An Archaeological Investigation Of Blue Heron Park Staten Island

Prepared By:
The New York City
Landmarks Preservation Commission

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CHAPTER ONE

Sherene Baugher

CHAPTER ONE: INTRODUCTION

This report presents the results of archaeological sampling (shovel testing) and field reconnaisance at Blue Heron Park, Staten Island. The park, a New York City-owned property, is located in south-eastern Staten Island (see Figure 1:1). The 156-acre park is conserved as a natural area. The park may contain American Indian sites and material associated with the eighteenth and nineteenth century owners of the property. The archaeological work was undertaken by the City Archaeology Program at the New York City Landmarks Preservation Commission. The work was funded by a grant from the New York City Department of Parks and Recreation to the New York Landmarks Preservation Foundation (the Landmarks Commission's non-profit Foundation). Field reconnaisance was undertaken in August and November and field testing was conducted on November 1, 1990. Sherene Baugher and Edward J. Lenik, archaeologists from the City Archaeology Program, served as the principal investigators.

Blue Heron Park is an irregularly shaped parcel that is generally bounded by Hylan Boulevard, Amboy Road, Harold Avenue, Poillon Avenue, and an undeveloped area west of Poillon Avenue (see Figure 1:2). The study area for this report is a thirty-seven acre portion of the park which is bisected by Poillon Avenue and includes the area between Blue Heron Pond and Spring Pond (see Figure 1:3).

The archaeological project was necessitated by the planned construction of two shelters, a visitor center, nature trails and boardwalks. Fourteen archaeological shovel tests were excavated in the areas of the proposed construction for the picnic shelter and visitor

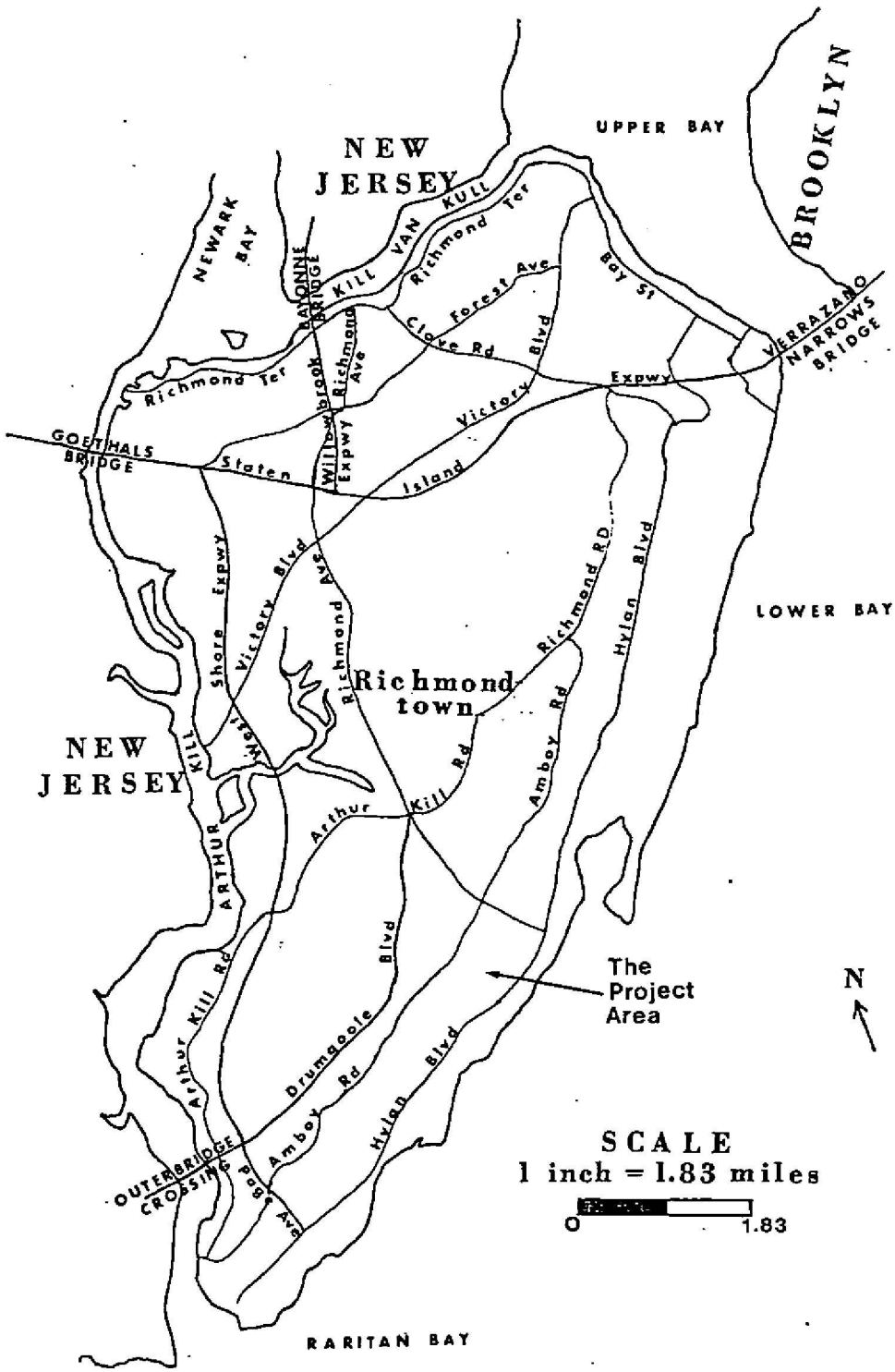


Figure 1:1 Project area located on a map of Staten Island.

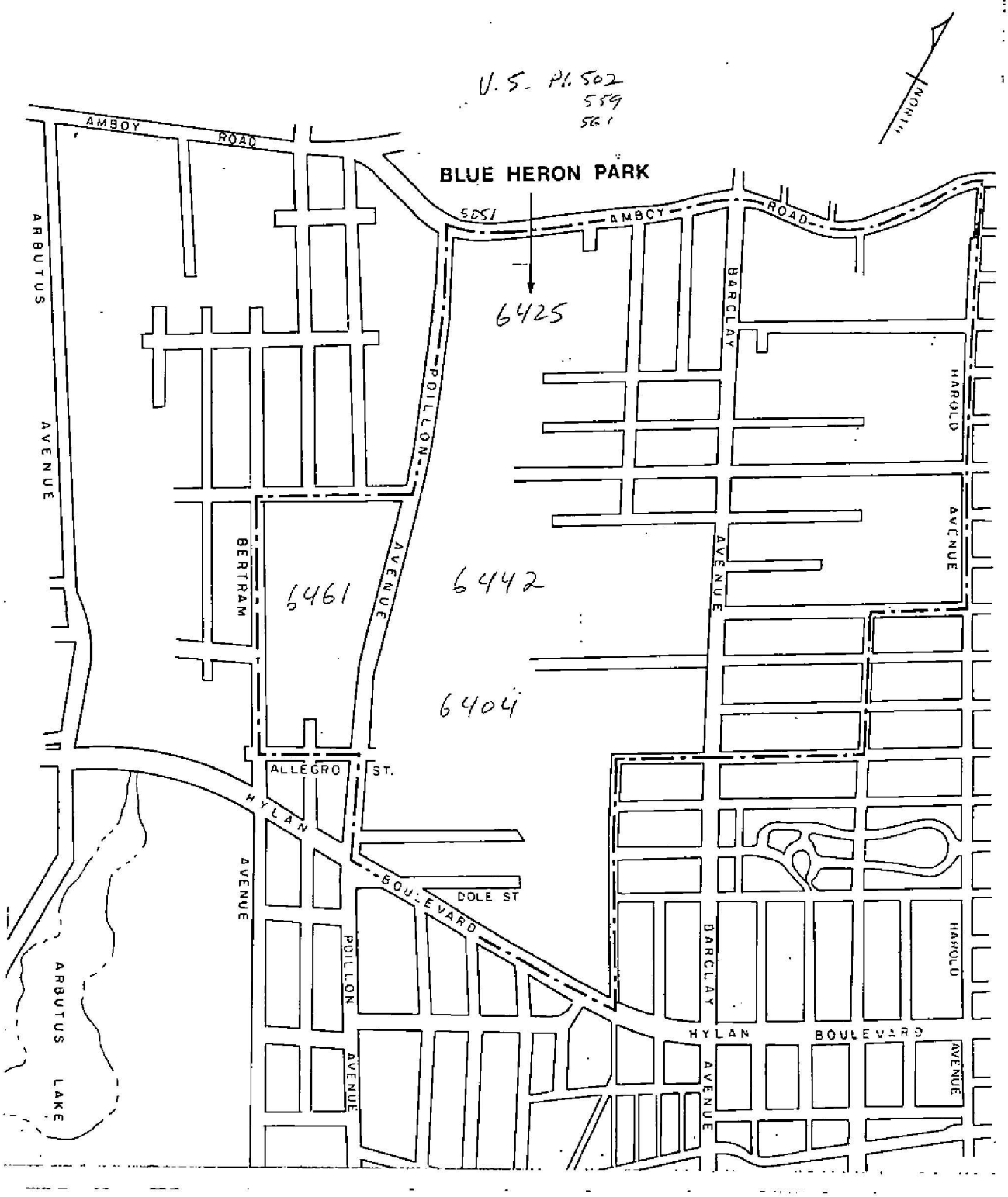
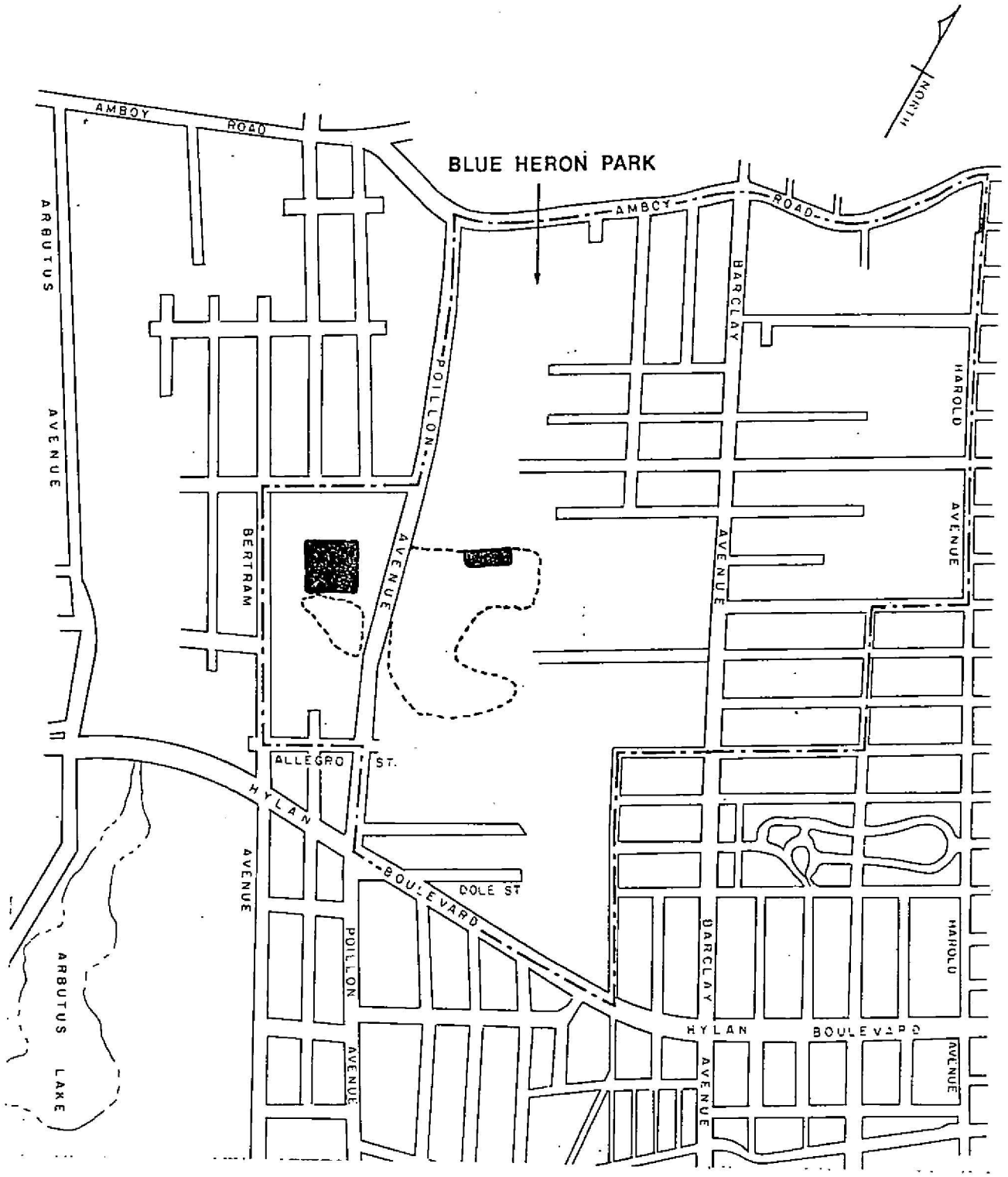


Figure 1:2 Map of Blue Heron Park. NYC Parks Department map, no scale.



Key

Project area

Trails within project area

Figure 1:3 Projects area located on map of Blue Heron Park.
(Adapted from NYC Parks Department map)
Scale: 1" = 200'

center near Spring Pond and the overlook shelter by Blue Heron Pond. Field reconnaisance covered the areas of the proposed trails and boardwalks. The purpose of the archaeological investigation was to identify any significant archaeological resources which would be adversly affected by the proposed construction. If significant remains were located, then recommendations would be made for mitigation measures to preserve or salvage these resources.

As a result of the archaeological field investigations and laboratory analyses, it was possible to determine that none of the areas of proposed construction held archaeological remains of significance. There were no findings from this program of archaeological field sampling that would lead to recommendations for modifications in the proposed construction project.

This report contains background information on the project, environmental analysis, field testing methodology, results of the fieldwork, and our conclusions and archaeological recommendations. Appendix 1 contains a catalogue of all the artifacts found in each of the fourteen shovel tests. The artifacts, report, and field notes will be submitted to the Department of Parks and Recreation, Greenbelt Office. It is hoped that this information can be used in the educational and interpretative programs at Blue Heron Pond.

CHAPTER TWO

Sherene Baugher & Edward Lenik

CHAPTER TWO: ARCHAEOLOGICAL METHODOLOGY

This archaeological investigation is based on five steps: 1) background research; 2) informant interviews; 3) environmental analysis; 4) field reconnaisance; and 5) test excavations.

Background Research and Informant Interviews

A documentary study was undertaken to identify known or potential archaeological resources. A search of the literature pertaining to Blue Heron Park was carried out at the archives of the Staten Island Museum, Staten Island Historical Society, and the Greenbelt Office of the Parks Department. Contacts were made with individuals knowledgeable in the history and prehistory of the area. Interviews were conducted with local historians, naturalists, and avocational archaeologists/collectors. Primary data was sought from all of the sources consulted.

Field Survey

A careful walk-over reconnaisance of the Blue Heron Park was conducted to locate and identify any existing sites and to evaluate the archaeological potential of the area. This aspect of the methodology had to address several problems or conditions that were present within the project area.

In most sections of the study area the field reconnaisance was hampered by dense ground cover which included trees, leaves, shrubs, goldenrod, rye grass, poison ivy, and other flora. However, all areas were examined closely several times during the course of this project including those areas which have undergone considerable disturbance in the past as a result of construction, demolition, and landfilling.

In summary, it was not possible to detect the presence of American Indian material over much of the area because of the ground cover and some alterations since the mid-nineteenth century. Nevertheless, all areas that were exposed through erosion, travel (paths), or other natural or cultural factors were carefully examined. The areas of disturbance will be described later in this report as well as the effect of such activites on the integrity of potential cultural resources.

Environmental Analysis

The prediction of American Indian site locations involves the study of environmental, archaeological, historic, and ethnohistoric data. Based on an analysis of data in each of these categories, a determination was made regarding the degree of archaeological sensitivity of the property. At this particular site, environmental and geomorphological conditions were important criteria in developing a hypothesis regarding the presence or absence of American Indian material.

Test Excavations

Archaeological test excavations were conducted within the study area. The subsurface testing strategy focused particularly on elevated, flat, and well drained land overlooking the ponds which will be affected by the proposed construction. No other areas were tested.

The subsurface shovel tests averaged eighteen inches by eighteen inches and were excavated to culturally sterile depths. All test units were excavated by shovel and trowel and the soils were screened through one-quarter inch mesh. Artifact recoveries were recorded and bagged by

stratigraphic context or soil layer. Test pits were backfilled at the conclusion of each excavation. The location of each archaeological test is indicated on the project base map (see Chapter Six for details).

CHAPTER THREE

Edward Lenik

CHAPTER THREE: *BLUE HERON PARK-THE ENVIRONMENTAL SETTING*

Introduction

Blue Heron Park is located in southeastern Staten Island in a region that is undergoing extensive change and development. Once a rural area, the park today is bounded by residential structures and paved roadways.

From its earliest days of settlement, the land was utilized for agricultural purposes. In the mid nineteenth century, the LaForge farmstead was constructed to the southeast of Blue Heron Pond. In the late nineteenth century, the Garretson House was established a short distance to the north of Spring Pond.

The environmental setting of the region offered many essential resources to both prehistoric and historic period populations. The uncut forest supplied wood for fuel and shelter as well numerous floral and faunal food resources. The region's marshes, soils, and streams also provided rich food supplies, raw materials, and potable water for the areas inhabitants.

The environmental setting of the park as described below reflects information obtained from published studies as well as from our own observations made in the field. The intent is to indicate probable relationships of human groups to the environment since the environment is a major factor in human cultural development, use of the land, and site formation processes that affect the archaeological record.

Topography And Water Supply

The present topography of Blue Heron Park can be characterized as low, flat and rolling to some extent. The local elevations range from seven feet above mean sea level at the southern end of the Park near Newton Street to 110 feet near the northeast boundary (Sells 1989). The park contains two glacially formed ponds, small streams, and wetlands. Spring Pond, as the name implies, is fed by underground seepage, and Blue Heron Pond is shallow and acidic (The Protectors of Pine Oak Woods 1980: 4).

Geology And Lithic Raw Materials

Geologically speaking, Blue Heron Park is part of the Coastal Plain physiographic province (Schuberth 1968). The underlying deposits in the region, laid down during the Cretaceous period some seventy million years ago (Gratacap 1909: 175-176), consist of sands and clays called the Raritan-Magothy formation. The Raritan formation is the older of the two and is composed of loose gray sands and gravel with layers of silt (Schneider 1977). The more recent Magothy formation lying on top of the Raritan formation, consists of loose sand mixed with silt and clay with some layers of coarse sand and gravel. Glacial deposits, in turn, overlie those of the Cretaceous period and date to about 14,000 years ago.

Continental glaciation affected the surficial geology of Staten Island as a glacier advanced and receded over the landscape at least three times during the last million years. The last, or Wisconsin episode, ended in the area about 14,000 years ago. During this period, the advancing and retreating ice sheet combined with the action of

lowered sea levels to cause the cutting and erosion of sediments of the coastal plain. The southern limit of the ice sheet is indicated by the terminal moraine, which extends along the shore of Raritan Bay and Arthur Kill in the project area (Distrigas 1973: 2-13). As the ice melted and finally retreated it left behind glacial till and outwash sediments consisting of sands, silts, and gravels. It is clear therefore, that the region's surface features and deposits are of post-glacial origin, that is, they began forming approximately 14,000 years ago (Kraft and Chacko 1978: 41).

Small cobbles and pebbles of chert, jasper, chalcedony, quartz, and quartzite occur in the depositional material left behind by the recession of the Wisconsin glacier. These materials are present in the local area and were utilized for manufacturing stone tools by the Indians. Also, extensive clay deposits which are located nearby were undoubtedly utilized by Indians for making pottery.

Soils

In general, silt, sand, gravel, clay, and organic material are found throughout the study area. General soil profiles delineated from the shovel tests indicate the presence of an upper layer of black or dark brown loam. Underlying stratum I was sand in various color layers such as reddish-yellow, reddish-brown, brown, dark brown and yellowish brown. The sandy soil may represent stratified glacial outwash deposits from the terminal moraine.

Flora And Fauna

Blue Heron Park has four vegetation zones or habitats: 1) woodlands, 2) Spring and Blue Heron Ponds, 3) swamps and marshes, and 4) grasslands. The site contains 173 species of trees and herbaceous plants (The Protectors of Pine Oak Woods 1980: 6). The ponds and swamps serve as excellent habitats for migrating land birds and seventy-five species of birds have been identified in the area. Reptiles and amphibians are also present within the site including frogs, turtles, snakes and salamanders. Other faunal species present in the area today are squirrels, raccoons, oppossum, muskrat, and crayfish (ibid.: 12).

In summary, Native American and European American adaptive strategies included utilization of trees, plants, animals, migratory birds and waterfowl, shellfish and fish in order to assure survival. These resources would have been abundantly available in the surrounding area.

Historic Land Use

Environmental conditions within Blue Heron Park have undergone several changes during the historic period due to environmental and human processes. These changes have had a direct effect on the preservation of any prehistoric or historic resources that may exist within the area.

Since the first settlers arrived in the area, human impact upon the land has been continuous. The land was first cleared of its timber resources and then extensively utilized for agricultural purposes. The present grasslands within the site were undoubtedly used for farming and in 1912 were described as open fields (The Protectors of Pine Oak

Woods 1980: 7). Prior to World War I, goats and cattle grazed on the land, and fox hunts were conducted through the grassland at the turn of the twentieth century.

Several major landscape disturbances have taken place within the property in the recent past. The environmental education area, currently located on the west side of Poillon Avenue and north of Spring Pond was until recently the site of the Garretson House. The house has been demolished, the surrounding area bulldozed, and fill soils brought on site. Landscape disturbance has also taken place in the vicinity of the LaForge House Site and recent unauthorized digging or pothunting of a nearby well has taken place.

Several unimproved roads and trails are present throughout the site. Abandoned vehicles and construction debris are scattered throughout the site and at least one underground stream culvert has been installed in the area east of Blue Heron Pond. Finally, some bulldozing has taken place near the south end of Spring Pond.

CHAPTER FOUR

Edward Lenik

CHAPTER FOUR: NATIVE AMERICAN RESOUCES

Introduction

The following discussion of Native American lifeways provides a basis on which to anticipate the kinds of cultural remains or sites that may be found in the Blue Heron Park study area. A brief description of the four periods of culture history prior to and immediately following European contact is presented first. This information summarizes the ways in which Native American people lived in the northeastern United States in general and in coastal New York in particular. These cultural sequences describe the particular technologies, lifestyles, and environmental contexts of the four time periods.

The American Indian history of Staten Island has been researched extensively, and the available data provides excellent background material with which to assess the project area. A search of the literature on this area, which includes Skinner 1909, Bolton 1920, Parker 1920, Smith 1950, Ritchie 1980, and the Staten Island Institute of Arts and Sciences Indian Sites Records, has identified several American Indian sites in close proximity to the study area. These documented sites, although directly outside our immediate project zone, give us a good picture of American Indian settlement and subsistence patterns. Additional information was obtained through personal contact with local informants and collectors who have extensive knowledge of the general area. Our survey and analysis evaluated the probable attractiveness of the study area for Native American peoples and the areas where they were likely to have lived and worked. We considered

the archaeological potential of the area by correlating environmental and cultural history in the region.

Regional Prehistory: The Native American Cultural Periods

The Paleo-Indian Period

The first Native Americans arrived in the New World about 14,000 years ago. These early Americans, whom we call Paleo Indians, migrated from Siberia across the Bering Strait Land Bridge to Alaska during the Late Pleistocene or Ice Age. They entered the New World either by way of an ice-free corridor between two massive glaciers that covered Canada or along the western coast of North America. The distinctive feature of the Paleo-Indian period was the adaptability of these people to the alternating cold, wet and dry conditions which occurred at the end of the Pleistocene and the beginning of the Holocene. During this time the Indians were hunters and gatherers, a nomadic people who roamed widely in search of food, and their settlement pattern consisted of small temporary camps. A variety of deciduous, boreal, and grassland environments would have provided a large number of productive habitats for game animals on Staten Island, and watering areas would have been particulary good hunting sites. The diagnostic artifact of the Paleo Indian is the fluted projectile point. These people made other sophisticated tools, however, including gravers, steep-edge scrapers, knives, drills, and other unifacial tools. They preferred high quality lithic material, and carefully resharpened and maintained their stone tools.

There is significant evidence to indicate that Paleo Indian people lived on Staten Island. A single fluted point was found on the

Cutting Site in Rossville, and more than 144 Paleo Indian artifacts have been found in the Port Mobil area in Kreischerville (Kraft 1977 :6).

The Archaic Period (c. 8000 to 1000 B.C.)

The Archaic Period produced a major shift in the settlement and subsistence patterns of early people. Hunting and gathering were still the basic way of life during this period, but the emphasis in subsistence shifted from the large Pleistocene herbivores, which were rapidly becoming extinct, to smaller game and plants of the deciduous forest. The environment differed from that of the earlier period, and was dominated by mesic (temperate) habitats consisting of forests of oak and hemlock. The open grasslands began to disappear, and the sea level rose, inundating the land along the continental shelf. A major effect of the rise in sea level was a higher local water table which created a large number of swamps. The settlement pattern of the Archaic people indicates larger, more permanent habitation sites. These people were increasingly more efficient in the exploration of their environment, and plant food resources, along with fish and shellfish, played a more important role in their diet. The hallmarks of this period are bifurcated (basal notched) projectile points during the Early Archaic, grinding implements, ground stone tools and toward the end of this period, or Terminal Archaic, the use of stone bowls and new radically different broad bladed projectile points. A large number of Archaic Period sites have been found on Staten Island, including Richmond Hill, Lakes Island, Bloomfield, Old Place, Goodrich, Page Avenue, Burial Ridge, Wort Farm, Smoking Point, and Conference House Park.

The Woodland Period (c. 1000 B.C. to A.D. 1600)

Environmental changes continued to occur during this period including sea level rise and the replacement of some mesic forests by xeric (dry) forests of oak and hickory. In general, hunting and gathering persisted in this period, but several important changes took place. Horticulture began during this period and later became well established with the cultivation of maize (corn), beans, and squash. Clay pottery vessels replaced soapstone bowls, and tobacco pipes and smoking were adopted. Also, the bow and arrow replaced the spear and javelin during this period. The habitation sites of the Woodland Indians increased in size and permanence as these people continued to extract food more efficiently from their environment. A large number of Woodland Period archaeological sites have been found on Staten Island. Some of these are the Bowmans Brook Site at Mariners Harbor, Burial Ridge at Tottenville, Lakes Island at Fresh Kills, Bloomfield, Old Place, Harbor Hill at New Brighton, Silver Lake, Peltons Cove at West New Brighton, Richmond Valley, Sharrot Estates at Sandy Ground, Wort Farm and Smoking Point near Rossville.

The Contact Period (c. 1600 A.D. to c. 1750 A.D.)

The settlement of New Amsterdam (New York) by the Dutch in the early 1600s initiated the Contact Period between the Indians of Staten Island and the Europeans. Following this settlement, a regular pattern of Indian-European trade developed, and the Indians began to acquire European-made tools and ornaments. As this trade increased and continued, items of European origin should presumably occur with greater frequency at Indian sites. Evidence of European Indian trade on Staten Island is sparse, but several items of European manufacture

have been found in good archaeological contexts at the Burial Ridge site at Tottenville (Jacobson 1980 :23, 24, 31, 64).

Native American Archaeological Sites In The Project Area (Figures 4:1, 4:2)

In prehistoric times, Staten Island was intensely occupied and used by Native American peoples. In the early twentieth century archaeologist Alanson B. Skinner of the American Museum of Natural History surveyed and located twenty-four prehistoric sites on Staten Island (see Figure 4:1). Skinner (1909) shows three sites in the vicinity of Blue Heron Park. Number 11, called "Green Ridge, near Richmond Plank Road," presently called Richmond Avenue, Number 16, near Seguine Pond and one near Wolfe Pond. Skinner (1909 :10) describes the Green Ridge, site as a camp site located between "Journey Avenue and Annadale Road" which contains "early relics." The Wolfe Pond Site is described as a shellheap located on a bluff overlooking the bay that contained pottery dating to the Woodland Period. The site located near Seguine Pond was probably a shellheap-fishing station as well.

Based on Skinner's survey and site location work, Bolton (1922) postulates the existence of a series of Indian trails that linked the various prehistoric sites on Staten Island (see Figure 4:2). According to Bolton (1922), one of these trails would have run along present day Amboy Road, with branches extending southerly to the sites at Seguine Pond and Wolfe's Pond. It must be noted, however, that Bolton's Indian trail network is purely hypothetical or as he himelf noted "conjectural" (Bolton 1922 :193).

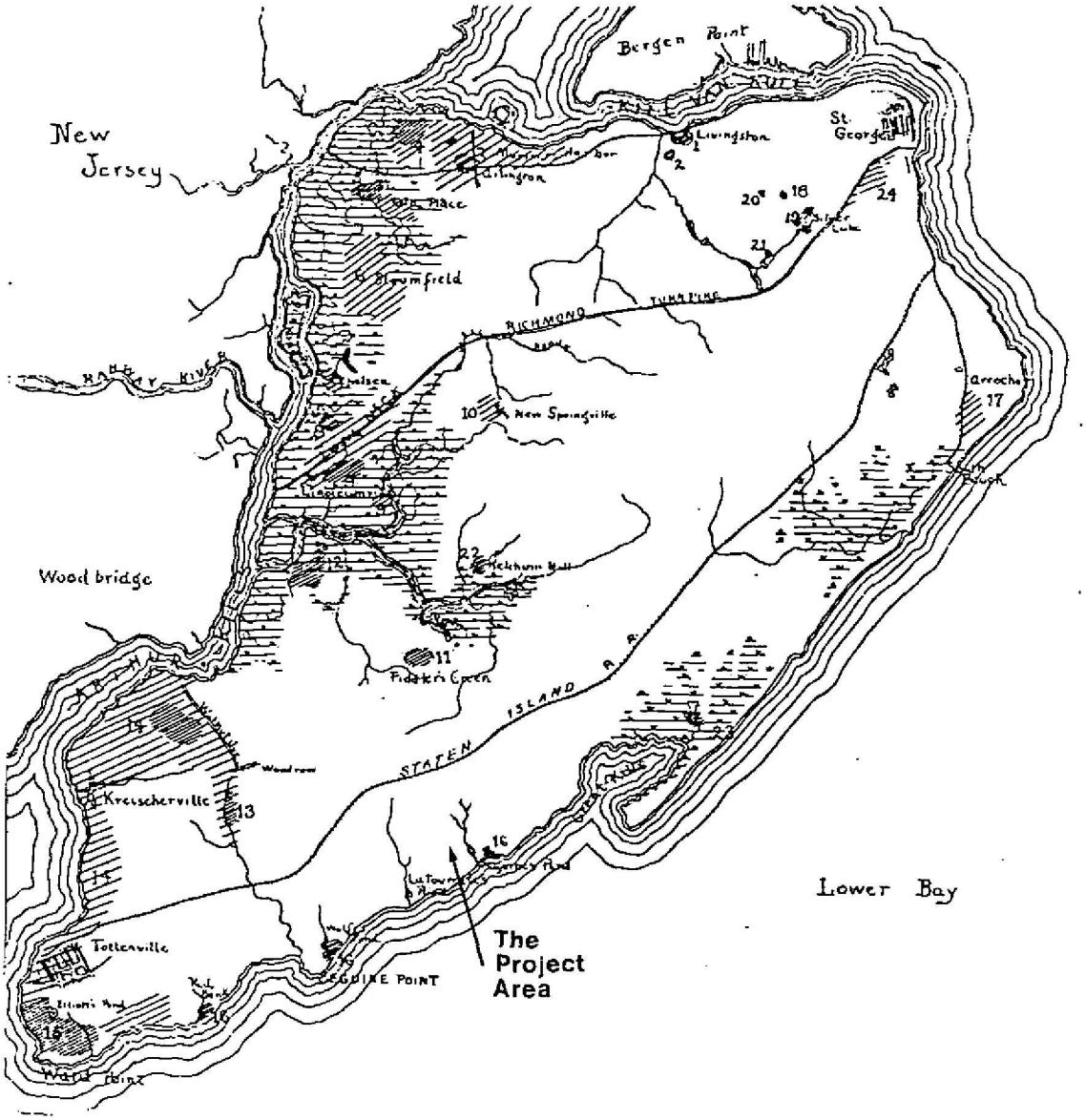


Figure 4:1 Native American archaeological sites on Staten Island identified by Alanson Skinner, 1909.

Figure 4:2 Indian trails of Staten Island. Bolton's 1922 trail map superimposed on a modern map of Staten Island (Grumet 1981).

Native American Subsistence Resources

The native people who occupied Staten Island before the Lenape undoubtedly utilized the plant and animal species that were available in the area. Although archaeological evidence from sites in the region includes the bones and shells of a number of animals used for food, there is limited information on which species of plants were used for food, medicine, and utilitarian purposes.

A complete listing of the flora and fauna used by the Indians who occupied Staten Island is, unfortunately, impossible to ascertain. The European settlers were primarily interested in acquiring land and furs. The collection of ethnographic information concerning the native people was not of primary concern to these new colonists. Scant refernces in early journals only hint at the Lenape's use of the flora and fauna before the Dutch and English had displaced them by 1670. Archaeological evidence provides information on the animal species used for food, but does not give an adequate picture of how the native vegetation was used.

Prior to European settlement, the Lenape hunted a great variety of animals for food: deer, bear, beaver, raccoon, opossum, skunk, wolf, fox, muskrat, squirrel, woodchuck, bobcat, lynx, rabbit, mice, turtles, tortoise, and snake. In addition, they hunted and trapped birds, such as turkey, partridge, blue heron, and the passenger pigeon (Salomon 1982: 36), and ate clams, oysters, bay scallops, and fish (Kraft 1986: 104).

Some of the animals mentioned could have been procured in areas distant from Blue Heron Park. Others, such as the raccoon, opossum,

muskrat, squirrel, turtles, snakes, and blue heron, can be found in the area (Protectors of Pine Oak Woods, 1980). The changing landscape probably had supported deer, fox, rabbit, and other species in the past.

The Lenape Indians lived in what is now New Jeresy, Delaware, Eastern Pennsylvania, and Southeastern New York. Although most of these peoples migrated westward before much ethnobotanic data could be obtained, the accounts of early settlers, scientists, doctors, and Moravian missionaries tend to indicate that much of the medicinal knowledge of the Lenape recorded outside of the New York - New Jersey area probably originated in this region (Fitzpatrick 1984: 704). The enduring strength of oral tradition in preserving the cumulative knowledge of the past makes it necessary to consider seriously much of the information provided by the twentieth century Lenape informants.

In determining which of the 173 species of plants found in Blue Heron Park may have been used by the Lenape, the introduced species were eliminated from consideration, and three tables were prepared. Table I lists the species that thave been recorded as being utilized by the Lenape inhabitants of the Metropolitan Area, the relocated Lenape in Oklahoma and Canada, the New Jersey "Sand Hill" group, and two associated peoples: the Nanticoke of Delaware and the Mohegans of Connecticut.

Table II lists the species used by various native tribes in the woodlands of eastern North America: New England: Iroquois, Mohawk, Penobscot, Seneca; Great Lakes: Huron, Menomini, Meskwaki, Ojibwa, Potawatomi, Winnebago; Canada: Algonkian, Micmac; and Southern

Woodlands: Catawba, Cherokee, Choctaw, Creek, Natchez, Pamunkey, Rappahannock.

Table III lists plant species presently available that are noted for their edible or medicinal properties by Peterson (1977), and Foster and Duke (1990).

Table I lists forty-five plants used by the Lenape. Table II lists thirty-five plants used by various tribes in the eastern woodlands and possibly by the Lenape in Staten Island. The plants in Table III, although not specifically mentioned for tribal usage, have properties that could have been utilized by the *indigenous* peoples.

In all, ninety-six of the 142 native floral species found within Blue Heron Park have recorded usage for food, medicine, as a beverage, in a smoking mixture, or for some utilitarian purpose. Some examples of utilitarian usage are twine, fishing nets, lashing, cordage, frames for dwellings, bows, handles for tools, arrows, brooms, brushes, spoons, mortars, dye, insect repellent, wigwam covering, and sutures.

Table 4:1

Native plant species present within Blue Heron Park that have been recorded as being utilized by the Lenape inhabitants of the Metropolitan Area, the relocated Lenape in Oklahoma and Canada, the New Jersey "Sand Hill" group, and two associated peoples: the Nanticoke of Delaware and the Mohegans of Conneticut.

Scientific Name	Common Name	Usage
Achillea lanulosa*	Yarrow	Medicine
Ambrosia artemisiifolia	Common Ragweed	Medicine
Apocynum cannabinum	Indian Hemp	Utilitarian
Asclepias syriaca	Common Milkweed	Food/Medicine
A. tuberosa	Butterfly-Weed	Medicine
Betula lenta	Sweet Birch	Medicine
Carpinus caroliniana	Ironwood	Medicine
Carya glabra	Sweet Pignut	Utilitarian
C. ovata	Shellbark Hickory	Medicine
Cirisium vulgare	Bull Thistle	Medicine
Cornus amomum	Silky Dogwood	Medicine
C. florida	Flowering Dogwood	Medicine/Utilitarian
Fraxinus americana	White Ash	Medicine
Hamamelis virginiana	Witch Hazel	Medicine/Utilitarian
Impatiens capensis	Jewelweed	Medicine
Iris versicolor	Larger Blue Flag	Medicine
Juglans nigra	Black Walnut	Medicine
Kalmia augustifolia	Sheep Laurel	Utilitarian
Lindera benzolin	Spicebush	Medicine
Liquidambar styraciflua	Sweet Gum	Medicine
Liriodendron tulipfera	Tulip Tree	Medicine/Utilitarian
Lobelia cardinalis	Cardinal Flower	Medicine
Monotropa uniflora	Indian Pipe	Medicine
Myrica pennsylvanica	Bayberry	Medicine
Nyssa sylvatica	Black Gum	Medicine/Utilitarian
Phytolacca americana	Pokeweed	Food/Medicine/Util.
Pinus strobus	White Pine	Medicine
Populus deltoides	Cottonwood	Medicine
Potentilla canadensis	Common Cinquefoil	Medicine
Prunus serotina	Black Cherry	Medicine
Quercus alba	White Oak	Food/Medicine
Q. palustris	Pin Oak	Food/Medicine
Q. rubra	Red Oak	Medicine
Q. velutina	Black Oak	Medicine
Rhus copallina	Dwarf Sumac	Medicine
Robina pseudo-acacia	Black Locust	Medicine
Salix nigra	Black Willow	Medicine
Sambucus canadensis	American Elder	Medicine
Sassafras albidum	Sassafras	Beverage/Medicine/Util.
Smilacina racemosa	False Soloman's-Seal	Medicine

Spiraea tomentosa	Steeplebush	Medicine
Symptocarpus foetidus	Skunk Cabbage	Medicine
Tilia americana	Basswood	Utilitarian
Ulmus americana	American Elm	Medicine
Vaccineum corymbosum	Highbush Blueberry	Food
Viburnum prunifolium	Black Haw	Medicine

*Achillea lanulosa and A. millefolium have been generally confused and both have passed as one, bearing the name of the European species, A. millefolium. It is less common than our native species and can be distinguished only by microscopic techniques that reveal the chromosomes (Rickett 1966: 482).

Table 4:2

Native plant species present within Blue Heron Park that have been recorded as being utiliized by various native tribes in the woodlands of eastern North America: Iroquois, Mohawk, Penobscot, Seneca, Huron, Menomini, Meskwaki, Ojibwa, Potawatomi, Winnebago, Algonkian, Micmac, Catawba, Cherokee, Choctaw, Creek, Natchez, Pamunkey, Rappahannock.

Scientific Name	Common Name	Usage
Acer rubrum	Red Maple	Food
Apocynum cannabinum	Indian Hemp	Medicine
Aronia arbutifolia	Red Chokeberry	Medicine
Asclepias incarnata	Swamp Milkweed	Food/Medicine/Util.
A. syriaca	Common Milkweed	Utilitarian
Aster laevis	Smooth Aster	Food/Medicine
Aster novae-angliae	New England Aster	Food/Medicine/ Smoking Mixture
Betula lenta	Sweet Birch	Beverage
Carya cordiformis	Bitternut Hickory	Food
C. ovatum	Shellbark Hickory	Food/Utilitarian
Castanea dentata	American Chestnut	Food
Chelone glabra	Turtlehead	Medicine
Cornus stolonifera	Red-Osier Dogwood	Smoking Mixture
Equisetum arvense	Common Horsetail	Medicine
Eupatorium maculatum	Spotted Joe-Pye Weed	Medicine
Fagus grandifolia	American Beech	Food
Fraxinus americana	White Ash	Utilitarian
Hypericum canadense	Marsh St. John's-Wort	Medicine
Juglans nigra	Black Walnut	Food
Lilium superbum	Turk's-Cap Lily	Food
Lycopus virginicus	Bugleweek	Medicine
Morus rubra	Red Mulberry	Medicine
Nuphar variegatum	Yellow Water Lily	Food
Oenothera biennis	Evening Primrose	Food
Onoclea sensibilis	Sensitive Fern	Food
Osmunda cinnamomea	Cinnamon Fern	Food
Parthenocissus quinquefolia	Virginia Creeper	Food
Pinus strobus	White Pine	Food
Polygonatum biflorum	Solomon's-Seal	Food
Populus grandidentata	Big-Toothed Aspen	Food/Medicine
Prunus serotina	Black Cherry	Food
Pteridlum aquilinum	Bracken Fern	Food
Pyrus spp.	Crabapple	Food
Quercus rubra	Red Oak	Food
Robinia pseudo-acacia	Black Locust	Food
Rosa carolina	Pasture Rose	Food
Rubus allegheniensis	Highbush Blackberry	Food

R. flagellaris	Northern Dewberry	Beverage/Food
R. strigosus	Red Raspberry	Food
Sambucus canadensis	American Elder	Beverage/Insect Repellent
Smilacina racemosa	False Solomon'sSeal	Food
Solidago altissima	Tall Goldenrod	Medicine
S. graminifolia	Lance-Leaved Goldenrod	Medicine
Spiraea latifolia	Meadoweet	Medicine/Utilitarian
Tilia americana	Basswood	Medicine
Viburnum acerifolium	Maple-Leaf Viburnum	Medicine
V. dentatum	Black Haw	Medicine

Table 4:3

Native plant species present within Blue Heron Park that are noted for their edible or medicinal properties in L.A. Peterson's A Field Guide to Edible Wild Plants and in S. Foster's and J.A. Duke's A Field Guild to Medicinal Plants, both in the Peterson Field Guide Series.

Scientific Name	Common Name	Usage
Ambrosia trifida	Giant Ragweed	Medicine
Andropogon virginicus	Broom Sedge	Medicine
Aralia spinosa	Hercules Club	Medicine
Athyrium filix-femina	Lady Fern	Medicine
Carya tomentosa	Mockernut Hickory	Food
Cuscuta spp.	Dodder	Medicine
Dioscorea villosa	Wild Yam	Medicine
Erythronium americanum	Trout Lily	Food/Medicine
Lysimachia quadrifolia	Whorled Loosestrife	Beverage/Medicine
Mianthemum canadense	Canada Mayflower	Medicine
Polygonum hydropiper	Mild Water Pepper	Medicine
Pycnathemum spp.	Mountain Mint	Beverage/Medicine
Quercus prinus	Chestnut Oak	Food
Smilax rotundifolia	Common Greenbrier	Food/Medicine
Spiranthes cernua	Nodding Ladies' Tresses	Medicine
Uvularia sessilifolia	Wild Oats	Food/Medicine

CHAPTER FIVE

Sherene Baugher

CHAPTER FIVE: HISTORIC RESOURCES

In 1981, 147 acres of Blue Heron Park were acquired by the New York City Department of Parks and Recreation with an additional nine acres acquired later (Berger, 1989: 33-35). In the 1980s, the park was administered as a natural area with a complex of wetlands, ponds (including Spring Pond and Blue Heron Pond), seasonal streams, forests and meadows. There are both paved and unpaved roads in the park. This chapter assesses the historic resources within the study area but includes references to the park as a whole. Historic maps were evaluated to determine the pre-twentieth century ownership and land-use of the thirty-seven acre study area.

During the first half of the seventeenth century, all of Staten Island remained as it had been for centuries: Indian land, where Indians coupled their traditional combination of agriculture, hunting, and fishing with the new opportunities found in trade with the Dutch.[1] In 1630 Michael Pauw negotiated the sale of Staten Island from several Indians. Although Pauw was active in the Indian trade, his attempts to colonize Staten Island with Europeans failed and in 1635 he sold its rights to the Dutch West India Company. The Company in turn sold their rights to David Pietersz De Vries who, in 1639, established an extensive settlement on Staten Island, cooperating harmoniously with the local Indians. (Grumet 1979: 200; Trelease 1960: 45; and Jameson 1909: 202).

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[1] This general introduction to Staten Island's seventeenth century history has been adapted from a long essay by Sherene Baugher and Robert W. Venables. For more detailed information see their essay, Chapter Four, in Baugher, Lenik, Barto, et. al. (1989).

Throughout the period of Dutch rule Staten Island remained sparsely populated, and no European is known to have occupyied the Blue Heron Pond project site. In 1664, even as the Dutch were still struggling to resolve their conflicts with Indians throughout the lower and middle Hudson Valley, four English frigates sailed into the Upper Bay and forced the Dutch to surrender their colony. Apart from a brief Dutch reoccupation, from 1673 to 1674, New Amsterdam became the English colony of New York. The Duke of York undertook extensive reforms of the colonial system to provide both political stability and economic growth, with the hope that this would help consolidate his hold. His intention was to settle the affairs of the colony and to increase its population. Robert C. Ritchie noted that "Staten Island experienced an influx in the 1670s when the island was developed to keep it from falling under the control of New Jersey. Englishmen acquired most of the land grants" (Ritchie 1977: 139). Staten Island was still sparsely settled in 1679. Two travellers, Jasper Dankers and Peter Sluyter, remarked that "there are now about a hundred families on the island, of which the English constitute the least portion, and the Dutch and French divide between them about equally the greater portion. They have neither church nor minister, and live rather far from each other, and inconveniently to meet together" (Dankers and Sluyter 1867: 142). While the large land patent holders were primarily English, most of the new settlers were in fact Huguenots (Ritchie 1977: 140).

Some of the land which later became Blue Heron Park was included in one 1680 patent by Governor Edmund Andors to Richard Hall for 160 acres. Simply granting land, however, was not enough to encourage the

colony's prosperity. To increase the efficiency and responsiveness of the colonial government, Andros' sucessor, Governor Thomas Dongan, formed a new assembly in 1683 which reflected a new political status for Staten Island. In addition to setting out individual rights, this 1683 Charter established new counties, and Staten Island became the County of Richmond (Ritchie 1977: 172).

At the time of the 1683 charter most of Staten Island was still either privately held, undeveloped land or land that had not been granted to anyone. Within three years, the colony erupted in vocal protest. As part of a retrenchment of centralized control, Governor Dongan virtually destroyed the 1683 charter. Then, in 1686, Dongan recalled all the patents throughout the colony which had been issued by his predecessor, Governor Andros (Kammen 1975: 105).

Rebellions and wars may or may not bring profits through the sales of war supplies, black markets, and the like, but they wreak havoc on property. It is no coincidence that, after 1680, the next major land grant to affect the area which became Blue Heron Park did not occur until 1693 (165 acres to John Stillwell), after the rebellion, which lasted from 1689 to 1691. The rebellion is known by many names, and it involved virtually the entire English-colonized Atlantic seaboard. In New York, it was led by Jacob Leisler, and hence is often called "Leisler's Rebellion." Wherever it occured, however, one of the focal points was the fact that in 1688 the English had peacefully overthrown James II and replaced him with William and Mary (ironically, William of Orange was from Holland). This was known as "the Glorious Revolution" of 1688. The transatlantic ripples of 1689 are thus broadly known as "the Glorious Revolution in America." As a

resurgence of local rights over centralized power, the revolution was short-lived. Leisler was hanged in New York in 1691. The ultimate outcome was to put the conservative establishment more firmly in power, despite the new window dressing of William and Mary's authority. Only when the Parliment in England became more liberal in the late 1690s did that liberalism spill back into New York (Lovejoy 1972: 360-363 et passim).

In the meantime, the colony was reestablished as it was before the rebellion. Old land patents were reaffirmed, and new patents on lands that had not been claimed were issued. Skene's map of Staten Island grants (see Figure 5:1) locates the land of Richard Hall and John Stillwell.

The following maps were evaluated to determine the project area's use during the eighteenth century:

1) Popple map, 1733
2) Eman Bowen map, 1747
3) Baye et Port D'York, 1771
4) Taylor and Skinner map, 1781

The eighteenth century maps of Staten Island show the thirty-seven acre project parcel of Blue Heron Pond as undeveloped land or farm land without any structures on it.

The 1845 United States coastal survey map shows the parcel as undeveloped land. The 1860 Grover and Baker map of Staten Island continues to show the project site as undeveloped land (see Figure 5:2).

The first time any structures within the project area are noted on a map is on the 1874 Beers Atlas (see Figure 5:3). In the location

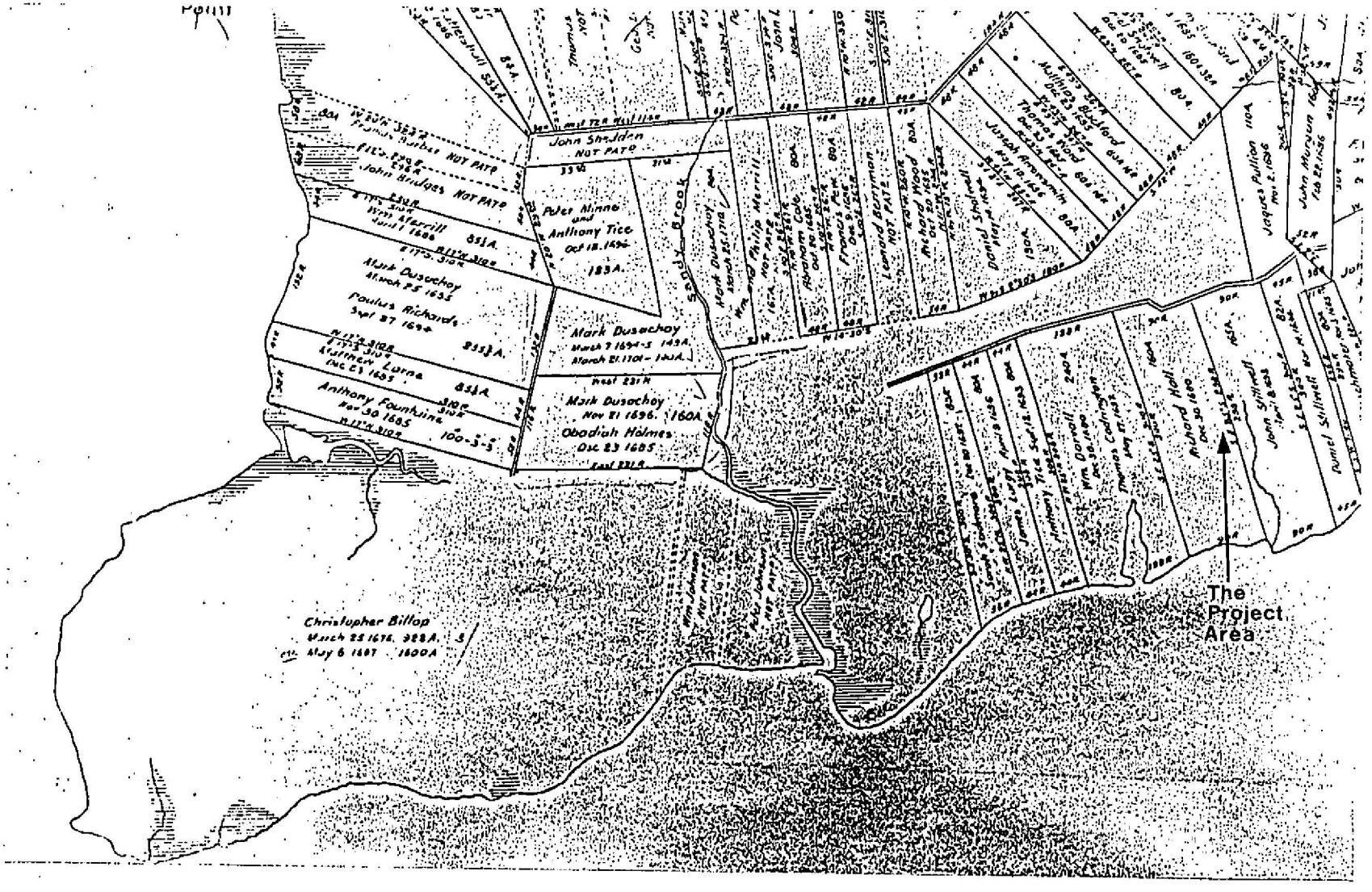

Figure 5:1 Map of Colonial Land Grants, 1668-1712, drawn by Frederick Skene in 1907.

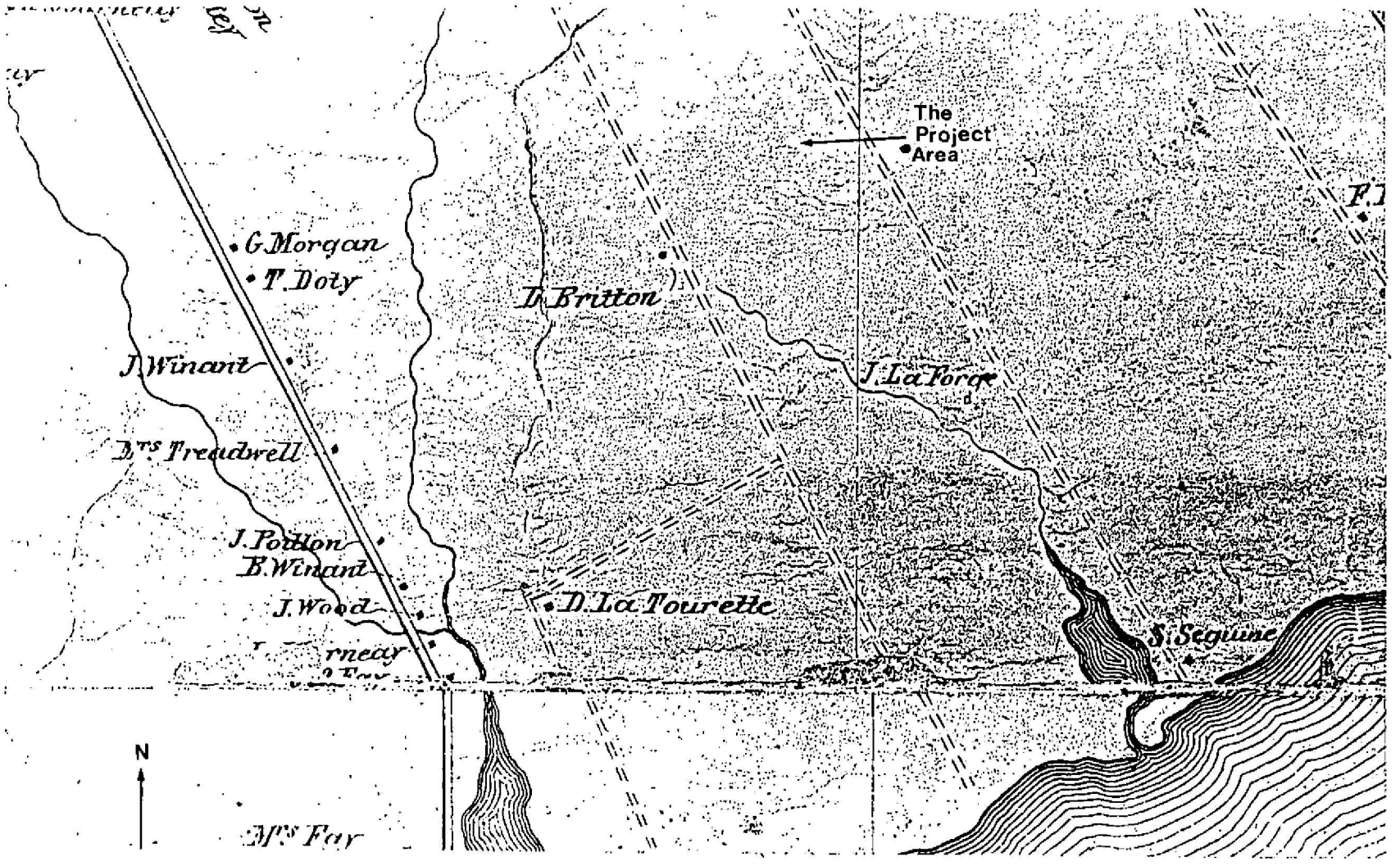

Figure 5:2 Map of Staten Island, by Grover & Baker, 1860.

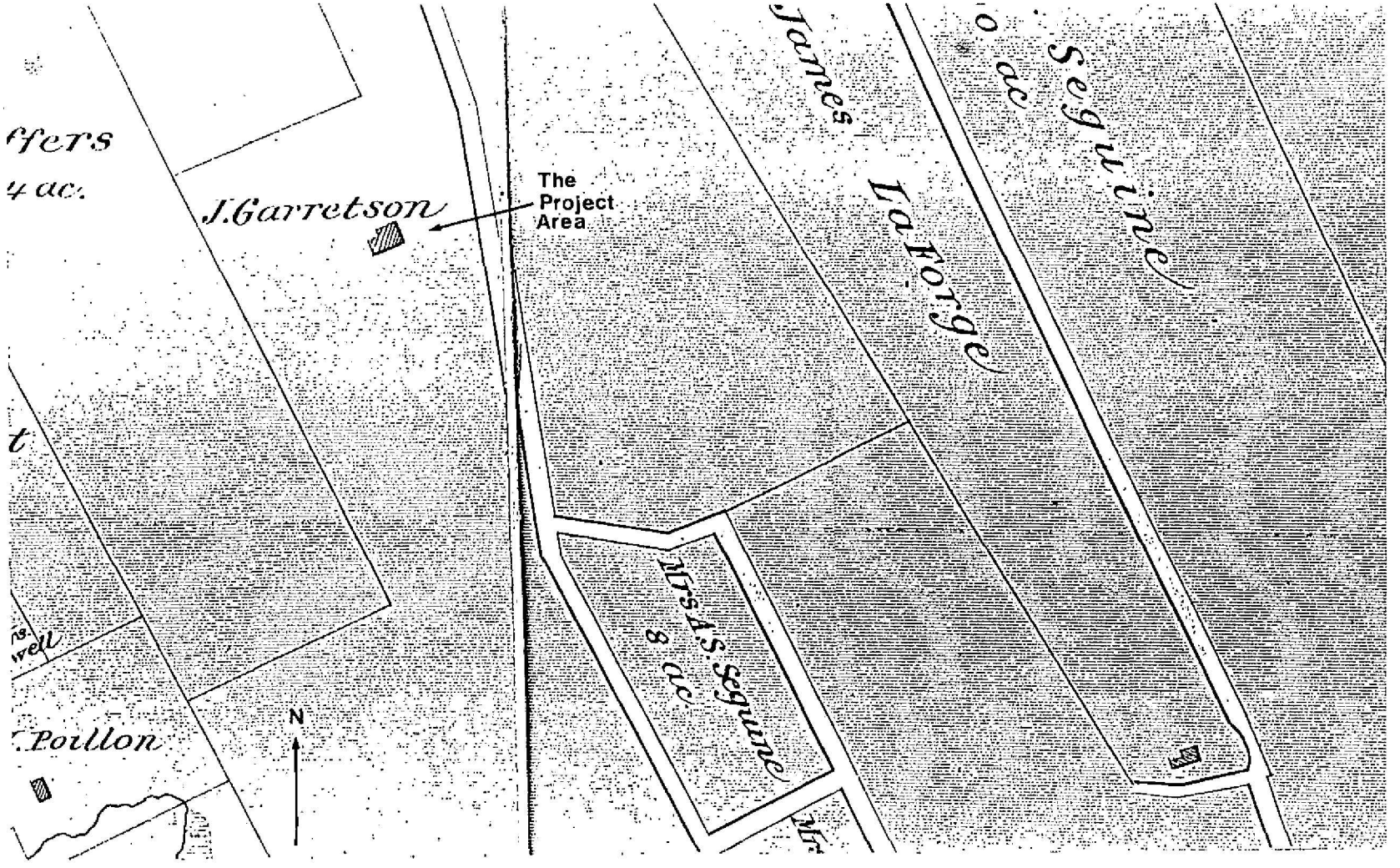

Figure 5:3 Atlas of Richmond County, Staten Island, New York, 1874, by F.W. Beers.

of the currently proposed Visitor Center was the "L" shaped Garretson house, listed under the ownership of J. Garretson. The house appears again on the Beers Atlas of 1887 showing the same location, house shape, and owner. The 1898 Robinson Atlas shows the L-shaped house plus three outbuildings and a circular driveway (see Figure 5:4). The building at the western end of the driveway may be a carriage house. The outer buildings are located to the west of the current project area but within the boundary of Blue Heron Park. The property owner in 1898 was James Garretson. By 1907, the property is shown on the Robinson Atlas as owned by Mary De W. Garretson (see Figure 5:5). The circular driveway and three outbuildings are shown in the same location as on the 1898 map.

According to the 1917 Bromely Atlas, the property was still owned by Mary Garretson. However, the number of outbuildings and the shape of the driveway had changed (see Figure 5:6). The 1917 Bromley Map depicts a simple "L" shaped driveway leading to a two and one-half story house, two outbuildings to the northwest of the house, and two more outbuildings due west of the house. Three of the buildings were the same ones shown on the 1907 atlas. The fourth, a small outbuilding close to the house did not appear on the 1907 Atlas, so it was presumably built sometime between 1908 and 1917; this building is within the project parcel.

The Garretson house continued to be occupied throughout the twentieth century. When the Parks Department acquired the parcel in 1981, renters still occupied the house (Jack Bard, personal communication, 1990). In 1988, the abandoned house was demolished by

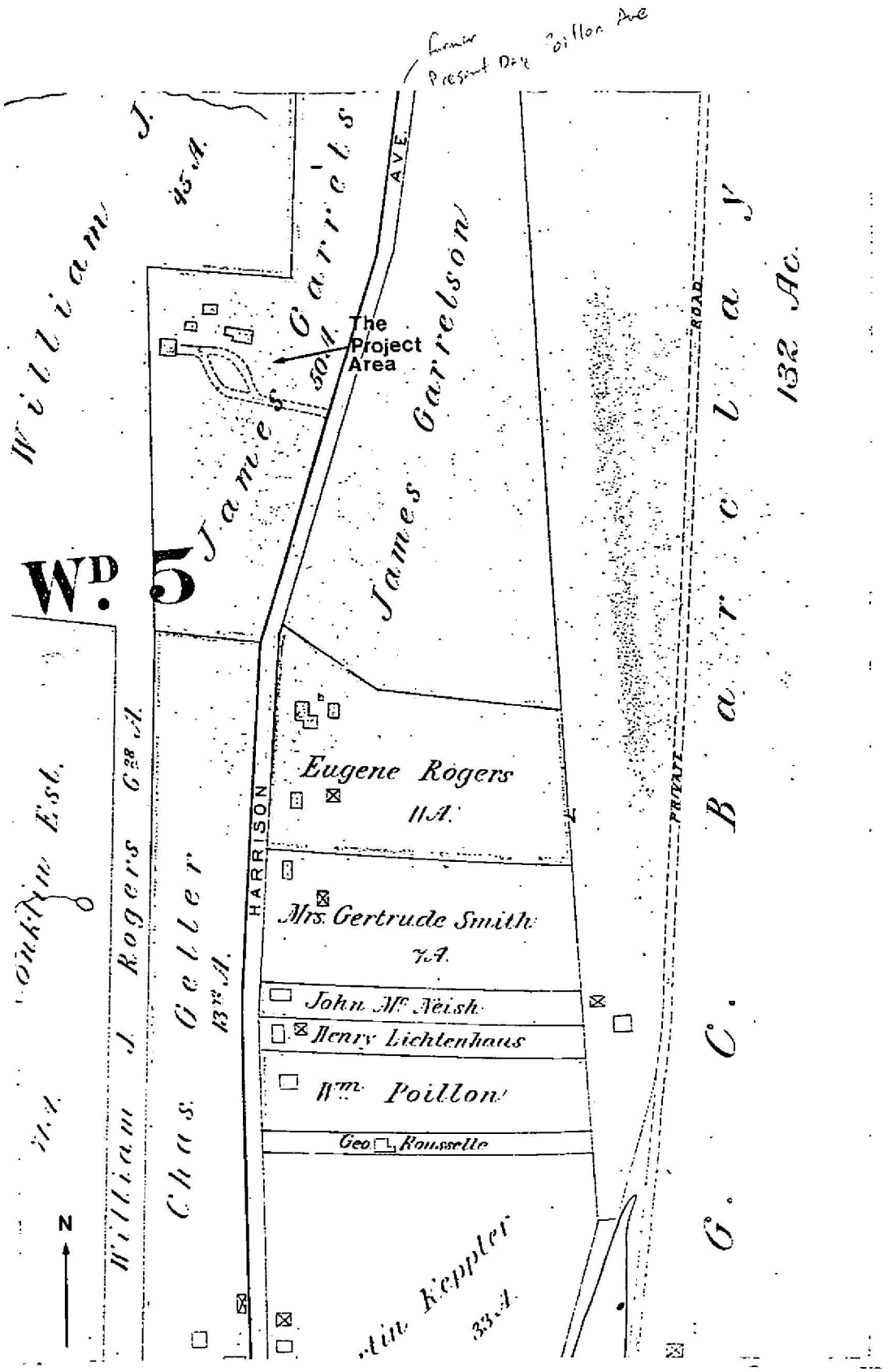

Figure 5:4 Atlas of the Borough of Richmond, by E. Robinson, 1898.

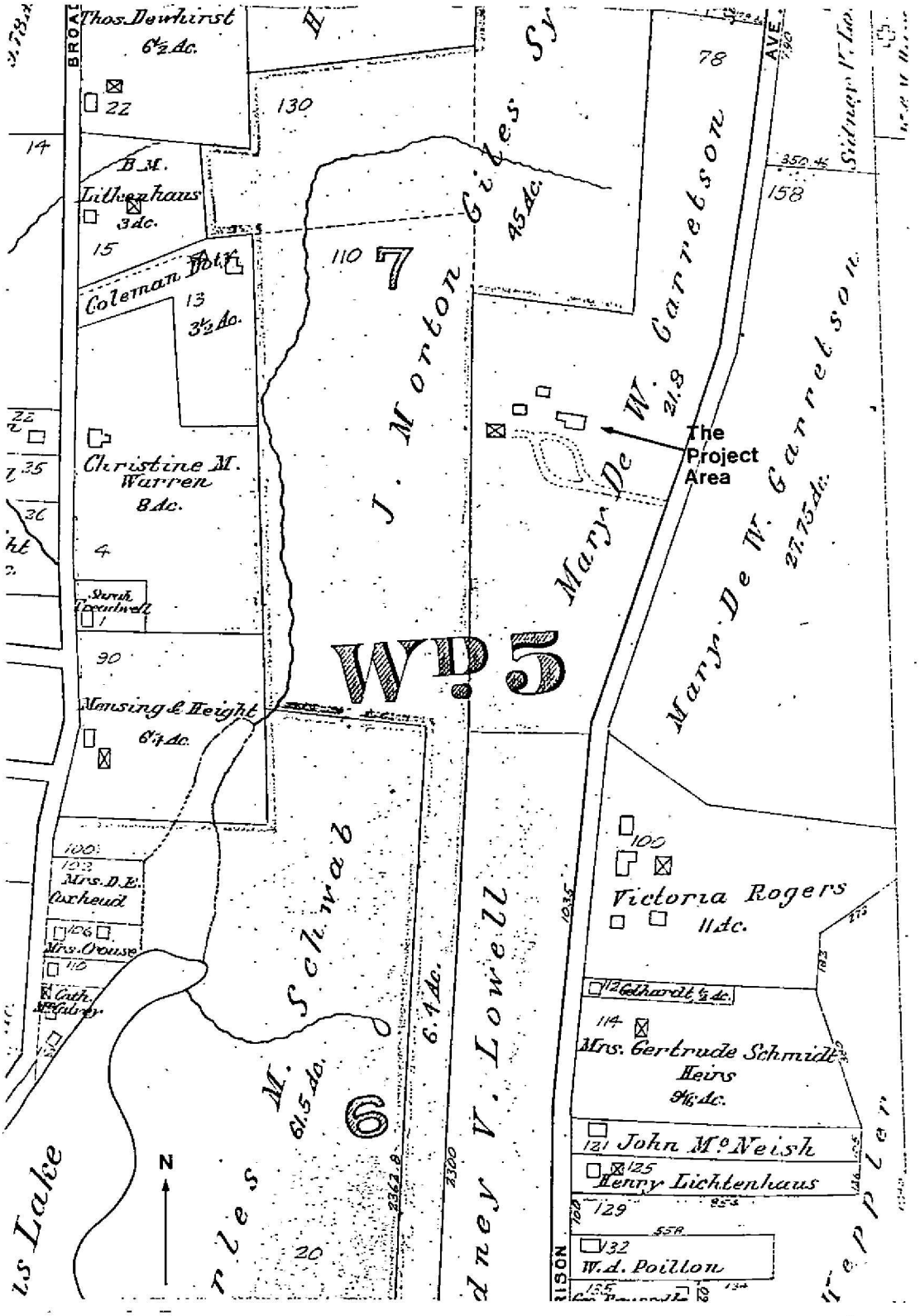

Figure 5:5 Atlas of the Borough of Richmond, by E. Robinson, 1907.

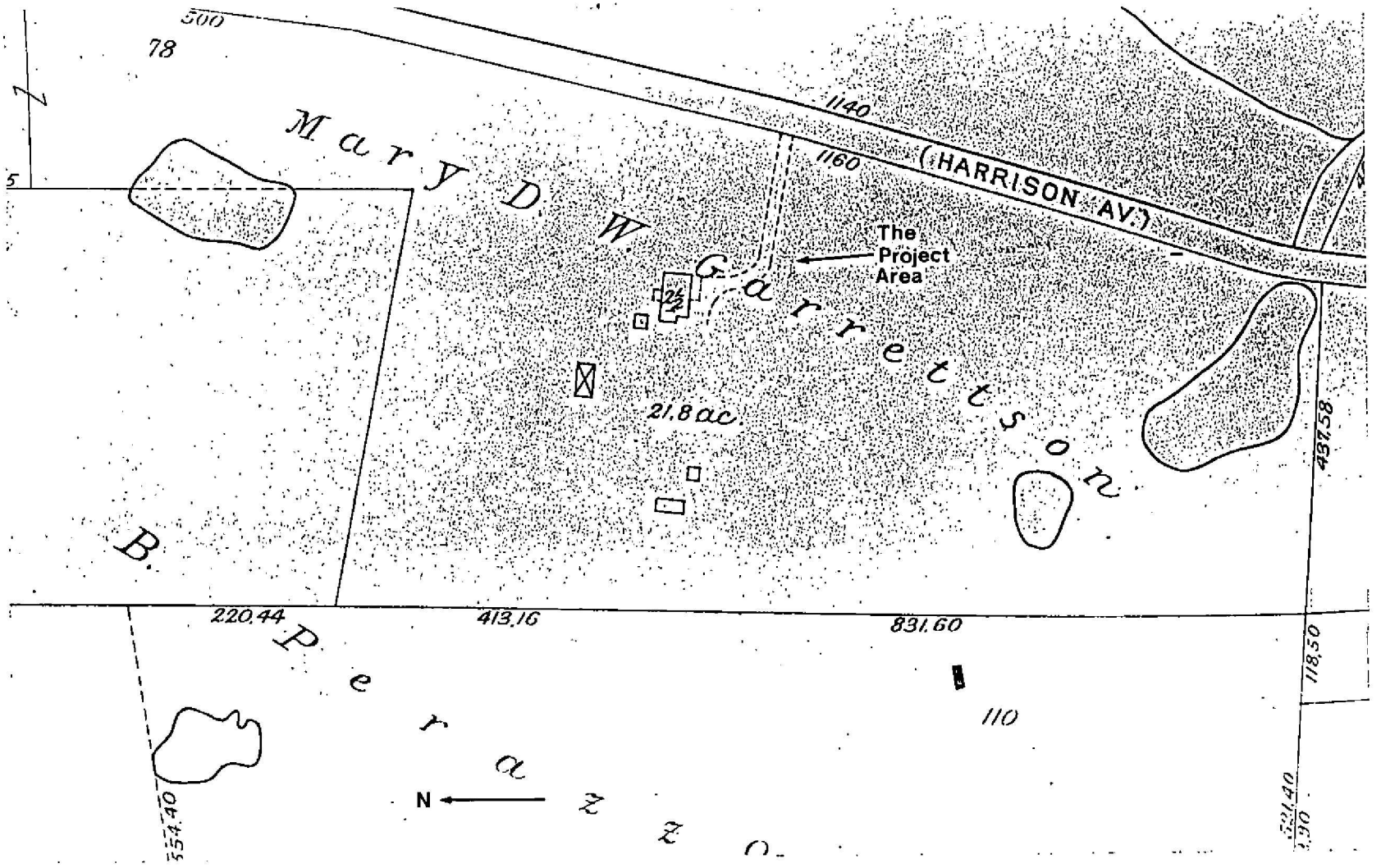

Figure 5:6 Atlas of the Borough of Richmond, by E. Robinson, 1917.

the Parks Department; the area surrounding the house, including the site of the small outbuilding was greatly disturbed by bulldozing, leveling, and grading work (Jack Baird, personal communication, 1990).

In summary, only two documented structures existed within the project site -- the 1870s Garretson house and the small c. 1917 outbuilding near it. Both the house and the outbuilding have been demolished and their sites were greatly disturbed during the demolition work. Wells and privies associated with the nineteenth century occupants of the house, the Garretson family, may still exist in Blue Heron Park. The privies might be located to the north or west of the house near the Garretsons' property boundary, since this was a typical nineteenth century placement of privies in Richmondtown, Staten Island (Baugher, Lenik, Barto, et. al. 1989). Therefore, the privies would be outside of the project impact area but within the boundary of Blue Heron Park. The location of the nineteenth century well is unknown.

CHAPTER SIX

Edward Lenik

CHAPTER SIX: ARCHAEOLOGICAL INVESTIGATIONS AT BLUE HERON PARK

Introduction

There are several ways to locate archaeological sites: by surface reconnaissance in various environmental settings or by carefully comparing locations of buildings and features on old maps with modern topographic maps of the same area. Both of these methods were employed in our investigation of Blue Heron Park.

The fieldwork for this project, conducted on August 10, 1990 and November 2, and 24, 1990, consisted of a pedestrian survey of the park and subsurface test excavaions in selected areas. The locations of the archaeological tests and historical cultural features are indicated on the PROJECT BASE MAPS FIGURE 6:1, 6:2, and 6:3. A dscription of the fieldwork and its results are presented below:

Pedestrian Survey

During the field reconnaissance phase of this project, several structural ruins and cultural features were located within the study area. The locations of these features are indicated on the project base maps.

1. Dump Site (Figure 6.1)

A dump is located in the western section of the park in the area designated as the main program or environmental education center. The site of the former Garretson House is located nearby, approximately 125 feet north-northwest of the dump.

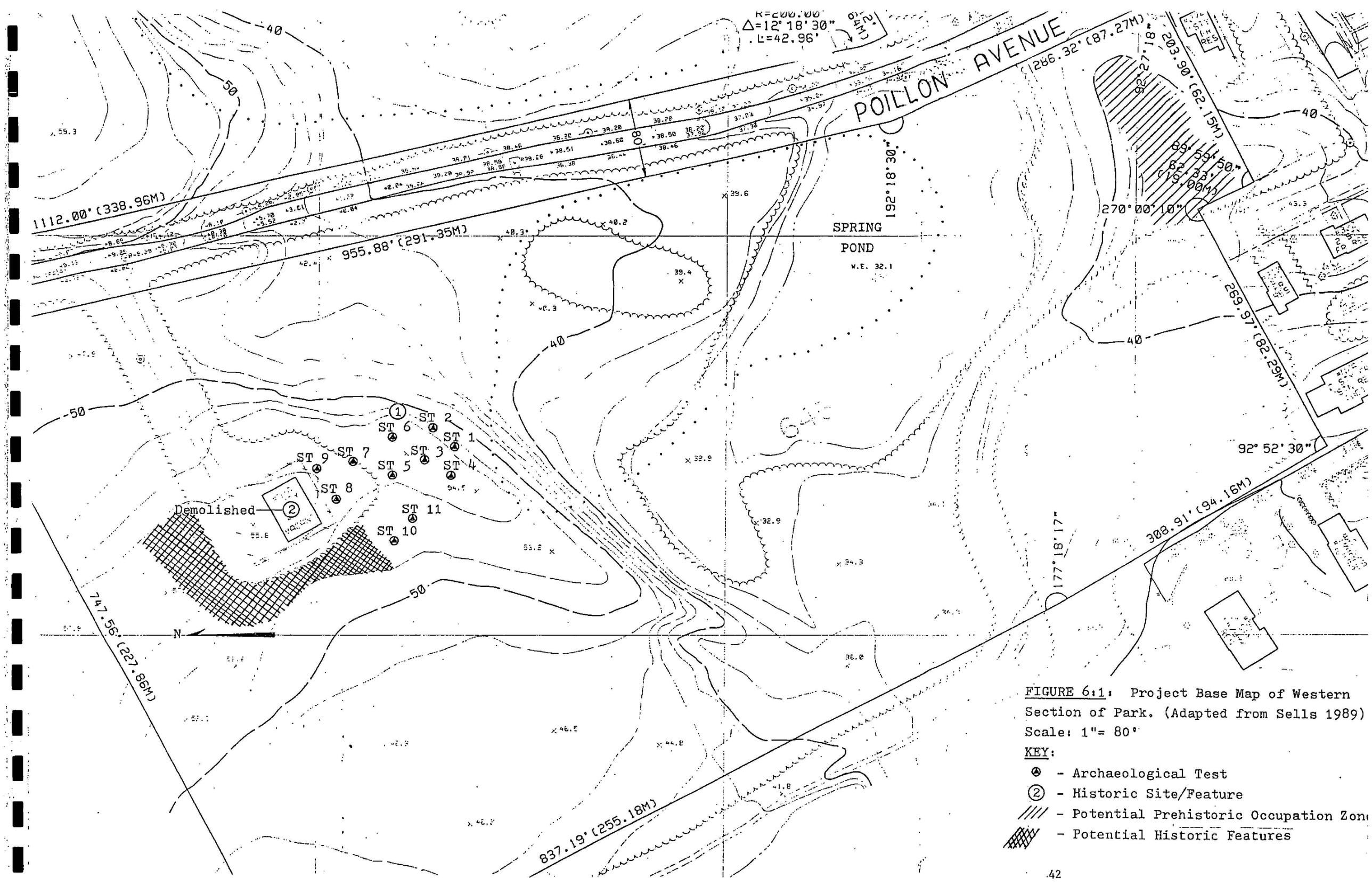

FIGURE 6:1: Project Base Map of Western Section of Park. (Adapted from Sells 1989)
Scale: 1"= 80'

KEY:

- ▲ - Archaeological Test
- ② - Historic Site/Feature
- //// - Potential Prehistoric Occupation Zone
- ▨ - Potential Historic Features

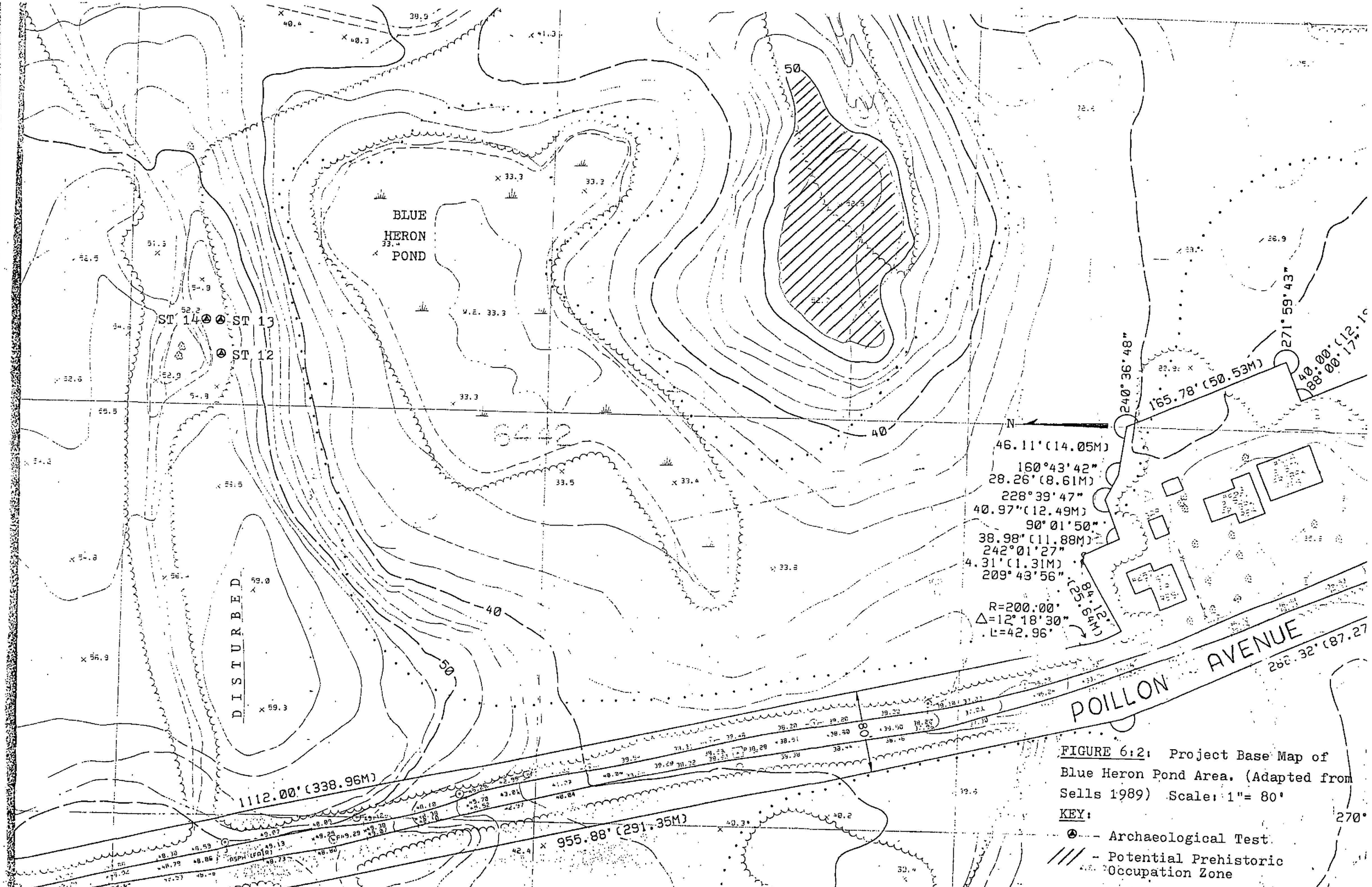

FIGURE 6:2: Project Base Map of Blue Heron Pond Area. (Adapted from Sells 1989) Scale: 1"= 80'

KEY:

- ✪ - Archaeological Test
- /// - Potential Prehistoric Occupation Zone

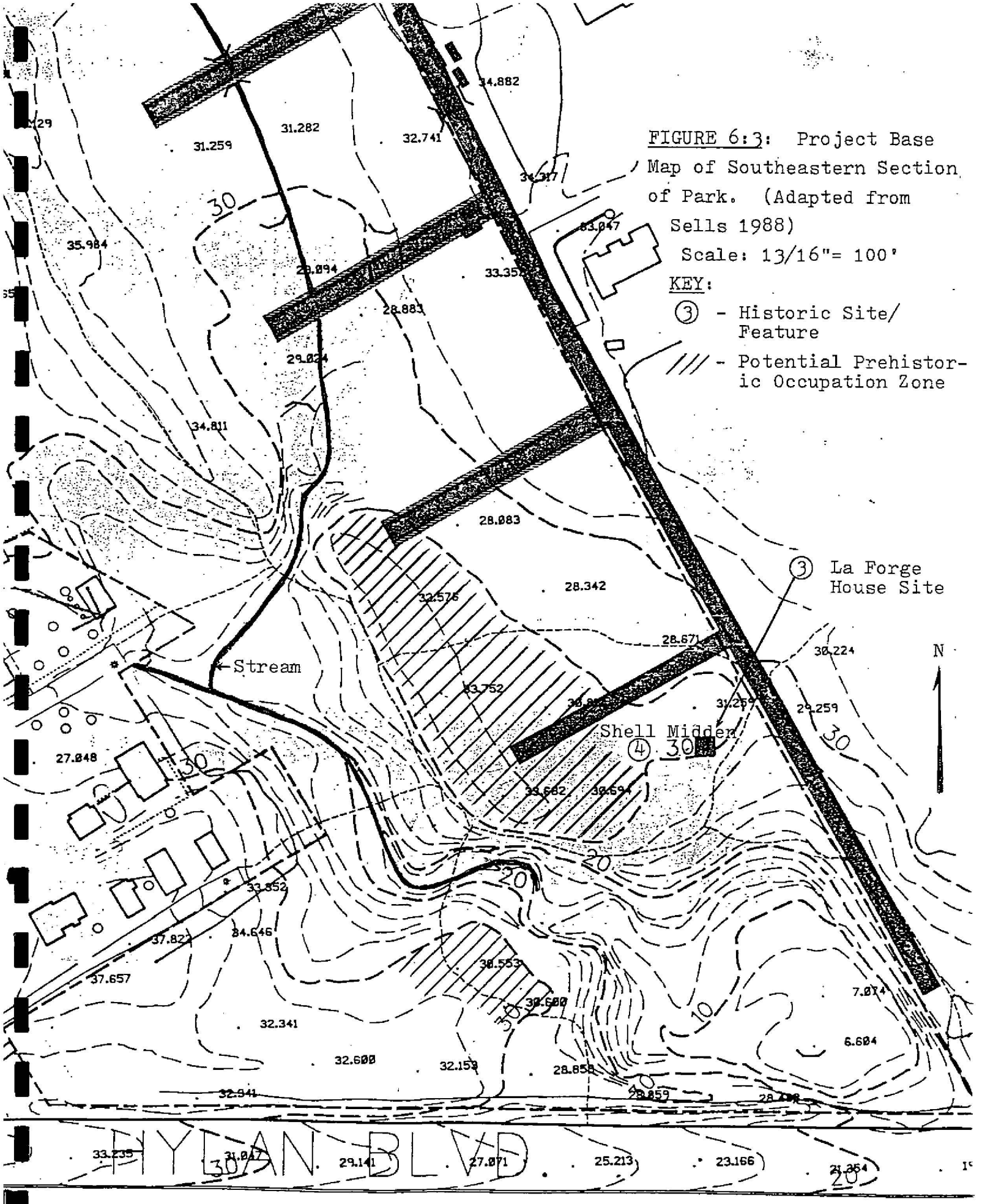

FIGURE 6:3: Project Base Map of Southeastern Section of Park. (Adapted from Sells 1988)

Scale: 13/16"= 100'

KEY:

③ - Historic Site/ Feature

/// - Potential Prehistoric Occupation Zone

③ La Forge House Site

The dump site is situated along the top edge and downward slope of a flat knoll or terrace. Spring Pond is located 180 feet to the south and below the terrace. The dump contains a variety of household trash and construction debris. Present on the surface is coal ash, mortar and plaster, beer cans and glass beer bottles, wood, and glass bottle fragments. This cultural material dates primarily to the mid- to late twentieth century and probably originated from the nearby house site.

The location of this trash deposit indicates that specific environmental features within the property were utilized for the disposal of household trash. This dump represents a rural pattern of trash disposal which was followed by the house occupants during the twentieth century.

2. The Garretson House Site (Figure 6:1)

This house, a two-story frame residence, was formerly located within the northwest section of the park on a flat terrace to the west of Poillon Avenue. According to several local informants, the house was demolished a few years ago and the foundation and surrounding area was extensively bulldozed (Baird 1990; Beil 1990, personal communication). The site was leveled and filled and is presently used for horticultural and parking purposes.

Various kinds of construction debris are present in the wooded area immediatley to the west and southwest of the house site. In particular, we observed a poured concrete structure located about 120 feet south of the house site, measuring 3'10" x 2'8" x 1'3", with four vertical iron pipes on its upper surface; it was probably an outdoor

fireplace or grill.

3. The LaForge House Site and Well (Figure 6:3, 6:4)

The ruins of this structure, including a nearby well, are located within the southeastern section of the park, approximately 360 feet north of Hylan Boulevard. The house foundation appears to be undisturbed but the nearby well has recently been excavated by local resident bottle collectors. The cellar hole is constructed of dry laid cut stone and measures thirty-three feet by twenty feet (Figure 6:4). The well is stone-lined, also dry laid, and has been recently covered by a steel plate.

4. Shell Midden (Figure 6:3)

A shell midden is located about sixty feet to the west of the well. The midden is situated along the trail and covers an area of approximately fifty square feet. It contains clam and oyster shells, extends to a depth of about six inches and is covered with soil and humus. The origin of the midden has not been determined.

5. Potential Prehistoric Occupation Zones

Four potential zones of prehistoric occupation are located along the park trails. One area is south of Spring Pond, and the other three are south of Blue Heron Pond.

The first area is located about 140 feet south of Spring Pond and about 120 feet west of Poillon Avenue (Figure 6:1). Approximately forty-five feet above mean sea level, it overlooks the pond and is well drained. The landscape is wooded and appears to be undisturbed.

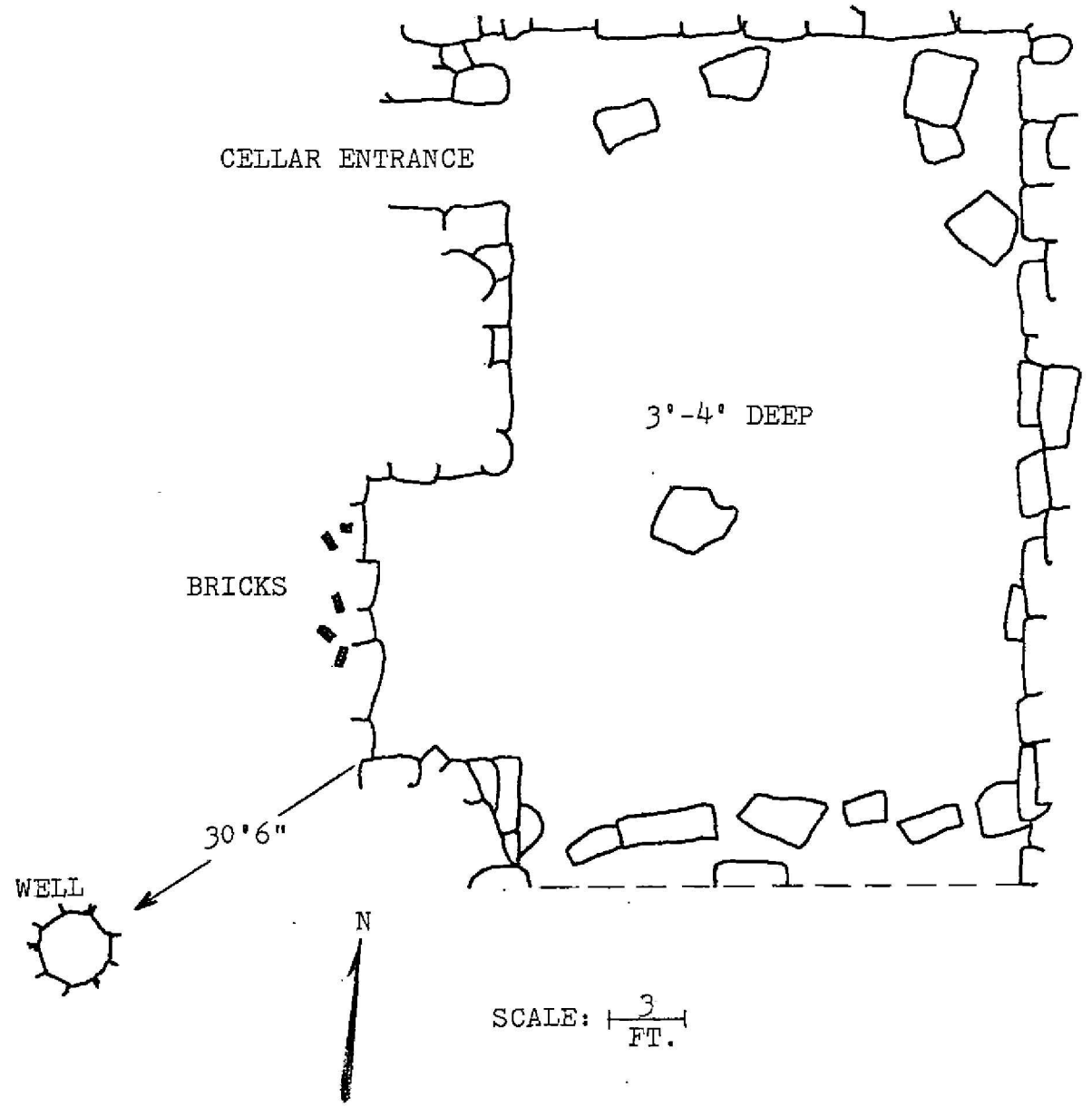

FIGURE 6:4: Field Sketch of La Forge House Site.

The second potential zone of prehistoric occupation is located approximatley 250 feet south of Blue Heron Pond on an elevated knoll fifty-two feet above mean sea level (Figure 6:2). The knoll is wooded and well drained, and its proximity to the pond suggests that it would have made a good campsite in prehistoric times.

The third possible prehistoric occupation zone is located within the southeastern section of the park about 400 feet west-northwest of the LaForge House site (Figure 6:3). This area is also a flat, wooded, well-drained terrace. A small stream flows past it on the west and south. These physical features suggest that the area would have been an excellent place to camp in prehistoric times.

The fourth zone is located about 200 feet south of zone three described above (Figure 6:3). The area is a flat terrace, thirty and one-half feet above mean sea level, and is situated well above the stream which flows past its northerly side. The land is wooded, well drained, and would have been a desirable area for a campsite.

Test Excavations

The principal objective of this research project was to determine the archaeological potential and sensitivity of those areas within the park that will be affected by the construction of shelters and trails. As we stated before, two important components of such an assessment are direct observation in the field and subsurface archaeological testing. No archaeological testing was conducted along the route of the proposed trails because no below ground disturbance will occur during the layout of such trails. Furthermore, no cultural resources were encountered along the route of the trails during our pedestrian

survey. However, a total of fourteen shovel tests were excavated within two areas; an overlook located northwest of Spring Pond and an overlook on the north side of Blue Heron Pond. The construction of a shelter is planned at each of these locations. A list and description of each shovel test is presented in APPENDIX A.

Area 1: Flat Terrace North of Spring Pond (Figures 6:5, 6:6)

Four shovel tests, numbers 1 through 4, were excavated near the edge of the terrace in the area of the proposed picnic shelter. This area, overgrown with brambles, poison ivy, sweet gum, and immature maple trees, appeared to be undisturbed. The soil profiles within these tests were as follows: the upper stratum consisted of black or very dark brown silty or sandy loam ranging in depth from two to three and one-half inches. No artifacts were found within this layer. The underlying soil stratum, II, was dark to strong brown sand.

Numerous historic period artifacts were recovered from the shovel tests 2, 3, and 4, within soil stratum II. We recovered such specimens as decorated and undecorated whiteware ceramic fragments, machine cut nails, and pieces of brick and mortar. These artifacts date from the nineteenth and twentieth centuries. No artifacts were found in test number 1 and no features were encountered in the area.

One prehistoric artifact, a triangular projectile point made of black chert, was recovered from shovel test number 3, soil stratum II. This specimen is small and thin, an isosceles triangle in shape, and measures 25mm x 17mm x 4mm. It dates to the Late Woodland Period of prehistory, i.e., from c. A.D. 1000 to 1600.

Shovel tests numbers 5 through 9 were excavated in the clearing

Figure 6:5 Test excavation in progress within area of proposed construction. View looking south (Photo: S. Baugher).

Figure 6:6 Test excavations in progress within area of proposed picnic shelter. View looking south (Photo: S. Baugher).

located between the proposed overlook shelter site on the south and the Garretson House site to the north. The ground surface in this area contained rockfill and woodchips. The subsurface tests revealed that a great deal of ground disturbance had taken place in this area. The subsoil beneath the fill, consisting of yellowish red sand or clay, was also disturbed fill.

A few historic period artifacts were recovered from tests 5 through 9 including whiteware ceramic fragments, window and bottle glass fragments, coal, brick, and mortar. These specimens were found in highly disturbed contexts and date from the nineteenth and twentieth centuries. No prehistoric artifacts were found and no cultural features were encountered in these tests.

Shovel tests 10 and 11 were excavated in a lightly wooded area to the west of the clearing described above. The soil stratigraphy consisted of an upper layer of dark reddish brown sand or black silty loam. Stratum II, underlying the topsoil, consisted of yellowish brown sand or dark yellowish brown clay. A few historic period artifacts were recovered from these tests including decorated and undecorated whiteware fragments, a fragment of a redware bowl, bottle glass fragments, a machine cut nail, and coal. This material dates from c. 1820 to the twenthieth century. No prehistoric artifacts were recovered and no cultural features were encountered.

Area 2: Overlook on North Side of Blue Heron Pond (Figure 6:7)

Three shovel tests, numbers 12, 13, and 14 were excavated in this area, which is proposed as the site of a shelter overlooking Blue Heron Pond. This flat, well drained, wooded area is at an elevation of fifty-two feet above mean sea level.

In general, the soils encountered in this area were an upper layer of black silty loam and humus underlain by yellowish red sandy clay or dark brown sand. No artifacts or cultural features were found in tests 12 and 13.

Two historic period artifacts were recovered from test number 14, stratum II. We found one piece of coal and one United States of America silver half dime with a date of 1840. No prehistoric artifacts were found and no cultural features were encountered in this test.

Figure 6:7 Test excavations in progress at site of overlook shelter by Blue Heron Pond. View looking north (Photo: S. Baugher).

CHAPTER SEVEN

Sherene Baugher & Edward Lenik

CHAPTER SEVEN: CONCLUSIONS AND RECOMMENDATIONS

This historical and archaeological investigation of Blue Heron Park has identified several structures and cultural features within the study area. Our conclusions and recommendations with respect to these cultural resources are presented below. In addition, we have delineated several zones of archaeological potential and sensitivity within the study area and these are indicated on the project base maps, Figure 6:1, 6:2, 6:3.

1. The Dump Site

The dump consists of construction/architectural debris and household items that date primarily to the mid- to late twentieth century. The dump has been disturbed to some extent by collectors digging in search of bottles. This site lacks research potential and is not historically significant. Furthermore it will not be affected by the proposed construction of the Spring Pond overlook shelter. No further investigation of this feature is necessary.

2. The Garretson House Site

Eleven shovel tests were excavated on the flat terrace located to the north of Spring Pond. A number of historic period artifacts dating to the nineteenth and twentieth centuries were recovered from mixed deposits, and therefore this material is not historically significant. No cultural features were found within the test excavation units.

One prehistoric artifact, a triangular projectile point dating to the Late Wooodland Period, was recovered from test number 3 in the area of the proposed shelter. This artifact was found in a mixed

stratigraphic context with historic period artifacts. However, no other prehistoric artifacts or features were found at the site. Although this artifact suggests the presence of an Indian(s) at this site, we conclude that it is a stray find and therefore lacks research potential and significance.

It is clear that this terrace has been considerably disturbed by the construction of the house and driveway in the nineteenth century, continued occupation and use into the twentieth century, and the more recent demolition of the structure, bulldozing, and filling. Therefore we conclude that this area is culturally non-sensitive and the proposed construction of the shelter can procede.

3, 4. The LaForge House Site, Well and Nearby Midden

These sites will not be affected by the current trail network project which will be located nearby. However, this area has physical intergrity (with the exception of the well) and research potential . If any construction or development work is planned in this location in the future, it should be preceded by archaeological investigations.

5. Potential Prehistoric Occupation Areas

Four (4) potential prehistoric occupation zones were identified on the basis of our surface reconnaissance. No subsurface testing was conducted to validate or confirm these potential sites since they will not be affected by the current shelter-trail network construction project. However, if any development work is planned in these locations in the future, it should be preceded by archaeological investigations.

6. Potential Historic Areas

The foundations of three nineteenth century outbuildings associated with the Garretson family may still exist within the Park's boundaries but outside of the current project impact area. The locations of these buildings are noted on Figures 5:3, 5:4, 5:5, 5:6, and 5:7. In addition, nineteenth century privies associated with the Garretson family may be located to the north or west of the proposed visitor center and visitor parking lot but beyond the bounds of the current project area. If any in-ground construction is planned in these locations in the future, it should be preceded by archaeological investigations.

REFERENCES

REFERENCES

PRIMARY SOURCES

MAPS

Anglo-Hessian Map
c.1780-83 Plan Number 81 du Camp Anglo-Hessois Dans Staten Island, Baie de New York de 1780 and 1783. Also known as the "French Map." On file in SIHS Library/Archives, Staten Island, New York.

Anonymous
1771 Baye et Port D'Yorc Capitale de la Nouvelle Yorc. On file in SIHS Library/ Archives, Staten Island, New York.

Beers, F.W.
1874 Atlas of Richmond County, Staten Island, New York. On file, in SIHS Library/Archives, Staten Island, New York.

1887 Atlas of Richmond County, Staten Island, New York. On file in SIHS Library/Achives, Staten Island, New York.

Bowen, Eman
1747 A Draught of New York and Perth Amboy Harbor. On file in SIHS Library/Archives, Staten Island, New York.

Bromley, George W.
1917 Atlas of The Borough of Richmond. On file, in SIHS Library/Archives, Staten Island, New York.

Grover & Baker
1860 Map of Staten Island. On file in SIHS Library/Archives, Staten Island, New York.

Popple, Henry
1733 New York and Perth Amboy Harbours. Detail after the map of the British Empire of 1733. On file in SIHS Library/Archives, Staten Island, New York.

Robinson, E.
1898 Atlas of the Borough of Richmond. On file at SIIAS, Staten Island, New York.

1907 Atlas of the Borough of Richmond. On file at SIHS Library/Archives, Staen Island, New York.

Skene, Frederick
1907 Map of Colonial Land Grants, 1668-1712. On file at SIIAS, Staten Island, New York.

United States Government
1845 U.S. Coastal Survey Charter of New York Harbor, 1836-1839. On file at SIHS, Staten Island, New York.

Taylor, George and William Skinner
1781 A Map of New York and Staten Island and Part of Long Island Surveyed by Order of his Excellency General Sir Henry Clinton, K.B. Commander in Chief of His Majesty's Forces 1781. On file in SIHS library/Archives, Staten Island, New York.

Walling, H.F.
1859 Map of Staten Island, New York. On file at SIHS Library/Archives, Staten Island,m New York.

PERSONAL COMMUNICATION

Baird, Jack
1990 Personal communication, Staten Island, New York.

Beil, Carlton
1990 Personal communication, Staten Island, New York.

PRIMARY SOURCE DOCUMENTS

Dankers, Jasper, and Sluyter, Peter
1867 Journal of Voyage to New York and a Tour in Several of the American Colonies in 1679-1680. Translated by Henry C. Murphy. 1966 reprint, University Microfilms, Ann Arbor, Michigan.

Jameson, J. Franklin
1909 Narratives of New Netherland, 1609-1664. Charles Scribner's Sons, New York, New York.

SECONDARY SOURCES

Baugher, Sherene, Edward J. Lenik, Stephen Barto, et. al.
1989 An Archaeological Planning Model of Richmondtown Restoration Staten Island, New York. Report on file at the New York City Landmarks Preservation Commission, New York.

Berger, Jonathan and Kathleen L. Wallace
1989 Draft- An Environmental Enthnography of Blue Heron Park South Richmond, Staten Island, New York City. Report on file at the Parks Department, Greenbelt Office, Staten Island.

Bolton, Reginald P.
1920 "New York City in Indian Possession." In Indian Notes and Monographs. vol. II (7): 1-170. Museum of the American Indian, Heye Foundation, New York.

1922 "Indian Paths in The Great Metropolis." In Indian Notes and Monographs, Museum of the American Indian, Heye Foundation, New York.

Densmore, Frances
1974 How Indians Use Wild Plants for Food, Medicine and Crafts. Dover Pubilcations, New York.

Distrigas of New York Corporation
1973 Draft Environmental Impact Statement, Staten Island Project. Report on file, Staten Island Institute of Arts and Sciences, Staten Island, N.Y.

Erichsen-Brown, Charlotte
1989 Medicinal and Other Uses of North American Plants. Dover Publications, New York.

Fitzpatrick, Thomas P.
1984 "The Lenape Contribution to New Jersey Medicine." In The Journal of the Medical Society of New Jersey, edited by Arthur Krosnick, 81 (9): 701-06.

Foster, Stephen and James A. Duke
1990 A Field Guide to Medicinal Plants. Peterson Field Guide Series, No. 40. Houghton Mifflin Company, Boston.

Gratacap, L.P.
1909 Geology of The City of New York. Third Edition. Henry Holt & Co., New York.

Grumet, Robert Steven
1979 "We Are Not Such Great Fools:" Changes in Upper Delawaran Socio-Political Life, 1630-1758. Ph.D Dissertation, Rutgers University. University Microfilms International, Ann Arbor, Michigan.

1981 Native American Place Names In New York City. Museum of the City of New York

Jacobson, Jerome
1980 Burial Ridge, Tottenville, Staten Island, N.Y.: Archaeology At New York City's Largest Prehistoric Cemetery. The Staten Island Institute of Arts and Sciences, Staten Island, New York.

Kalm. Peter
1966 Peter Kalm's Travels in North America. Dover Publications, New York.

Kammen, Michael
1975 Colonial New York: A History. Charles Scribner's Sons, New York.

Kavasch, Barrie
1979 Native Harvests: Recipes and Botanicals of the American Indian. Random House, Vintage Books, New York.

Kraft, Herbert C.
1977 "Paleo-Indian Sites at Port Mobil, Staten Island." In Current Perspectives In Northeastern Archaeology: Essays In Honor of William A. Ritchie. Edited by Robert E. Funk and Charles F. Hayes III. 17 (1): 1-19. Research and Transactions of the New York State Archaeological Association, Rochester, New York.

1986 The Ienape: Archaeology, History and Ethography. New Jersey Historical Society, Newark.

Kraft, John C. and John C. Chacko
1978 "Paleographic Analysis of Coastal Archaeological Settings In Delaware." Archaeology of Eastern North America, Vol. 6, Summer, pp. 41-59.

Lovejoy, David S.
1972 The Glorious Revolution in America. 1987 reprinted with a new introduction. Wesleyan University Press, Middletown, Connecticut.

Millspaugh, Charles F.
1974 American Medicinal Plants. Dover Publications, New York.

Parker, Arthur C.
1920 "The Archaeological History of New York, Part 2." New York State Museum Bulletin, nos. 237-238. University of the State of New York: Albany, New York.

Peterson, Lee A.
1977 A Field Guide to Edible Wild Plants. Peterson Field Guide Series, No. 23. Houghton Mifflin Company, Boston.

Rickett, Harold W.
1966 Wild Flowers of the United States: The Northeastern States, Vol. I. New York Botanical Garden/McGraw-Hill, New York.

Ritchie, Robert
1977 The Duke's Province" A Study of New York Politics and Society, 1664-1691. University of North Carolina Press, Chapel Hill, North Carolina.

Ritchie, William A.
1980 The Archaeology of New York State. Revised Ed. Harbour Hill Books: Harrison, New York.

Salomon, Julian H.
1982 Indians of the Lower Hudson Region, the Munsee. Historical Society of Rocklnad County, New City, New York.

Schneider, Gail
1977 A Cool And Pleasant Retreat But A Hungry Soil. Staten Island Institute of Arts and Science, Staten Island, New York.

Schuberth, Christopher J.
1968 The Geology of New York And Environs. The Natural History Press, Garden City, New York.

Sells, Charles H., Consulting Engineers-Surveyors
1989 Topographic Survey of Blue Heron Park. The City of New York Department of Parks and Recreation. Report on file, Greenbelt Office, Parks Department, Staten Island, New York.

Skinner, Alanson
1909 "The Lenape Indians of Staten Island." In The Indians of Greater New York and the Lower Hudson. Edited by Clark Wissler, pages 3-62. Anthropological Papers of the American Museum of Natural History, III. American Museum of Natural History: New York.

Smith, Carlyle S.
1950 The Archaeology of Coastal New York. Anthropological Papers of Capital C the American Museum of Natural History, 43, Part 2. The American Museum of Natural History, New York.

Tantaquidgeon, Gladys
1977 Folk Medicine of the Delaware and Related Algonkian Indians. Anthropological Series No. 3, Commonwealth of Pennsylvania. The Pennsylvania Historical & Museum Commission, Harrisburg, Pennsylvania.

The Protectors of Pine Oak Woods, Inc., Preparers
1980 A Report on Blue Heron Pond, Spring Pond and The Poillon Avenue Wetlands. Annadale, Staten Island, N.Y. Report on file at the Greenbelt Office, Parks Department, Staten Island.

Trelease, Allen W.
1960 Indian Affairs in Colonial New York: The Seventeenth Century. Cornell University Press, Ithaca, New York.

Weiner, Michael A.
1980 Earth Medicine-Earth Food; Plant Remedies, Drugs, & Natural Foods of the North American Indians. Collier Books, New York.

Weslager, Clinton A.
1973 Magic Medicines of the Indians. Middle Atlantic Press, Somerset, New Jersey.

Zeisberger, David
1910 History of North American Indians. State Archaeological and Historical Society, Columbus, Ohio.

APPENDIX A

APPENDIX A: Shovel Test Records: Soil and Artifact Descriptions

Stratum	Depth (inches)	Soil Description	Cultural Material	Date
Shovel Test No. 1:				
1	0-2	10YR 2/1 Black silty loam	None	---
2	2-35	7.5YR 3/4 Dark brown sand	None	---
Shovel Test No. 2:				
1	0-2	10YR 2/2 Very dark brown loam	None	---
2	2-23	7.5YR 4/4 Dark brown silty clay	1- blue transfer printed whiteware	1820-1900+
			2- undecorated whiteware	1820-1900+
			1- green bottle glass fragment	
			1- small brick frag.	
			11- small frags. of plaster	
			1- frag. of mortar	
			6- small frags. of burnt bone	
			1- machine cut nail 1 3/4 inches in length	19th c.
			2- pieces of charcoal	
			1- blue paint chip	
Shovel Test No. 3:				
1	0-2.5	10YR 2/2 Very dark brown loam	None	---
2	2.5-20	7.5YR 4/6 Strong brown sand	1- undecorated redware rimsherd	
			1- undecorated whiteware frag.	1820-1900+
			1- white milk glass frag.	
			2- frags. clear bottle glass	
			2- frags. window glass	1832+
			1- machine cut nail, 2 1/4 inches in length	19th c.
			1- pc. anthracite coal	

			1- triangular projectile point, black chert (26mm x 17mm x 4mm)	Prehistoric Late Woodland
Shovel Test No. 4:				
1	0-3.5	5YR 3/4 Dark reddish brown sandy loam	None	---
2	3.5-24	5YR 4/4 Reddish brown silt clay	1- plastic coffee cup lid frag. 1- clear bottle glass frag.	1960+ 1930+
Shovel Test No. 5:				
1	0-2.5	10YR 2/2 Very dark brown silty loam	None	---
2	2.5-5	10YR 4/2 Dark grayish brown sand	1- blue transfer printed whiteware frag. 1- frag. clear window glass 1- frag. brown beer bottle glass	1820-1900+ 1832+
	5-18	7.5YR 4/6 Strong brown clay	1-wire nail	1850+
	18-24	5YR 4/6 Yellowish red clay	None	---
Shovel Test No. 6:				
1	0-3	10YR 2/2 Very dark brown silty-clayey	None	---
2	3-12	7.5YR 3/4 Dark brown sandy clay	1- blue transfer printed whiteware frag. 1- green & brown trans. printed whiteware frag. 2- frags. clear bottle glass 2- frags. green window glass 1- brass tack with circular head 5/16" dia. 1- pc. anthracite coal	1820-1900+ 1830-1900+ 1832+

Shovel Test No. 7:				
1	0-5	10YR 3/3 Dark brown silt, clay-like	None	---
2	5-21	7.5YR 4/4 Brown silty clay	None	---
Shovel Test No. 8:				
1	0-1.5	5YR 3/1 Very dark gray dense loam	None	---
2	1.5-12	5YR 4/6 Yellowish red clay	brick frag. mortar frag.	--- ---
Shovel Test No. 9:				
1	0-1.5	5YR 3/3 Dark reddish brown dense sand	None	---
2	1.5-8	5YR 4/6 Yellowish red sand	1- machine cut nail 1 5/8 in. length 1- brick frag.	19th c.
Shovel Test No. 10:				
1	0-4.5	5YR 3/3 Dark reddish brown sand	None	---
2	4.5-10	10YR 4/4 Dark yellowish brown sand	1- undecorated redware frag., neck of bowl 1- flow blue transfer printed whiteware frag. 4- undecorated whiteware frags. 1- frag. olive green bottle glass 3- frags. clear bottle glass 1- machine cut nail frag. 1 3/8 in. 1- pc. burnt coal	 1830-1840's 1820-1900+ 1920+ 19thc.
Shovel Test No. 11:				
1	0-5	10YR 2/1 Black silty loam	None	---
2	5-12	10YR 4/4 Dark yellowish brown clay	1- frag. bottle glass	---
3	12-19	7.5YR 4/6 Strong brown clay; wet	None	---

Shovel Test No. 12:

1	0-2	10YR 2/1 Black humus	None	---
2	2-17	7.5YR 4/4 Brown sand with pebbles, cobbles	None	---
3	17-23	5YR 4/6 Yellowish red sandy clay	None	---

Shovel Test No. 13:

1	0-2	10YR 2/1 Black silty loam	None	---
2	2-15	7.5YR 4/4 Dark brown sand and silt	None	---

Shovel Test No. 14:

1	0-3.5	5YR 2/2 Dark reddish brown silty loam, humus	None	---
2	3.5-22	5YR 4/6 Yellowish red sandy clay	1- pc. anthracite coal 1- United States silver half-dime dated	 1840