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L. Berger

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**PHASE IA ARCHAEOLOGICAL STUDY  
INSTALLATION OF DUCT BANKS  
SOUTH END OF ROOSEVELT ISLAND  
NEW YORK, NEW YORK**

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Prepared For:

NEW YORK CITY TRANSIT AUTHORITY  
ENVIRONMENTAL ENGINEERING DIVISION  
10 COLUMBUS CIRCLE  
NEW YORK, NEW YORK 10019

Prepared By:

LOUIS BERGER & ASSOCIATES, INC.  
100 HALSTED STREET  
EAST ORANGE, NEW JERSEY 07019

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## **EXECUTIVE SUMMARY**

This Phase IA archaeological survey addresses the potential for impacts to archaeological resources from replacement of a set of high voltage feeder cable duct banks and associated manholes on the South End of Roosevelt Island. This project is essential to the operation and maintenance of New York City Transit Authority's emergency ventilation plants and pumping stations.

Design plans for this project were reviewed by the New York City Landmarks Preservation Commission (LPC), which determined that there was potential for recovering remains of Native American and nineteenth-century occupation in the project vicinity. Accordingly, the LPC recommended a documentary study to clarify the assessment of archaeological sensitivity.

Background research has indicated that there are no recorded prehistoric sites on the island, and the literature on Native Americans in the New York area suggest that it is unlikely that the island supported anything more than ephemeral campsites. During the occupation of the island by the Blackwell family, from the late seventeenth century until 1828, the southern end of the island was undeveloped. New York City purchased the island in 1828 for the location of various penal and charitable institutions, and the island was dramatically altered and developed throughout the nineteenth and twentieth centuries. Specifically, the project area is in the vicinity of the former City Hospital and its many ancillary buildings, which have all since been demolished.

Site reconnaissance indicated that the locations for the duct banks and manholes have been subjected to considerable disturbance. Engineering plans indicate that most of the area where excavations are proposed contain existing buried utilities. Proposed trenches outside of road and utility corridors are in areas of former buildings, which now consist of stone debris piles. Borings conducted for other projects on the south end of the island suggest that the proposed trenches and manhole excavations are not likely to encounter undisturbed soils.

In summary, the Phase IA investigation concluded that the project area has a low sensitivity for archaeological resources and has also been extensively disturbed, so that if any subsurface cultural resources were present, they would not have integrity. No further archaeological investigations have been recommended.

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## **I. INTRODUCTION**

The New York City (NYC) Transit Authority is planning to replace a set of high-voltage feeder-cable duct banks and associated manholes on the South End of Roosevelt Island. Design plans for this project were reviewed by the New York City Landmarks Preservation Commission (LPC), which determined that there was potential for recovering remains of Native American and nineteenth-century occupation in the project vicinity. Accordingly, the LPC recommended a documentary study to clarify the assessment of archaeological sensitivity (LPC 1998).

The following Phase IA archaeological study was performed by Louis Berger & Associates, Inc. (Berger), in accordance with the City Environmental Quality Review (CEQR) Technical Manual (1993), and appropriate state and federal guidelines for archaeological investigations. The project included background research and a field reconnaissance, both performed by Dr. Michael Alterman, Berger Senior Archaeologist, under the supervision of Dr. John Hotopp, Director of the Cultural Resource Group and a member of the Society of Professional Archaeologists (SOPA).

Background research included examination of reports and sensitivity maps on file at the LPS, and city histories and maps located at the New York Public Library (Map Division and Mid-Manhattan Branch). The field reconnaissance was undertaken with representatives of the New York City (NYC) Transit Authority and provided documentation of surface conditions in the project area. This information was used along with cartographic sources and available geotechnical data to determine the degree to which the project area may have been disturbed.

The Phase IA investigation concluded that the southern end of Roosevelt Island has a low sensitivity for intact archaeological resources. There are no recorded prehistoric sites on the island, and the literature on Native Americans in the New York area suggest that it is unlikely that the island supported anything more than ephemeral campsites. During the occupation of the island by the Blackwell family, from the late seventeenth century until 1828, the southern end of the island was undeveloped. The island was physically altered and developed extensively by the city for numerous institutions. Specifically, the project area is in the vicinity of the former City Hospital and its many ancillary buildings and related utilities.

The study determined that the project area has been disturbed throughout the area of potential impact. No further archaeological investigations have been recommended.

## II. SITE DESCRIPTION AND HISTORY

### A. SITE DESCRIPTION

Roosevelt Island is a 147-acre island located mid-channel in the East River between the Upper East Side of Manhattan and Queens. The shape of the island has been compared to a cigar (Federal Writers' Project 1934:421); it is approximately two miles long—extending from about East 46<sup>th</sup> Street to East 86<sup>th</sup> Street—and only 800 feet across at its widest point (Figure 1). The island is traversed by the Queensboro (59<sup>th</sup> Street) Bridge and the 53<sup>rd</sup> Street Tunnel of the Queens Boulevard (IND) subway line.

Roosevelt Island was formerly known as Blackwell's Island, named after the family that took possession of it in 1676. The island was renamed Welfare Island in 1921 and Franklin D. Roosevelt Island in 1973 (NYC Department of Hospitals 1989). Blackwell's Island was purchased by the city in 1828 as a site for various penal and charity institutions, which eventually included a penitentiary, a lunatic asylum, and various hospitals.

Access to the island's facilities was eased with completion in 1909 of the Queensboro Bridge, which was designated a New York City Landmark in 1974 and listed in the National Register of Historic Places in 1978 (LPC 1974; National Register of Historic Places 1978). The steel superstructure of this Beaux-Arts cantilever truss bridge rests on four piers of rusticated granite, one each in Manhattan and Queens and two on Roosevelt Island, that were equipped with elevators that could accommodate both passengers and horses, stairways, and comfort stations (National Register of Historic Places 1978).

Roosevelt Island developed on an outcrop of Fordham gneiss, a resistant metamorphic rock that has been quarried and used for many of its buildings and seawall (Schuberth 1968:86). The island's topography has also been affected by the advance and retreat of glaciers during the Pleistocene, which left a layer of sandy gravelly till.

### B. NATIVE AMERICANS

According to Bolton (1920:14-16), Blackwell's (Roosevelt) Island, along with Ward's Island and Governors Island in the East River, were part of the territory of the Mareckawick group of the Canarsee, a Munsee-speaking group of the Delaware or Lenape Indians (Goddard 1978:213-215). Bolton (1920:176) suggested that the East River offered good fishing, particularly between Queens and Roosevelt Island. However, like many parts of Manhattan Island, Roosevelt Island lacked abundant fresh water that would have attracted aboriginal habitation. Although Native Americans may have visited the area, there are no recorded archaeological sites on Roosevelt Island.

Several Native American sites have been recorded in the project vicinity. Parker (1922:plate 208) shows three sites in Queens County within one mile of Roosevelt Island. These include: (1) Parker Site No. 12, a shell heap (midden) at Sanford's Point, Astoria, opposite the north end of Roosevelt Island, also referred to as the Hallets Point shell midden (A081-01-0099; New York State Museum [NYSM] #4535; (2) Parker Site No. 14, a burial site in Long Island City along Crescent Street



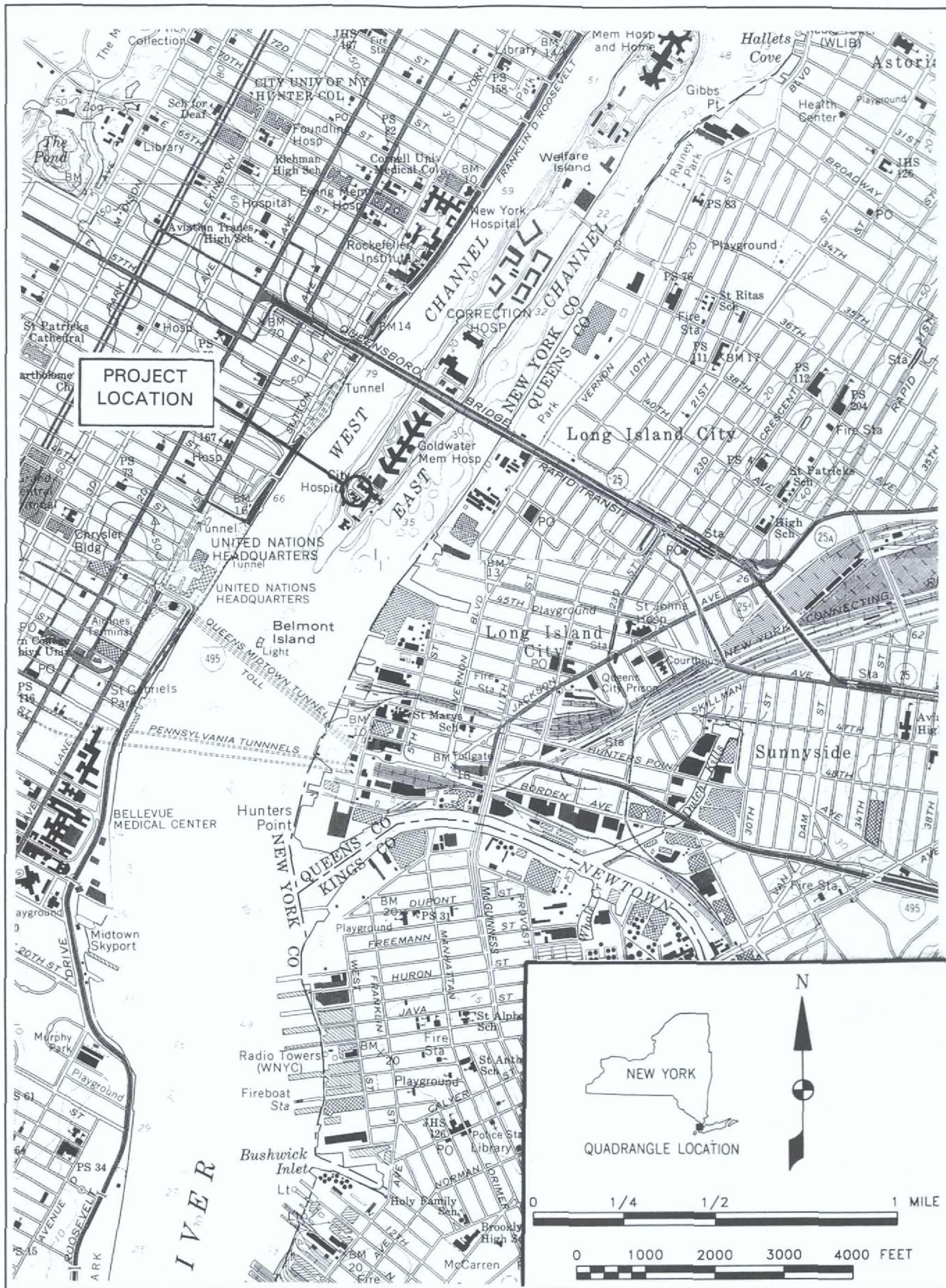


FIGURE 1: Project Location

SOURCE: USGS 7.5 Minute Series, Brooklyn N.Y., and Central Park N.Y.-N.J., Quadrangles (photorevised 1979)



(NYSM #4537); and (3) a village site (NYSM #4538), unnumbered by Parker, in the vicinity of 28<sup>th</sup> Street and 34<sup>th</sup> Avenue (Parker 1922:672). Parker (1922:plate 192) also reported "traces of occupation" in Manhattan near the Queensboro Bridge at 59<sup>th</sup> Street (NYSM #4061). Another prehistoric shell midden, the Sunwick Shell Midden Site (A081-01-0100), was reported along the East River just south of Hallets Cove (Bolton 1922).

### C. HISTORICAL BACKGROUND

In 1637, Governor Van Twiller obtained Roosevelt Island from the local Native Americans along with Ward's Island, Randall's Island, and Governors Island. It became known as Varcken (Hog) Island, from the Dutch word for pig, because it was used to pasture swine. In 1668, the island was purchased by Captain Jon Manning, a British officer who was later appointed Sheriff of New York. At Manning's death in 1676, the island passed to his stepdaughter, Mary Manningham, and her husband, Robert Blackwell (Kearns et al. 1989:6); it was subsequently known as Blackwell's Island and remained in the family until 1828, when it was sold to the City of New York (Federal Writers' Project 1939:423; Kearns et al. 1989:6).

In 1784, Blackwell's Island comprised 107 acres, of which 8 acres were salt meadow. Development on the island included two small dwelling houses, a barn, bake and fowl houses, orchards, cider mills, and a stone quarry (NYC Department of Hospitals 1989), some of which are shown on a 1782 British Headquarters Map (Figure 2).

In 1828, the city purchased the island from James Blackwell for the sum of \$32,500 with the intention of constructing various penal and welfare institutions there. The city increased the size of the island by about 40 acres through extensive filling along the shoreline and erection of stone seawall and docks. The city opened a penitentiary near the southern end of the island in 1832, followed by a lunatic asylum at the north end, built 1835-1839. These institutions were joined by almshouses for both men and women in 1847; a hospital for the treatment of prisoners, completed in 1849; a workhouse that was begun in the 1850s; and an 1854-1856 Smallpox Hospital, designed by James Renwick, Jr. (Figure 3).

The 1849 hospital building, which could accommodate 600 patients, caught fire during a violent storm in 1858 and burned to the ground. Work on a new hospital began the same year, designed by James Renwick, Jr., it was intended to be the largest and finest hospital ever erected in the U.S. This hospital, variously called Island Hospital, Charity Hospital, and City Hospital, was the first institutional building in the U.S. to use the Second Empire style. The walls of the hospital were made of local gneiss that was quarried by inmates from the island's penitentiary, who also did some of the construction work (Rosebrock 1972). City Hospital was listed in the National Register of Historic Places and prior to being demolished in 1989 was recorded for the Historic American Buildings Survey (Berger 1989).

During the Civil War, about 2,500 Union soldiers were treated at Island Hospital under a contract with the U.S. government. The hospital opened a training school for female nurses in 1877, which, at the time, was one of only four such training facilities in the U.S. In 1886, the Nurses Training School was relocated to the former Smallpox Hospital, which was expanded in 1904-1905 to accommodate more dormitory space and classrooms. A training school for male nurses was



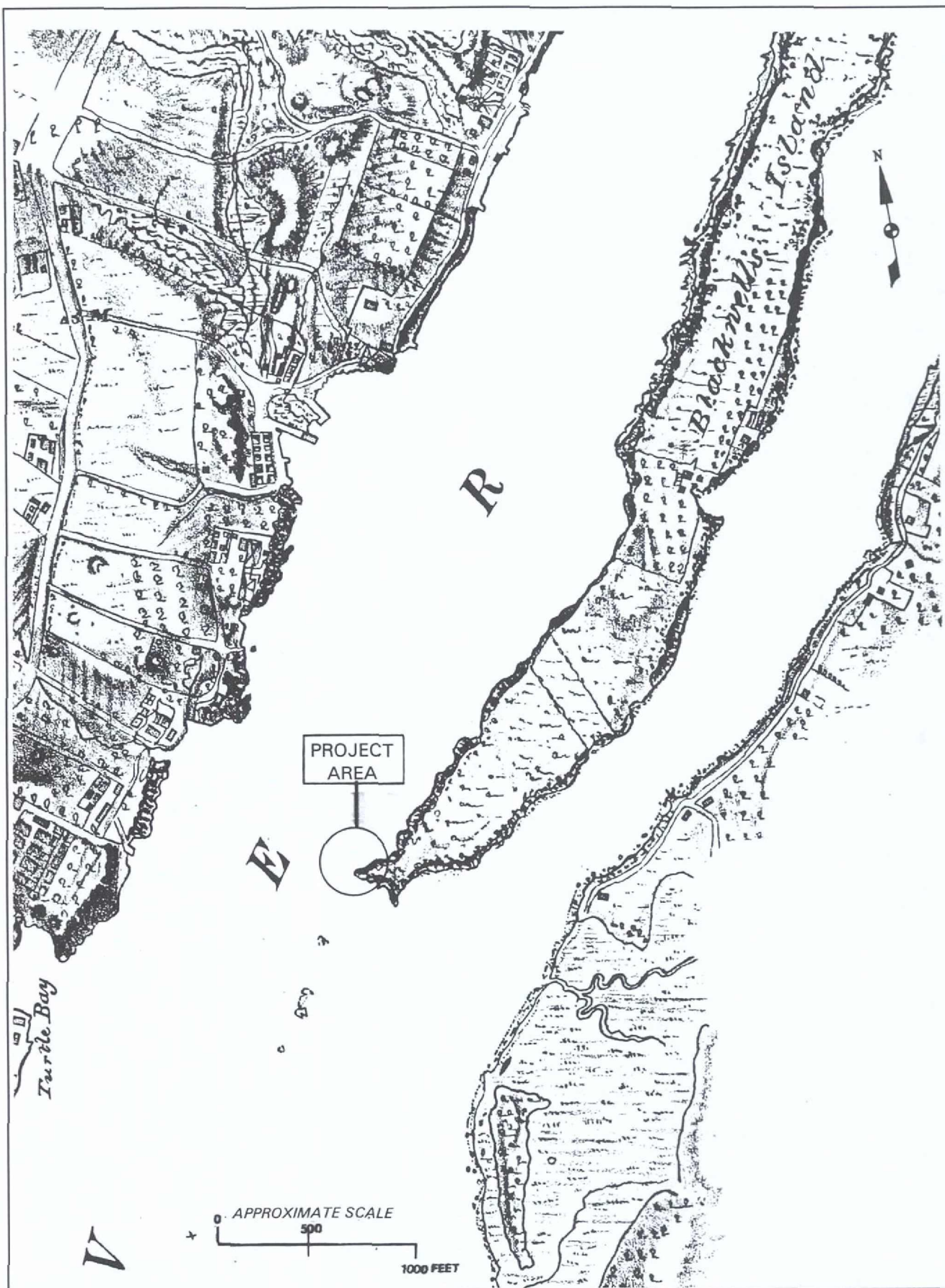


FIGURE 2: Blackwell's Island and Vicinity in the Late Eighteenth Century SOURCE: 1782 British Headquarters Map

PLATE 28.  
BLACKWELL'S  
ISLAND

Scale 800 feet per inch



W E S T C H A N N E L

E A S T C H A N N E L

PROJECT  
AREA

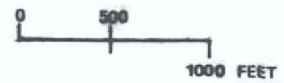
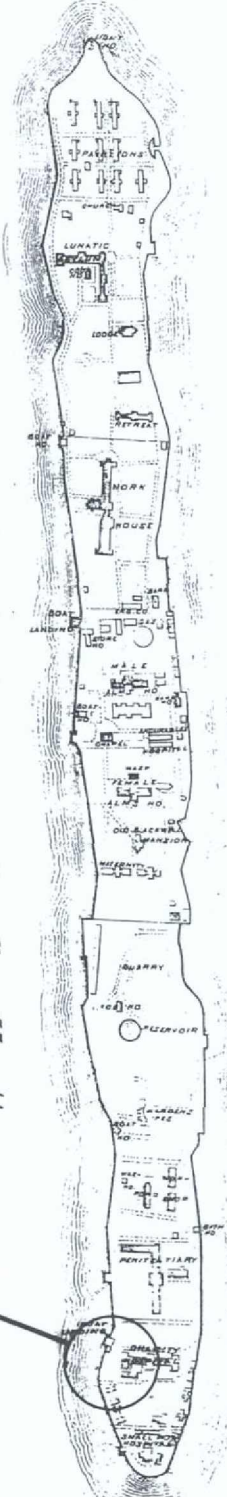


FIGURE 3: 1885 Map of Blackwell's Island

SOURCE: Robinson & Pidgeon 1885



established at Island Hospital in 1887, but discontinued in 1903. By the 1870s and 1880s, increasing numbers of impoverished New Yorkers were being served by the hospital, hence the name Charity Hospital, later changed to City Hospital. City Hospital operated until 1957, when its patients were moved to Elmhurst Hospital in Queens (Berger 1989; NYC Department of Hospitals 1989). City Hospital, which in 1939 consisted of 18 buildings, was closed in 1957, when its patients were moved to Elmhurst Hospital in Queens (Berger 1989; Federal Writers' Project 1939:423; NYC Department of Hospitals 1989).

In 1935, the city penitentiary on Roosevelt Island, then Welfare Island, was razed. In 1939, the Welfare Hospital for Chronic Diseases, now Goldwater Memorial Hospital, opened on the site of the former penitentiary, immediately north of City Hospital.

Six historic buildings on Roosevelt Island are registered New York City Landmarks as well as listed in the National Register of Historic Places. The oldest of these landmark buildings is the James Blackwell House, a simple clapboard farmhouse that was built between 1796 and 1804. The others include: the Chapel of the Good Shepherd, built in 1888-1889; an 1872 lighthouse designed by James Renwick, Jr.; the New York City Lunatic Asylum, which includes the Octagon Tower completed in 1839; the 1854-1856 Smallpox Hospital; and the Strecker Laboratory, built in 1892 with a 1905 addition (Dolkart 1994:241; LPC 1976). The Strecker Laboratory, which is in proximity to the project area, was a gift to the city by a daughter of Mr. Strecker to support pathological and bacterial research. The former laboratory, which was in an advanced state of deterioration, has recently been stabilized by the NYC Transit Authority and will be rehabilitated to house a new electrical substation on Roosevelt Island (Berger 1996) (Plate 1). The only other landmark structure on the southern end of the island is the former Smallpox Hospital, which is presently in ruins (Plate 2).



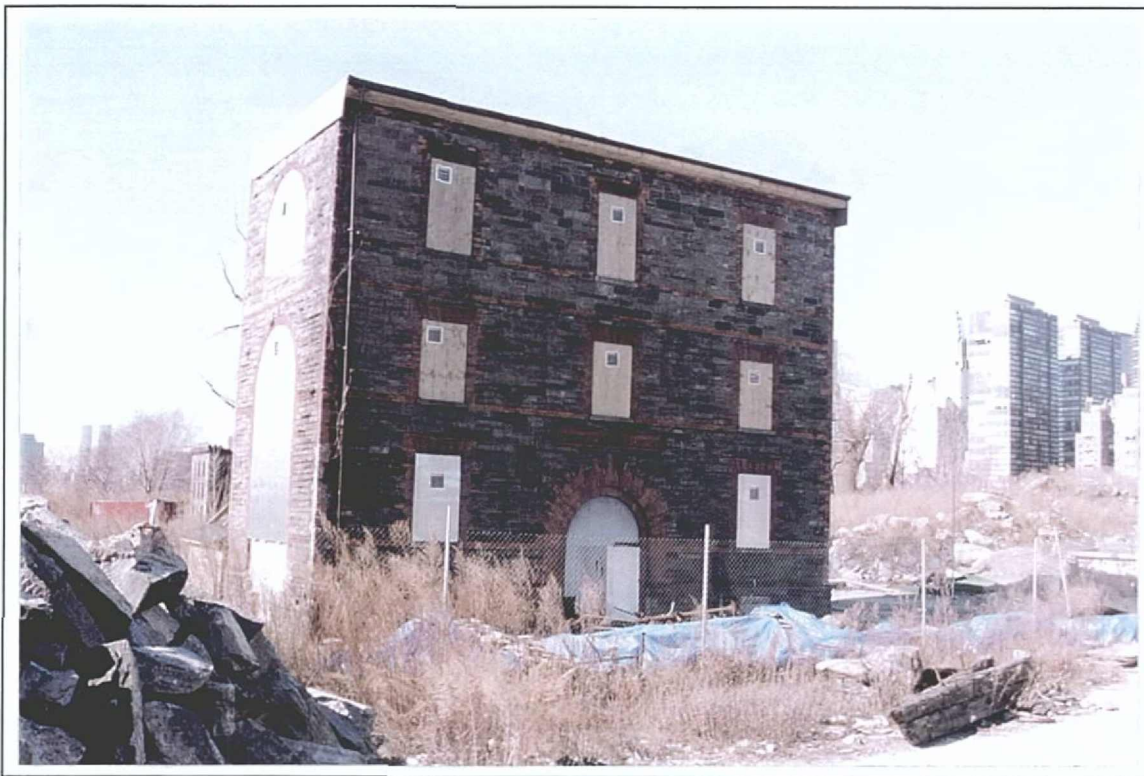


PLATE 1: Strecker Laboratory Following Stabilization, Looking Southwest



PLATE 2: Ruins of Smallpox Hospital, Looking South



### III. ASSESSMENT OF ARCHAEOLOGICAL SENSITIVITY

The original topography of Roosevelt (Blackwell's) Island and adjacent shore of Manhattan is shown on the 1874 *Topographical Atlas of the City of New York* (Viele 1874). The island is depicted as a long narrow hill, no more than 600 feet wide, with an irregular coastline (Figure 4). The most southern building on this map, the Smallpox Hospital, is shown at the very southern tip of the island, which corresponds with the location of East 50th Street in Manhattan. Comparisons of the 1874 Viele map, the 1782 British Headquarters Map, and the USGS topographic quadrangles (USGS 1979a and 1979b) show that the project area has undergone considerable land alteration (see Figures 1, 2, and 4). Changes in topography have included extensive filling and seawall construction along the western and southern shores of the island in the vicinity of the former City Hospital and Smallpox Hospital. Among these changes was the extension of the southern end of the island by about 1,000 feet in order to incorporate some rocky shoals (New York City Harbor Map 1874).

Figure 5 presents a site plan of the proposed duct bank installation. This work includes the construction of three new manholes, the replacement of two existing manholes, and the maintenance of another manhole. Beginning at Existing Manhole No. 17, which is to be maintained, the proposed electric ducts lead west for about 80 feet, following a former road that contains active utilities (electric, sewer, and water). From this point the corridor veers south and then west, passing through the locations of the former hospital Chapel and Nurses Dormitory. The proposed alignment for the new ducts then heads north along another road that contains active water, gas, and electric lines (see Figure 5).

Installation of the proposed duct banks will entail excavating trenches to an average depth of 5 feet. The new manholes, which measure  $11\frac{1}{2} \times 4\frac{1}{2}$  feet, will require excavations about 9 feet below ground surface. About one-half of the approximately 1,000 feet of trenches is within active utility corridors, and the remaining half is within areas of extensive development related to the construction and demolition of hospital buildings and roads. Regarding the locations of the three new manholes, two are situated along a former road in proximity to active utilities and the third is within the footprint of the demolished hospital chapel (see Figure 5).

Plate 3 is a view west to Manhattan showing the road on the south side of the former City Hospital. The proposed duct banks will be installed under a portion of this road and to the south of the road in the area of building demolition rubble shown in the photograph. Plate 4 shows the north-south road along the west seawall of Roosevelt Island, looking southwest toward Manhattan; a segment of the duct banks and two new manholes will be installed in this area. Plate 5 is a view of the same area from a different angle looking toward the Former Smallpox Hospital, which can be seen in the far center. This photograph shows the extent of building rubble in the area of the proposed duct banks and the third new manhole. Plate 6 is a closeup of the debris piles in the vicinity of the former Maternity Pavilion, Chapel, and Nurses Dormitory.

Records of borings made in the vicinity of City Hospital were acquired from the NYC Department of Design and Construction, Subsurface Division, to assist in the evaluation of archaeological sensitivity. A series of 11 borings were made in 1944 prior to construction of the City Hospital Laboratory and Morgue, located just south of the Strecker Laboratory. In each of these borings, the



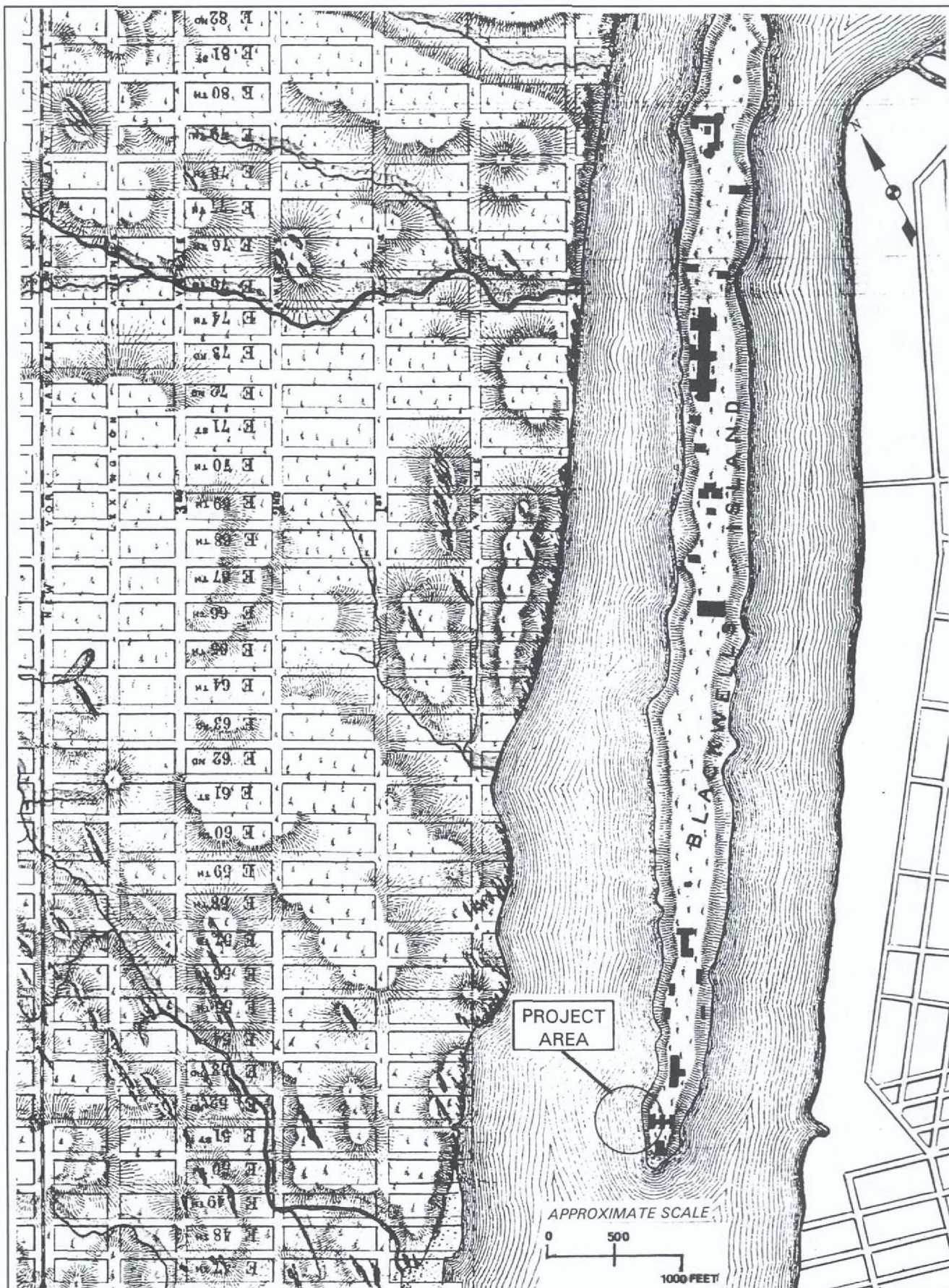


FIGURE 4: Detail of Viele's *Topographical Atlas of New York*, Published in 1874

SOURCE: Viele 1874



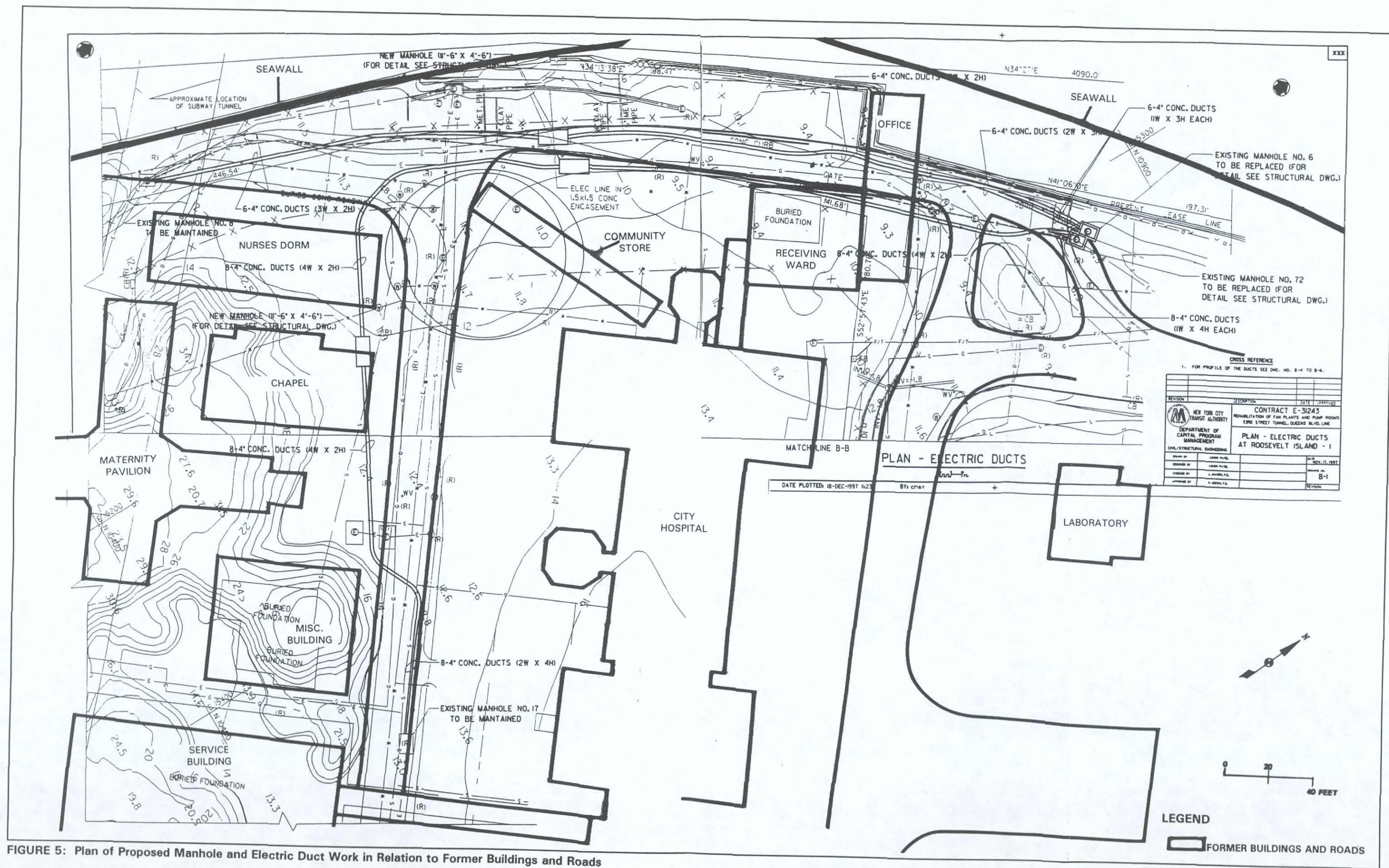


FIGURE 5: Plan of Proposed Manhole and Electric Duct Work in Relation to Former Buildings and Roads

SOURCE: New York City Transit Authority 1997





PLATE 3: Eastern End of Project Area, Looking West Toward Manhattan



PLATE 4: Western Portion of Project Area, Looking Southwest





PLATE 5: Western Portion of Project Area, Looking South



PLATE 6: Detail of Disturbed Ground and Rubble Piles Near Former Maternity Pavilion, Chapel, and Nurses Dormitory

top 5 to 10 feet (average 8 feet) consisted of fill, which was composed of sand, bricks, cinder, loam, concrete, and gravel. In some cases the fill extended to bedrock or decomposed rock, the average depth of which was 13 feet below ground surface. Where borings encountered soil above rock, it was consistently described as compact sand and gravel (NYC Department of Public Works, Boring Section 1944).

A record of probings conducted near the East Channel seawall and dock for the extension of steam service to City Hospital, recorded fill throughout the 10-foot-deep probes in the "undeveloped" area between the Children's Pavilion and the Stone Garage (Department of Public Works, Boring Section 1950). In addition, a recent boring along the East Road just south of Goldwater Hospital encountered 8 feet of fill above a fine brown peaty sand that contained phone cable fragments (New York City Department of Design and Construction 1995).

In summary, documentary research has indicated that the project area has a low sensitivity for both prehistoric and historic archaeological resources. There are no recorded prehistoric sites on the island, and the available literature on Native Americans in the New York area suggest that it is unlikely that the island supported anything more than ephemeral campsites. During the occupation of the island by the Blackwell family from the late seventeenth century until 1828, the southern end of the island was undeveloped. The island was physically altered and extensively developed by the city in the nineteenth century. Specifically, the project area is in the vicinity of the monumental 1858 City Hospital, now demolished, and its many ancillary buildings and related utilities. In addition, subsurface tests in the vicinity support the interpretation that the project area has been heavily disturbed through shoreline expansion and seawall construction, erection and demolition of numerous buildings, and development and maintenance of roads and utilities. No further archaeological investigations are recommended.

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