

2332 R
Cragmoor Conslts.
2004

Cragmoor Consultants

**STAGE IA
ARCHAEOLOGICAL SURVEY
NATIONAL LIGHTHOUSE MUSEUM
STATEN ISLAND
BOROUGH AND COUNTY OF RICHMOND
NEW YORK CITY
(03PR01079)**

JANUARY 2004

RECEIVED
ENVIRONMENTAL REVIEW

MAY 08 2007

LANDMARKS PRESERVATION
COMMISSION

**Prepared For:
Skanska USA Building Inc.
28 West Main Street
Bayshore, N.Y., 11706**

**Prepared By:
Arnold Pickman RPA & Wendy E. Harris RPA
Cragmoor Consultants
Circle Road, P.O. Box 327
Cragmoor, N.Y., 12420**

973

TABLE OF CONTENTS

I.	INTRODUCTION	
	A. Scope of Study and Methodology	1
	B. Description of Site and Project	1
	C. Description of APE	2
	D. Environmental Setting, Geology, and Soils	3
II.	PREHISTORIC PERIOD	
	A. Prehistoric Period Background	4
	B. Contact Period Background	7
	C. Native American Archaeological Sites in the Project Vicinity	8
	D. Assessment of the Project Area's Sensitivity for Prehistoric Archaeological Remains	9
	D. HISTORIC PERIOD	
	A. History of the Project Area and Vicinity	10
	B. Construction History and Project Impacts	15
	1. U.S Revenue Service Buildings (1819-1845)	15
	2. 1866 Buildings	16
	3. Early Light House Depot Buildings-1874	16
	4. Buildings Erected 1874-1912	17
	5. Buildings Erected after 1912	18
	6. Summary and Analysis	19
IV.	CONCLUSIONS AND RECOMMENDATIONS	22
V.	REFERENCES CITED	23

FIGURES

Figure 1	Site Location
Figure 2	Site Survey
Figure 3	1797 Conner and Sprong Map
Figure 4	Skene's 1907 Map of Colonial Land Patents in Staten Island
Figure 5	1799 Mangin Map
Figure 6	1845 Ewen Map
Figure 7	1850 Dripps Map
Figure 8	1866 Tubbs Map

250

- | | |
|-----------|---|
| Figure 9 | 1868 Photo Showing Construction Activities at the Lighthouse Museum Site. Building #1 is Visible in Background. |
| Figure 10 | 1868 Photo Showing Construction Activities at the Lighthouse Museum Site. Building #1 is Visible in Background. |
| Figure 11 | 1874 Beers Map |
| Figure 12 | 1887 Beers Map |
| Figure 13 | 1898 Robinson and Pidgeon Map |
| Figure 14 | 1907 Robinson and Pidgeon Map |
| Figure 15 | 1912 Topographic Map |
| Figure 16 | 1917 Sanborn Map |
| Figure 17 | 1937 Sanborn Map |
| Figure 18 | 1951 Sanborn Map |
| Figure 19 | 1961 Sanborn Map |
| Figure 20 | 1990 Sanborn Map |
| Figure 21 | Site Plan Showing Building Construction and Proposed Utilities Lines |

PLATES

- | | |
|---------|--|
| Plate 1 | Open Plaza Area. Buildings #7, 8, 10, and 11 are Visible |
| Plate 2 | Wall Separating Northern Portion of Post Office Property and Northwestern Corner of Lighthouse Museum Site |
| Plate 3 | Paved Area Located Along South Side of Building #10 |
| Plate 4 | Extension of Paved Area to West of Building #10 |
| Plate 5 | Top of Bank in Southern Portion of Lighthouse Museum Site |
| Plate 6 | Western Portion of Northwestern Corner of Lighthouse Museum Site |
| Plate 7 | Portion of Stone Foundation Wall Noted During Site Reconnaissance |

I. INTRODUCTION

A. Scope of Study and Methodology

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) has requested that a Stage IA archaeological survey be conducted for the site of the proposed National Lighthouse Museum, in the County and Borough of Richmond (Staten Island), New York (see Figure 1). The site encompasses an area of approximately 5.4 acres, which represents the major portion of the former U.S. Lighthouse Depot. Two smaller portions of the former Lighthouse Depot site, northeast and southwest of the Museum site, are now the location of the Staten Island Ferry maintenance facility and the U.S. Post Office property, respectively.

The objectives of this Stage IA study are to review the history and prehistory of the site; determine the likelihood that significant archaeological resources could be present within the area of potential effect (APE) of the proposed project (i.e. the locations of proposed utilities trenching); assess, to the extent possible, previous disturbance within the APE; and make recommendations for any additional archaeological assessments that may be necessary. The Stage IA assessment has included documentary research and a site reconnaissance, conducted on November 24, 2003. No subsurface testing has been conducted.

B. Description of Site and Project

The proposed Museum site is bordered on the north by a street now mapped as Borough Place, on the northwest by Bay Street, on the southwest by the U.S. Post Office property and on the east by New York Bay and the Staten Island Ferry maintenance facility (Figure 2). The portion of the site adjacent to the Ferry terminal and New York Bay is an open plaza area, separated from the portion containing the Lighthouse Depot Buildings by a chain link fence (see Plate 1). The site is separated from Bay Street and from the western portion of the U.S. Post Office Property by a brick wall. A concrete extension of the latter wall borders the eastern portion of the Post Office property (Plate 2).

The proposed Museum site includes a total of six standing structures constructed in the 19th and early 20th centuries, including an underground vault. The "Office Building and U.S. Light-House Depot Complex" were listed on the National Register of Historic Places on September 15, 1983. The proposed National Lighthouse Museum project will involve interior and exterior renovations of two of these buildings (buildings #10 and #11). The only ground disturbing activity associated with this project will be excavation for installation of utilities connecting buildings #10 and #11 with service lines in Bay Street. The various lines will each extend for distances of approximately 550 - 800 feet.

There are a number of existing utilities lines located in various portions of the site (see Figure 2). In addition, an area less than 50 feet in width extending across the western portion of the site was apparently excavated during the 19th century when the railroad

tunnel was built. The existing utilities and the tunnel are indicated on the 2000 site survey (Figure 2).

C. Description of APE

The proposed project will involve the excavation of utilities trenches to provide telephone/CATV, electrical, gas and sewer service to the two buildings (buildings #10 and #11) to be renovated. According to the site plans (Pokorny 2003; sheet E.E.-001) the gas, telephone and electrical lines will connect with building #11. The route of these utilities (see Figure 21) will extend westward along the south side of building #10, traversing an area that is paved. A concrete slab with an overlying layer of asphalt was noted here during the site reconnaissance (see Plate 3). The pavement extends some 50-60 feet west of building #10 (Plate 4). Slightly west of the pavement the site grade rises steeply from an elevation of approximately 10-12 feet to approximately 30-38 feet. This steep bank extends across the site from north to south. Most of the bank and the bank-top area are covered with scrub vegetation and some larger trees (see Plate 4).

The trenches for the three utility lines noted above will cover an area of approximately 10-15 feet in width, extending along the southern boundary of the site. The site reconnaissance indicates that a portion of the area along the southern boundary of the site, near the top of the bank, has been cut down up to 3-4 feet (Plate 5). It appears that there was a previous roadway in this area. The route of the telephone, electrical and gas lines extends northward along the top of the bank east of the U.S. Post Office property. The approximately 15 foot wide area that would be disturbed by excavation of these trenches begins some 20-30 feet east of the fence that separates the site from the U.S. Post Office property.

At the northeastern corner of the U.S. Post Office property the route of the three utilities trenches turns to the west, running along the boundary between the two properties beginning some 20-30 feet north of the boundary (see Plate 2). The grade in this portion of the site rises from approximately 35 feet near the northeastern corner of the Post Office property to approximately 55 feet adjacent to Bay Street.

About 65 feet west of the northeastern corner of the Post Office property the route of the electrical line branches off from that of the telephone and gas lines, extending diagonally to the northwest and intersecting Bay Street some 110 feet north of the U.S. Post Office property. The easternmost portion of the area traversed by the utilities trench route north of the Post Office property has apparently undergone surface disturbance. Pieces of concrete and what appear to be pieces of broken up asphalt were noted here (see Plate 2). The westernmost portion is covered with dense scrub vegetation and some larger trees (Plate 6).

The route of the sanitary sewer line (Pokorny 2003; sheet P.S-100) diverges somewhat from that of the other utilities (see Figure 21). The route begins at the northwestern corner of building #10, where one of the two sewage lift stations (#1) will be installed. From this point the sewer line will extend northwest, traversing the concrete covered area

noted above (see Plate 4). It will then continue diagonally up the bank, reaching the top of the bank approximately 110 feet north of the southern boundary of the site. At the top of the bank the route of the sanitary sewer will cross the route of the gas/electrical and telephone lines and extend along the top of the bank to the northeastern corner of the Post Office property. North of the Post Office property the sanitary sewer line will parallel the route of the telephone and gas lines, running westward to Bay Street south of the telephone line and approximately 10 to 15 feet north of the Post Office property. Sewage lift station #2 will be installed some 70 - 80 feet west of the northwestern corner of the Post Office property.

From lift station #1, at the northwest corner of building #10 a branch of the sewer line will extend eastward along the north wall of building #10 (see Plate 1). This branch will also serve building #11, requiring trenching along both the eastern and western sides of the latter building.

D. Environmental Setting, Geology, and Soils

The project area is located within the inner lowland subprovince of the Coastal Plain physiographic province. This subprovince is characterized by generally level to gently undulating terrain. Although elevations here are typically between 20 and 50 feet, a terminal moraine of the Wisconsin glaciation traverses the subprovince creating a topographic feature that is 100 to 350 feet in elevation. Unconsolidated marine and fluvial deposits of clay, silt, sand and gravel of the Late Cretaceous and Tertiary Age are also present. Along portions of Staten Island's shoreline there are also beach, marsh, dune, swamp, estuarine, and fill deposits of more recent origin overlying the glacial deposits. Prior to the development that occurred during the mid-20th century, the predominant habitat consisted of salt, brackish, and fresh water marshes grading from the open shore to the oak-hickory climax forest (Robichaud and Buell 1973: 125-127; Wolfe 1977:207). At the present time, the project area environs are completely urbanized. Land use here is commercial, residential, and governmental (Philip Habib & Associates, Sandstone Environmental Associates Inc. 1999).

II. PREHISTORIC PERIOD

A. Prehistoric Period Background

Overviews of regional and local prehistory are presented in numerous sources. The following is based on the introduction to the New York City Landmarks Preservation Commission prehistoric site compendium prepared by Boesch (1994).

The prehistory of the Northeastern United States is usually divided into the PaleoIndian, Archaic, Transitional, and Woodland periods. The PaleoIndian period (10,000—8,000 B.C.) represents the earliest occupation of this area. The Archaic (8,000—1,700 B.C.) refers to a time prior to the introduction of horticulture and pottery manufacture and is divided into Early, Middle, and Late periods. The Transitional period (1,700—1,000 B.C.) witnessed a gradual change in Archaic lifestyles with the development of "Woodland" period traits. The Woodland period (1,000 B.C.-1,600 A.D.), which is characterized by the use of pottery and reliance on horticulture, is also divided into Early, Middle, and Late periods.

The PaleoIndian period begins with the end of the Wisconsin glaciation (80,000-11,000 B.P.). The Wisconsin glacier reached its most southerly point approximately 18,000 B.P., at which time most of Staten Island was covered with glacial ice. After approximately 18,000 B.P. worldwide temperatures started to rise and melting and northward retreat of the ice sheet began. A continuous morainal feature consisting of mixed sands, silts, clays, and boulders, marks the southernmost advance of the ice sheets. On Staten Island the terminal moraine extends across the Island from the Narrows and into New Jersey at Perth Amboy (Wolfe 1977). Sea levels were then much lower than at present and Staten Island was a tract of raised ground surrounded by glacial lakes and meltwater rivers located well inland from the Atlantic coast.

During the late glacial and immediate post-glacial periods the environment of Staten Island can be characterized as tundra. As the glaciers retreated northward, water draining from the melting ice sheet created large inland lakes, bogs, and marshes. Two large lakes, Glacial Lake Passaic (present day Great Swamp) and Glacial Lake Hackensack (present day Hackensack Meadows), were located northwest and west of Staten Island.

The tundra and lacustrine landscape was rapidly succeeded by forest. Local forests consisted primarily of spruce and fir with small amounts of oak and other deciduous species (Snow 1980). Many faunal species now extinct or no longer native to the area were present. These included mammoth, mastodon, horse, caribou, giant beaver, sloth, elk, moose, and peccary (Wolfe 1977; Snow 1980).

Little is known about cultural activities during the PaleoIndian period although it is generally accepted that the region was first inhabited by man approximately 10,000 B.C. (Funk 1976; Ritchie 1980). Small nomadic bands of hunters and gatherers probably subsisted on the animal species mentioned above, as well as small game, certain riverine

resources, and a variety of plants. Population density, however, was very low.

A variety of functionally diverse PaleoIndian site types have been identified based upon intersite variability of artifact assemblages and environmental settings. These include base camps, quarry workshops, rockshelter habitations, open air hunting camps, kill and butchering sites, and other temporary camps (Funk 1972; Moeller 1980; Gramley 1982). Most evidence of PaleoIndian activity, however, is represented by scattered surface finds of Clovis Fluted points, a diagnostic PaleoIndian artifact (Funk 1976:205). Almost all of the fluted points found on Staten Island were recovered as surface finds.

Information from known PaleoIndian sites in the New York-New Jersey-Pennsylvania-Connecticut region suggests that high, well-drained areas near streams or wetlands were the areas preferred for occupation. Rock shelters, areas near lithic sources, and lower river terraces also were subject to PaleoIndian occupation and use (Funk 1976; Moeller 1980; Ritchie 1980; Marshall 1982)

On Staten Island, evidence of PaleoIndian occupation is most frequently found in the area between Rossville and Tottenville. Native American populations were apparently occupying the high, well-drained ground overlooking the Arthur Kill and exploiting subsistence resources located in that waterway and in the Fresh Kills wetlands to the north.

During the Archaic period, the environment changed from a coniferous to an increasingly deciduous forest, which achieved an essentially modern character by 2,000 B.C. (Salwen 1975). While Archaic cultures have been traditionally thought of as reflecting a forest-based adaptation, more recent research has produced a picture of an increasingly varied subsistence pattern based on the seasonal exploitation of various faunal and floral resources (Ritchie and Funk 1973; Funk 1976; Kraft 1986).

Early Archaic life styles and adaptations are generally considered to be similar to those of the PaleoIndian period (Gardner 1974). Archaic hunters and gatherers were still nomadic and organized into small bands which occupied localities along the Atlantic coast and estuaries, including Raritan Bay, the Arthur Kill, the Kill van Kull, and their tributaries during the warmer months, and interior regions during the colder months (Ritchie 1980; Kraft 1986). Population growth throughout the Archaic period resulted in an increase in both site density and the number of functional site types represented in the archaeological record. Site types include spring fishing camps along major streams, fall open air hunting camps, rockshelter habitations, shellfish collecting and processing stations, mortuary sites, quarry and workshop sites, and semi-permanent villages (Brennan 1974, 1977; Dincause 1976; Barber 1980).

Ritchie (1980:32 and 35) states that most Archaic sites were small and multicomponent, lacking traces of substantial dwellings, fortifications, storage pits, and graves. Evidence of house patterns attributable to the Late Archaic period, however, has been reported from the Howard site in Old Lyme, Connecticut near Long Island Sound (Pfieffer 1983)

Most information concerning the Archaic period in the Staten Island region comes from Late Archaic sites since evidence for early and Middle Archaic sites is almost as scarce as for PaleoIndian sites. Early Archaic components, however, have been identified at several Staten Island sites. These Staten Island sites represent the first definite evidence of an Early Archaic presence in New York State (Ritchie and Funk 1973:38).

During the Middle Archaic (5,000 - 2,500 B.C.) the region's coniferous forests receded and were replaced by deciduous forests that provided humans with more exploitable resources. Sites dating to this period tend to be located on floodplains and low terraces of major rivers and streams and in association with marsh, swamp, and estuarine environments (Ritchie and Funk 1973; Funk 1972, 1976; Ritchie 1980). Although rare (or rarely recognized) on Staten Island, Middle Archaic components have been identified at Wards Point and possibly at two other sites in southwestern Staten Island.

Human population, site density, and site size increased in the Staten Island region during the Late Archaic period (2,500-1,500 B.C.). Some sites appear to have been occupied on a semi-permanent basis. Late Archaic sites have been found in low-lying areas in close proximity to area estuaries and along major interior streams. Temporary hunting camps associated with this period are frequently located on sandy knolls and localized areas of sandy soil.

Sites dating to the Transitional Period (or Terminal Archaic; 1,500 - 1,000 B.C.) are most frequently found along the coast and major waterways (Funk 1976; Ritchie 1980; Vargo and Vargo 1983) although smaller sites are known from the interior (Funk 1976; Vargo and Vargo 1983). New and radically different broadbladed projectile point types appeared during this period as did the use, during the latter half, of steatite (soapstone) vessels. On Staten Island, transitional period components have been found at several sites.

During the Early Woodland period (1,000 B.C. - A.D. 1), the use of fired clay ceramic vessels gradually replaced the reliance on steatite vessels. Subsistence practices included a continuation of the hunting, gathering, and fishing of the Archaic but were supplemented by an increase in shellfish collecting. It has been suggested that this indicates a trend towards more sedentary lifestyles (see Funk 1976; Snow 1980). Evidence of Early Woodland occupation is fairly widespread in Staten Island.

Human populations during the Middle Woodland period (A.D. 1-800) gradually adopted a more sedentary lifestyle. Although it is generally felt that subsistence was essentially based on hunting and gathering supplemented by fishing and shellfish collecting (Williams and Thomas 1982), there has been speculation that domestication of various plants occurred during this period (Ritchie and Funk 1973; Snow 1980). Most Middle Woodland sites are located near estuaries although smaller inland sites are also known (Funk 1976; Ritchie 1980). Middle Woodland components on Staten Island have been found at several sites, including one located in the Fort Wadsworth area.

By Late Woodland times (A.D. 900 - 1600) horticulture was the primary subsistence base

(Ritchie 1980; Snow 1980). Large base camps/villages are usually located adjacent to major rivers. These were probably occupied on a permanent basis. Smaller inland sites, usually located near a water source, that were probably occupied on a seasonal or temporary basis have also been recognized (Funk 1976; Ritchie 1980; Snow 1980). Late Woodland sites are relatively numerous on Staten Island.

Late Woodland subsistence apparently relied extensively on horticulture although hunting, gathering, and in some locations, shellfish collecting also continued to be practiced.

B. Contact Period Background

By the latter part of the Late Woodland period Native American cultures began to resemble those of groups that were encountered by European Colonists. In the northeastern United States the first large scale contacts between Native Americans and the colonists occurred ca. A.D. 1600 - 1750. At this time Staten Island Native Americans were part of the widespread Algonquian cultural and linguistic stock. Most scholars believe that they were a group of Munsee (Minsi) speakers who migrated into Staten Island during Late Woodland times (Goddard 1978a; 1978b; Salwen 1978). The Munsee were one of three linguistic subgroups of the Lenape or Delaware, the other two being the Unami and the Unalachtigo (Goddard 1971, 1978; Salomon 1982). The Lenape consisted of autonomous, loosely related bands or lineages living in small family groups or hamlets (Kraft 1975:61) but they never formed a politically united tribe.

The Munsee occupied most of the land south of the Catskill Mountains to a line drawn from the headwaters of the Lehigh River through the Delaware Water gap area to the Raritan River in New Jersey, and eastward approximately to the New York-Connecticut border and the New York City-Nassau County border (Goddard 1978a: 214). They composed a relatively large, loosely related group who shared the same totemic symbol, the wolf (Ruttenber 1372:47).

Munsee settlements included camps along the major rivers with larger villages located at the river mouths (Salomon 1982). Small hunting, gathering, and agricultural sites were located in the interior. Despite references to such sites by early European explorers and settlers, only a few Contact Period sites have been identified on Staten Island, including the Walton-Stillwell House, discussed below.

The political, linguistic, and social relationships among the various bands of Munsee speakers are poorly understood. Depending on the source, the Munsee were reportedly divided into between six and 21 main groups or chieftaincies, and numerous smaller political and dialectic sub-groups and bands (Ruttenber 1872:47, 89-93; Goddard 1971, 1978a, 1978b; Salomon 1982). Scholars have usually associated the Raritans and Hackinsacks with Staten Island (Ruttenber 1372:90; Bolton 1920).

Although the precise extent of the territories inhabited by each of these bands is uncertain, the Raritans have usually been associated with the valley of the Raritan River

and its tributaries and from there east to the Atlantic Ocean and northeast to the Hudson River and the southern part of Staten Island (Ruttenber 1872:89-90). The Hackinsacks supposedly occupied the Hackinsack and Passaic River Valleys as well as northern Staten Island (Ruttenbur 1872:90).

In the 17th century, conflicts between Native Americans and the colonists as well as conflicts among Native American groups, possibly a result of disruptions caused by the Europeans, led to changes in Native American settlements. As a result of conflicts with Unami-speaking groups and the Dutch colonists in the 1640's, as well as natural flooding that destroyed their food supplies, the Raritans (and probably the Hackinsack as well) apparently moved inland to the Kittatinny valley and mountain area in northwestern New Jersey from their traditional homeland (Ruttenber 1872:90; Bolton 1920; van der Zee and van der Zee 1978; Goddard 1978a: 213). By 1649 members of the Wechquaesgeek, a subgroup of the Wappinger Confederacy traditionally associated with western Westchester County, had emigrated to the territory, seeking to escape their own troubles with the Dutch. To complicate matters the Euro-Americans continued to refer to these Native American immigrants to the area as the "Raritans" (Goddard 1978a: 213)

Problems and conflicts with the Dutch during the Contact period resulted in the deaths of large numbers of Native Americans (see Washburn 1978). The introduction of European diseases, such as smallpox, further devastated local Native American populations.

Although Native Americans were leaving their traditional homelands on Staten Island by the early 1640's, their lands were not formally deeded to the settlers until 1651, 1655, and 1664 (Ruttenber 1372:90, 362). Native Americans, however, apparently still resided in the area late in the seventeenth century.

Staten Island was referred to in Contact period deeds by different aboriginal names. In a 1631 deed, the island is referred to as Matawucks; in 1655, it is referred to as Eghquaous, and in 1655, as Monocknong with the clan occupying it referred to as Monatons (Ruttenbur 1872:362).

C. Native American Archaeological Sites in the Project Vicinity

A number of sources were reviewed to determine the location of known prehistoric sites in the vicinity of the project area. Major sources of information on such sites are the compendiums published by Bolton (1934), Parker (1922), and Skinner (1909) prior to the destruction of many sites by 20th century development. The files of the New York State Museum (NYSM) include these sites as well as additional sites reported by other sources. The approximate site locations are plotted on maps included in the State Museum files. Many of the sites included in the above sources are also included in the archaeological site inventories maintained by the Staten Island Institute of Arts and Sciences (SIAS). Finally, the 1994 New York City Landmarks Preservation Commission prehistoric site compendium prepared by Boesch (cited above) was also reviewed. This document

integrates the data contained in the above sources into a single list of sites containing descriptions and locations.

According to these sources, prehistoric sites located within a mile of the project area include the following (site names are from Boesch 1994):

- **Unnamed site at the corner of Sand and Bay Streets.** Site #14 (Boesch 1994: 121); STD-BS (SIAS). Located approximately 4000 feet south of the project area. Boesch (1994:221) describes it as "a small camp site... formerly located at this intersection." Woodland Period.
- **Unnamed Site.** Site #67 (Boesch 1994:114); ACP-RICH-28 (Parker); #4618 (NYSM); #24 (Skinner 1909:17). Located approximately 3500 feet southwest of the project area. Described by Skinner (1909: 17) as "On Ward's Hill, near Cebra Avenue, many triangular so-called warpoints have been found in a small area. Such an abundance of these war-points, so far from any known camp or village site is remarkable." Woodland Period. This may be the same site as Boesch's site #115, designated below as "Thompkinsville."
- **Harbor Hill.** Site #66 (Boesch 1994: 114); ACP-RICH-24 (OPRHP); #4614 (NYSM); #20 (Skinner 1909:16). Located approximately 4500 feet southwest of the project area. According to Skinner (1909:16), the site was a "campsite" and was located near Harbor Brook and Lafayette Avenue. Boesch (1994: 114) cites a report indicating that the area remains undeveloped. Woodland Period.
- **Thompkinsville.** Site #115 (Boesch 1994:121); STD-PV, STD-T (SIAS); #24 (Skinner 1909:17). See description above of "Unnamed Site," Boesch #67.
- **Fort Hill.** Site #112 (Boesch 1994:121); STD-Fort (SIAS). Located approximately 2000 feet west of the project area. According to Boesch (1994: 114), artifacts are frequently found at this location. Woodland Period.
- **Stuyvesant Place.** Site #69 (Boesch 1994: 114); ACP-RICH-28 (Parker); #4629 (NYSM). Located approximately 1000 feet northwest of the project area. Boesch (1994:114) quotes Parker who describes the site as "a campsite containing traces of occupation." Woodland Period.

D. Assessment of the Project Area's Sensitivity for Prehistoric Archaeological Remains

The probability that prehistoric archaeological remains will be encountered in the project area is low. No archaeological sites have been reported within its bounds or in the immediate vicinity. No present or former water sources have been documented here. As discussed below in Section III, and as illustrated in Figures 6 through 20, there has been a large amount of construction on the property since the mid-19th century, suggesting that any evidence of prehistoric occupation would have been disturbed.

III. HISTORIC PERIOD

A. History of the Project Area and Vicinity

The process of parceling out Staten Island among European landowners began in 1629, when the Dutch West India Company issued its Charter of Privileges and Exemptions (Anderson and Sainz 1965: 82). The present project area constituted a portion of a land parcel granted to Thomas Lovelace, the brother of the English provincial governor, in the late 17th century. As surveyed in 1687, this parcel consisted of 340 acres located on the east side of the Island and bounded on the north by Kill Van Kull. Situated upon it was "the Watering Place," described as "one of the earliest spots on Staten Island to which history can be attached." Beginning possibly as early as the 1620s, European vessels stopped here to take on supplies of water and wood before setting off on their voyages (Leng and Davis 1930:88). An early European settlement may have developed at this location. There is a record of its destruction by Native Americans circa 1655 (Leng and Davis 1930:88). The Watering Place is shown on the 1797 Connor and Sprong Map (Figure 3) and on Skene's 1907 map of colonial land patents in Staten Island (Figure 4). It is believed to have been located near present day Victory Boulevard, approximately 1000 feet south of the project area.

Lovelace's parcel passed to his niece Mary Duxbury and came to be known as "the Glebe" or "Duxbury's Glebe." Problems with the original patent led to its regranteeing to Mary and her husband Judge Ellis Duxbury in 1708. In his will of 1718, Mary's husband bequeathed the Glebe to the Church of St. Andrew's. During the Revolutionary War, British troops who were camped in the general vicinity of the project area plundered local farms—including the Glebe (Leng and Davis 1930:120, 129, 156).

In 1799, thirty acres of the Glebe, including the present project area, were transferred to the State of New York to house a quarantine station, or lazaretto. Maps from that period indicate that the project area vicinity was not populated (Figures 4 and 5). Intended to isolate passengers and crews of ships possibly infected with contagious diseases such as yellow fever, cholera, and small pox, the quarantine station had been a feature of the Port of New York since 1758. In that year, by Act of the Colonial Legislature, the first station was erected on Bedloe's Island. In response to pressure from worried citizens, the station was moved further away from the city, possibly first to Governor's Island and then to Staten Island. Initially there was some local opposition but the land was taken by eminent domain and construction of the complex proceeded. On a site located in what is now St. George and bounded by the present day Bay Street, Victory Boulevard, and the harbor, approximately fourteen buildings were erected. Most of the larger structures were built between 1800 and 1828. None of these appear to have been located within the project area, most of the quarantine station facilities being located in the southern two-thirds of the State's property (McMillen 1953:10-11; 1845 Ewen Map, see Figure 6)

Morris (1900: 376) states that the quarantine station buildings were "quite imposing." He describes them as follows:

The largest one in the enclosure was three stories high, twenty-eight by one hundred and thirty-six feet, and had wings twenty-eight by thirty-seven feet at each end. A hospital building near the water was three stories high, fifty by fifty-five feet, with wings at each end twenty-six by sixty-six feet. These two buildings were designed to accommodate four hundred patients. The small pox hospitals were two stories high, twenty-eight by eighty feet, with a piazza running along the front and rear. They were designed to accommodate fifty patients. There were twelve other buildings on the ground, viz.: Health Officer's residence (still standing), deputy health officer's residence, assistant physician's house, workhouse, house for bargemen, boat house, office, carpenters' shop, ice and coal house, wagon house and barn.

Documents, maps, and illustrations from the period indicate that the larger buildings were designed in the Greek Revival style and that the grounds were carefully landscaped and well maintained. Other features of the complex included a large garden, a 500-foot pier terminating in a washhouse for cleaning infected clothing, a cemetery, and a morgue. The entire quarantine grounds were enclosed by a wall. Morris (1900:378) refers to this as a stone wall, and notes that it included the "lighthouse grounds," while McMillen (1953:9-11) describes it as a brick wall.

In relocating the quarantine station from Bedloe's to Staten Island, the State had sought a relatively isolated setting. This portion of the Island, however, gradually ceased to be rural. In 1815, the Governor of New York State, Daniel Tompkins, began developing the village of Tompkinsville on the remaining portions of the Glebe, which he had bought from the Church of St. Andrew under an act of Legislature. Lots and roadways were laid out, homes were built, and ferry service established. Gradually a village grew up adjoining the quarantine station (Leng and Davis 1930:221-222; McMillen 1953). An 1850 map illustrates Tompkinsville's proximity to the quarantine station (Figure 7).

It was during this period that Tompkins, as governor, oversaw the sale of the northern portion of the original quarantine station tract to the United States government (Dibble 1980: 4). This piece of land contains the present project area. In a deed recorded on April 27, 1815, Governor Tompkins acting on behalf of the State, conveyed five acres described as "being part of the tract of land heretofore purchased by the State of New York for a Marine Hospital" (another designation for the quarantine station). The Collector of the Port of New York, Joshua Sands, is named as the purchaser acting on behalf of the United States Government (Tompkins 1815). The property subsequently became a base for the Revenue Marine Station (McCulloch 1867).

Formed in 1790 by US Treasury Secretary Alexander Hamilton, the Revenue Marine's (known also as the Revenue Service) function was to patrol both inland and offshore waters in order to enforce customs laws and as well as other aspects of maritime regulations and safety. It originated as the only armed naval service in the nation between 1790 and 1794, the Continental Navy having been disbanded in 1790 and the United States Navy not being created until 1794. In the early 20th century, it merged with the US

Lifesaving Service to become the Coast Guard. Under its initial authorization, the Revenue Service's fleet of small topsail schooners (also known as "revenue cutters") boarded and inspected ships to ensure that customs duties and import tariffs were paid to approved Ports of Entry such as New York City. The Revenue Service also performed other missions, including the enforcing of quarantine regulations. Presumably, because it was immediately adjacent to the quarantine station, a major share of the responsibilities of the unit based at the project area site would have been the interception of ships with ill passengers (Mordica n.d; Night Beacon n.d.). The 1845 Ewen Map (see Figure 6), showing the facility grounds, indicates that the Revenue Service had placed a series of structures within the present project area, including, a wharf, two storehouses, a "Store Keeper's House," and a "Boarding Officers' House."

In the years since the founding of Thompkinsville, the village's residents had become increasingly displeased with the presence of a quarantine station in their midst. In many instances outbreaks of disease within the community could be attributed to the proximity of the infected patients and the staff who administered to them. The quarantine station opened directly onto local streets and in many instances patients traveled openly through the village. A sense of the potential danger posed by the quarantine station is provided by local historian Loring McMillen (1953: 10):

In the fifteen years between 1847 and 1861, 2,836,684 immigrants entered the port of New York, and of these 310,303, or approximately 12% died of yellow fever or the dread disease of Cholera. The actual number of cases among the inhabitants of Tompkinsville or New Brighton traceable to the Quarantine was incalculable, but in 1848 alone at least 180 were ill, many fatally.

Although the state legislature recommended the removal of the quarantine station in 1848, none of these plans were implemented. In one case, the residents of the community to which the quarantine station was to be relocated destroyed the new buildings before they could be occupied. Finally, in 1858, a contingent of local residents, many of them prominent, succeeded in burning the quarantine station buildings to the ground. The participants were all acquitted although the county was made to pay damages (McMillen 1953:10).

During this period, as Tompkinsville's citizens sought to rid themselves of the quarantine station, the Revenue Service buildings immediately to the north of the quarantine station remained in operation. In 1852, however, The Treasury Department, the agency that was also responsible for the Revenue Service, had created a new entity within its bureaucracy—titled "The Light-House Board"—and was actively searching for a site to locate both the Light-House Board's Third District headquarters as well as an experimental station and central depot. The site eventually chosen was the Revenue Service facility on Staten Island, which was of course already owned by the Treasury Department. Historic maps indicate that these buildings escaped the 1852 destruction of the quarantine station and would have been available in 1863, when the Treasury Department officially turned over half the site (2 ½ acres) to the Light-House Board (Dibble 1980: 3-5; 1866 Tubbs Map - see Figure 8).

For a brief period, the Light-House Board and the Revenue Service shared the five-acre tract. According to the 1866 Tubbs Map (Figure 8), the property was divided in half so that each organization had their own superintendent's residence, storehouses, and pier. Apparently, the destruction of the quarantine station also eliminated what had probably been the Staten Island Revenue Service station's principal function—transporting ill passengers and quarantined vessels to the quarantine station. As stated by the Light-House Board in 1867: "The establishment of a new quarantine station in the lower bay and the abandonment of that on Staten Island obviated the necessity for a revenue station where it had been, except for the mere purpose of boarding vessels (Light-House Board 1867: 17-18). In 1868, the Revenue Service was relocated to Manhattan (Dibble 1980: 5).

The history of the Light-House Board and the operations of the Light House Depot (the present project area) have been chronicled in great detail by the Landmarks Preservation Commission (Dibble 1980) and in a website maintained by the Light House Museum. For the purposes of this Phase IA report, we will summarize this material, focusing upon details that are relevant to potential impacts to archaeological resources associated with the proposed project.

The administration of the nation's light houses was centralized by Congressional action in 1789, creating the Light-House Service and placing all light houses in the country under the control of the United States Treasury Department. In an era when most commerce and travel was still maritime, lighthouses were of critical importance. In an attempt to upgrade lighthouse operations, the Light-House Board was formed in 1852 as a semi-autonomous agency. Although it remained linked to the Secretary of the Treasury, who acted as its president, the Board now had complete control over all lighthouse matters. New staff was hired—naval officers, army engineers, and maritime industry leaders—and equipment, buildings, the quality of supplies, and the overall organization was improved. New York was placed in the Third Light House District—one of twelve—which extended down the Atlantic Coast from Maine to Delaware. The District's headquarters were soon set up in New York City. The move to the Staten Island site was undertaken because the Board's top officials believed that what was truly needed was a "super depot"—a site that could become a base of operations for the nation's entire light house system. They also hoped that the Staten Island site would support the development and testing of new lighthouse technology such as fuels, lamps, and sound signals (Dibble 1980; National Lighthouse Museum n.d.)

Initial construction of the new Light-House Board facilities occurred between 1864 and 1871, the very first work involving the refurbishing of extant Revenue Service structures. The Board's annual reports during this period describe not only the construction of the various buildings but also the preparation of the site. At the outset, the Board purchased from New York State a strip of land that ran along the entire north end of the tract measuring approximately 29 feet wide and which thus allowed access to a public street at that location. A similar strip of land, measuring almost 50 feet wide, was purchased at the tract's southern end. Oil vaults were excavated into the hillside behind the steeply sloping bank that is still visible today extending north-south at the rear of what is now building

#6. A sea wall was also built. The basin in front of the depot was dredged and the spoil deposited behind the sea wall. Another source for the fill was apparently the oil vault site, as well as the southerly portion of this same slope lying to the rear of what are now buildings # 7 and 8. (Light-House Board Annual Reports 1868-73). Circa 1868 views of buildings # 6 and 8 (the latter being under construction) and of the oil vaults are seen in Figures 9 and 10.

Grading and filling operations were described as follows:

A large quantity of earth obtained from the bank at the depot grounds has been used in filling in behind the seawall, and for properly raising and grading the grounds...about 2,690 cubic yards of earth were obtained from the quarantine grounds...taken to the depot grounds, and used for filling in. A large quantity of earth is yet required to complete the filling. The high bank behind the depot grounds has been graded and sodded (Light-House Board 1868: 40).

By 1872, with the completion of this round of construction and refurbishing, the depot complex contained an administration building that housed the engineer and inspector for the Third District, the inspector's residence, a workshop building, storehouses, oil vaults, wharves (one with a derrick), and a coal bin with a capacity of 400 tons (Light-House Board Annual Reports 1868-73; Beers 1874 - see Figure 11). "This depot," concluded the Board, "contains the manufacturing establishment, vaults for the storage, and apparatus for photometrical tests, of oil, and store-houses for the general supplies, &etc, for the service of the lights in the Atlantic, Pacific, Gulf, and Lake coasts of the United States" (United States Light-House Board 1872: 31-32).

Over the years, additional construction occurred on the site (see also Section IV—Construction History and Project Impacts—and Figures 12 through 21). In 1883, a cast iron 45-foot tall lighthouse was erected for the purposes of experimenting with oils, lamps, and lenses. Between 1907 and 1917, at least three buildings were added including a foundry and a new lamp shop. In 1903, however, the Light-House Board was removed from the Treasury Department and placed within the Department of Commerce and Labor. The latter soon re-organized the Board renaming it the Bureau of Lighthouses in 1910. Although as many as 200 people were employed by the depot during the 1920s, the advent of electrification completely transformed lighthouse technology making much of the depot's work obsolete. By the 1930s, as increasing numbers of lighthouses switched to electrical power, the processes involved in maintaining and operating lighthouses were greatly reduced. The depot was taken over by the United States Coast Guard in 1939. Although the depot became their new headquarters, lighthouse support was not regarded as an important Coast Guard mission. Lighthouse activities and personnel were gradually eliminated from the depot (National Lighthouse Museum n.d.; Philip Habib & Associates, Sandstone Environmental Associates Inc. 1999).

By the late 1960s, the Coast Guard had left the project area and moved to new headquarters on Governor's Island. Although some of the buildings were briefly used by the New York Harbor Pilot's Association, the site was vacated by the early 1980s and

acquired by New York City. In response to the proposed construction of a ferry maintenance building, the subsequent razing of several buildings and the continual deterioration of the surviving structures, a coalition of city officials and concerned citizens intervened. The New York City Landmarks Preservation Commission declared The Old Administration Building a city landmark in 1980. In 1983, several of the remaining structures were placed on the National Register of Historic Places as the "Office Building and U.S. Light-House Depot Complex." The project area was selected as the site for the National Lighthouse Center and Museum in 1998. Plans for restoring the buildings and developing the site are now underway (National Lighthouse Museum n.d.; Philip Habib & Associates, Sandstone Environmental Associates Inc. 1999).

B. Construction History and Project Impacts

The history of construction on the project site has been investigated by the examination of a series of maps drawn between 1797 and 1990, as well as historic photographs (see Figures 3 - 20). Based upon these, the approximate locations of 33 buildings constructed on the site at various times during this period have been overlain on the site plan (Figure 21). Numbers have been assigned to each structure shown on Figure 21 to facilitate discussion. The standing structures have been assigned the same numbers as shown on the site survey. The routes of the proposed utilities lines are also shown on this map so that project impacts on potential remaining archaeological resources can be assessed. The following discussion will focus on those structures closest to the proposed utilities lines.

The earliest map showing the site in detail is the 1799 survey of the 30 acre tract acquired from the Episcopal Church for the quarantine ground (Figure 4). The survey indicates that there were no structures at that time in the northeastern portion of this property, which constitutes the present project site. The one structure shown on the property would have been located well to the southwest of the site.

1. U.S. Revenue Service Buildings (1819-1845)

The only available map showing the buildings constructed after the property was acquired in 1815 by the United States government and prior to its use by the Light-House Board is the map of the Marine Hospital grounds drawn in 1845 (Figure 6). The map shows five buildings within the portion of the property that had been acquired by the United States Government. It is likely that these buildings were constructed after the Government's acquisition of the property. The overlay map (Figure 21) indicates that the site of only one of these buildings (building #1) would be within the present project site. This building is designated on the 1845 map as the Boarding Officer's House. Its location would place it approximately 30 feet northeast of the route of the proposed electrical line. During the site reconnaissance for this project, a portion of a stone foundation wall was noted in the portion of the site where this building was located (see Plate 7). The visible portion of the wall extended for approximately five feet. A dense accumulation of vegetation and roots made further examination of the wall unfeasible.

The other domestic structure shown on the 1845 map, indicated as the Storekeepers House (building #2), would be within the present U.S. Post Office property. The sites of one of the two store houses (building #4) shown on the 1845 map would be within the existing plaza while the other store house (building #3) would be located within the footprint of the Ferry Maintenance building. The other building shown on the 1845 map is a small shed located on the wharf beyond the present shoreline.

The map overlay (Figure 21) also indicates that the present shoreline extends somewhat beyond the 1845 shoreline, indicating that there was some subsequent landfilling. The 1868 Light-House Board annual report references filling-in along the shoreline that was occurring at that time.

2. 1866 Buildings

An 1866 survey (Figure 8) shows the U.S. Revenue Service facility after the burning of the quarantine grounds in 1858 and prior to the construction of the Light House Depot buildings. This map shows seven buildings within the site boundaries. Four of these, the two domestic structures and two store houses (buildings #1- 4), are at the same locations as those shown in 1845. This indicates the likelihood that the buildings on the U.S. Government property were not affected by the 1858 burning of the quarantine buildings.

The former Boarding Officer's House (building #1) was utilized as the U. S. Lighthouse Engineer's residence in 1866 and the former Store Keeper's House (building #2) was utilized as the U.S. Revenue Officer's residence. These two domestic structures are shown on the 1866 survey with a somewhat different morphology than that shown in 1845. The shape of the buildings suggests that extensions were added on the west side of the two T-shaped buildings shown in 1845, resulting in the building morphology depicted in 1866. It is also possible, however, that the two ca. 1845 houses were razed and new structures built at the same location.

The other buildings shown on the 1866 map are a small outbuilding west of building #2, a Light House Engineer's office (building #6) and another storage building, the latter two structures located in the northeastern portion of the site. The Engineers' office (building #6), constructed in 1864, still stands on the site.

3. Early Light House Depot Buildings - 1874

The 1874 Beers map (Figure 11) shows the buildings that were constructed in the 1860's for the lighthouse depot as well as earlier buildings that continued to stand on the site. In addition to building #6 (indicated as a store house in 1874), which was also shown on the 1866 map, three additional buildings shown in 1874 still stand; the oil vaults (building #9); the workshop (building # 8); and the office building (building #7), the latter constituting the central portion of the existing administration building. The Light-House Board annual reports indicate that construction of the latter building began in the 1860's but was not completed until 1871. Construction of the oil vaults was completed in 1869

(Light-House Board 1869), although it is likely that the vaults were modified and enlarged in the early 1870's (Light-House Board 1872; 1873).

The northernmost residence (building #1) designated as the Boarding Officer's house in 1845 and the Light House Keeper's residence in 1866, is indicated as the Inspector's house in 1874. This building can be seen in the background of two photographs taken in 1868 (Figures 9 and 10). The 1872 Light-House Board annual report indicates that "the dwelling of the inspector has been repaired, and occupied by him." The other residence (building #2) located at site of the present U.S. Post Office, is indicated as the Engineers House on the 1874 map.

The 1874 map also shows three new buildings along the western portion of the U.S. Government property. Two of these are not within the present site. The site of building #13 would be within the U.S. Post Office property and the site of building #14 would be at the present location of Bay Street. The site of building #12 would be along the boundary between the site and the U.S. Post Office property. A portion of this building site would be within the present site boundaries, at or immediately adjacent to the route of the proposed sewer and telephone lines. A 1 ½ story building visible in the background of two photographs taken in 1868 (Figures 9 and 10) may represent this structure. What appear to be large doors on the southern side of this building suggest that it may have functioned as a carriage house. The attic dormer suggests that it also may have functioned as living quarters for an employee of the Light-House Board. During the reconnaissance, a concrete foundation was noted in the southwestern portion of the site, in the vicinity of the northern portion of building #12. A quantity of building stone was noted adjacent to this foundation, suggesting that an earlier foundation may have been disturbed when the concrete foundation was constructed. The various maps examined do not show a later structure at this location, however, although one (building #33) was indicated further to the south (see discussion below).

The 1874 map also shows three storage buildings (buildings #16, 17 and 18), on the eastern portion of the site. Two of these may represent buildings shown on the 1866 map. Two of the buildings would be within the Ferry Maintenance building footprint and the other at the location of the existing plaza.

4. Buildings Erected 1874-1912

Maps dating to 1887 (Figure 12), 1898 (Figure 13), 1907 (Figure 14) and 1912 (Figure 15) indicate additional construction that occurred on the site during this period.

Between 1874 and 1887 two buildings were constructed on the eastern portion of the lighthouse depot property; building #21, which represented an extension to one of the earlier buildings; and building #19, a new storage building. Building #5, which still stands between building #6 and the oil vaults, was also constructed during this period.

Between 1887 and 1898 two additional small buildings (buildings #25a/b), were constructed on the eastern portion of the lighthouse depot site. Another small building

(building #31) was constructed in the southeastern corner of the site. Its footprint is partially within that of building #11, the repair shop constructed in 1915 that still stands, and it was apparently demolished when the latter building was constructed. The three buildings on the westernmost portion of the site (buildings #12, 13 and 14) that were shown on the 1874 and the 1887 maps are no longer shown on the 1898 map.

The 1912 Borough of Richmond topographic map shows building #10, the new Lamp Shop, which had been built in 1907 and still stands. It also shows two small buildings (buildings 7a and 7b), which have since been joined with building #7 to form the standing administration building. The 1912 map also shows two small structures (buildings #26 and #27) that apparently stood at the top of the bank west of the administration building. The site of building #27 would be at the location of the proposed utilities trench construction, and building #26 would have been located a short distance from the route of the proposed gas line. The subsequent 1917 Sanborn map (Figure 16) identifies building #26 as a "Hose Ho.", and building #27 as "Fire Eng." These structures apparently represent sheds housing fire fighting equipment for the Light House Depot. A building at the approximate location of building #27 is also shown on the 1937 map (Figure 17), and is indicated as an "Auto Ho" (i.e. a garage) on the latter map.

The 1912 map (Figure 15) also shows a small building along the west side of the site. This may be the same building indicated as a "greenhouse" on the 1917 map (Figure 16). This building would be at the same approximate location as building #13, shown on the 1874 map and 1887 maps. Although it does not appear on the less detailed 1898 map, it may be the same structure. This building would be located within the present U.S. Post Office property.

Building #12, shown on the 1874 and 1887 maps along the western boundary of the site north of building #13, is not shown on the 1898 or 1912 maps.

5. Buildings Erected after 1912

Subsequent construction at the Lighthouse depot site is shown on a series of Sanborn maps dating to 1917, 1937, 1951, 1961, and 1990 (Figures 16, 17, 18, 19, and 20). The 1917 map shows building #11, the 1915 repair shop noted above. It is indicated as a foundry on this map.

The map also shows that a greenhouse (building #32) had been constructed south of the "Inspector's House" (building #1).

The 1917 map (Figure 16) shows an L-shaped building, apparently a barn or stable, on the west side of the site in the same general area as building #12, which was shown on the 1874 and 1887 maps, but was not indicated on the 1898 or 1912 maps. The building shown in 1917, however, appears to represent a new structure (building #33) built slightly south and east of the earlier building. Building #33 would have been located within the U.S. Post Office property.

The 1937 map (Figure 17) indicates that the Post Office building had been constructed between 1917 and 1937. Also during this period a new three story dwelling structure (Building #29) was located immediately north of the Post Office property and immediately west of the SIRT tunnel. The site partially overlies the footprint of the ca. 1912-1917 greenhouse. The route of the proposed utilities construction would intersect the site of this building. A brief analysis of the site in the files of the New York City Landmarks Preservation commission suggests that this structure may actually represent a dwelling house (apparently the one referenced here as building #2) that was formerly on the Post Office site and moved to this location when the Post Office was built.

Between 1937 and 1961 (Figure 19) a one story storage building (building #30) was constructed west of building #10 and south of building #8. The proposed route of utilities construction would intersect the site of this building.

The 1990 (Figure 20) Sanborn map continues to show the two domestic structures (buildings #1 and #29) on the western portion of the site, as well as the buildings located on the eastern portion of the site. All of the buildings shown on this map, with the exception of those that continue to stand were demolished during the 1990's.

6. Summary and Analysis

The proposed route of utilities construction will affect the sites of several structures that previously stood on the site. One of these is a storage building constructed in the mid-twentieth century (building #30). Another is a dwelling built between 1917 and 1937 (building #29). It is possible that the dwelling was moved to this location from elsewhere on the Light House depot site. A greenhouse (built between 1912 and 1917) had previously occupied a portion of the dwelling house site. Maps dating to this period indicate that water lines were present on the site at the time these buildings were constructed. Although the maps do not indicate sewage facilities it is likely that they too were present. Therefore, archaeological features of the types associated with earlier structures, as noted below, are unlikely to have been associated with this house.

The northern portion of the site of a 19th century building, possibly a carriage house, constructed between 1866 and 1874 (building #12) would be located adjacent to the southwestern boundary of the project area. The southern portion of this building, however, would most likely have been within the boundaries of the U.S. Post Office property. A concrete foundation, with indications of a disturbed stone foundation was noted in this portion of the property. Additional disturbance in this area would have been associated with the installation of an existing six inch water line and three inch sanitary sewer shown on the site survey.

Two small sheds (buildings #26 and #27) built prior to 1912, were also present along the route of the proposed utility construction.

None of the above structures would appear to represent potentially significant archaeological resources nor is it likely that significant artifact deposits would be associated with them.

It is possible, however, that significant archaeological deposits associated with a domestic structure built prior to 1845 (building #1), when this property was part of the U.S. Revenue Service facility, could remain on the western portion of the site. A domestic structure continued to be located here after the property became the site of the U.S. Lighthouse Depot, although it is possible that the building was renovated and/or enlarged at this time. It continued to stand until the major demolition of structures on the site, which occurred during the 1990's. During the site reconnaissance, a portion of a foundation wall constructed of stone set in mortar was noted at the approximate location of this structure as shown on the various historic period maps (Plate 7).

Although the Light-House Board records indicate that the bank on the eastern portion of the site was graded and partially excavated for landfill, there has apparently been no major downcutting on the western portion of the site. This is indicated by the presence of the intact foundation wall and the fact that the elevations on this portion of the site are above those of the adjacent street. Comparison of the topographic contours shown on the 1912 topographic map (Figure 15) and those shown on the site survey (Figure 2) also indicate that there has been no major downcutting on this portion of the site.

The portion of the site east of the foundation location has undergone some surficial disturbance. Examination of the surface suggests that there may have been an asphalt pavement in this area (see Plate 2). The site survey also indicates a three inch sewer line east of the foundation location and a 1 inch water line to the south. Other utilities lines are indicated further to the southeast. It is possible, nevertheless, that any archaeological deposits located in this area could remain intact.

Archaeological deposits associated with historic period domestic structures can be found in the form of refuse middens that were deposited on ground surfaces existing at the time of occupation. Such deposits are sometimes noted on existing surfaces, but are more usually buried under more recent soil accumulations and/or fill.

On some sites, refuse was buried in pits dug specifically for that purpose. Refuse deposits are also found within stone, brick, or wood-lined subsurface features, such as cisterns, privies and wells, associated with domestic structures. Although some artifact deposits in such features may date to their period of use, more typically refuse was placed in such features as fill, after the feature was no longer needed (usually after public water and sewer facilities were provided).

It is considered likely that any surficial refuse middens on the National Lighthouse Museum site would have been deposited away from the portion of the site used for residential purposes, especially during the period when the site was utilized by the quasi-military Revenue Service. Any refuse deposits in the western portion of the site are considered more likely to be contained within sub-surface features. Such features would

not be located to the front of the house. Analysis of maps and photographs indicates that the domestic structure located in the western portion of the site (i.e. building #1) faced toward New York Bay, with its rear facing westward toward the present location of Bay Street.

The closest impacts of the present project to the site of building #1 would be associated with the excavation of the electrical utility trench, which would be an estimated 30 feet southwest of the foundation site at its closest point. It is considered possible that sub-surface features such as those noted above could be located in the area to be traversed by this trench. The other utilities trenches would be further (no closer than approximately 60 - 80 feet) from the house site, where features would be less likely.

IV. CONCLUSIONS AND RECOMMENDATIONS

The results of the research and analysis conducted for this study indicate the overall historical significance of the proposed Light House Museum site. Associated archaeological deposits would also be potentially significant.

Analysis of the location of the buildings constructed on the site over its nearly 200 year history indicates that, with the exception of the area in the western portion of the site noted below, the presence of such deposits within the area of potential effect of the proposed utility trench excavations is unlikely.

The western portion of the site, however, was the location of a domestic structure (designated in this report as building #1) constructed in the first or second quarter of the nineteenth century that continued to be occupied into the twentieth century. Analysis suggests that archaeological deposits associated with the occupation of this structure could remain intact. Such deposits would most likely be contained within sub-surface features. Although excavation of the proposed electrical trench would affect only a limited portion of the site, it would pass as close as some 30 feet from the approximate location of the house, an area where features could be located. Given that the excavated trench will be only approximately three feet wide, however, the probability of encountering a feature is not considered to be high. Nevertheless, the significance and time depth of the Light House Museum property is such that we think it advisable to have an archaeologist present during construction.

Our understanding is that all of the utilities installation subcontracts call for the hand excavation of utilities trenches above the SIRT tunnel, and within 22 feet in either direction of the tunnel right of way (National Lighthouse Museum Plumbing Subcontract No. 123055-004; Kurt Hirschberg, Jan Hird Pokorny Associates, Personal Communication, December 2003). We recommend that hand excavation of the portion of the electrical trench located west of the SIRT tunnel right-of-way be continued from that point westward until the trench intersects Bay Street. A qualified professional archaeologist should monitor the hand excavation of this trench. A monitoring protocol should be adopted in accordance with that recommended by the Professional Archaeologists of New York City, Inc. and the New York Archaeological Council.

The archaeological monitor should have the authority to stop excavation for limited periods of time to enable a preliminary examination of any possible features or buried ground surfaces encountered, and this should be clearly understood by construction personnel. If preliminary examination indicates that deposits encountered may be possibly significant, the archaeologist should have the authority to suspend excavation in that portion of the trench until adequate archaeological testing can be completed.

VI. REFERENCES CITED

Anderson, Albert and Donald R. Sainz

- 1965 Excavations at Oude Dorp. The New Bulletin. Staten Island
Institute of Arts and Sciences 14: 82-96.

Anonymous

- n.d. Brief History of former U.S. Coast Guard site on Staten Island. Typescript in
National Lighthouse Museum Research File, New York City Landmarks
Preservation Commission.

Barber, Russell J.

- 1980 Post - Pleistocene Anadromous Fish Exploitation at the Boswell Site, Northeastern
Massachusetts." Man in the Northeast Occasional Publications in Northeastern
Anthropology 7:97-113.

Beers, J. B. and Company

- 1874 Atlas of Staten Island, Richmond County, New York. Collection of the New York
Public Library.

- 1887 Atlas of Staten Island, Richmond County, New York. Collection of the New York
Public Library.

Boesch, Eugene

- 1994 Archaeological Evaluation and Sensitivity Assessment of Staten Island, New
York. Submitted to the New York City Landmarks Preservation Commission.

Bolton, Reginald Pelham

- 1922 Indian Paths in the Great Metropolis. Indian Notes and Monographs.
Miscellaneous # 22. Museum of the American Indian, Heye Foundation, New
York.

Brennan, Louis A.

- 1974 The Lower Hudson: A Decade of Shell Middens. Archaeology of Eastern North
America 2:81-93.

- 1977 The Lower Hudson: The Archaic. In Amerinds and Their Paleoenvironments in
Northeastern North America, Walter S. Newman and Bert Salwen, editors. Annals of the
New York Academy of Sciences, No. 288.

Borough of Richmond, Topographic Bureau

- 1912 Topographic Maps of the Borough of Richmond, Sheet #11.

Conner, Richard and Bernard, Sprong

1797 A New and Correct Map of the County of Richmond. Collection of the New York Public Library.

Dibble, James E.

1980 Landmarking Designation Document for the Old Administration Building (Third District U.S. Lighthouse Depot). New York City Landmarks Preservation Commission.

Dincauze, Dena F.

1976 The Neville Site: 8,000 Years at Amoskeag. Peabody Museum Monographs No. 4, Harvard University, Cambridge, Ma.

Dripps, Matthew

1850 Map of Staten Island or Richmond County, New York. Collection of the New York Public Library.

Elken, Manuel Elkin Co.

2000 Topographical Survey for National Lighthouse Center & Museum, Former U.S. Third District Lighthouse Depot, Block 1, Lot 60, 1 Bay Street, Borough of Staten Island, New York.

Ewen, Daniel

1845 Map of the Marine Hospital Ground, Staten Island. Collection of the New York Public Library.

Fairchild Aerial Camera Company

1924 Aerial Photographs of New York City. New York City Board of Estimate and Apportionment.

Funk, Robert E.

1972 Early Man in the Northeast and the Late Glacial Environment. Man in the Northeast 4:7-39.

1976 Recent Contributions to Hudson Valley Prehistory. New York State Museum and Science Service Memoir No. 22, Albany, New York.

Gardner, W. M.

1974 The Flint Run Paleo-Indian Complex: A Preliminary Report, 1971-1973 Seasons. The Catholic University of America, Archaeology Laboratory, Occasional Publication 1.

Goddard, Ives

1971 The Ethnohistorical Implications of Early Delaware Linguistic Materials. Man in the Northeast 1:14-26.

1978a Eastern Algonquian Languages. Handbook of North American Indians Vol. 15:70-77. Smithsonian Institution, Washington, D.C.

1978b Delaware. Handbook of North American Indians Vol. 15:213-239. Smithsonian Institution, Washington, D.C.

Gramley, Richard N.

1982 "The Vail Site: A Paleo-Indian Encampment in Maine." Bulletin of the Buffalo Society of Natural Sciences No. 30.

Historical Records Survey

1942 Transcriptions of Early Town Records of New York: The Earliest Volume of Staten Island Records: 1678-1813. W.P.A.

Kraft, Herbert C.

1975 Archaeology of the Tocks Island Area. Archaeological Research Center, Seton Hall University Museum, South Orange, New Jersey.

1986 The Lenape: Archaeology, History and Ethnography. New Jersey Historical Society, Newark, New Jersey.

Leng, Charles W. and William T. Davis

1930 Staten Island and Its People. Vols. I and II. New York: Lewis Historical Publishing Company.

Light-House Board

1867- Annual Report of the Light-House Board to the Secretary of the Treasury.

1873 Washington: Government Printing Office.

Mangin, Joseph

1799 Survey & Map of Thirty acres of Land on the East of Staten Island. Filed Map #1, Office of the Richmond County Clerk.

Marshall, Sydne

1982 Aboriginal Settlement in New Jersey During the Paleo- Indian Cultural Period: ca. 10,000 B.C.- 6,000 B.C. A Review of Research Problems and Survey Priorities, the Paleo-Indian Period to the Present. Office of New Jersey Heritage, New Jersey Department of Environmental Protection, Trenton, New Jersey.

McCulloch, Hugh

1867 Correspondence dated June 11, 1867, from Hugh McCulloch, Secretary of the Treasury to Rear Admiral W.P. Shubrick, Lighthouse Board. Copy in National Lighthouse Museum Research File, New York City Landmarks Preservation Commission.

McMillen, Loring

1933 A Map of Staten Island During the Revolution 1775-1783.

1953 The Quarantine. The Staten Island Historian. Volume XIV(2): 9-11.

Moeller, Roger

1980 6LF21: A Paleo-Indian Site in Western Connecticut. American Indian Archaeological Institute Occasional Paper No. 2.

Mordica, Allan

n.d. What is the Revenue Marine Service/Revenue Cutter Service, and What Role Did It Play in the Civil War? Available on the World Wide Web at <http://tmlha.exis.net/rcs.htm>

Morris, Ira K.

1898 Memorial History of Staten Island, Vol. I. New York: Memorial Publishing Co.

1900 Memorial History of Staten Island, Vol. II. West New Brighton: the author.

National Lighthouse Museum

n.d. The National Lighthouse Museum. Available on the World Wide Web at <http://www.lighthousemuseum.org/index.html>

Night Beacon

n.d. Lighthouse, Lightship & Life-Saving History & Information Pages: The Revenue Cutter Service. Available on the World Wide Web at http://www.nightbeacon.com/lighthouseinformation/articles/Revenue_Cutter_Service.htm

Parker, Arthur C.

1922 The Archaeological History of New York State. The New York State Museum Bulletin, Nos. 237; 238. Albany.

Pfeiffer, John

1983 The Howard Site: A Late Archaic Laurentian Village in the Lower Connecticut Valley. Paper presented to the Archaeological Society of Connecticut, October 15, 1983.

Philip Habib & Associates, Sandstone Environmental Associates Inc. 1999

1999 National Lighthouse Center and Museum Rezoning, Environmental Assessment Statement (CEQR # 00DBS001R). Prepared for the New York City Economic Development Corporation.

Photographs of the Third District Lighthouse Depot

1868 Third District Photos, Staten Island Depot 1868, Set No. 1. Copies in National Lighthouse Museum Research File, New York City Landmarks Preservation Commission.

Pokorny, Jan Hird Associates, Inc.

2003 National Lighthouse Museum at Former Third district Lighthouse Depot, Staten Island, New York. 100% Construction Documents Submission. Plans Dated January 20, 2003.

Ritchie, William A.

1980 The Archaeology of New York State. Harbor Hill Books, Harrison, New York.

Ritchie, William A. and Robert F. Funk

1971 Evidence of Early Archaic Occupations on Staten Island. Pennsylvania Archaeologist 41:45-60.

1973 Aboriginal Settlement Patterns in the Northeast. New York State Museum and Science Service Memoir, No. 20. Albany, New York.

Robinson, E. and Co.

1898 Atlas of the Borough of Richmond, City of New York. Collection of the New York Public Library.

Robinson, E. and R.H. Pidgeon

1898 Atlas of the Borough of Richmond, City of New York. 2nd Ed. Collection of the New York Public Library.

1907 Atlas of the Borough of Richmond, City of New York. Collection of the New York Public Library.

Robichaud, Beryl and Murray F. Buell

1983 Vegetation of New Jersey. Rutgers University Press: New Brunswick, New Jersey

Ruttenber, E.M.

1872 History of the Indian Tribes of Hudson's River. Kennikat Press, Port Washington, New York.

Salwen, Bert

1978 Indians of Southern New England and Long Island: Early Period. Handbook of North American Indians Vol. 15: 160-176. Smithsonian Institution, Washington, D.C.

Sanborn Map Company

1917 Insurance Maps of Staten Island, Borough of Richmond, New York. Vol. I. Collection of the New York Public Library.

1937 Insurance Maps of Staten Island, Borough of Richmond, New York. Vol. I. Collection of the New York Public Library.

1951 Insurance Maps of Staten Island, Borough of Richmond, New York. Vol. I. Collection of the New York Public Library.

- 1961 Insurance Maps of Staten Island, Borough of Richmond, New York. Vol. I. Collection of the New York Public Library.
- 1990 Insurance Maps of Staten Island, Borough of Richmond, New York. Vol. I. Collection of the New York Public Library.
- Skene, Frederick
- 1907 Map of Staten Island, Richmond County, New York, Showing the Colonial Land Patents from 1668-1712.
- Skinner, Alanson Buck
- 1909 The Lenape Indians of Staten Island. Anthropological Papers of the American Museum of Natural History. Vol. 3, pp. 1-62.
- Smith, Dorothy Valentine
- 1968 This Was Staten Island. Staten Island: The Staten Island Historical Society.
- Snow, Dean
- 1980 The Archaeology of New England. Academic Press, New York, New York.
- Salomon, Julian Harris
- 1982 Indians of the Lower Hudson Region, The Munsee. Historical Society of Rockland County, New City, New York.
- Thompkins, Daniel D.
- 1815 Deed recorded April 27, 1815. Liber G, page 379. Copy in National Lighthouse Museum Research File, New York City Landmarks Preservation Commission.
- Tubbs, J. Nelson
- 1866 Map of the Marine Hospital Grounds in the Town of Castleton, Staten Island, New York. Filed Map #223, Office of the Richmond County Clerk.
- United States Geological Survey
- 1981 New Jersey, Jersey City Quadrangle. 7 1/2' Series.
- Van der Zee, Henri, and Barbara van der Zee
- 1978 A Sweet and Alien Land: The Story of Dutch New York. The Viking Press, New York.
- Vargo, Jack and Donna Vargo
- 1983 The Rabuilt Cave Site - PKE 4-4 Site Report. Bulletin and Journal of Archaeology for New York State 87:13—39.
- Walling, H.F.
- 1859 Map of Staten Island, Richmond County, New York. Collection of the New York Public Library.

Washburn, Wilcomb E.

- 1978 Seventeenth-Century Indian Wars. Handbook of North American Indians Vol. 15:89-100. Smithsonian Institution Press, Washington D.C.

Williams, Lorraine and Ronald Thomas

- 1982 The Early/Middle Woodland Periods in New Jersey. In New Jersey's Archaeological Resources: A Survey of Research Problems and Survey Priorities, Olga Chesler (editor). New Jersey Office of Heritage, Trenton, New Jersey.

Wolfe, Peter

- 1977 The Geology and Landscapes of New Jersey. Crane, Russak and Company, New York.

FIGURES AND PLATES

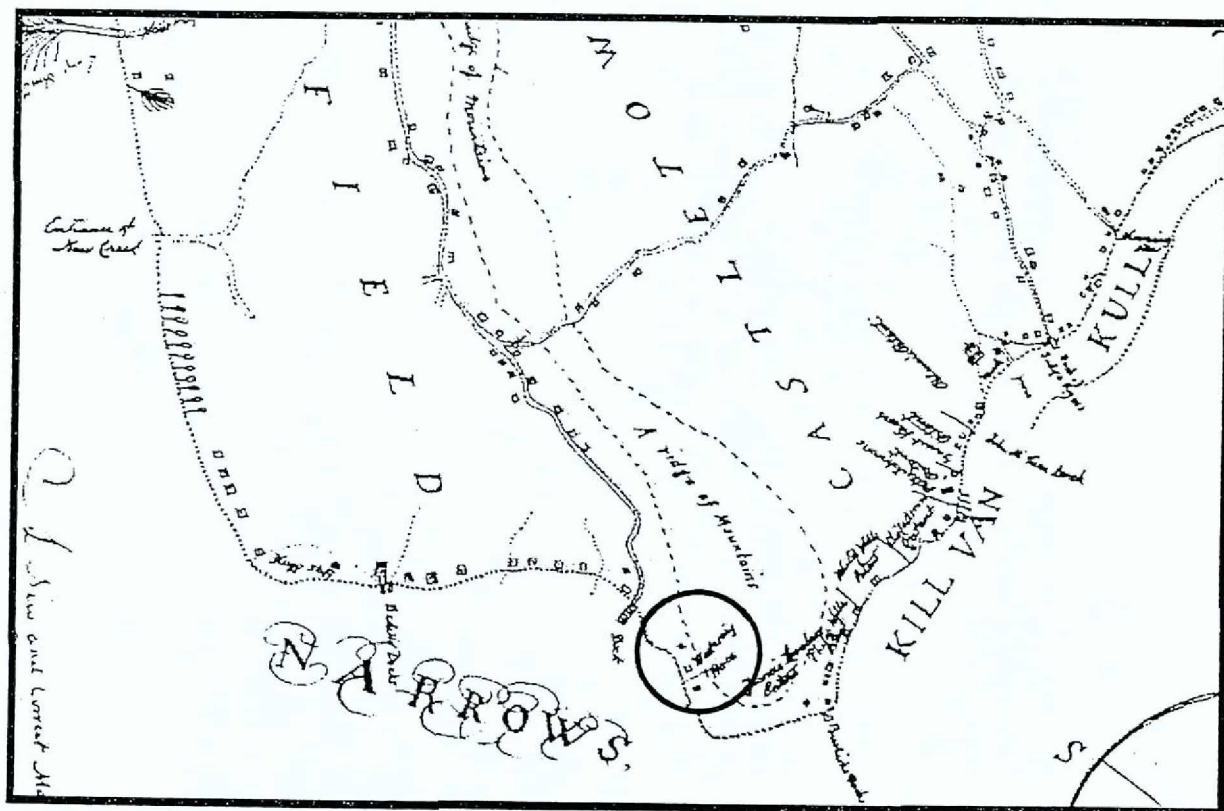


Figure 3
 1797 Conner and Sprong Map
 Site of "Water Place" is Indicated by Circle
 Scale of Original: 1" = 40 chains



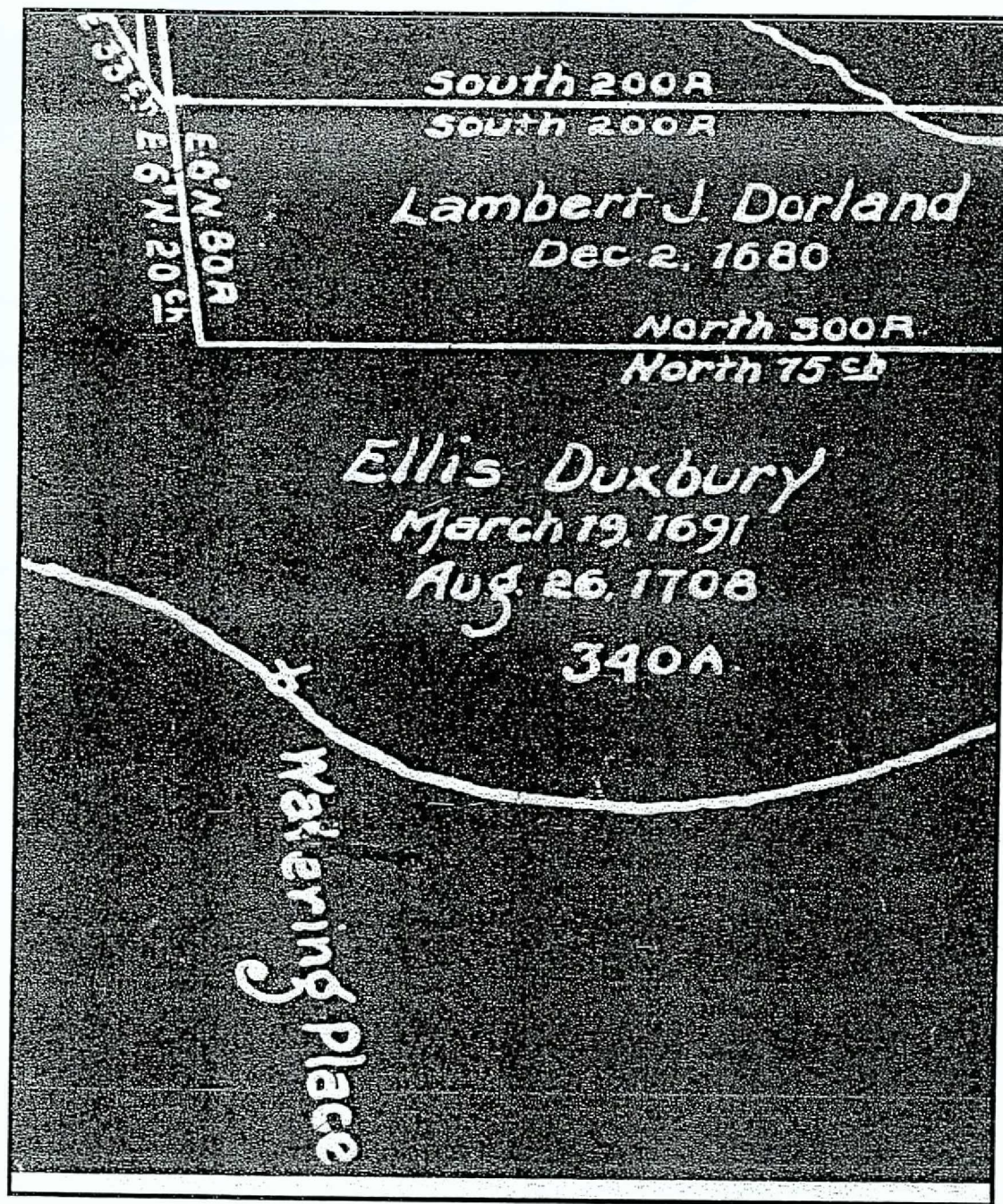
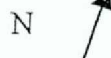


Figure 4
1907 Skene Map Showing Early Land Grants
Scale of Original: 1" = 1500'



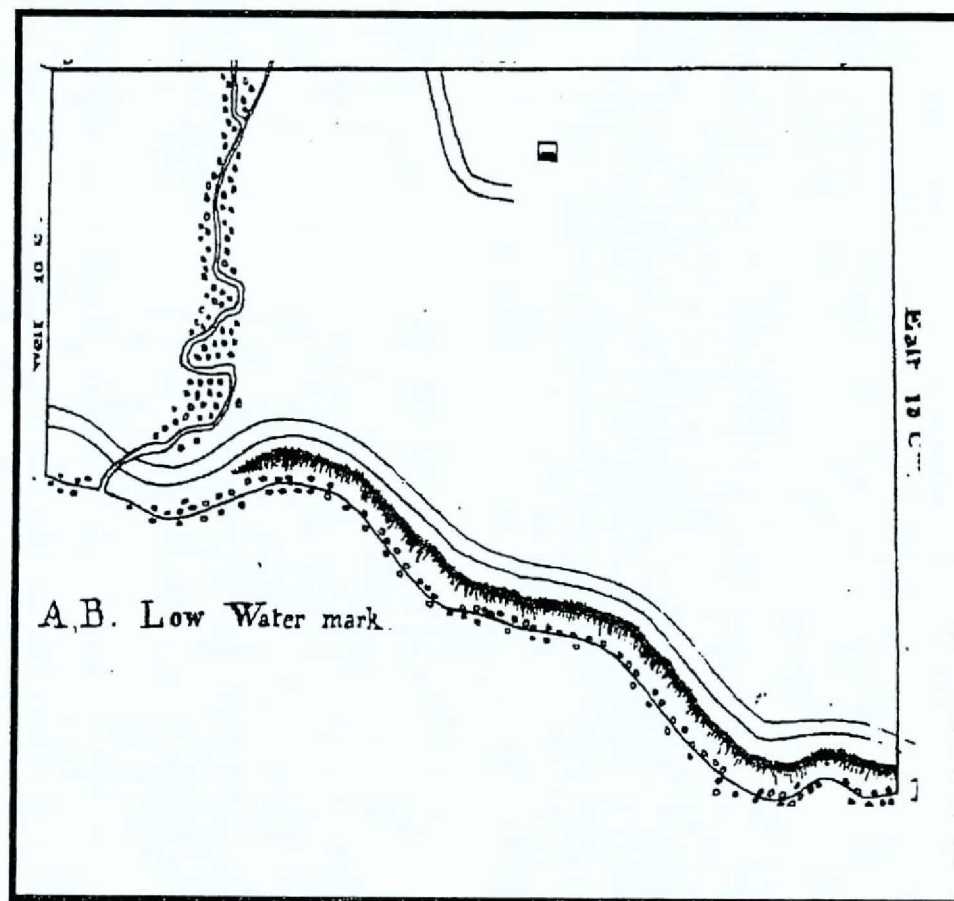


Figure 5
1799 Mangin Map

N →

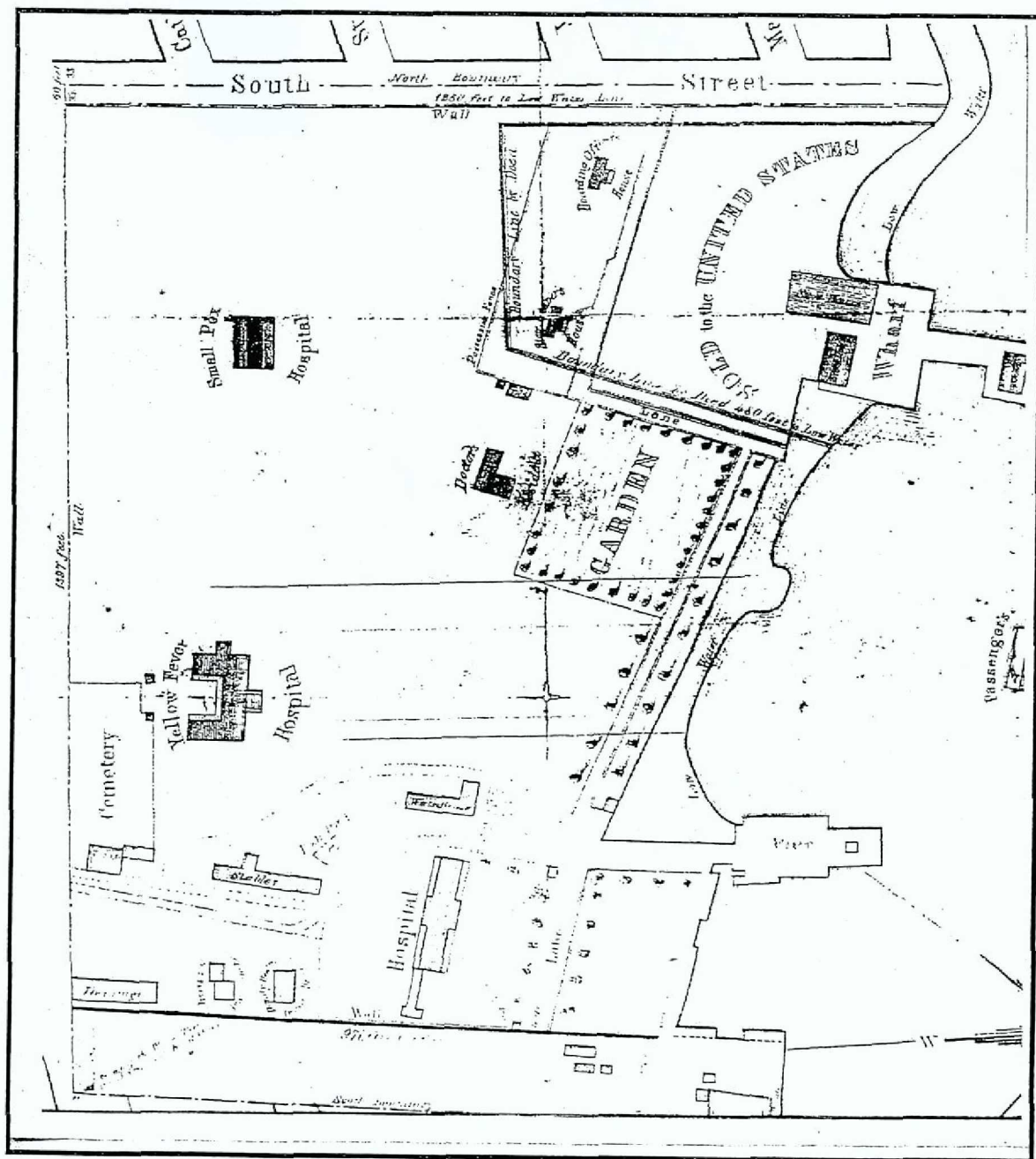


Figure 6
1845 Ewen Map
Scale: 1" = 150'
N ↑

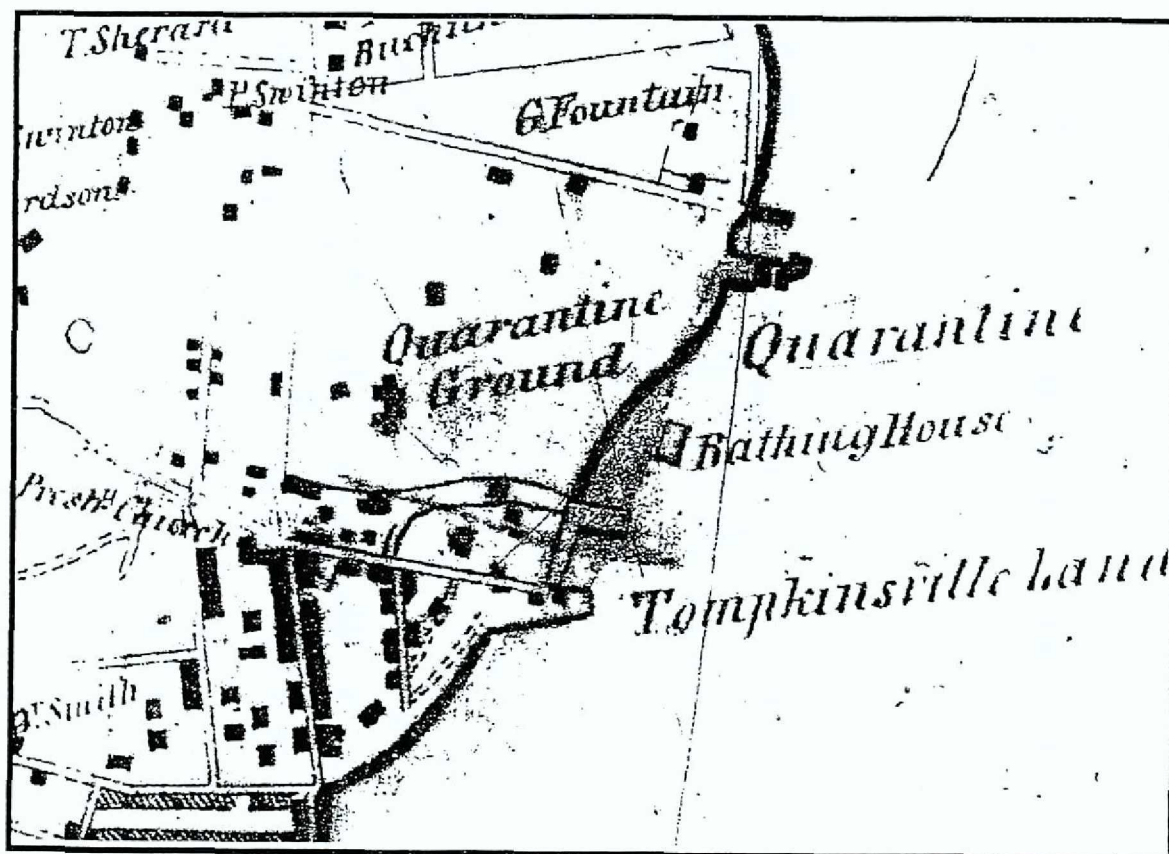


Figure 7
1850 Dripps Map
Scale: 1" = 750'



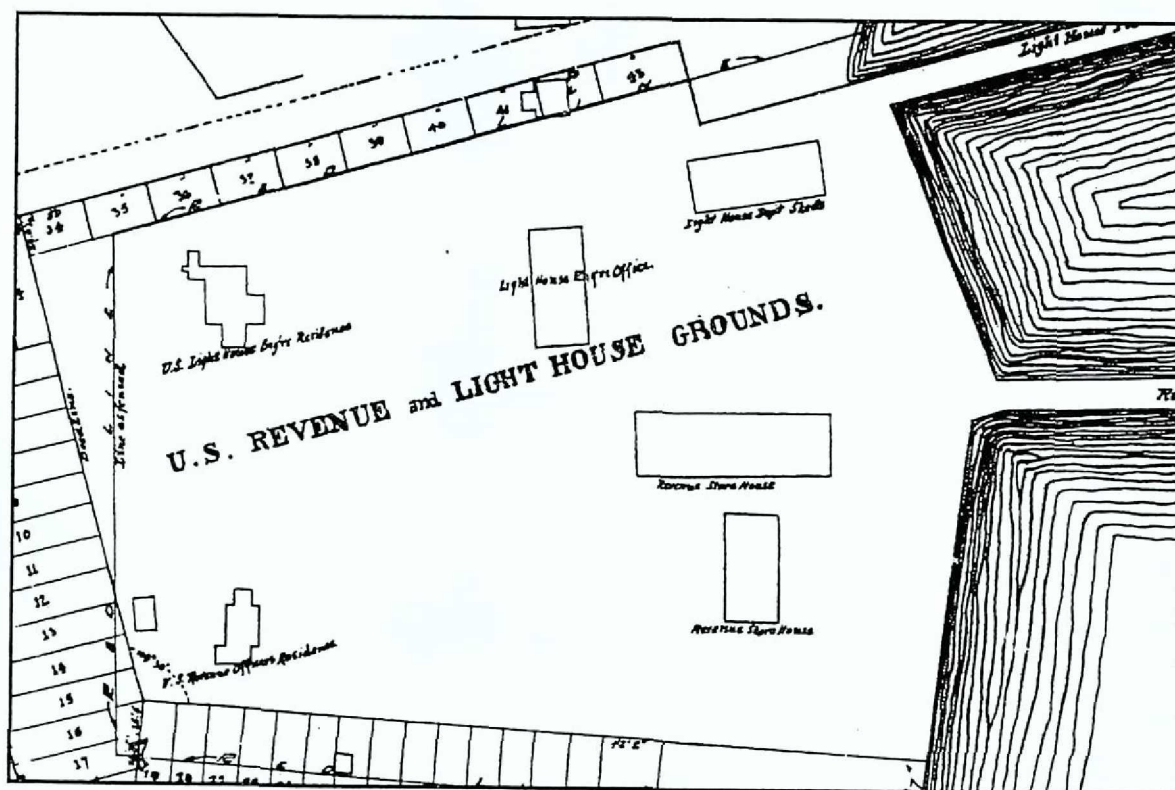


Figure 8
 1866 Tubbs Map
 Scale of Original: 1"=80'



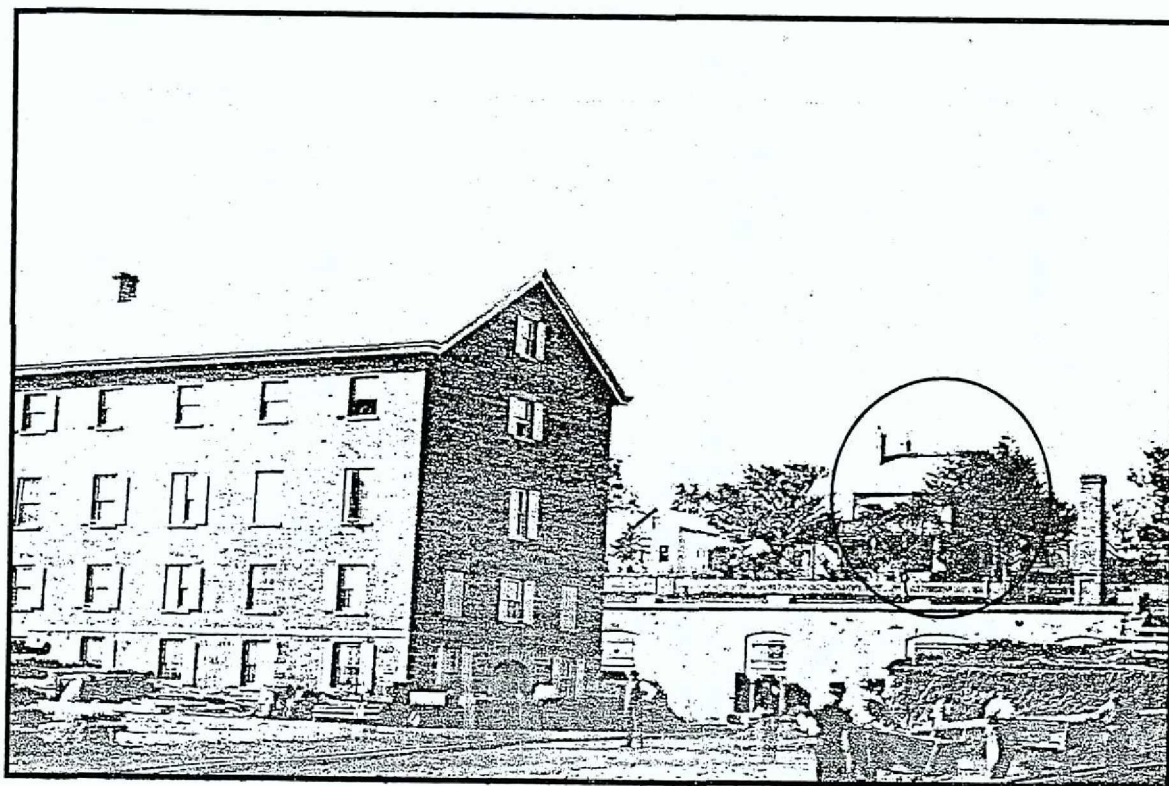


Figure 9
1868 Photo Showing Construction Activities at the Lighthouse Depot
Building #6 is at Left
Circle Indicates Building #1
Source: Photographs of the Third Lighthouse Depot 1868

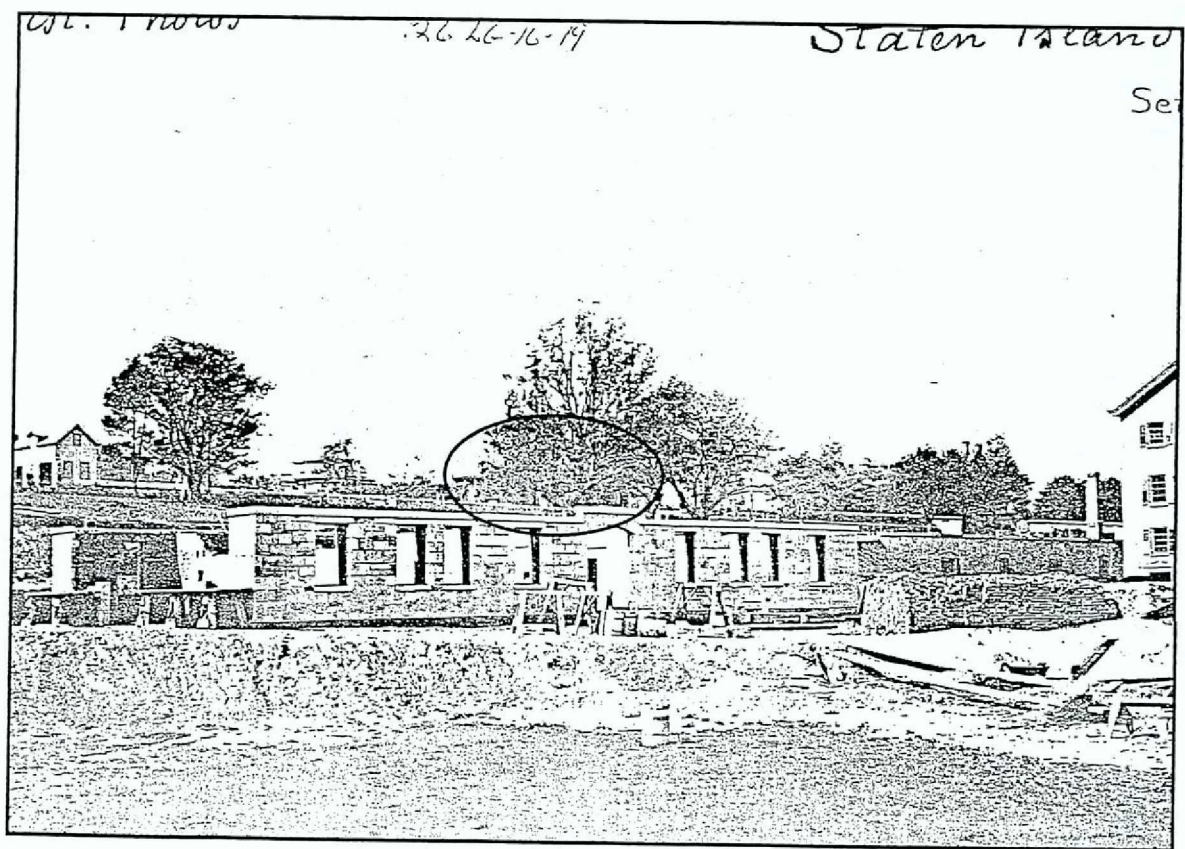


Figure 10
1868 Photo Showing Construction Activities at the Lighthouse Depot
Building #8 (under construction) is in the Foreground
Circle Indicates Building #1 (Behind Tree)
Source: Photographs of the Third Lighthouse Depot 1868

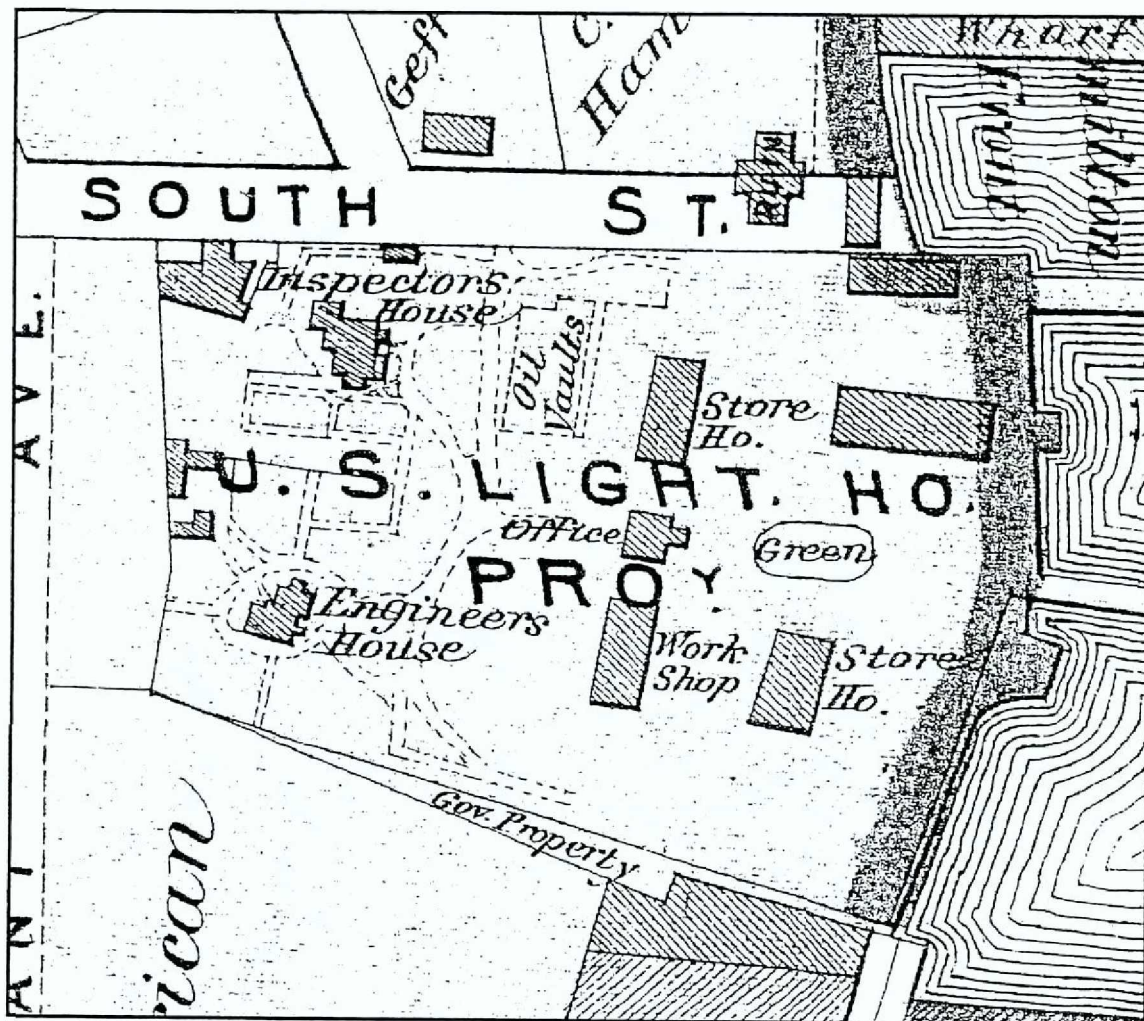


Figure 11
 1874 Beers Map
 Scale: 1" = approximately 460'



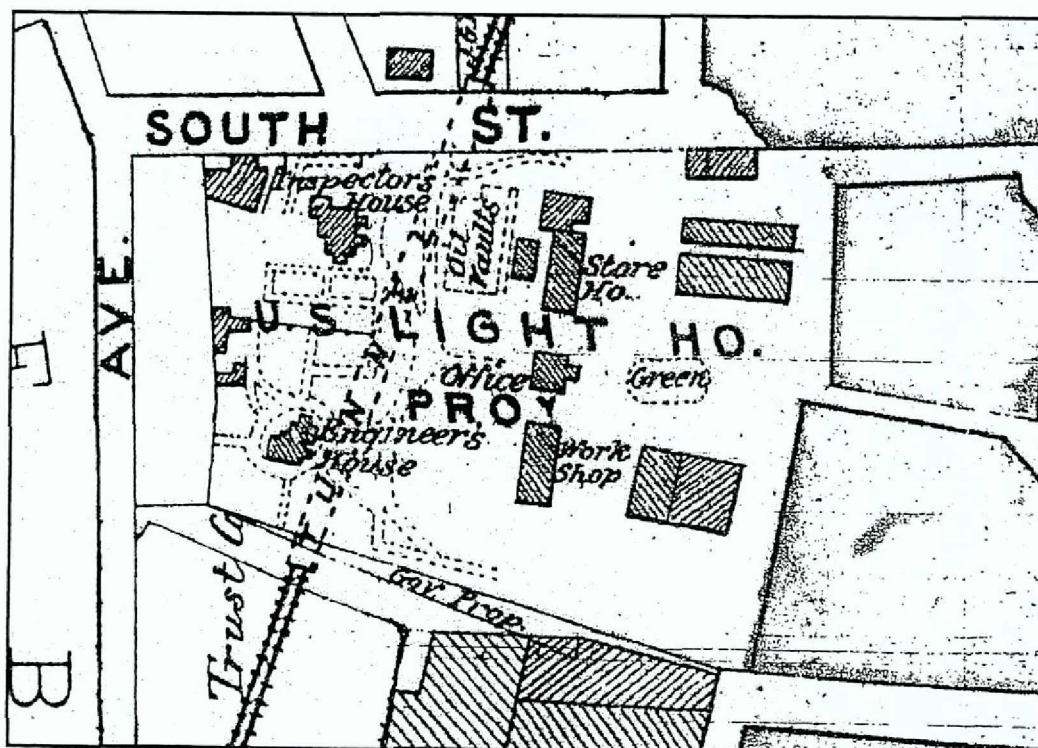


Figure 12
1887 Beers Map
Scale of Original: 1" = 300'



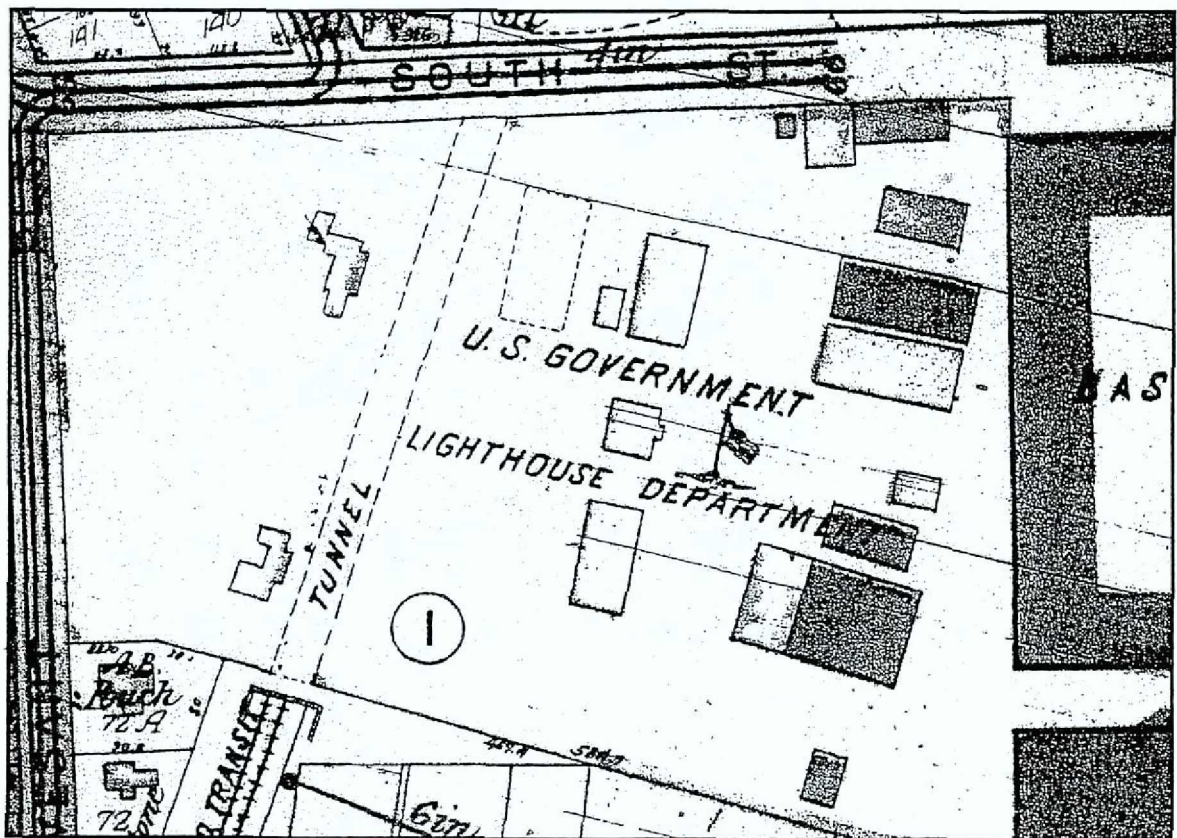


Figure 13
1898 Robinson and Pidgeon Map
Scale: 1" = 150'



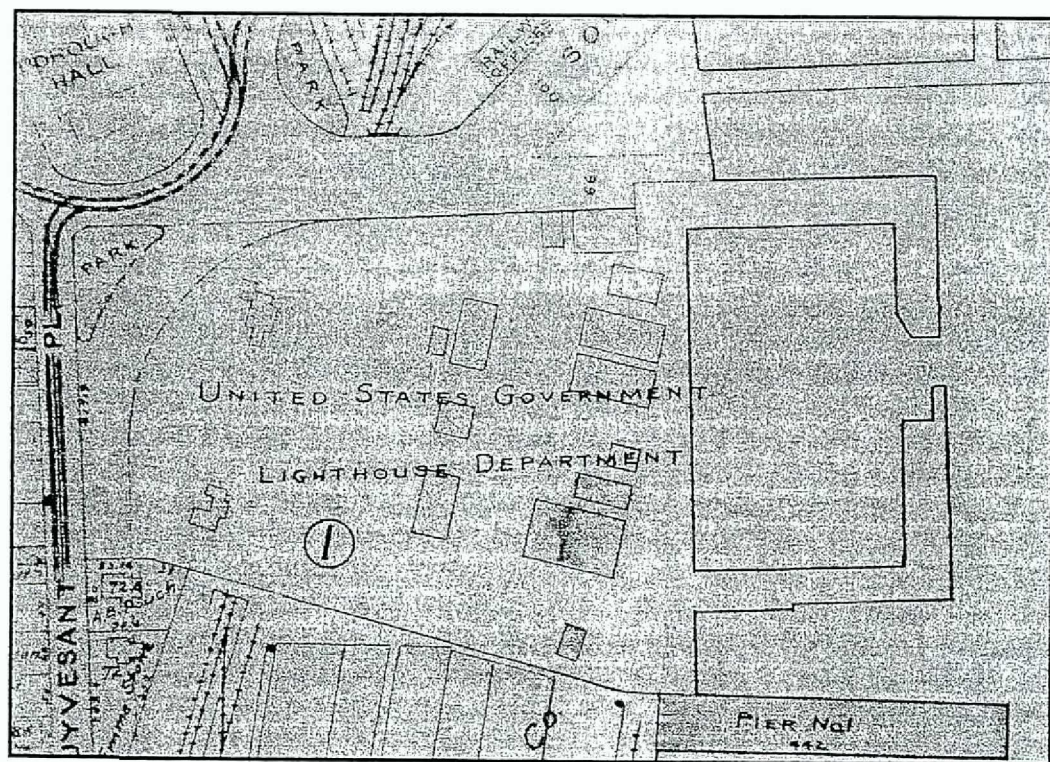


Figure 14
1907 Robinson and Pidgeon Map
Scale of Original: 1" = 200'



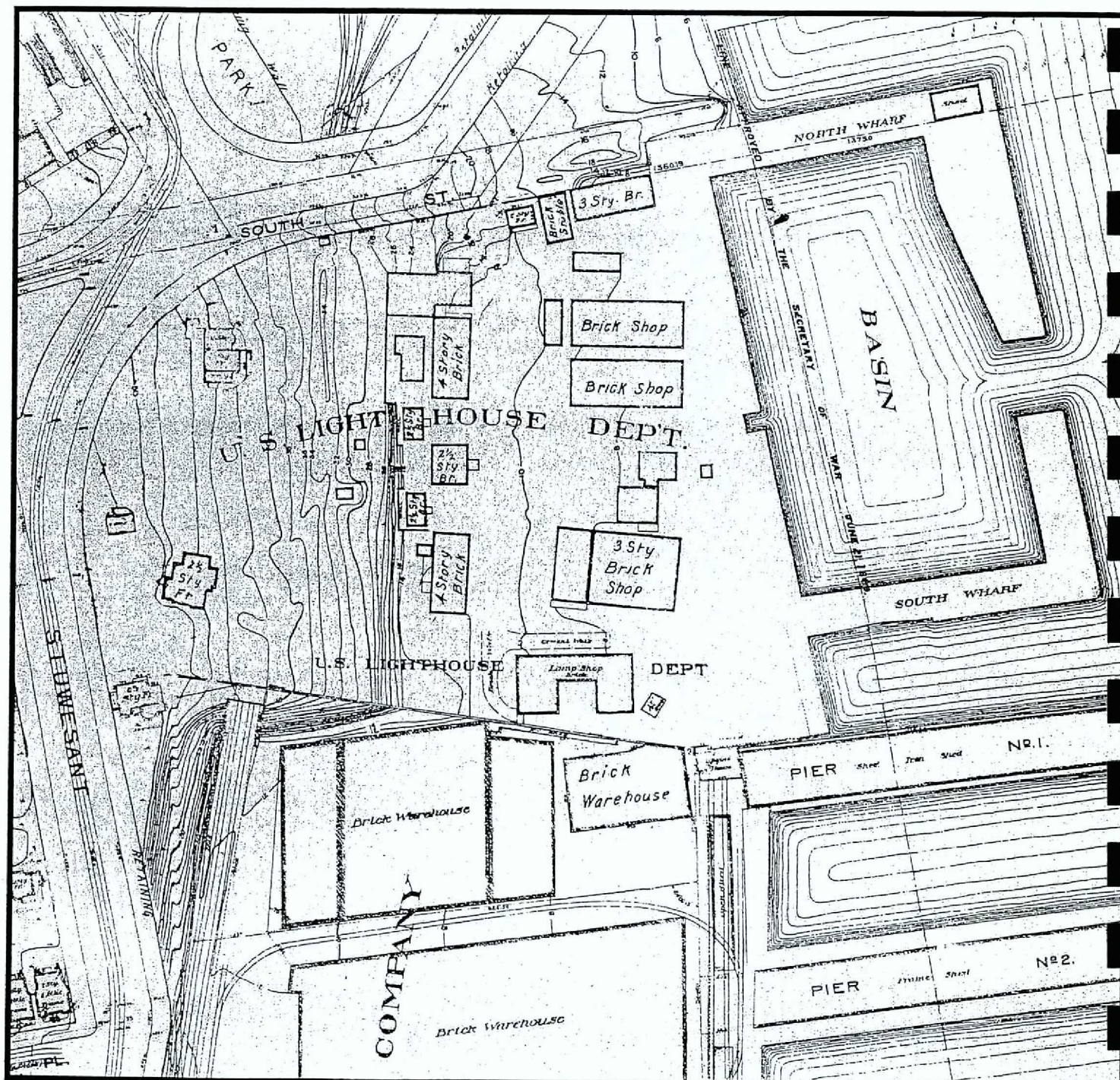


Figure 15
 1912 Borough of Richmond Topographic Map (Sheet #11)
 Scale: 1" = 150'



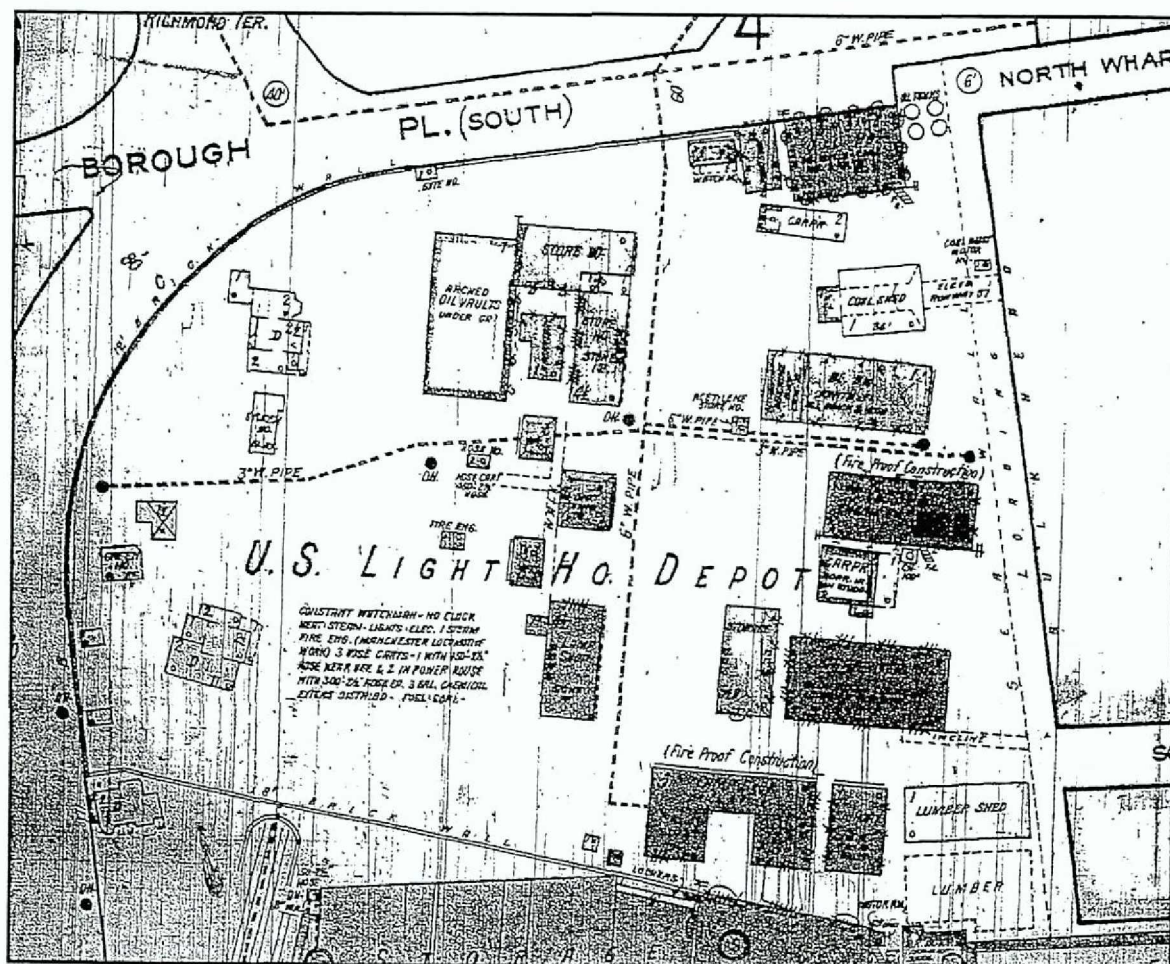


Figure 16
1917 Sanborn Map
Scale: 1" = approximately 115'



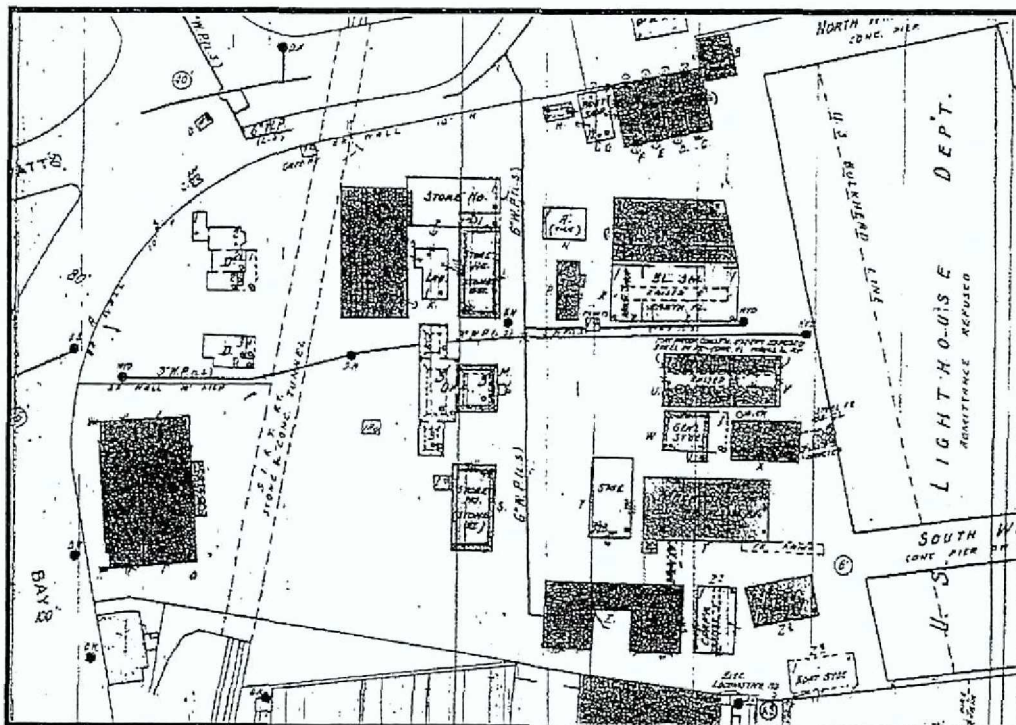


Figure 17
 1937 Sanborn Map
 Scale: 1" = approximately 150'



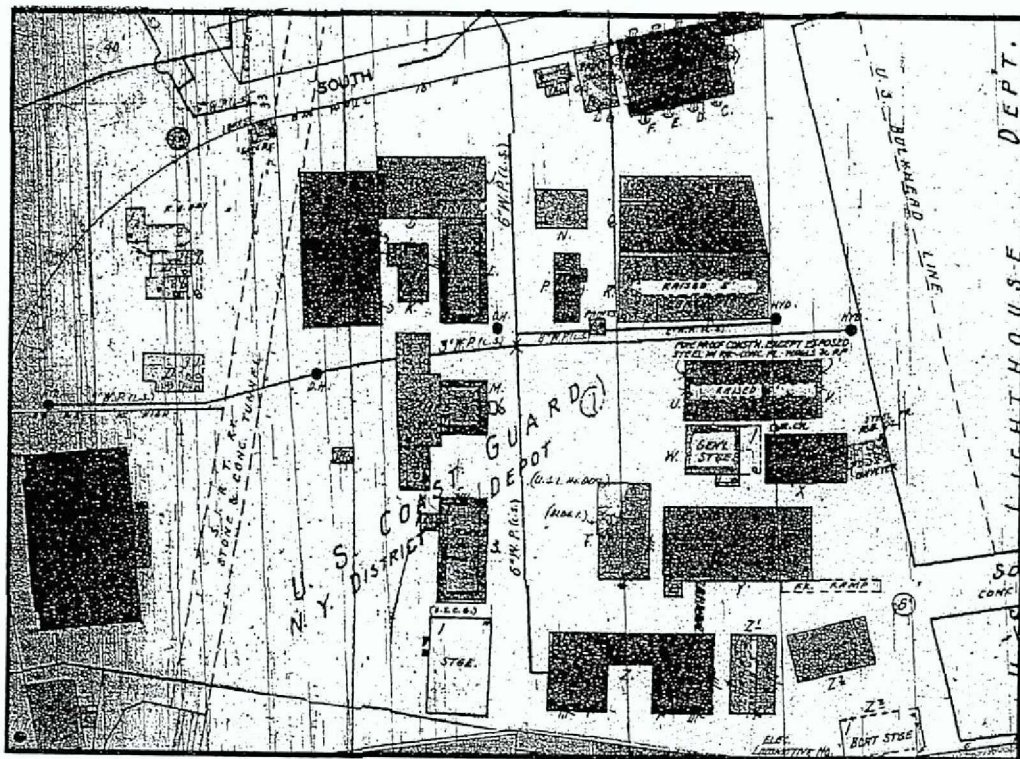


Figure 18
 1951 Sanborn Map
 Scale: 1" = approximately 155'



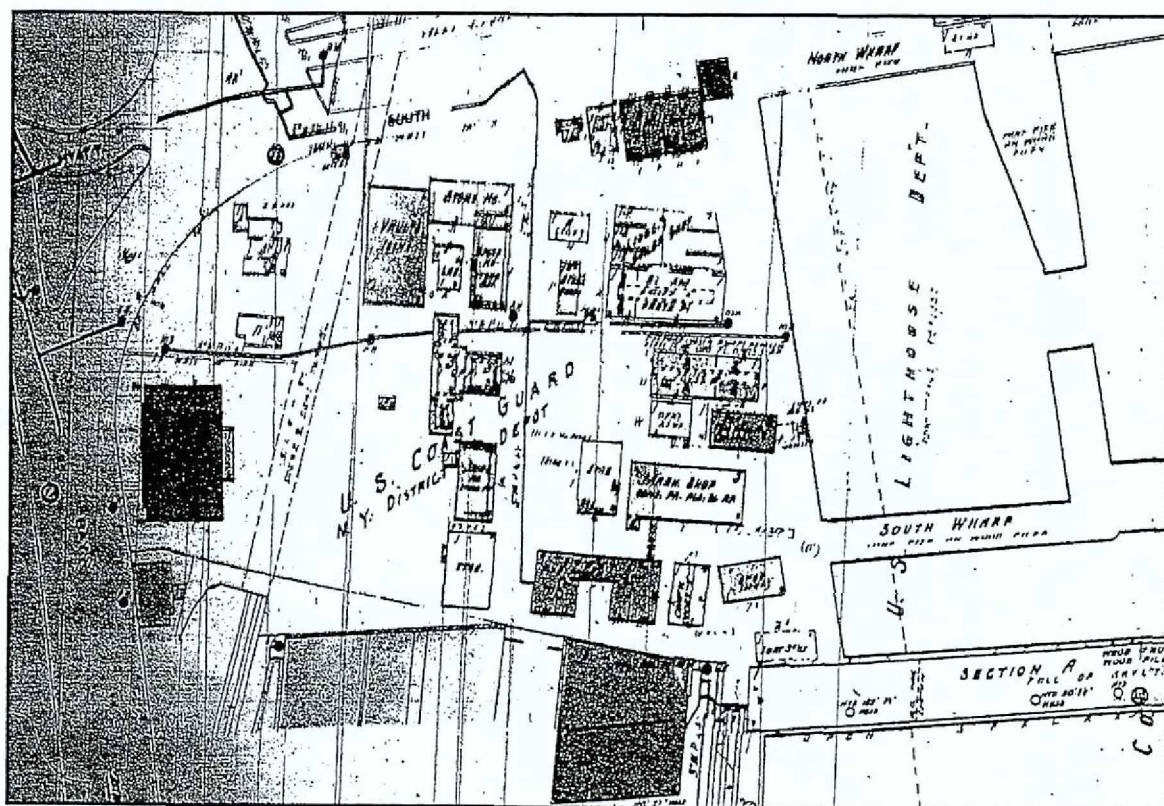


Figure 19
 1961 Sanborn Map
 Scale: 1" = approximately 175'



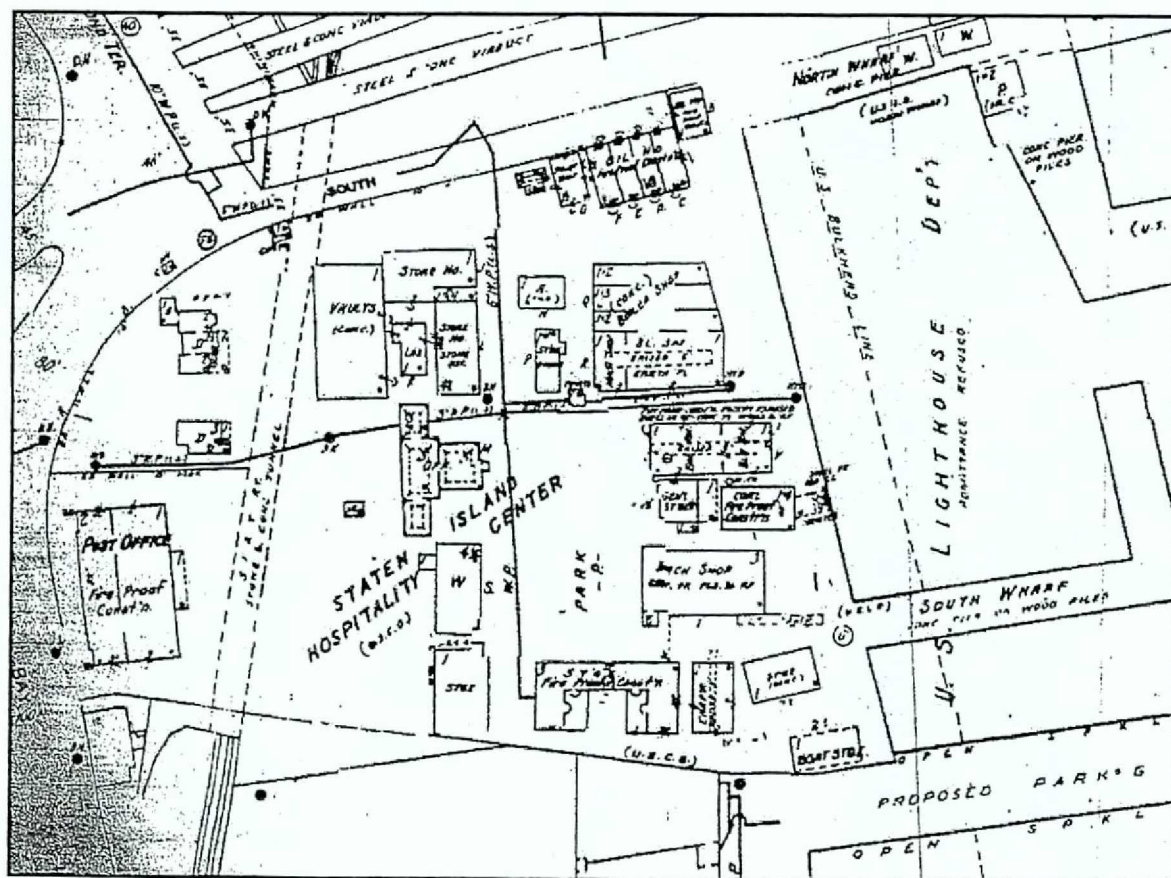


Figure 20
1990 Sanborn Map
Scale: 1" = 180'



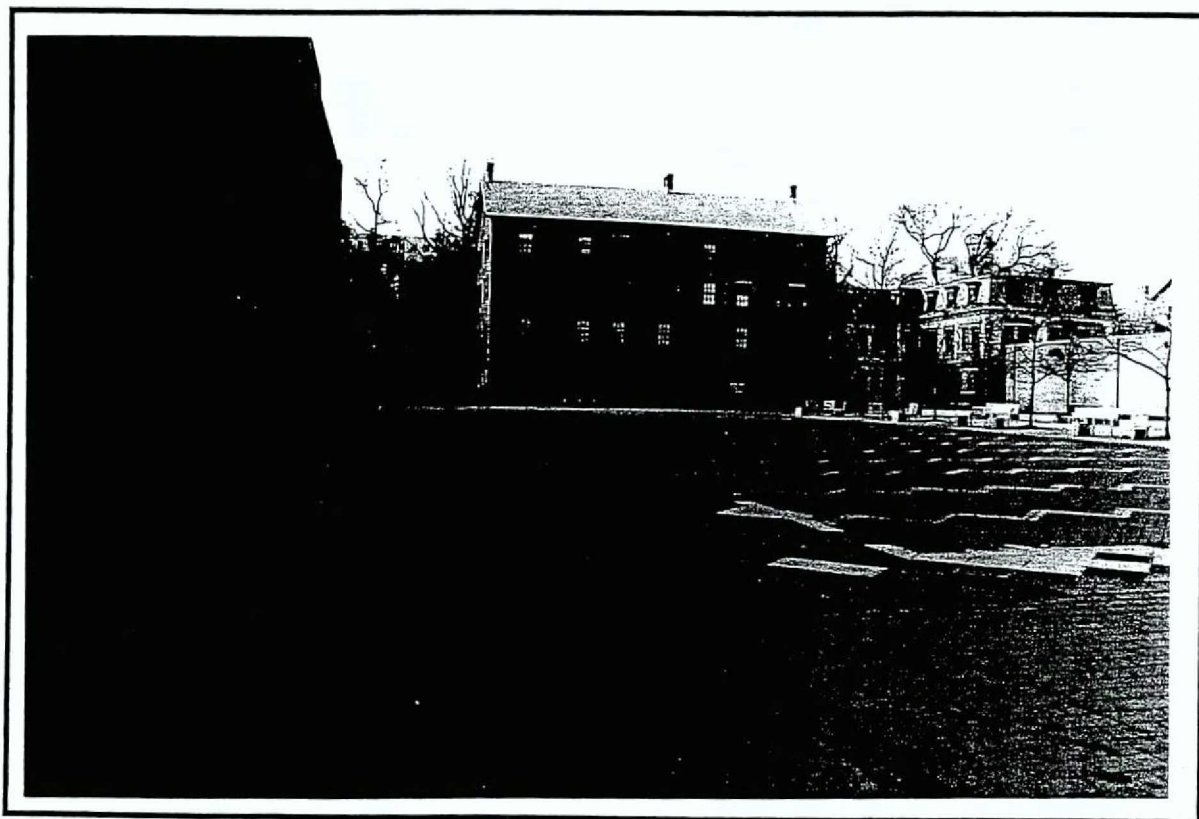


Plate 1
National Lighthouse Museum Site
Open Plaza Area
Buildings #7 and #8 are in the Background
At Left are Northern Facades of Buildings #10 and #11
View to the West
11/03



Plate 2
National Lighthouse Museum Site
Wall Separating Northern Portion of Post Office Property
and Northwestern Corner of Lighthouse Museum Site
(This Section of the Wall is Concrete)
Pieces of Concrete and Asphalt are Visible in Foreground
View to the Southeast
11/03

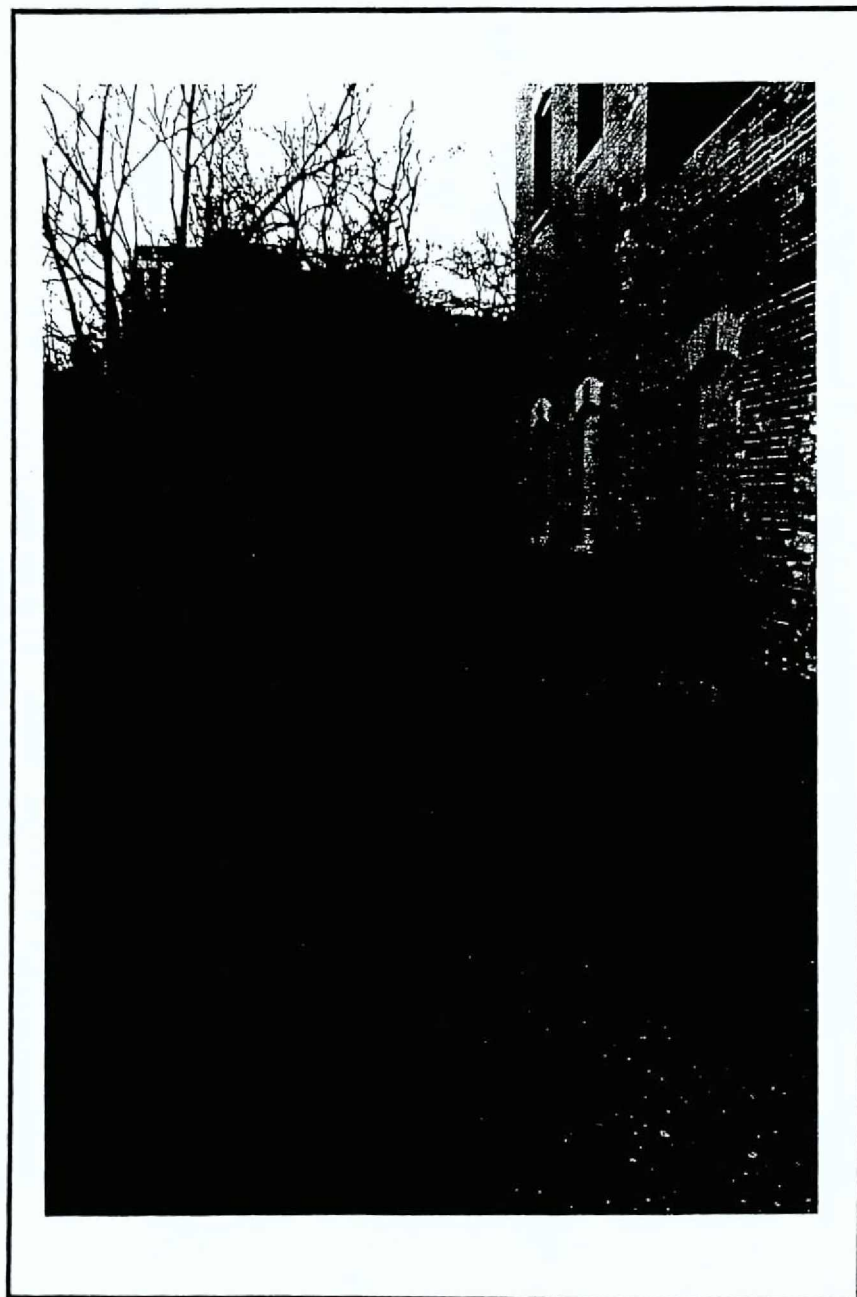


Plate 3
National Lighthouse Museum Site
Paved Area Located Along South Side of Building #10
View to the West
11/03

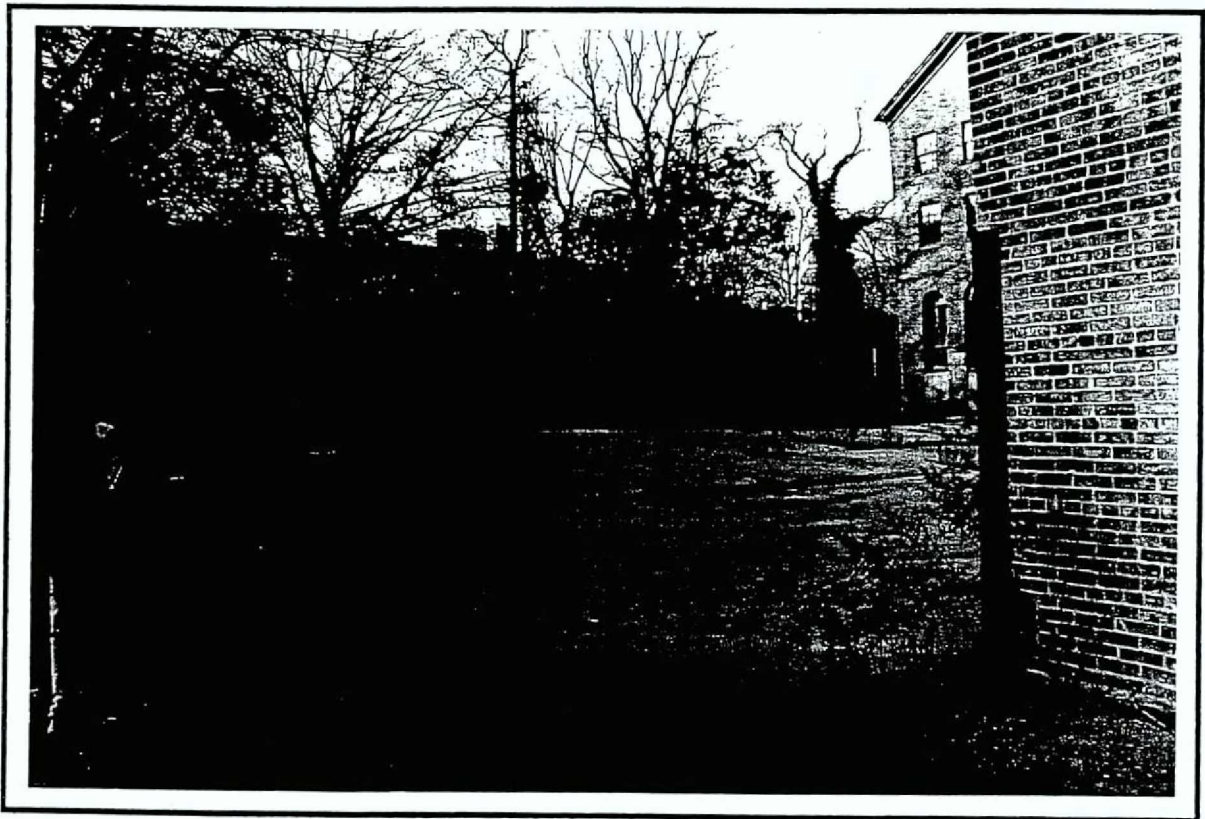


Plate 4

National Lighthouse Museum Site

Extension of Paved Area to West of Building #10

In the Background is the Southern Portion of Steep Bank Extending North/South
A Portion of Building #8's Southern Facade is Visible Adjacent to the Bank

View to the West

11/03

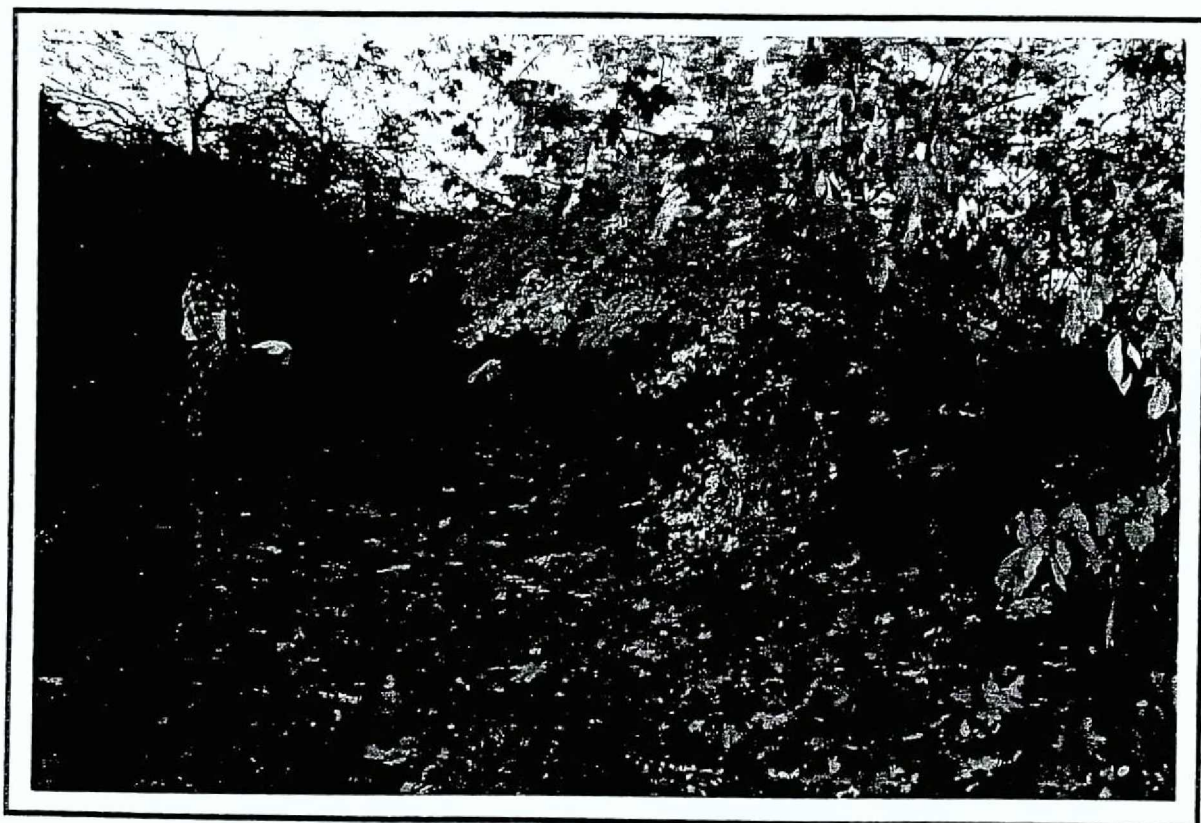


Plate 5
National Lighthouse Museum Site
Top of Bank in Southern Portion of Site
Signs of Cutting are Visible at Right
A Previous Roadway Appears to Have Existed Here
View to the North
11/03

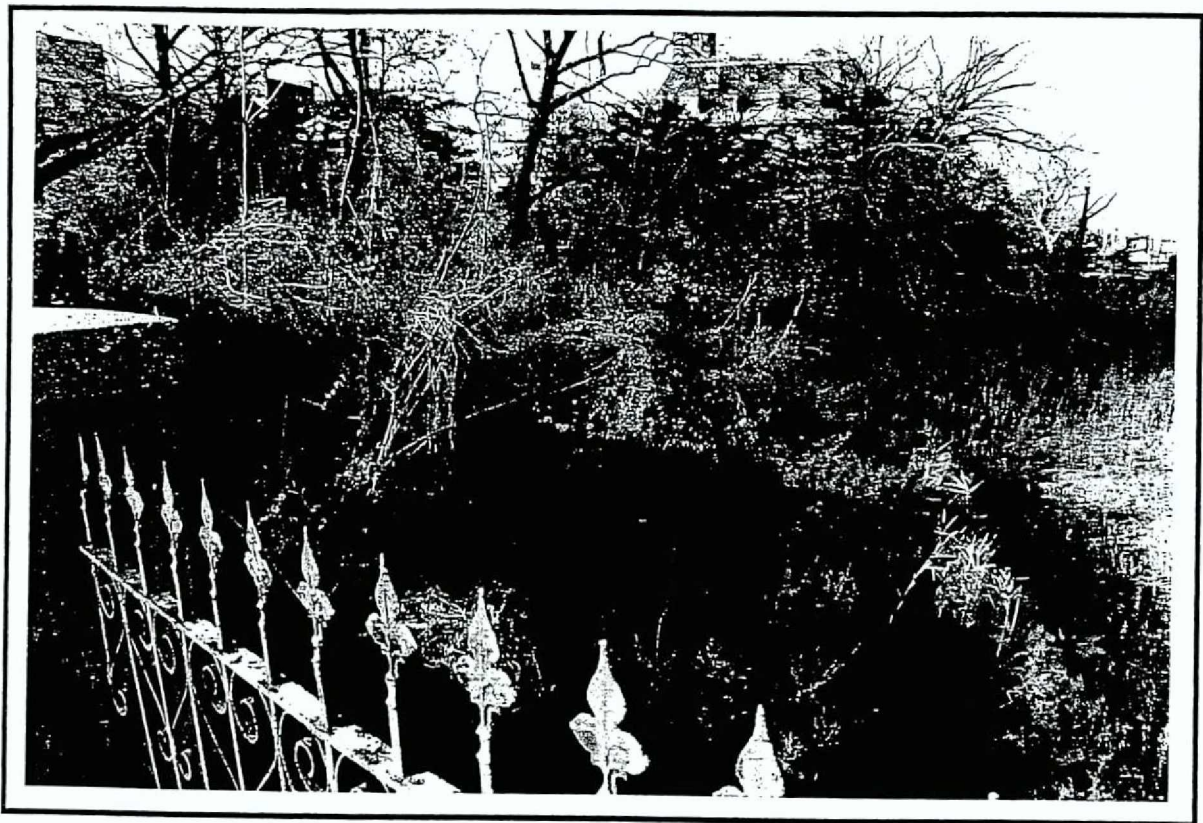


Plate 6
National Lighthouse Museum Site
Western Portion of Northwestern Corner of Lighthouse Museum Site
Dense Scrub and Trees are Visible
View to the Northwest
11/03



Plate 7
National Lighthouse Museum Site
Portion of Stone Foundation Wall Noted During Site Reconnaissance
Located at Site of "Boarding Officer's House"
(Shown on 1845 Ewen Map)
11/03

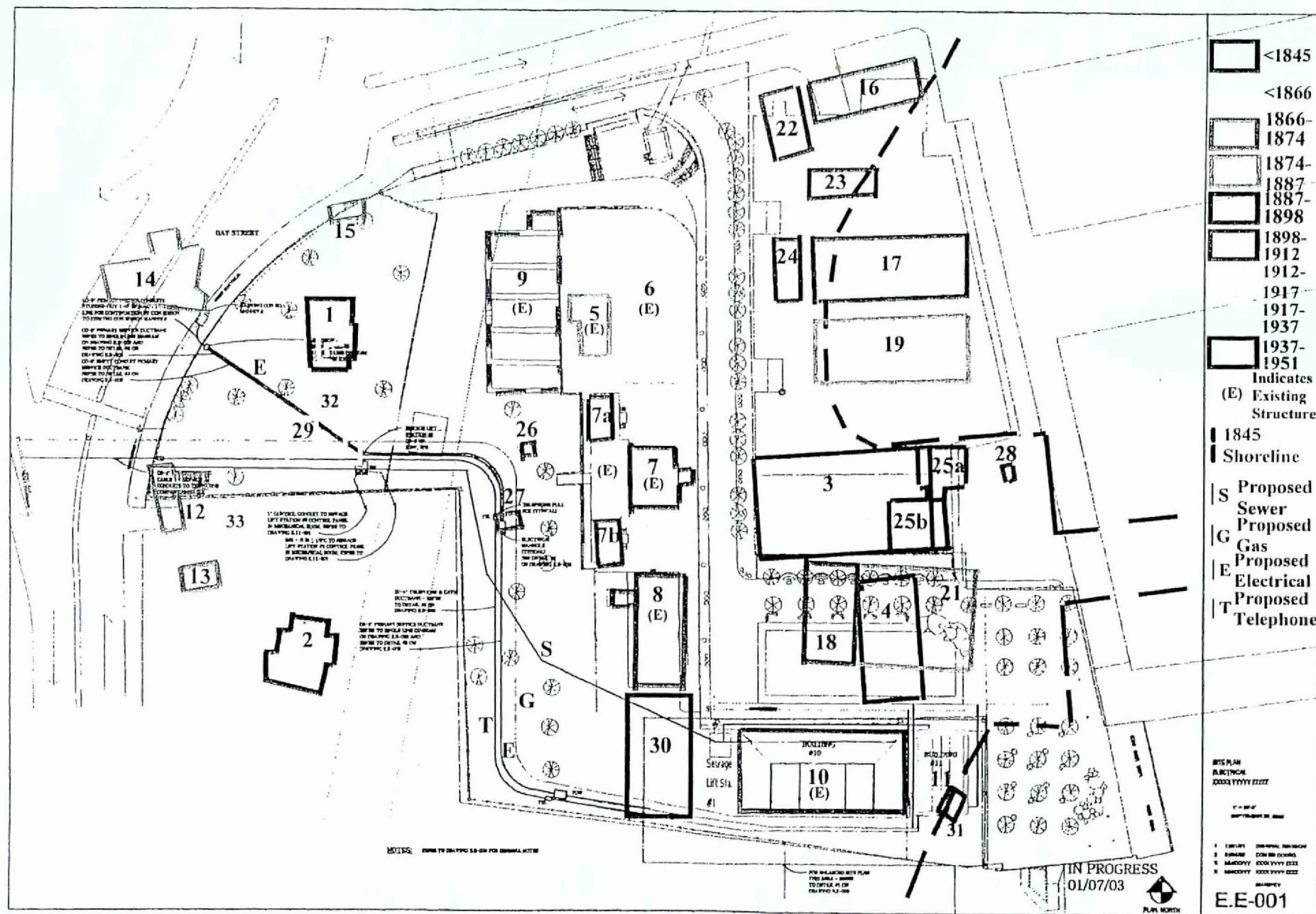


Figure 21
Site Plan Showing History of Building Construction and Proposed Utilities Lines
Scale: 1" = approximately 100'