK YEL BR	SI CL	SLIGHTLY WET	NEGATIVE
2	9-13	0-35	BK	SI LO	DISTURBED	POSITIVE (1 MODERN BRASS SHELL RIFLE CASING)
2	9-14	0-15	BK	SI LO	DISTURBED	NEGATIVE
2	9-14	15-30	DK YEL BR	SI CL	DISTURBED	NEGATIVE
2	9-15	0-18	BK	LO	DISTURBED	NEGATIVE
2	9-15	18-35	DK YEL BR	CL SI	DISTURBED	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 3						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
3	1-1	0-4	V DK GR BR	SI LO		NEGATIVE
3	1-1	4-16	DK YEL BR	SI CL		NEGATIVE
3	1-1	16-29	DK YEL BR	SI CL		NEGATIVE
3	1-2	0-14	V DK GR BR	SI LO		NEGATIVE
3	1-2	14-24	DK YEL BR	CL		NEGATIVE
3	1-3	0-22	V DK GR BR	SI LO		NEGATIVE
3	1-3	22-35	DK YEL BR	SI CL		NEGATIVE
3	1-4	0-50	V DK GR BR	SI LO		NEGATIVE
3	1-5	0-14	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
3	1-5	14-19	DK YEL BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
3	1-6	0-17	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
3	1-6	17-29	DK YEL BR	SI CL W/SHALE	UNSORTED GLACIAL TILL	NEGATIVE
3	1-7	0-26	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
3	1-7	26-38	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
3	1-8	0-40	V DK GR BR	SI LO	POORLY DRAINED	NEGATIVE
3	1-9	0-15	V DK GR BR	SI LO		NEGATIVE
3	1-9	15-32	DK YEL BR	SI CL W/SHALE		NEGATIVE
3	1-10	0-30	V DK GR BR	SI LO		NEGATIVE
3	1-10	30-50	DK YEL BR	SI CL W/ROCKS		NEGATIVE
3	1-11	0-24	V DK GR BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
3	1-11	24-32	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
3	1-12	0-34	V DK GR BR	SI LO	POORLY DRAINED	NEGATIVE
3	1-12	34-44	DK YEL BR	SI CL	POORLY DRAINED	NEGATIVE
3	1-13	N/A	N/A	N/A	NOT EXCAVATED, HEAD OF BEAVER POND, START OF HYDRIC SOILS/WETLAND	

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 4						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
4	1-1	0-15	V DK GR BR	CL SI	MODERATELY DISTURBED	NEGATIVE
4	1-1	15-32	DK YEL BR	CL SI	MODERATELY DISTURBED	NEGATIVE
4	1-2	0-32	V DK GR BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-3	0-21	V DK GR BR	CL SI	MODERATELY DISTURBED	NEGATIVE
4	1-3	21-34	DK YEL BR	SI CL	MODERATELY DISTURBED	NEGATIVE
4	1-4	0-27	V DK GR BR	SI LO	CHERT COBBLE, NATURAL, MODERATELY DISTURBED	NEGATIVE
4	1-4	27-35	DK YEL BR	SI CL	MODERATELY DISTURBED	NEGATIVE
4	1-5	0-28	V DK GR BR	SI	MODERATELY DISTURBED	NEGATIVE
4	1-5	28-40	DK YEL BR	SI CL	WATER AT 40 CENTIMETERS	NEGATIVE
4	1-6	0-26	V DK GR BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-6	26-40	DK YEL BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-7	0-24	DK GR BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-7	24-39	DK YEL BR	SI CL	MODERATELY DISTURBED	NEGATIVE
4	1-8	0-36	V DK GR BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-8	36-45	DK YEL BR	SI CL	MODERATELY DISTURBED	NEGATIVE
4	1-9	0-34	V DK GR BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-9	34-48	DK YEL BR	SI CL	MODERATELY DISTURBED	NEGATIVE
4	1-10	0-29	V DK GR BR	SI LO	MODERATELY DISTURBED	NEGATIVE
4	1-10	29-42	DK YEL BR	SI CL	HYDRIC SOILS	NEGATIVE
4	1-11	0-30	V DK GR BR	SI LO	HYDRIC SOILS	NEGATIVE
4	1-11	30-40	DK YEL BR	SI CL	HYDRIC SOILS	NEGATIVE
4	1-12	0-21	V DK GR BR	SI LO	HYDRIC SOILS	NEGATIVE
4	1-12	21-35	DK YEL BR	SI CL	HYDRIC SOILS	NEGATIVE
4	1-13	0-25	V DK GR BR	SI LO	MOTTLED	NEGATIVE
4	1-13	25-35	DK YEL BR	SI CL	MOTTLED	NEGATIVE
4	1-14	0-38	V DK GR BR	SA SI	HYDRIC SOILS	NEGATIVE
4	1-14	38-51	DK YEL BR	SA SI W/GRAVEL	HYDRIC SOILS	NEGATIVE
4	1-16	0-38	V DK GR BR	SI LO	DERANGED CHANNEL PATTERNS	NEGATIVE
4	1-18	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
4	1-19	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
4	1-20	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
4	1-21	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
4	1-22	N/A	N/A	N/A	NOT EXCAVATED, STANDING WATER	
4	2 THRU 5	N/A	N/A	N/A	N/A	INTENSIVE SURFACE INVESTIGATION WAS CONDUCTED ALONG TRANSECT 2 THRU 5
4	6A-1	0-8	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-1	8-18	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-2	0-12	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-2	12-22	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-3	0-30	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-3	30-40	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-4	0-18	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	6A-4	18-28	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7-1	0-15	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7-1	15-25	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7-2	0-13	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7-2	13-29	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7-3	0-15	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7-4	0-12	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7-4	12-22	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7-5	0-17	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7-5	17-27	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7-6	0-22	V DK GR BR	SI LO	POORLY DRAINED	NEGATIVE
4	7-6	22-32	DK YEL BR	SI CL	POORLY DRAINED	NEGATIVE
4	7A-1	0-16	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7A-1	16-27	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7A-2	0-13	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7A-2	13-29	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7A-3	0-10	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	7A-3	10-22	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	7A-4	N/A	N/A	N/A	NOT EXCAVATED, BERMED AREA	
4	8-1	0-15	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 4						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
4	11-1	11-25	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	11-2	0-22	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	11-2	22-26	DK YEL BR	SI CL	UNSORTED GLACIAL TILL, LARGE ROCK STOPS EXCAVATION	NEGATIVE
4	11-3	0-14	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	11-3	14-24	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	11-4	0-16	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	11-4	16-30	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	11-5	0-20	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	11-5	20-30	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	11-6	0-18	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	11-6	18-30	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	11-7	0-15	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	11-7	15-28	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-1	0-18	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-1	18-31	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-2	0-14	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-2	14-31	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-3	0-21	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-3	21-33	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-4	0-23	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-4	23-38	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-5	0-10	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-5	10-36	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-6	0-14	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-6	14-30	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-7	0-17	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-7	17-38	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-8	0-18	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-8	18-33	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	12-9	0-20	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	12-9	20-36	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-1	0-13	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-1	13-26	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-2	0-15	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-2	15-28	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-3	0-14	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-3	14-26	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-4	0-25	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-4	25-36	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-5	0-24	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-5	24-35	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-6	0-28	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-6	28-35	DK YEL BR	SI CL	UNSORTED GLACIAL TILL, EXCAVATED TO BEDROCK	NEGATIVE
4	13-7	0-19	V DK GR BR	SI LO	UNSORTED GLACIAL TILL, MODERN MACHINE MADE BRICK OBSERVED ON SURFACE, NOT COLLECTED	POSITIVE
4	13-7	19-31	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-8	0-26	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-8	26-35	DK YEL BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-9	0-12	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-9	12-30	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	13-10	0-26	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	13-10	26-40	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	14-1	0-10	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	14-1	10-30	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	14-2	0-22	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	14-2	22-35	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	14-3	0-6	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	14-3	6-26	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	14-4	0-24	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	14-4	24-40	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	14-5	0-20	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE
4	14-5	20-35	DK YEL BR	SI CL W/SHALE	UNSORTED GLACIAL TILL	NEGATIVE
4	15-1	0-28	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	POSITIVE (BRICK FRAGMENTS
4	15-1	28-38	DK YEL BR	SI CL	UNSORTED GLACIAL TILL	NEGATIVE
4	15-2	0-30	V DK GR BR	SI LO	UNSORTED GLACIAL TILL	POSITIVE (WIRE NAIL)
4	15-2	30-40	DK YEL BR	SI LO	UNSORTED GLACIAL TILL	NEGATIVE

Seneca Army Depot Phase I
Shovel Test Pit Log

AREA 4						
AREA	TRANSECT- STP #	DEPTH (CM)	SOIL COLOR	SOIL DESCRIPTION	COMMENTS	RESULTS
4	16-1	0-38	V DK GR BR	SI LO W/SHALE	UNSORTED GLACIAL TILL	NEGATIVE
4	16-1	38-50	DK YEL BR	SI LO W/CLAY & COBBLES	UNSORTED GLACIAL TILL	NEGATIVE

APPENDIX C

LOG OF CONTACTS

APPENDIX C
LOG OF CONTACTS

Steve Absalom - Office of the Directorate of Engineering and Housing, Seneca Army Depot Activities, Romulus, Seneca County, New York, October 23, 1995.

Randall Battaglia - Office of the Directorate of Engineering and Housing, Seneca Army Depot Activites, Romulus, Seneca County, New York, October 23 & 30, 1995.

James Brewer - Office of the Directorate of Engineering and Housing, Seneca Army Depot Activities, Romulus, Seneca County, New York, October 23, 1995.

Lauren Cook - Archaeologist, John Milner Associates, Inc. Philadelphia, Pennsylvania, April 19, 1996.

Tom Enroth - Office of the Directorate of Engineering and Housing, Seneca Army Depot Activities, Romulus, Seneca County, New York, October 21, 1995.

Stuart Fiedel - Archaelogist, John Milner Associates, Inc. Arlington, Virginia, November 8, 1995.

Peter Gorton - Safety Officer for Haz-Mat, Dames and Moore, October 1995.

Wizner Kinne - Resident of Romulus, October 27, 1995.

Nancy Todd - Historic Preservation Specialist, Historic Structures, New York State Historic Preservation Office, December 4, 1995.

Larry Welsh - Security Office, Seneca Army Depot Activities, Romulus, Seneca County, New York, October 27 - November 10, 1995.

APPENDIX D

VITAE OF KEY PERSONNEL

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MICHAEL A. CINQUINO, PH.D.
Senior Archaeologist

EDUCATION

Ph.D., Anthropology, State University of New York at Stony Brook (1986)
M.A., Anthropology, State University of New York at Stony Brook (1977)
B.A., Sociology, St. John Fisher College, Rochester, New York (1971)

EXPERIENCE

Dr. Cinquino is currently a Senior Archaeologist with Panamerican Consultants, Inc. (PCI) and director of the Buffalo Branch Office in Depew, N.Y. He served as project manager/principal investigator on over 50 cultural resources projects throughout New York, New Jersey, Pennsylvania, Puerto Rico, the U.S. Virgin Islands, and the United States. These projects include developments, transportation projects, flood control projects for the Corps of Engineers, light rail rapid transit systems, industrial parks, wastewater treatment plants, natural gas pipelines, fuel storage projects, interceptor sewers, a demolition project, construction monitoring, and U.S. military installations. In addition, he prepared numerous cultural resource sections for environmental assessment, impact statements, environmental resource documents, and cultural resource management plans and environmental audits.

He is experienced at conducting cultural resource investigations on large-scale projects including military installations, corridor pipeline and highway projects, wastewater projects, etc. which often require detailed archival and historic map research, design of field methodology including predictive site modeling strategies, all phases of archaeological field investigations, documentation and report preparation. He has conducted investigations at military installations throughout the Eastern United States, Puerto Rico and in the Virgin Islands.

Dr. Cinquino also has extensive regulatory experience on the federal and state levels as State Archaeologist and Review and Compliance Archaeologist for the Puerto Rico State Historic Preservation Office (SHPO) and as a consultant for the New York State Department of Environmental Conservation (NYSDEC) directing the cultural resource review for the NYSDEC permit program and SEQRA compliance. In addition, as an employee of Ebasco, he assisted in report reviews the Federal Energy Regulatory Commission.

Dr. Cinquino is a member of the Society of Professional Archaeologists and certified in Field Research and Archaeological Resource Management. He is also on the New York State SHPO's list of archaeologists certified to conduct all phases of investigations in prehistoric and historic archaeology for federal and state projects.

PROFESSIONAL AFFILIATIONS

American Anthropological Association: Archaeology Division
New York Archaeological Council
Board Member, 1995-1997
Northeast Historical Archaeology
Society for American Archaeology
Society for Historical Archaeology
Puerto Rican Association of Anthropologists and Archaeologists
Society of Professional Archaeologists (SOPA)

ADDITIONAL TRAINING

USEPA Hazardous Waste Site Investigation Training Course
Ecology and Environment, Inc., July 1985
Ebasco Environmental, May 1992 (update/review)

REPRESENTATIVE PANAMERICAN CONSULTANTS, INC. EXPERIENCE (APRIL 1993 TO PRESENT)

Currently, Dr. Cinquino is serving as Project Manager/Co-Principal Investigator of six projects for the New York District, Corps of Engineers including preparation of Cultural Resource Management Plans for the Picatinny Arsenal, Dover, New Jersey, Watervliet Arsenal in Albany County, and Ft. Hamilton in Brooklyn, NY.; and Phase I archaeological investigations at the U.S. Military Academy at West Point, Seneca Army Depot, and Green Brook Flood Control Project in northern New Jersey.

Dr. Cinquino served as principal investigator for the phase I archaeological investigation of approximately 1700 acres of Griffiss Air Force Base in Rome, Oneida County, New York and annexes in Niagara County, under contract to Tetra Tech, Inc. He is currently serving as Principal Investigator for the subsequent Phase II investigation of 20 archaeological sites at Griffiss Air Force Base, Rome, NY. Site testing was conducted to determine National Register eligibility of these cultural resources.

For the Jacksonville Corps of Engineers, Dr. Cinquino, served as principal investigator and field director for numerous projects including a Phase II site testing investigation and Phase I archaeological investigation for the Rio Anton Ruiz flood control project in the municipio of Humacao, Puerto Rico. The project was conducted for the Jacksonville District Corps

of Engineers. His responsibilities included directing a five person crew, archival research, analysis, and report writing.

In March 1995, he completed an Environmental Compliance Assessment System (ECAS) cultural resources audit at U.S. Army Fort Hood, Texas for the Fort Worth Corps of Engineers under contract to The Environmental Company. This included reviewing all cultural resource procedures, the compliance process at the installation, cultural resource management planning and practices, and field visits of various resources. A summary report was prepared in addition to the ECAS audit.

For U.S. Navy under contract to TAMS Consulting, Inc, he completed a Phase I cultural resource investigation for the proposed receiver site in Lajas, Puerto Rico, and the proposed transmission site in Vieques, Puerto Rico for the Over-The-Horizon Radar project. Under contract to The Environmental Company, he completed a Phase IB archaeological survey of 50 acres at two proposed landfill sites for at U.S. Naval Station, Roosevelt Roads, Puerto Rico.

In September 1994, he completed formal archaeological investigations at the Aklis prehistoric site at U.S. Fish and Wildlife Refuge in Sandy Point, St. Croix, U.S.V.I. He was Project Director and also served as field archaeologist.

In 1994, Dr. Cinquino served as principal investigator and field director for a Phase I archaeological investigation for the Rio Nigua flood control and the Rio Guamani flood control projects.

Dr. Cinquino served as technical advisor for the U.S. Army Corps of Engineers Phase III Data Recovery Project at San Felipe Del Morro Fort, Old San Juan, Puerto Rico. He was a field archaeologist during the data recovery excavation and assisted in data analysis, historic background research, and report writing. The National Register and World Heritage site is administered by the National Park Service who funded the project.

He assisted the National Park Service, Mid-Atlantic Regional Office in preparing a cultural resource overview and management plan for four Air National Guard installations in Puerto Rico, and one in St. Croix, U.S. Virgin Islands. Duties included a visit to each installation to examine base records and land use, site file and literature examination, archival review, preliminary assessment of cultural resource (prehistoric, historic, and structural), National Register status, cultural resource assessment of each installation, and report writing.

REPRESENTATIVE ADDITONAL PROJECT EXPERIENCE (1992-1972)

Dr. Cinquino served as State Archaeologist and Review and Compliance Archaeologist for the Puerto Rico State Historic Preservation Office for a three year period. His responsibilities included direction of Review and Compliance Section for Archaeology,

review of stage IA, IB, II, and III cultural resource reports, environmental assessments and impact statements for compliance of federal preservation laws and regulations, initial project assessment to determine level of archeological investigation, review of archeological proposals to conduct site testing (stage II) and data recovery/mitigation (stage III) investigations, site inspection visits through the island, review of cultural resources for eligibility to the National Register of Historical Places. He helped develop and implement formal field investigation and report documentation standards at the PRSHPO and for the PR Advisory Council guidelines for local protects.

He was the SHPO representative on the Advisory Council for the Protection of Terrestrial Archaeological Patrimony of Puerto Rico, and Secretary for the Advisory Council for the Conservation and Investigation of Underwater Archaeological Resource of Puerto Rico. compliance process.

Dr. Cinquino served as Archaeological Consultant for New York State Department of Environmental Conservation (NYSDEC), Division of Regulatory Affairs, Albany, New York for a two year period. With NYSDEC, he was Director of Cultural Resource Review for State Permits, providing direction, coordination, and management of the statewide Uniform Procedure Act's permit program for compliance with the State Historic Preservation Act and State Environmental Quality Review Act (SEQRA).

For seven years, Dr. Cinquino worked as Senior Archaeologist for Ecology and Environment, Inc., Buffalo, New York. His responsibilities included conducting and directing archaeological field surveys and subsequent report preparation, project management, preparing archaeological technical proposals requiring experience in formulating archaeological field techniques, manpower needs, and costing; conducting archival research and site file searches, and client relations including detailing their responsibilities in complying with New York State and Federal cultural resource laws. Conducted and directed field surveys in New York, Puerto Rico, New Jersey, Ohio, Pennsylvania, and Massachusetts. Prepared cultural resource sections for environmental impact statements and environmental assessments for numerous projects throughout New York, Puerto Rico and the United States. Conducted cultural resource surveys for a diversity of projects including rapid transit systems, municipal wastewater treatment projects, shopping malls, light industrial parks, natural gas transmission lines, and U.S. Naval installations.

SELECTED PUBLICATIONS

Cinquino, M.A., M. Keller, C. Tronolone, C Vandrei, "Log Roads to Light Rails: The Evolution of Main Street and Transportation in Buffalo, New York," *Northeast Historical Archaeology*, 1986, 14:53-64.

Cinquino, M.A., C. Tronolone, and C. Vandrei, "Historic Resources on the Vieques Naval Reservation and Historical Development of Vieques Island, Puerto Rico," *Proceedings of the 11th International Congress for Caribbean Archaeology*, San Juan, Puerto Rico (1990).

Tronolone, C., M.A. Cinquino, C. Vandrei, "Prehistoric Resources on the Vieques Naval Reservation and Prehistoric Settlement Patterns of Vieques Island, Puerto Rico." *Proceedings of the 11th International Congress for Caribbean Archaeology*, San Juan, Puerto Rico (1990).

SELECTED PAPERS

A Discussion of Subsistence Remains Recovered from the Intensive Archaeological Investigations conducted at the Historic Spanish Military Fort of San Felipe del El Morro, San Juan, Puerto Rico (with Dr. Michele H. Hayward). Submitted at the Society of for Historical Archaeology meetings in Washington, D.C., January 1995.

Results of Panamerican Consultants Intensive Archaeological Investigations at Historic Spanish Military Fort of San Felipe del El Morro, San Juan, Puerto Rico (with Dr. Michele H. Hayward). Submitted at the Society of American Archaeology meetings in Anaheim, California, April 1994.

An Evaluation of 500 Reconnaissance Surveys Conducted on the Islands of Puerto Rico, Vieques, Culebra, and Mona: Assessing Field Methods and Effectiveness of the Federal Cultural Resource Program. Presented at the 57th Annual Meeting of the Society for American Archaeology, Pittsburgh, Pennsylvania, April 1992.

Historic Resources on the Vieques Naval Reservation and Historical Development (with C.A. Tronolone and C.E. Vandrei). Presented at the 11th International Congress for Caribbean Archaeology, San Juan Puerto Rico, July, 1986.

Prehistoric Resources on the Vieques Naval Reservation and Prehistoric Settlement Patterns of Vieques Island, Puerto Rico (with C.A. Tronolone and C.E. Vandrei). Presented at the 11th International Congress for Caribbean Archaeology, San Juan Puerto Rico, July, 1986.

DISSERTATION TITLE

The Economic and Religious Organization of a Mestizo Community in Western Mexico: A Focus on the Religious Ceremonial Cycle Within a Capitalist Economy, Teuchitlan, Jalisco, Mexico, 1986, University Microfilms International, Ann Arbor, Michigan.

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INEZ REED-HOFFMAN
Staff Archaeologist

EDUCATION:

M.A., Anthropology, Temple University, Philadelphia, PA (1992)
B.A./B.S., Anthropology, University of Delaware, Newark (1987)

EXPERIENCE

Ms. Hoffman is currently a Staff Archaeologist with Panamerican Consultants, Inc. (PCI) at the Buffalo Branch Office in Depew, New York. She has served as field director on projects throughout the Southeastern, Gulf Coast and Mid-Atlantic regions of the United States and the U.S. Virgin Islands. These projects include transportation projects, well pad surveys, and U.S. military installations.

In addition, Ms. Hoffman has specialized in the development of Historic Preservation Plans, historical archaeology and Historic Structures surveys at Department of Defense installations. She has served as an intern with the Preservation Planning Office, City of Wilmington, Delaware; as a cultural resource specialist with the Philadelphia Historical Commission, the Delaware Department of Transportation, Delaware Archives, and the Delaware Bureau of Archaeology. Her work with these agencies enabled her to develop interest and skill in such areas as American Decorative Arts and Architecture, the writing of National Register Nominations, HABS/HAER recordation, advanced curational procedures, and large format photography at such institutions as the Winterthur Museum, the Hagley Museum and Industrial Library, the University Center for Historic Architecture and Engineering, University of Delaware, and the Williamsburg Foundation.

PROFESSIONAL AFFILIATIONS

Society of Professional Archaeologists
Alabama Archaeological Society
Alabama Association of Professional Archaeologists
Florida Anthropological Association

ADDITIONAL TRAINING

Introduction to Federal Projects and Historic Preservation Law,
GSA, Washington, DC 1992

40 HR Hazardous Waste Site Worker Training Program,
PPE Training: Level A,B,C 1995

REPRESENTATIVE PANAMERICAN CONSULTANTS, INC. EXPERIENCE (1994 TO PRESENT)

Ms. Hoffman has also served as principal investigator on a number of cultural resource surveys for the Wilmington, and Savannah Corps of Engineers. These projects included: the Historic Structures Survey, Mainside Camp Lejeune, United State Marine Corps Base, Jacksonville, North Carolina and Seymour Johnson Air Force Base, Goldsboro, North Carolina. Ms. Hoffman has designed computerized data bases for projects and has inventoried over 2000 historic structures during these surveys. The focus of these investigations is the World War II context. Formal reports, photo-documentation, and survey inventory forms are in the final stages of preparation.

For the Alabama Department of Transportation, Ms. Hoffman completed a research design for the emergency salvage of unmarked human remains within portions of the proposed right-of-way, Corridor X, in Alabama. In July of 1994, she served as principal investigator for the Phase I cultural resource survey and archaeological investigations of portions of the proposed right-of-way of Corridor X, Walker and Jefferson Counties, Alabama. And, in August of 1995, Ms. Hoffman served as principal investigator for the preparation of a predictive model and sensitivity map for the proposed right-of-way for State Route 431, Eufaula, Alabama.

For the Savannah District Army Corps of Engineers, Ms. Hoffman served as principal investigator and field director for two Phase I archaeological investigations in the United States Virgin Islands in June and July 1995. Her responsibilities included directing an underwater assessment of the proposed site of a mooring facility. Furthermore, she was also responsible for directing a terrestrial survey of a proposed low density housing development. In August and September 1994, Ms. Hoffman served as field laboratory director and field archaeologist at the archaeological investigations at the Aklis prehistoric site at the U.S. Fish and Wildlife Refuge in Sandy Point, St. Croix, U.S.V.I.

In November of 1994 Ms. Hoffman served as principal investigator for a Phase I archaeological investigation at Fort Fisher Recreation Area, New Hanover County, North Carolina for the Savannah Corps of Engineers. In February 1995, Ms. Hoffman was the principal investigator for the follow-up Phase II investigation at the same site, also for the Savannah Corps of Engineers, to determine site integrity, site boundaries and research potential of a Civil War period encampment.

REPRESENTATIVE ADDITIONAL PROJECT EXPERIENCE (1975-1994)

As staff archaeologist at Ecology and Environment, Inc. for a one-year period, Ms. Hoffman served as field director during the course of a Phase I/II Archaeological Survey, SunShine

Natural Gas Pipeline (EIS, FERC/Wetlands) Performed weekly quality control field inspection of the work of the archaeological subconsultants and in-house archaeological crews. In addition to inspection, responsibilities included the preparation of a formal field inspection report describing subsurface testing, evaluation of field methods and recording techniques and recommendations concerning NRHP's eligibility and the drafting of a Request for Proposals for Phase II archaeological investigations of sites discovered within the proposed right-of-way. She also prepared formal responses to FERC questionnaires.

As staff archaeologist for Duvall & Associates for a one-year period, Ms. Hoffman served as the principal investigator, field director and in the marketing department conducting a series of Phase I/II Archaeological Investigations for the Tennessee Department of Transportation and cultural resources surveys for state energy permits in West Virginia.

For Sierra Nuestra Archaeological Consultants, Newark, Delaware, Owner and Principal Investigator, Ms. Hoffman provided expertise and personnel for the salvage excavation of unmarked human remains for state agencies and private companies and archaeological monitoring service for excavations of deeply buried sites and geological sampling.

As archaeological monitor for Transcontinental Gas, Ms. Hoffman directed the mapping, recording, and sampling of core borings for a geomorphological and palynological study of the New Jersey Meadowlands (under sub-contract to Geoarchaeology Research Associates, Riverdale, NY).

As Principal Investigator, Ms. Hoffman directed the removal of late nineteenth century burials discovered during the expansion of the Cathedral of St. Peter and St. Paul, Diocese of Wilmington, Delaware.

For the Delaware Bureau of Archaeology, Division of Historical and Cultural Affairs, Ms. Hoffman worked as a cultural resource specialist on all levels of archaeological investigation, assisting in the exhumation, recordation and analysis of eight human burials and two dog burials from a Late Woodland shell midden in Sussex County, Delaware. She served as field director at the Bureau on the Data Recovery at the Old State House Site, Dover, Delaware and an assortment of smaller historic sites in throughout Delaware.

For Mid-Atlantic Archaeological Research Associates, Inc., Newark, DE, Ms. Hoffman served for a ten year period in the capacity of Laboratory Supervisor and Research Associate on all levels of archaeological investigation on over one hundred projects in the Mid-Atlantic Region, Puerto Rico and the U.S. Virgin Islands. She provided archaeozoological analysis of the material and prepared sections of reports devoted to settlement patterns and eighteenth century subsistence practices for projects located in the Lower Delaware Valley and Tidewater Virginia. In conjunction with her commercial work in cultural resource management, Ms. Hoffman was able to secure grant money for research in curational techniques and training at educational institutions such as the Williamsburg Foundation at Williamsburg, VA. Her most notable project was the

computerized inventory of the specialized inventory of the Valley Forge National Park for the National Park Service.

Master's Thesis: *Eighteenth Century Subsistence Practices in the Lower Delaware Valley: An Analysis of the Faunal Remains of the Morton Homestead (36 De 5), Prospect Park, Delaware County, Pennsylvania.* Department of Anthropology, Temple University, Philadelphia, PA.

Edward V. Curtin

Consulting Archaeologist
38 South Main Street
Castleton, New York 12033
(518) 732-4489

EDUCATION

A.B.D., Anthropology, Binghamton University, State University of New York
(Ph.D. expected, December 1996)
M.A., Anthropology, State University of New York at Binghamton (1978)
B.A., Anthropology, State University of New York at Binghamton (1975)

EXPERIENCE

Mr. Curtin is currently the director of the Skidmore Archaeological Survey, Skidmore College, Saratoga Springs, N.Y., and a consulting archaeologist. Qualified as the Principal Investigator for both prehistoric and historic archaeological research according to established professional criteria, he has directed and authored over 100 cultural resource studies, including Stage IA, Stage IB and Stage II surveys, as well as Stage III data recovery projects. Mr. Curtin has been employed in archaeological review by the New York State Department of Environmental Conservation (1984-1986) and in archaeological surveys, excavation and curation by the New York State Museum (1986-1991).

The Hudson valley has been the primary focus of Mr. Curtin's archaeological research since 1986. He is the co-author, with Dr. Susan J. Bender of Skidmore College, of a comprehensive overview of prehistoric sites and environmental contexts, titled *A Prehistoric Context for the Upper Hudson Valley: Report of the Survey and Planning Project* (1990). This report was produced as a planning document through a grant from the New York State Office of Parks, Recreation and Historic Preservation. Mr. Curtin has extensive experience in the design of field methodologies, predictive site modeling strategies, and all phases of archaeological field investigations, documentation and report preparation.

Mr. Curtin also has extensive teaching and academic experience. Over the last ten years, he has taught such courses as Museum Curation and Research, Field and Lab Methods in Archaeology, Archaeology of Eastern North America, Introduction to Archaeological Field Methods, and North American Indians. Further, he has been a lecturer or instructor at Skidmore College (Saratoga Springs, N.Y.), the College of Saint Rose (Albany, N.Y.), the State University of New York at Albany, Siena College (Loudonville, N.Y.) and the State University of New York at Binghamton.

the State Plan Steering Committee and Collections Committee, and meets the criteria for membership in the Society of Professional Archaeologists. He is also listed by the New York SHPO as an archaeologist qualified to conduct all phases of investigations in prehistoric and historic archaeology for federal and state projects.

PROFESSIONAL AFFILIATIONS

American Anthropological Association
Society for American Archaeology
New York Archaeological Council
Northeastern Anthropological Association

REPRESENTATIVE FIELD EXPERIENCE

1993-1996 Skidmore Archaeological Survey. Director. Skidmore College, Saratoga Springs, New York.

1990-1996 Upper Hudson Archaeological Project. Co-Investigator. Skidmore College, Saratoga Springs, New York.

1986-1996 Survey and excavation in eastern New York. Archaeological Consultant.

1990-1991 Small Sites Methods Project. Director. New York State Museum, Albany, New York.

1986-1987 Survey and excavation, Stewart International Airport, Orange County, New York. Principal Investigator. New York State Museum.

1984-1986 Field inspection of archaeological survey and excavation projects in the upper Hudson valley, Brooklyn, and Staten Island for NYS Department of Environmental Conservation/U.S. Environmental Protection Agency, Albany, N.Y.

1983-1984 Archaeological reconnaissance in Pennsylvania (Wilkes-Barre to Lockhaven vicinities) and New Jersey (Hunterdon and Somerset Counties). Background research. Consultant, New World Research, Inc., Pollock. Louisiana.

1976-1984 Survey and excavation in central and western New York. Project Director. Dr. A.A. Dekin, Jr., Principal Investigator, Department of Anthropology, SUNY at Binghamton.

REPRESENTATIVE PUBLICATIONS AND MAJOR PAPERS

n.d. *The Archaeology of the New York Archaic: A Reconsideration with Implications for Studies of Hunter-Gatherer Land Use.* Ph.D Dissertation, in preparation. Department of Anthropology, Binghamton University, Binghamton, New York.

1996 *A Northeastern Millennium: Papers in Honor of Robert E. Funk,* co-editor: Chris Lindner. Journal of Middle Atlantic Archaeology, No. 12, in press.

1996 *A Golden Chronograph for Robert E. Funk*, co-editor: Chris Lindner. Occasional Publications in Northeastern Anthropology Number 15, Archaeological Services, Bethlehem CT, in press.

1996 Late Archaic period technology and land use patterns: lessons learned from the Mattice No. 2 site. In *A Golden Chronograph for Robert E. Funk*, edited by C. Lindner and E. Curtin. Occasional Publications in Northeastern Anthropology Number 15, Archaeological Services, Bethlehem, CT, in press.

1990 *A Prehistoric Context for the Upper Hudson Valley: Report of the Survey and Planning Report.* Co-author, Susan J. Bender. Department of Sociology, Anthropology, and Social Work, Skidmore College, Saratoga Springs, N.Y.

1990 *A Guide to the Archaeological Collections of the New York State Museum.* Co-compiled with Lynne P. Sullivan, Lisa M. Anderson, Penny Ann Perella, and Stuart Mendelson. New York State Museum Circular 53, Albany.

1990 *Images of the past (and future?).* Alternative Perspectives 5(5):3-5.

1981 *Predictive modeling of prehistoric site locations in the uplands of central New York.* Man in the Northeast 22:87-99.

1978 *Learning, Style, and Population Expansion: A study of Lamoka Point Variability.* Master's Thesis, Department of Anthropology, SUNY at Binghamton.

REPRESENTATIVE CONFERENCE PAPERS

1996 with Kerry L. Nelson: Reinventing archaeology: priorities for education, cultural resource management, and local communities. Paper presented at the 36th Annual Meeting of the Northeastern Anthropological Association, Plymouth, New Hampshire. March.

1995 Archaeology as Natural History. Paper read at the 60th Annual Meeting of the Society for American Archaeology, Minneapolis, Minnesota. May.

1994 The 1993 archaeological survey of Deowongo Island. Paper read at the 1994 Eastern States Archaeological Federation Annual Meeting, Albany, New York. Novemb*er.

1994 Missives from the missing and misunderstood: apocrypha and modern interpretations of Hudson valley collectors and collections. Paper read at the Eastern States Archaeological Association Annual Meeting, Albany, New York. November.

1994 with Ellen Cesarski: Northeastern states archaeological survey and collections curation policies. Report presented to the New York Archaeological Council, Peebles Island, New York. September.

1994 Late Archaic period technology and land use patterns: lessons learned from the Mattice No. 2 site. Paper read at the 34th Annual Meeting of the Northeastern Anthropological Association, Geneseo, New York. April,

1992 Integrating small sites method in regional archaeology: an example from the Hudson valley. Paper read at the 57th Annual Meeting of the Society for American Archaeology, Pittsburgh, Pennsylvania. April.

1989 Spatial differentiation at the John Robinson Historic Site, 1771-1912. Paper presented at the 29th Annual Meeting of the Northeastern Anthropological Association, Montreal, Canada. March.

REPRESENTATIVE CULTURAL RESOURCE REPORTS

1996 with M.A. Cinquino, E.S. Burt, M.A. Steinback, I. Reed-Hoffman, R.J. Hanley, and K.L. Nelson: (in draft)*Phase II Archaeological investigations of 20 sites at Griffiss Air Force Base, Rome, Oneida County, New York.* Panamerican Consultants, Inc., Depew, New York. Prepared for Tetra Tech, Inc., San Bernardino, CA..

1995 with M.A. Cinquino, E.S. Burt and M.A. Steinback: *Phase I Archaeological Investigations at Griffiss Air Force Base, Rome, Oneida County, New York.* Panamerican Consultants, Inc., Lancaster, NY. Prepared for Tetra Tech, Inc., San Bernardino, CA.

1993 *Archaeological Survey and Archaeological Resource Management Plan, Deowongo Island, Canadarago Lake, Towns of Richfield and Otsego, Otsego County, New York.* Prepared for Dr. Eric Schoenlein.

1993 *Stage 1B Archaeological Survey, Hollander Homes, Clifton Park, Saratoga County, New York.* Prepared for Ivan Zdrahal Associates.

1992 *Stage 2 Archaeological Survey, Wademan and Terrace Sites, New Scotland Avenue, Town of Bethlehem, Albany County, New York.* Prepared for The Saratoga Associates and Goldman Albany Partnership.

1992 *Stage 2 Archaeological Survey, Sherman Island Archaeological Sites, Queensbury Planned Unit Development, Sherman Island Road, Town of Queensbury, Warren County, New York.* Prepared for The Saratoga Associates/The Michaels Group/Niagara Mohawk.

1991 *Stage 1 and 2 Cultural Resource Surveys, Wood Winds Planned Unit Residential Development, Town of Dover, Dutchess County, New York.* Prepared for Mr. Thomas F. Flood III.

1991 *Archaeological Data Recovery at the Shaker Run Development (Volume 2): Report of Field Work and Conclusion of Mitigating Measures.* Prepared for Bagdon Environmental Associates/Solomon and Solomon, P.C.

1990 with Karen Kramer: *Analyses Mitigating Construction Impacts Upon Two Small Prehistoric Sites in the Pine Bush, Colonie, New York (Volume 1 of the Shaker Run Development Archaeological Data Recovery Project).* New York State Museum, Small Sites Methods Project, Report Series Number 2. Prepared for Bagdon Environmental Associates/Solomon and Solomon, P.C.

1990 with Paula Weintraub and Jill K. Ziter: *Archaeological and Historical Preservation Master Plan for the Mohonk Preserve Master Plan, Ulster County, New York.* New York State Museum, Small Sites Methods Project, Files series Contribution Number 1. Prepared for Bagdon Environmental Associates and the Mohonk Preserve.

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MARK A. STEINBACK
Historian

EDUCATION

M.A., Local and Regional History, State University of New York at Albany (1987)
B.A., History (with Honors), State University of New York at Albany (1985)

EXPERIENCE

Mr. Steinback is currently Historian for Panamerican Consultants, Inc. (PCI). He has over 10 years experience conducting historic research and analysis. He has prepared written evaluations of historic and prehistoric site sensitivities and summaries of local history for archaeological project reports. These investigations include preparing the historic background of project sites, archival and map research, prehistoric and historic site file analysis, relevant federal and state census and preparing written evaluations for inclusion in archaeological reports. He has also performed archaeological fieldwork, as needed.

After receiving his Master's Degree, he worked for two years (1987-1989) at the New York State Department of Environmental Conservation (NYSDEC) in the Cultural Resources Section performing duties related to several major department projects. The development of a Prehistoric Site Sensitivity Predictive Model Project, involved collecting, organizing and verifying site specific information, including cultural resources and environmental data, for inclusion in the model.

The USEPA Construction Grants Costs and Efforts Survey involved updating and evaluating the database on cost/effect breakdown of cultural resources activities, involved compiling information for all statewide archaeological activities conducted under the federal Construction Grants Program and preparing a report on the results. The USEPA Construction Grants Artifact Collection Curation Survey involved designing and compiling a database to assess artifact collection curation condition for artifact collections created by projects financed by the Construction Grants Program and writing a report on the results.

Between 1991 and 1995 Mr. Steinback worked at Schenectady County Community College as an adjunct history instructor, where he taught courses in American History and Western Civilization. His early research interests involved the development and practice of mercantilist theory as it involved English colonization of North America and the Caribbean. Later research interests concerned the industrialization of America from the 1840s to the

1920s with a special focus on socio-cultural history of workers and their responses to industrialization, immigration and urbanization. He is a member of the Organization of American Historians.

REPRESENTATIVE PANAMERICAN CONSULTANTS, INC. EXPERIENCE (1995 TO PRESENT)

In 1995 Mr. Steinback prepared the historic background section of the report for the Phase I archaeological investigation at Griffiss Air Force Base, Rome, New York for Tetra Tech, Inc. He also conducted and prepared archival research section for the Phase II archaeological investigation of 20 sites at Griffiss Air Force Base.

Mr. Steinback has also written historical backgrounds for the Phase I Cultural Resource Survey at Seneca Army Depot Activities, Romulus, New York, for the New York Corps of Engineers. He authored the historic background section for the Phase I cultural resource survey for the Proposed Stony Lonesome Child Development Center at West Point, New York for the New York Corps of Engineers.

His current projects for the New York Corps of Engineers include reports for the Green Brook Flood Control Project, Union and Somerset Counties, New Jersey; the historic background section of the Cultural Resource Management Plan for Ft. Hamilton, in Brooklyn, New York; the historic background section of the Cultural Resource Management Plan for Watervliet Arsenal, Albany County, New York, for the New York Corps of Engineers; and the historic background section of the Cultural Resource Management Plan for the Picatinny Arsenal, New Jersey.

RESEARCH PAPERS

Master's:

"Electric City, Red City: Socialist Electoral Strength in Schenectady, New York, 1909--1911"

Bachelor's:

"Mercantilism and the Origins of British Slavery in the West Indies, 1624--1672"

CO-AUTHORED & AUTHORED ARCHAEOLOGICAL REPORTS

Cinquino, M.A., E.S. Burt, M.A. Steinback, E.V. Curtin

1996 (in progress) *Phase 1 Cultural Resource Survey for the Proposed Stony Lonesome Community Center, U.S. Military Academy, West Point, Orange County, New York.* Panamerican Consultants. Inc., Depew, New York. Prepared for U.S. Army Corps of Engineers.

Cinquino, M.A., I. Reed-Hoffman, E.V. Curtin, K.L. Nelson, M.A. Steinback and M.E. Kaplan

1996 (in progress) *Phase 1 Cultural Resource Survey of the Seneca Army Airfield and Adjacent Areas Southeast Between West Patrol Road and Seneca Road, Seneca Army Depot Activities, Romulus, Seneca County, New York.* Panamerican Consultants, Inc., Depew, New York. Prepared for the U.S. Army Corps of Engineers, New York District.

Hayward, M.H., and M.A. Steinback

1996 (in draft)*Historical and Archival Research of Marine Corps Recruit Depot, Parris Island, South Carolina, During the 1862--1892 Period.* Panamerican Consultants, Inc., Depew, New York. Prepared for U.S. Army Corps of Engineers, Savannah District.

Cinquino, M.A., E.V. Curtin, E.S. Burt, M.A. Steinback, I. Reed-Hoffman, R.J. Hanley, and K.L. Nelson

1996 (in draft)*Phase II Archaeological investigations of 20 sites at Griffiss Air Force Base, Rome, Oneida County, New York.* Panamerican Consultants, Inc., Depew, New York. Prepared for Tetra Tech, Inc., San Bernardino, CA..

Cinquino, M.A., E.V. Curtin, E.S. Burt and M.A. Steinback

1995 *Phase I Archaeological Investigations at Griffiss Air Force Base, Rome, Oneida County, New York.* Panamerican Consultants, Inc., Lancaster, NY. Prepared for Tetra Tech, Inc., San Bernardino, CA.

Curtin, E.V., M.A. Steinback and J.K. Ziter

1990 *White Farms Road Gravity Sewer Connector Stage 1 Cultural Resources Survey, Saratoga Springs, New York.* Bagdon Environmental Associates, Inc., Delmar, NY.

Curtin, E.V., M. Pickands, M.A. Steinback and J.K. Ziter

1989 *Stage 1A & 1B Archaeological Survey Green Pastures Gravel Mine, Town of Livingston, NY.* Bagdon Environmental Associates, Inc., Delmar, NY.

Steinback, M.A., E.V. Curtin and J.K. Ziter

1989 *Stage 1A Cultural Resources Survey Delmar Village.* Bagdon Environmental Associates, Inc. Delmar, NY.

Pickands, Martin, J.K. Ziter and M.A. Steinback

1989 *Stage 1A Archaeological Survey Red Wing Properties.* Bagdon Environmental Associates, Inc., Delmar, NY.

Curtin, E.V., M.A. Steinback and P. Weintraub

1989 *Colonial Johnstown Estates Archaeological Reconnaissance.* Bagdon

Curtin, E.V., M.A. Steinback and J.K. Ziter
1989 *Stage 1A & 1B Archaeological Survey Montgomery Transfer Station, Amsterdam, NY.* Bagdon Environmental Associates, Inc., Delmar, NY.

Steinback, M.A.
1989 *Historic and Prehistoric Research for Cold Spring/West Point Foundry and Constitution Island.* Steinback Historical Research, Albany, NY. Prepared for Grossman and Associates, New York, NY.

Steinback, M.A.
1989 *Historic and Prehistoric Research for Bellport, Long Island, NY.* Steinback Historical Research, Albany, NY. Prepared for Grossman and Associates, New York, NY.

Steinback, M.A.
1989 *Historic and Prehistoric Research for Far Rockaway, New York.* Steinback Historical Research, Albany, NY. Prepared for Grossman and Associates, New York, NY.

The preparation of the above reports involved conducting archival and site specific map research and relevant library and interviewing work in order to prepare a written report documenting the history of a specific location. These reports assist in the analysis and determination of a location's sensitivity for historic cultural resources and the possible historic significance of relevant archaeological material.

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REGISTERED ARCHITECT: New York State

EDUCATION

Rensselaer Polytechnic Institute
Graduate School of Architecture
Troy, New York
M.A., Science and Building Sciences, 1996

Syracuse University School of Architecture
Syracuse, New York
Bachelor's of Architecture, 1976

ICCROM (International Center for the Restoration of Cultural Property)
Rome, Italy (UNESCO Fellowship)

State University of New York at Albany
Albany, New York

EMPLOYMENT

1988-present **Architect and Principal**
PRESERVATION ARCHITECTURE
Ithaca and Valatie, NY
Sole practitioner in architectural practice specializing in historic preservation projects. Clients include nonprofit organizations, government agencies, and private developers and individuals. Preservation Architecture is a certified NYS Woman-Owned Business Enterprise (WBE) and a federally certified Disadvantaged Business Enterprise (DBE.) Select projects:

- **New York State Capitol**, Albany, NY
- **White House Window Project**, Washington, D.C.
- **Picatinny Arsenal**, Picatinny, NJ

1987-1992 **Director of Historic Preservation and Research**
CANNON DESIGN
Albany and Buffalo, NY
Director of Historic Preservation for a national architectural-engineering firm with offices in New York, Buffalo, Boston, Washington and St. Louis. Responsibilities included business development, project management, and oversight of firm's

preservation-related projects. Select projects:

- **Guaranty Building**, Buffalo, NY
- **Gideon Putnam Hotel**, Saratoga Springs, NY
- **Roycroft Inn**, East Aurora, NY
- **Harlem Courthouse**, New York, NY
- **Buffalo and Erie County Botanical Gardens**, Buffalo, NY

1979-1987 **Senior Historic Sites Restoration Coordinator**
NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION
Albany, NY
Responsible for architectural and engineering staff and review of rehabilitation projects undertaken pursuant to the federal Tax Reform Act, and State and National Preservation Acts. Position required extensive coordination and negotiation with private developers, nonprofit organizations, and government staff and representatives. Select projects:

- **Statue of Liberty**, New York, NY
- **Chrysler Building**, New York, NY
- **Schermerhorn Row Block**, South Street Seaport, NY, NY
- **Buffalo Savings Bank**, Buffalo, NY

1983 **Adjunct Faculty**
RENSSELAER POLYTECHNIC INSTITUTE
Troy, New York

1978-1979 **Staff Architect**
CITY OF SYRACUSE
Coordinated preservation grant program in city's downtown and neighborhood historic districts.

PROFESSIONAL AND PUBLIC SERVICE

United States Committee, International Council on Monuments and Sites, Washington, DC. Board Member, 1988 - 1993
Rural New York Grant Program, Panel Member, 1993-1995
New York State Council on the Arts: Architecture, Planning and Design, New York, NY. Panel Member, 1990 -1993
Historic Preservation Education Foundation, Washington, DC. Founding Board Member, 1986 - present. Secretary, 1992-present
Historic Albany Foundation, Albany, NY. Secretary, 1992-present
Planning Committee (with National Park Service):

- 1993 Historic Interiors II Conference, Washington, DC
- 1988 Historic Interiors Conference, Philadelphia, PA
- 1986 Historic Windows Conference, Boston, MA

Association for Preservation Technology, New York, Founding Board Member and Board President: 1989 - 1992
Historic American Window Traveling Exhibit, Co-Chair. Exhibit locations: Boston; New York; Philadelphia; Washington, DC; Albany
National Fire Protection Association's Technical Committee on Cultural Resources, Committee Member, 1986 - 1991
Ad-Hoc Rehabilitation Code Committee, New York State Department of State. 1987-1992
National Symposium on Rehabilitation Regulations, Sponsored by HUD, invited participant, May 1995
Town of Kinderhook Planning Board, Member, 1988 - 1995
New York State Mentoring Program, Ichabod Crane Middle School, Kinderhook, NY. 1991-1995.

AWARDS

President's Design Award for Historic Window Traveling Exhibit, National Endowment for the Arts (w/Historic Preservation Education Foundation)
Preservation Merit Award: Historic Albany Foundation, Albany

PUBLICATIONS

"Rehabilitation and the Building Code, Specific State Approaches: New York Analysis." *Rehabilitation and the Building Code*, Rutgers University for Urban Policy Research, New Brunswick, NJ. draft 1995
"The Installation of Fire Protection Systems in Historic Interiors." *The Interiors Handbook for Historic Buildings, Volume II*: presented at the Historic Interiors Conference, Washington, D.C. February, 1993
"Historic Preservation awaits new state and federal rulings on the older building stock." *Capital District Business Review*, Albany, NY, Oct. 19, 1992
"Safety, Building Codes and Historic Buildings." *Information Series No. 57*, National Trust for Historic Preservation, Washington, DC. 1992
"Building and Safety Codes: An Introduction." *The Alliance Review*, National Alliance of Preservation Commissions. Winter 1992
"Fire Protection of Historic Buildings in Remote Areas." *International Symposium on Fire Protection of Historic Buildings and Towns, 1990,* Central Office of Historic Monuments and Sites, Oslo, Norway. Published in Conference Proceedings. 1992
"Replicating Historic Elevator Enclosures." *Preservation Tech Notes*, National Park Service, Washington, DC. 1989
"Working with the Code Official." *Preservation Forum*, National Trust for Historic Preservation Magazine, Washington, DC. Spring 1988

"The Impact of Building Regulations and Standards on Preservation and Conservation: An International Perspective." of ICOMOS (International Council of Monuments and Sites) Eighth General Assembly, Washington, DC. In Conference Proceedings. 1987

"Windows, Historic Buildings, and Requirements." *The Workbook for Historic Buildings*, at Historic Window Conference, Boston, 1986

"Historic Preservation Tax Incentives in the United States: Are Ten Years Enough?" International Workshop on Heritage and Conservation. Jerusalem, Israel. In Conference Proceedings 1986

"Planning Preservation Projects." AIA Conference on Building Redesign and Energy Challenges, Boston, MA. Published in Conference Proceedings 1984

PRESENTATIONS

"Safety, Building Codes and Historic Buildings." National Trust for Historic Preservation, Regional Workshop. Kalamazoo, MI. 1993

"Historic Windows: Repair and Replacement Options." New York State Museum, Albany, N.Y. 1993.

"Planning Preservation Projects." City of Ithaca Landmarks Preservation Board, Ithaca, NY. 1992

"Planning Affordable Housing Projects in Historic Structures." lecture series of Preservation League of New York State: Alfred, Ticonderoga, Tully, NY. 1991

"New Construction in Historic Contexts." Saratoga Springs Preservation Foundation and New York State Rural Housing Coalition. 1989

"Assessing Change within the Historic Context." Symposium on the Adaptive Reuse of Historically Significant Institutional Buildings and Grounds, Buffalo, NY. 1988

"Preservation Standards for the Historic Landscape." New York State Association of Olmsted Parks. Buffalo, NY. 1988

"Codes and Preservation: A Statement of the Problem." Conference of the National Trust for Historic Preservation, Washington, DC. 1987

"Federal Tax Incentives: A State Perspective." National Park Service Conference on the Tax Reform Act, Washington, DC. 1987

"The Secretary of the Interior's Standards." National Park Service Symposium, Washington, DC. 1986

"International Perspective on Fire Protection and Building Regulations Related to Historic Properties." Conference of the National Fire Protection Association and Preservation Institute for the Building Crafts on Fire Safety and Historic Preservation, Manchester, VT. 1986

"Building Regulation and Historic Preservation in the United States." Symposium on Fire Protection and Conservation at the Institute of Advanced Architectural Studies, York, England. 1985
"Trial by Fire: On the Genesis of Building Regulation and Design." Annual Meeting, Association of Preservation Technology, Toronto, Canada. 1984

Select additional presentations:
National Park Service Regional Workshop, 1985; Central NY and NY State Chapters of the AIA, 1984 and 1985; NY State Codes Division Review Boards, 1985; NY State Land Institute, Affordable Housing Conference, 1983 and 1984; NY State Department of State, Main Street Conference, 1984 and 1985; NY State Rural Housing Coalition, 1985; US Department of HUD, NY Area Office, 1985; Building Rehabilitation Technology Conference sponsored by US Department of Housing and Urban Development and National Institute of Building Sciences, 1981.