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Taaffe Place Pumping Station and Park Avenue Force Main

Archaeological Assessment

HISTORICAL



P.O. Box 331 Riverside, Connecticut 06878

ARCHAEOLOGICAL ASSESSMENT

OF THE

TAAFFE PLACE PUMPING STATION

AND

PARK AVENUE FORCE MAIN PROJECT

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I. Executive Summary

The New York City Department of Environmental Protection is proposing to construct a pumping station on Taaffe Place and a force main along park Avenue in Brooklyn. In response to concerns regarding archaeological resources, Historical Perspectives, Inc. has prepared this assessment of the project corridor. This study is part of the overall environmental analysis of the project prepared by Allee King Rosen & Fleming, Inc.

The corridor will run along the south side of Park Avenue between Taaffe Place and Gold Street, roughly paralleling the Brooklyn Queens Expressway (BQE) in the Wallabout Bay neighborhood. As currently planned the 24 inch force main will be placed in the existing streetbed, and on the average five to seven feet beneath current grade with the open cut approximately five feet across.

| Existing utilities will either be moved or the force main will be the pumping station, an approximately 61-foot by 18-foot structure resting on a pile foundation, would lie about five to seven feet below grade in the Taaffe Place streetbed.

Because the design plans were not finalized and the exigencies of installation might demand force main-placement adjustments, the impact zone was interpreted broadly for the purposes of the initial archaeological analysis. For the initial level of inquiry the project corridor was assumed to be the southern 90 feet of Park Avenue, or the circa-1942 Park Avenue expansion strip. HPI completed the documentary research necessary to identify those that require further sections of the project corridor consideration for archaeological resources and those sections of the project corridor that do not warrant further consideration for archaeological resources. Prior to any additional in-depth documentary work efforts will be made to further refine the boundaries of the impact zone.

The following report presents the results of the tasks completed by HPI:

TASKS:

Establishing Historic Context

In order to appreciate the exploitation and development of the project corridor we have developed two parallel research processes: (1) establishing a historical framework, or historic context, that covers the study area through time and (2) identifying, through a much narrower focus, the potential cultural resources to be directly impacted by the pumping station and force main installation. In other words, it was necessary to look at an expanded view of the geographic area in order to identify anticipated property types and

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pre 1942
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See Fig I

judiciously narrow the research focus for a concentrated look at the specific streetbed to be impacted.

The developed historic context, presented below, encompasses prehistoric, colonial, revolutionary war, federal period, nineteenth century residential, industrial, and public and twentieth century urban period factors. The specific corridor research has focused on the original (c.1835) Park Avenue southern block fronts that were fully developed prior to the 1940s expansion of Park Avenue when most of them were truncated by approximately 90 feet.

Elimination of Non Sensitive Parcels

During the research and analysis process we were able to conclude that specific portions of the corridor did not warrant further in-depth research. These conclusions were based on several factors, including: Subsurface disturbance (e.g., BQE interchanges), lack of archaeological visibility (e.g., mixed-use, multiple family dwellings) and minimum archaeological potential (e.g., original village roadbed).

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Time

This particular task is an on-going component of each phase Topic-intensive, in-depth documentary of the assessment. research, to be conducted in a subsequent phase of the archaeological analysis, should eliminate additional corridor sections form archaeological concern. The actual degree of subsurface disturbance experienced by a parcel, such as through twentieth century foundation construction and/or demolition of BQE impact, may be located through a variety of

Eliminated from further consideration at this time are resident elimination the following:

- (1) Taaffe Place roadbed;
- project corridor at Blocks 1895 and 1894, (why) tofexplained between Classon Avenue and Stephen Street: (2)

between Classon Avenue and Steuben Street;

project corridor at Blocks 125, 135, and 136 ? no basis for bised (3) between Gold Street and Navy Street;

project corridor at Blocks 1892, 1889, 1887, (4)2042, and 2041; and,

Tillary Street roadbed.

Also ik far records for date of bldg constr.

Identification of Potentially Sensitive Parcels

Certain sections of the corridor, because of their potential to contribute to our understanding of the past and potential eligibility for nomination to the National Register of Historic Places, have been identified for further research. These conclusions were based on several factors, including (1) broad issues, such as property type representation, archaeological potential and visibility, and appropriate New York City-based research questions and also (2) specific research results, such as cartographic review, manufacturing histories, and census records. The sections, or parcels, do not necessarily embrace the entire truncated block front. The following text more precisely identifies the specific (old) lots that will be examined in more depth.

Identified for further consideration at this time, based on multiple factors discussed in detail in the accompanying text, are the following. For the ease of the reader and reviewer, the block number designations correspond to block numbers on atlases and records before consolidation which is shown on the study area map, Figure 3. (See Figure 1)

Project Corridor

Block Number

Project Corridor

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reference

| Project Corridor Block Number | Resource Category | Property Type |
|----------------------------------|-------------------|---|
| 1896 | Industrial | Ropewalk |
| 1893 | Residential | Dwelling |
| 1891 | Residential | Dwelling |
| 1891 | Industrial | Lace Works |
| 1890 | Industrial | Foundry |
| 1888 | Residential | Dwelling |
| 2034 | Residential | Dwelling |
| 2039 | Public Usage | Hospital Barracks Church and Church Yard |
| 2039 | Prehistoric | Camp/Midden |
| 2040 | Public Usage | Hospital Barracks Church and Church Yard |
| 2040 | Prehistoric | Camp/Midden |
| 2043 | Residential | Dwelling |
| 2044 | Residential | Dwelling |
| 2045 | Residential | Dwelling |
| 2046 | Residential | Dwelling |
| | | |

needs revision based on assumptions that are not adequate

No basis

forget

Recommendations

Entire sections of the force main corridor have been eliminated from further archaeological consideration. There are, however, specific sections that require an additional, in-depth documentary effort, what the New York City Landmarks Preservation Commission refers to as topic-intensive research. This in-depth documentary effort will entail several tasks, described below.

Narrow the impact zone if possible based on latest and/or finalized installation design, and eliminate from further assessment those parcels not to be directly impacted.

Develop a disturbance record for the potentially sensitive parcels. It may be possible that the initial documetary work did not reveal subsurface disturbances that would have destroyed the integrity of specific parcels. If such a disturbance record can be compiled it would eliminate from further assessment those parcels previously impacted adversely.

Conduct detailed nineteenth century census analysis to determine neighborhood ethnicity pattern.

Examine municipal and Naval archives to determine precise locations, in relation to the project corridor, of the barracks and hospital.

Determine more precisely the location of a "Primitive Church" rear yard in relation to the project corridor; and determine the ethnicity of the congregation, the use of the rear yard, and subsequent disturbance to the rear yard. Research for this assessment has shown that 1) the church site itself has probably been disturbed but 2) that the corridor as defined for this study (wide enough to be conservative in identifying impacts) may touch a corner of the rear yard and 3) that there is a possibility that this was an African-American congregation. This is a concern because African-American congregations sometimes buried their dead in their church yards. However, research to date has indicated that the corridor will touch rather than pass through the church yard. Further, no mention of burials at this site has yet been found.

Establish, through census and tax records, residency pattern for the potential dwelling resources in the project corridor.

histories for significance of the project corridor industrial complexes in the general development of technology, production, and labor relations, and in the manufacturing history of Brooklyn and greater New York.

II. Project Description

The New York City Department of Environmental Protection has proposed the construction of a pumping station (Taaffe Place pumping station) and installation of a force main (Park Avenue force main) to divert sewage from the Newtown Creek Water Pollution Control Plant to the Red Hook Water Pollution Control Plant. Its operation is scheduled to begin by February of 1992.

The proposed system would be constructed at or below grade and within the bed of existing city streets. The pumping station will require pile-foundation construction of six components: diversion, valve and screening chambers, a wet well, an electrical room, and a ventilation system. For most of its length, the force main would lie about five to seven feet below grade. At certain locations the force main will descend below existing utility lines to a depth of approximately sixteen to eighteen feet. In one location, between Navy and Gold Streets, an old sewer will be relocated to allow for the new force main.

Project Location

The project corridor will run along the south side of Park Avenue between Taaffe Place and Gold Street, roughly paralleling the Brooklyn Queens Expressway in the Wallabout Bay neighborhood of Brooklyn (Figure 2). Figure 3 is a base map of the project corridor. The reader should keep in mind that block numbers, street names and spellings have changed somewhat over the years. As currently planned the force main and pumping station installation, being restricted to the existing roadbed, will not impact extant structures.

Today the project corridor is of mixed use with large-scale, housing projects at the south end and warehouses, auto repair shops, and small businesses at the north end. There are some vacant lots fronting on Park Avenue. The Commodore J. Barry Park is near the southern terminus of the corridor and the city's Taaffe Place Playground is located on the corner of the proposed pumping station site at the northern terminus of the corridor. (See Photographs)

Project Impact Zone

The design plans for the pumping station installation and force main construction are still in the preliminary stages. And in consideration of the problems encountered during actual construction/installation which might demand force main placement adjustments, the project corridor impact zone was interpreted broadly for the purposes of the initial archaeological analysis. For the initial level of inquiry the project corridor was assumed

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to be the southern 90 feet of Park Avenue, or the circa-1942 Park Avenue expansion strip.

Archaeological Approach

The force main corridor has been approached not as individually impacted sections of a roadbed, but as one study unit. Twenty three blocks of a historical urban center can potentially possess numerous varied and complex cultural resources. It is known that the Wallabout Bay section of Brooklyn was likely traversed by Native Americans, hosted one of the borough's three earliest settlements, experienced action during the Revolutionary War, supported governmental institutions for almost two centuries, and was both a residential and manufacturing center during the nineteenth and twentieth centuries. Any individually proposed development in such a culturally rich neighborhood, regardless of how small, would necessitate a detailed archaeological analysis of the development parcel (e.g., construction for a public school, demapping of a street, or zoning permit for an office tower).

for more accurate mapping in selection to his to il C

An archaeological analysis determines the potential significance of cultural resources, that is, the eligibility of landmark status. Determinations of significance are, in large part, based on comparisons with similar sites and the breadth and depth of understanding of a particular time, place, and type of resource.

The benefit of addressing an extended corridor as one study unit enables us to place the evolution of land use into the historical context of the development of Brooklyn. The historic context approach is currently encouraged by review agencies as a methodological tool for multi-resource large scale projects. Placed within a historical context that functions as a comparative base, one specific parcel does not assume more import than is warranted within the context of an entire settlement. And, conversely, a particular type of resource will not be overlooked as an idiosyncratic phenomenon if, in fact, it reflects a significant neighborhood-wide trend.

The use of contextual overviews was recently described in a U.S. Department of the Interior technical brief:

Historic preservation planning consists of many components. Its centerpiece, however, is the historic context. Historic contexts provide a framework for the identification, evaluation, designation, and treatment of cultural resources associated with particular themes, areas, and time periods. The Secretary of the Interior's Standards and Guidelines for Preservation Planning detail procedures for developing historic

contexts. These include collecting and synthesizing appropriate information, defining property types, and identifying areas to be surveyed for cultural resources (National Park Service 1983).

Historic context-based planning permits recognition of individual properties as parts of larger systems. Historic contexts also help managers and others evaluate properties within proper levels of significance. As such, they provide both a systematized basis for comparison and a comprehensive frame of reference. In so doing, historic contexts provide cultural resource managers and those whose activities affect historic properties with a guide for rational decision making. (Grumet 1990:1)

Employing the historic context concept for the Newtown Creek Water Pollution Control Plant Force Main project enabled us to assess potential significance of the corridor's cultural resources.

Although a broad view of a total study area, as described above, was necessary, specific and in-depth analysis has been reserved for those corridor parcels that will be directly impacted by the cut and cover installation process and the Taaffe Street pumping station construction.

III. Historic Context

1) Prehistoric Overview

An understanding of prehistoric cultures in the Northeast will help to recognize where potential sites can be anticipated. The prehistoric era has been divided into three general cultural periods: the Paleo, the Archaic, and the Woodland. Each has its own characteristics, with varying lifestyles and habitat preferences.

The Paleo-Indians were the first human inhabitants of the southern New York coastline, arriving somewhere between thirteen and ten thousand years ago, following the retreat of the Wisconsin Glacier. They were hunters of now-extinct big game animals such as mastodon, musk-ox, moose-elk, caribou, peccary, giant beaver and ancient horse (Funk 1976:210).

The Paleo-Indians preferred high places from which they could watch the movements of the herds they depended on, or places near a water source. The diagnostic tool of their culture is the Clovis Point, a finely crafted spearpoint with a flute removed from the center of each face.

As the glacier melted, sea levels rose and the low lying sites became submerged. As of 1973, no Paleo-Indian sites had been found in Kings County (Saxon 1973:259), but this may be because of the extensive development that leveled the knolls and filled in the wetlands.

The Archaic period followed, from approximately 10,000 to 2,700 years ago. It has been subdivided into Early, Middle and Late stages. Although the people still hunted, the climate was becoming more and more as it is today, and the large animals were replaced by smaller game such as white-tailed deer.

Archaic peoples also relied on gathering plant materials from swamp and forest, and during the Late stage they developed a growing preference for the shellfish to be found along the shore and at the mouths of rivers. They also fished, sometimes building weirs, and hunted birds. Thus the swampy edge of Wallabout Bay would have been an attractive environment for them, as a stop during their seasonal rounds.

Artifactual markers for this period are tools of bone and ground stone, as well as several distinctive projectile point styles. At the end of the Late Archaic, during a transitional period, the use of vessels made of soapstone developed.

The Woodland period, also divided into Early, Middle and Late stages, followed, beginning about 2,700 years ago and ending with

the arrival of European settlers in the early seventeenth century, the Contact Period. Woodland peoples developed agriculture and settled in villages near their fields of maize, squash and beans, but they continued to gather nuts and other wild foods. They too ate shellfish, and the settlers found mounds of shells along the coast, which they sometimes used to make plaster. Woodland Indians also developed the use of pottery and the bow and arrow.

The Canarsee Indians, an Algonkian speaking group, inhabited the project area during the Contact Period. Distinct from the Algonkian group living to their east and in Connecticut (Ment 1979:6-7), their numbers were greatly diminished by initial interaction with the colonists.

Several students of the Indians of Brooklyn have identified settlement areas that existed when the first Europeans arrived. Nearest of these, about 3200 feet south/southwest of the project, was Marechawick, "supposed to have been an important village, in which the local sachem made his home, situated at Gallatin Place and Elm Place" (Bolton 1934:144). Bolton also notes "a sand hill, with buried pottery, arrowheads and broken clay pipes" (Bolton 1934:45). This is probably the same as Site 3606, inventoried by the New York State Museum, Anthropological Division, a campsite discovered by Arthur Parker. It lies over a mile and half south of the project area.

Grumet also shows habitation sites and planting fields southwest of the project area, but all are over a half mile away (see Figure 4). No indian trails cross the project area, but we know from J. Rapalie's 1637 deed that Native Americans still held the project area during the first half of the seventeenth century (Stiles 1869, Vol. I:24).

The screening file of the New York State Museum, office of the State Archaeologist, does not identify any Indian sites within a half mile of the project area (see Appendix). However, the office does give the area a "higher than average probability of producing prehistoric archaeological data," based on "the physiographic characteristics of the location." The report continues [the] "probability rating is based on the assumed presence of intact original deposits, possibly under fill, in the area. If near water or if deeply buried, the materials may occur submerged below the water table."

Also, an understanding of the landscape of the project area before the arrival of the European settlers is crucial to an analysis of where any potential prehistoric archaeological resources may lie. As in much of New York City, this landscape has been drastically modified since the time of the Indians.

Early maps give us clues, sometimes conflicting, of the lay

of the land. In 1766, Ratzer showed Wallabout Bay as a horseshoe-shaped cove with a stream, the Runneconck flowing into the southeast side of the bay just east of the project area. The southwest corner of Wallabout Bay was an extensive swamp with several streams running through it. This swamp was once part of the project area, but is now filled in and is the Commodore John Barry Park, once known as the City Park. Other maps and ethnographers place a "Rennegackonk" stream with in the wetland system on the bay's southwest side (Grumet 1981:46). At least two freshwater springs have been recorded on the edge of the bay, north of the east end of the project corridor (Stiles 1869, Vol. I:57).

Lying between the bay's mud flats to the north and elevated knolls to the south, the project parcel was apparently on dry, relatively flat land except for the wetland at the southwest terminus of the corridor (Figures 5 & 6). Battle maps of the Revolutionary War provide another source of information. Fort Green, then called Fort Putnam and an unmistakable landmark, is shown separated from the bay by one or more small knolls. It is possible an elevated knoll(s) was as far north as Park Avenue and was part of the early corridor landform. A slight and gentle rise in the corridor elevation is noticeable today, roughly between St. Edwards Street and Adelphi Street.

The interpretation of early maps is confirmed by early descriptions of the project area, as repeated by the Brooklyn historian Henry Stiles (1869, Vol. I:87-88):

Wallabout is "a bay tolerably wide, where the water rises and falls much and is at low water very shallow and much of it dry."

A general description of the neighborhood includes reference to "woodland in the Hills (i.e., where the Penitentiary is) [immediately northwest of Fort Green] and some meadow-land where the City Park now is."

Recently conducted soil boring tests for the proposed DEP corridor also confirmed the presence of an extensive wetland by yielding 30 feet of organic matter near the Park Avenue and Navy Street intersection (personal communication, Jersey Boring geo-technician to Cece Kirkorian, 1/15/91).

Colonial/Revolutionary/Federal Periods

In 1621 the States-General, or governing body of the Netherlands, granted a trading monopoly to the Dutch West India Company for the territory of New Netherland. What is today Brooklyn was part of that large area and its settlement began soon

after 1621. The earliest recorded land purchase by the Dutch in the western portion of Long Island, now Brooklyn, was in 1636. In the following year, Joris Jansen de Rapalje bought 335 acres near Wallabout Bay from the Native Americans (Ment 1979:12). Rapalje (or Rapalie) was one of the Walloon immigrants of 1623. Other Walloons followed in the ensuing years and by 1654 when Rapalje had established a residence, the neighborhood had gained the appellation of the Waal-Bogt or the "bay of the foreigners" according to one theory of the derivation of the term (Stiles 1869:24).

The corridor of the proposed force main is in Park Avenue which runs east-west about two blocks south of what was Wallabout Historian Henry Stiles Bay and is now the Navy Yard area. reported that "around the 'Bogt' were lowlands, overflowed by the sea at every tide and covered with salt grass, coarse and hard to cut with a common scythe but which the cattle preferred to fresh After his death, Rapalje's holdings hay or grass" (Ibid:25). passed to his son, Jeronimus. The property stayed in the family for years, passing through the Schenck and Skillman lines. Martin Schenck sold his portion to the United States Government for the Marine Hospital Grounds (slightly north of Flushing Avenue which is a block north of the proposed corridor - note the name Schenck, or Schaak, shown on maps, Figures 5 and 7). Frances Skillman sold her parcel to Samuel Johnson. A general description of the tract states that it was designated on maps "as lands of Gen. Johnson, J.F. and E.P. Deplaine, Jackson, Skillman, and Teunis Cowenhoven; together with woodland in the Hills (i.e., where the penitentiary is), and some meadowland where the City Park now is" (Ibid:87). Those names as well as Vanderbilt, Remsen, and Ryersen are found in records and maps such as the two figures referred to above and the Farm Line maps for the study area. Some streets in the area, for example Ryersen and Vanderbilt, still bear the names of these early landowners.

The eighteenth century maps (Figures 5, 6, 7, 8, and 9) give a general idea of the topography and the extent of the homes or farms clustered around the Wallabout Road following the southern boundary of the bay which roughly corresponds to the current Flushing Avenue. Where Park Avenue was eventually laid out - a block south and parallel to Flushing - was farmland.

These maps also show the study area in relation to Revolutionary War events. Undoubtedly there was activity in the vicinity. Fort Putnam was a few blocks south of the project corridor near present Myrtle Avenue, two blocks away (see Figure 9). To the north was Wallabout Bay which was the location of British prison ships and hospital ships during the British occupation of Long Island. "A tragic feature of the British military occupation was incarceration of prisoners at the Wallabout. Thousands of sailors, captured from American navy

vessels and from privateers, as well as some infantrymen, were incarcerated in the JERSEY and other prison ships - worn-out British naval vessels transformed into dungeons... As many as eleven thousand may have died in the holds of these ships" (Ment "The bodies of our countrymen...were taken on the shore 1979:24). of the Wallabout, and thrown scarcely beneath the surface" (Stiles "The shore of the bay was one vast graveyard...Long after the initial gathering of the bones of these martyrs began in the late 18th century, periodically other skeletal remains have been discovered due mainly to the establishment of the Brooklyn Navy Yard" (Palisi 1976:1). "Large quantities of bones [were] found in cutting away the high banks, which then formed the shore of the Bay" (Stiles 1865:175). "Twenty hogsheads of bones were collected, deposited in 13 coffins, - representing the 13 original States, - and, May 26, 1808, they were buried upon Hudson Avenue, near the Navy Yard, under the auspices of the Tammany Society" (French 1860:372). "Today, most of the remains...lie in a crypt under the...Prison-Ship Martyrs Monument in Ft. Greene Park" (Palisi 1976:1). There is no reason to think that bones were disinterred as far away from Wallabout Bay as the project corridor. (See Figures 7 and 10 for locations of some ships and a picture of the JERSEY.)

"The United States Navy purchased a small private shipyard on Wallabout Bay in 1801 and began to use the facility for repair and resupply of its ships during the War of 1812" (Ibid:32). the War of 1812 a considerable amount of voluntary labor was expended in erecting a line of fortifications around the city, and bodies of troops were stationed there to protect the people" (French 1860:372). This line of entrenchments may have run right through the study area - and perhaps the project corridor - from the bay to Fort Putnam (see Figure 11). The government holdings were later expanded, and the Navy Yard had a profound influence on the surrounding area throughout its existence until it was abandoned by the Government in 1966. For example, as early as 1803, the Tucker and Carter Cordage Company began making rope at a location that today would run from Myrtle Avenue almost to Flushing Avenue through the Taaffe-Classon block, presumably for shipping. Aside from support industries like this, the Navy Yard was a major employer, and the study area was largely developed with working-class housing during the nineteenth century.

Through the first quarter of the nineteenth century, the street grid in the immediate study area consisted of the Wallabout Road which was regulated and officially opened as Nassau Street (now Flushing Avenue) by 1819 (Dikeman 1870:90). Running north-south was Division Street (it is called the "Old Road to the Toll Bridge" on some maps). The toll bridge was at the intersection of what would be Division and Flushing as seen on Figure 6 near what became Portland and Elliott Streets. These streets ran through what was still a decidedly rural area with a

few houses dotted along the main roads.

One example of land use during the first quarter of the nineteenth century was especially pertinent to the project corridor. In January of 1825 "a portion of the ground near Fort Greene, lately purchased by the town of Brooklyn, was appropriated for a cemetery, and divided into convenient parcels, which were allotted to the different religious denominations of the town, viz: Dutch Reformed, Friends, Presbyterians, Roman Catholic, Methodist Episcopalian, Universalist, Episcopalian, Baptist, and a Common Plot" (Stiles 1869, Vol. I:223). The burial ground was in the block between what is now Portland and Edwards Streets south of the project area. Figure 6 shows its position outside the project corridor; other maps such as the Perris 1855 atlas also confirm the cemetery's location to the south of the project corridor. It had been removed by the time the Dripps 1869 atlas The dotted line on the 1834 map shows the path of was published. what would become Park Avenue. Note the hospital which does not appear on 1850 and 1855 atlases. No records have been found concerning it to date.

3) The City of Brooklyn - Nineteenth and Twentieth Century Urban Period

In 1834 Brooklyn received its city charter from the New York State legislature. Thus began "an age of transition from a small but active village to a substantial urban center" (Ment 1979:37). Contributing factors in this change included European immigration, transportation network expansion, and industrialization. The study area was a prototypic example, changing from rural farmland to urban commercial in a few decades. It was part of a section known as East Brooklyn which was included in the city charter (East Brooklyn Savings Bank 1922:16-18).

By 1839, a state-appointed commission had produced a map indicating the location and widths of new city streets. As the large farms were subdivided into smaller lots, the city streets were built, generally following the commissioners' map. The street grid imposed on the landscape was a profound change in itself. Street, block, and lot divisions replaced fields. Kent and Myrtle Avenues were opened in 1835. Park Avenue, 70 feet in width, was opened by 1839 (Dikeman 1870:35). An 1839 map shows the street grid as it was proposed in a portion of the study area (Figure 12). Early development was spotty, as attested to in a letter written by the Reverend Jonathan Greenleaf in 1860 which contains his recollections of East Brooklyn in the early 1830s.

At that time the whole space from Division avenue to Fort Greene, and from Myrtle avenue to Jamaica turnpike, being a tract of ground about two miles in length from east to west and one mile in breadth from north to south, contained only thirty houses. (Johnson 1893:41)

Figure 6, the map of 1834 corroborates this description.

But by 1850, the bucolic setting had greatly changed. Clearly, the presence of the Navy Yard was an impetus for neighborhood growth; people still had to live close to their places of work. (The horse drawn railway was not introduced to Brooklyn until c.1854.) "Because Brooklyn lacked mass transportation, the city had grown up as a series of tightly-knit communities with homes clustered around the factories and storage areas where neighborhood men worked" (Schoenebaum 1976:4).

Indications of the types of land use can be ascertained from an examination of 1850 and 1855 atlases. Identified on the 1850 Dripps Atlas in the study area are Navy Yard facilities, a distillery, churches, schools, the rope manufacturing company, an orphan asylum, and a city park, all indicating a viable emerging neighborhood.

The City Park had an area of 7 acres, bounded by Park and Flushing Avenues and Navy and Park Streets. Its purchase was authorized in 1835 after the Selectmen's report that recommended that "the terms of the proprietors of the low-lands between Nassau [Flushing] and Tillary Streets be accepted..." (Brooklyn Eagle Files:333).

The Perris Atlas of 1855 shows slightly more development. Among the named enterprises in the study area are an oil cloth factory on the north side of Park Avenue between Adelphi and Clermont, an iron foundry between Navy and Hudson on Tillary, and a tannery/slaughter-house complex along Hudson between Park and Tillary. The City Park is also indicated as is the cemetery Directly north of the cemetery, and in the mentioned above. project corridor, two buildings are labeled "Barracks." remainder of the structures in the project corridor are generally "framed dwellings" (according to the key for the atlas), many of which also contained stores. The more substantial structures, sometimes brick dwellings/stores, are generally located on the street corners. However, the area covered by the atlas goes only as far east as Clinton Street, nine blocks less than the extent of the project corridor.

That the early growth had much to do with the presence of the Navy Yard with its opportunities for employment is suggested by this account from 1860. "Within the inclosure are various mechanic shops necessary in building and repairing vessels, a large and costly dry dock, two large buildings to cover ships of war while in process of building, extensive lumber warehouses, several marine railways, and a large amount of balls, cannon, and other munitions of war...Upon a gentle rise, a little E. of the

Navy Yard, is a U.S. Marine Hospital for the care of sick and infirm seamen belonging to the navy. Near it is an extensive laboratory for the manufacture of medicines for the navy. grounds belonging to these establishments occupy an area of 35 A little E. of the Navy Yard, upon Park Avenue, are extensive temporary Marine Barracks" (French 1860:368). are the "barracks" referred to in the preceding paragraph of this Dripps' 1869 Atlas gives an idea of the increased report.) density of development, but gives little indication about the types of structures. Most of the block fronts which would today be in the project corridor had at least several buildings on them; some appear to have 6 or more structures fronting on Park Avenue, although it is difficult to be sure. The blockfront lots between Hampden (later Elliott) and Portland are vacant, and the eastern portion of the project corridor from Hamilton (Waverly) is much less developed.

Municipal services indicative of emerging urbanization were becoming available. An 1875 map of the sewer system of Brooklyn shows one or more pipeline in every street in the study area. City water had been introduced in 1859, so there were surely at least some water lines. Horse drawn railroad lines were dramatically expanded, allowing more freedom of movement between home and work. One writer noted that during the post-Civil War period many manufacturing plants moved into the harbor regions or into a light industrial section extending from Fort Greene to Williamsburg (Schoenebaum 1976:8).

The 1875 Kings County census provides valuable demographic data about the residents of the neighborhood. For the most part they were American-born, but with significant numbers of Irish and English immigrants and fewer numbers of Germans and Italians. The great majority of the residences were multi-family; the most extreme example located was #92 Park Avenue which housed 5 families totaling 25 people. In some instances there are in-laws and other relatives within one family group. There are many boarders and a number of servants. It was a working-class neighborhood with a wide range of occupations including cooper, plumber, flower merchant, paper folder, fish dealer, sail maker, and clerks. Often the wives were listed as housekeepers.

Atlases of 1886 and 1898 show complete urbanization of the study area. It was a neighborhood made up of commercial, industrial, residential, public, and municipal buildings all mixed together. The development was in an irregular pattern. There are buildings of all sizes and lots, even a few vacant ones, of all sizes. The residential structures are 2, 3, and 4 stories, many of them also containing stores. There are warehouses and candy factories and large bakeries and an ice maker and manufacturing plants, such as the Jennings' Lace Factory at Park and Hall Street. Some churches, such as the Park Avenue Primitive

Methodist Church near Elliott Street, and schools remain, but the cemetery is gone. A church and church yard was located in the project corridor. According to atlases it was in place by 1880 and gone by 1915. It was variously labeled over the years, including "Primitive Methodist Church" and "M.E. Church" which usually indicates an African-American congregation. In the same block, although south of and outside the project corridor was a school which was labeled "Colored School No. 1" on an 1886 atlas. It is thereafter referred to on atlases as "Public School No. 67."

Historian David Ment's comments aptly apply to the study area in the last quarter of the nineteenth century:

The locations [of the factory districts] were determined by the need for access to the waterfront for receiving raw materials and coal for fuel and for shipping out manufactured goods. A great number of manufacturing firms were established in these areas, ranging from distilleries to rope and twine factories. Diversity in product was matched by diversity in size: although some firms were huge, occupying full blocks, most were small, employing fewer than twenty workers. Even in larger factories, the manufacturing process was often labor-intensive, with machines aiding only portions of the work. (Ment 1979:41)

study area functioned commercial/manufacturing/blue-collar residential area well into the first quarter of the twentieth century. During this period Brooklyn became a borough of Greater New York (1898). population doubled between 1900 and 1940 and its transportation systems also expanded dramatically (Ment 1979:67-68). But as the years passed, this expansion actually worked toward lowering the socio-economic status of the neighborhood since it allowed middle-class workers to move to the suburbs and still be able to commute easily to work. For example, shown on a 1929 atlas for the first time, there are "garages" among the candy making and printing establishments. Also, redistribution of industrial plants took place as many businesses moved out of the city center, thus narrowing the job opportunities for those remaining in the area.

Due to these factors as well as the Depression, real estate values in the inner city plummeted. "Older tenement-house neighborhoods...[shared] some of the crowding and squalor of older neighborhoods in Manhattan. It was the Depression of the 1930s that brought the greatest pressures to bear...Boarding houses declined into low-grade rooming houses. Unemployed tenants could pay little or no rent. Unpaid landlords closed their buildings or allowed them to fall into disrepair. Journalists and social planners began to speak of the 'slums' of Brooklyn" (Ment

1979:76). Indeed, the 1939 WPA GUIDE writer alluded to "...the Brooklyn Navy Yard with its adjacent slums and sprawling factories" (WPA 1939:440).

It is within the context of neighborhood decline and the onset of World War II that the great change which occurred in the study area in 1942 should be viewed. After 35 years of "wrangling," plans were approved to widen Park Avenue into a "highway" from Tillary and Navy Streets to the Naval Hospital [Steuben Street] (Brooklyn EAGLE: 8/16/42). This decision encompassed a number of interests. The Navy Yard "officials looked upon it as an essential by-pass for traffic carrying war materials to the Navy Yard" (Ibid.). Brooklyn Borough officials considered it part of a city revitalization effort, much of it directed toward arterial improvement. The existing roadbed, 70 feet in width, was to be used for west-bound traffic. feet of additional roadbed was created out of the blocks which fronted on Park Avenue to the south to allow for a median and the east-bound traffic lane. The property condemnation cost was estimated at 2 million dollars, and \$104,000 was appropriated for demolition of existing buildings. Monies were allocated for additional improvements to parks and sewers (Brooklyn EAGLE: ?/?/42).

Also reflected in this project was the New Deal attitude of "commitment to deal with the problems of urban 'slums,' and to replace dilapidated, unsanitary tenements with modern low-cost housing" (Ment 1979:76). Concurrent with the street improvement was the construction of large housing projects between Prince and Carlton Streets. From Carlton to Steuben are the remaining 10 block-fronts within the project corridor that were affected by street widening. A 1951 atlas shows some commercial buildings, but also a number of vacant spaces. In several places, the sides of dwellings that front on the side streets off Park Avenue are exposed to vacant lots or to Park Avenue.

In 1960 further impact to the study area was caused by the construction of the Park Avenue viaduct section of the Brooklyn-Queens Expressway which runs from Concord and Prince Streets to Flushing and Classon Avenues. The visual impact of this overhead roadway affects the entire study area. Despite - or perhaps because of - road improvements, the study area never regained its vitality as a neighborhood. The description given in the most recent edition of the AIA GUIDE TO NEW YORK CITY is apt: "...[the vicinities] along the Old Navy Yard are roughened by cheap commercial areas and by neighborhoods of urban renewal still in flux" (Willensky and White 1988:623).

IV. Archaeological Considerations

1) First level elimination of certain portions of corridor

a) Lack of integrity based on disturbance:

Where the proposed force main corridor turns south from Park Avenue toward Tillary Avenue was once Block 125 bounded by Navy and Hudson Streets, Tillary and Park Avenues. It was obliterated during the Park Avenue widening project of 1942 and disturbed even further by the placement of the BQE viaduct and access ramp supports. No archaeological consideration of this block is warranted.

b) Lack of archaeological potential:

Portions of the proposed force main corridor will be placed in the original roadbeds of the blocks of Park Avenue between Classon and Steuben Street, and in the original roadbed of the blocks of Tillary Avenue between Hudson and Gold Streets. The proposed pumping station will be in the roadbed of Taaffe Place. Roadbeds of nineteenth century streets have no intrinsic archaeological value in and of themselves. Even if there were potential for archaeological resources, any integrity would have been destroyed by road building, improvements, and utility placements. No archaeological consideration of the corridor within these blocks is warranted.

2) Archaeological Potential - Categories of resources identified

a) Prehistoric

Native American settlement pattern data indicates a marked preference for elevated, well-drained land in proximity to an extensive wetland and/or protected bay and/or large estuarine water resource. The project corridor, in part, would have provided just such an ideal environment. We know from early maps that there was at least one knoll in the southern section of the corridor and this is apparently confirmed by current topography. This elevated land was immediately south and east of the extensive wetland that was transformed into City Park, now the Commodore J. Barry Park.

b) Colonial/Revolutionary War Period

The study area was settled quite early in Brooklyn's history. On early maps buildings cluster along what was to become Flushing Avenue, a block north of the project corridor. Names of owners and records of property transactions are available. Material

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culture resources from the Colonial Period are scarce in the New Yrk City area and data obtained from any such sites would make a valuable contribution to the historical/ archaeological record. Similarly, the study area is in a locale where war activities may have occurred; in situ Revolutionary or 1812 War sites in urban settings are rarely located and would be a significant find.

c) Residential

Another category of resources potentially located within the project corridor boundaries are nineteenth century dwellings, their associated outbuildings, and yards. Resources from lots associated with former dwellings have the potential to shed light on the life of past residents, residential settlement patterns within the city, land use patterns, socio-economic status/class issues, ethnicity, and consumer choice. Dwellings were built along Park Avenue at least by 1850 (Dripps Atlas, 1850), and very possibly soon after the street was opened in 1839.

d) Industrial

Sites associated with industrial buildings/complexes, many of which were located in the study area during the 19th-20th centuries, must also be evaluated in terms of the type of information research might reveal that is of value to the historical/ archaeological record. The types of intact archaeological deposits likely to be encountered on such a site must be considered. Industrial sites within the project corridor may include architectural remains, yard scatter or trash deposits from past activities, shaft features used as privies, wells, and cisterns, as well as features and artifacts directly associated with a particular industrial activity (e.g. a tunnel associated with a ropewalk). Research on different site components may reveal information about the physical layout of a particular industry and the activities undertaken on the site, and may help in documenting the styles or work habits of the individuals working on that site.

e) Public Use

Much of the land surrounding Wallabout Bay was developed early for public or governmental use (for example, the Naval Yard, the c.1935 City Park, the Orphan Asylum, a colored school, and the mid-twentieth century BQE). Specifically, the nineteenth and twentieth century manipulation of land spaces in the project corridor for non-individual "consumption" holds a great deal of resource potential: military barracks, a hospital, a church and church yard. The church and church yard, very possibly belonging to an African-American congregation for several decades, was identified within the project corridor. The church building itself was probably seriously disturbed by a subsequent structure,

although records must be found to corroborate this fact. Also, the exact location of the church yard in relation to the project corridor must be ascertained. African-American churches yard's were sometimes used as burial grounds for parishioners, so the exact location of the church yard and church records will need careful scrutiny. Research on the growth of public land use, early urban planning, the demands of a growing metropolis, and emerging concepts of urban space could be approached through the parcels used for public/governmental purposes in the project corridor.

3) Second level elimination

The following discussion deals with resource types potentially existing in the portions of the project corridor remaining after first level elimination.

a) Prehistoric

The entire project corridor does not possess equally the potential for prehistoric resources. This differential potential is based largely on three factors: (1) topography; (2) distance from an extensive wetland; and, (3) soil conditions.

The City of Brooklyn/U.S. Government chose to place hospitals and barracks, both of which demand ventilation, and a cemetery, which demands well-drained soil, on Blocks 2039 and 2040 between North Portland and St. Edwards Streets. These block areas appear to correspond to knolls depicted on early maps. It is our proposition that these two blocks were also the most "inviting" to earlier inhabitants, the Indians. It is possible that Archaicand/or Woodland-period resources are in this section of the project corridor.

b) Colonial/War Period

The earliest Colonial Period map which shows the study area is the Ratzer Map of 1766 where buildings are depicted along the Wallabout Road which was to become Flushing Avenue (Figure 5). But none are shown on the project corridor which would have run through fields and farmland south of Flushing Avenue. Of course, there may have been colonial era structures present, since outbuildings are rarely shown on maps, but the probability of substantial, intact resources from the period is low given the degree of disturbance which has taken place in the last century and a half. Recovery of in situ remains from the Revolutionary War or War of 1812 has a similarly low probability. There is good reason to think the project corridor may have at least been traversed by military personnel given its proximity to Fort Putnam (now Fort Greene, two blocks south) and the Navy Yard (two blocks

north) where American prisoners were kept by the British. However, no known Battle of Brooklyn skirmishes actually took place in the project corridor, and the bodies of dead prisoners were interred elsewhere as discussed in the preceding section. Therefore, there is no data to suggest a definite locus for further study. Entrenchments built during the War of 1812 may have run through the project corridor according to one map (Figure 11) and a historian's account, but there is no way to fix the location of these temporary structures on today's landscape which has been drastically altered by building episodes of many decades. The project corridor might yield random artifacts from these periods, but it would be irresponsible to recommend subsurface testing just because something might be there. Excavations to seek out such tentative resources would be untenable; therefore further consideration of this category of resource is not warranted.

c) Residential

Several criteria must be considered when judging the potential value of possible resources associated with former dwellings. The period of occupation is particularly important. Portions of shaft features once used as privies, wells, or cisterns are often encountered on lots because their lower (i.e. earlier) layers remain undisturbed by later construction on the lot. These types of features often contain the best domestic remains found on an urban site. Frequently, later construction activities aid in the preservation process by covering over the lower sections of these deep features and sealing them below structures and fill layers. However, lots first occupied after the installation of city services, such as sewer and water, will probably have few or no archaeological resources contained in shaft features because there was no need for these features to have ever been present on the lot.

The value of architectural remains, such as cellar holes, footing, or foundation walls is also dependent on the period of occupation. Archaeological excavation of resources dating after the mid-nineteenth century, in most urban environments, is usually not the most cost or time effective way of studying architectural features. Adequate documentation for this type of resource can usually be found through map and atlas research and research in building records, tax records, and deed records. Generally, the importance of architectural remains is greatly enhanced if these resources are found in relation with other archaeological features such as backyard features like fences, paths, and sheet midden scatter which may furnish information unlikely to be recovered from any other source.

A final criterion for assessing the eligibility of nineteenth century homelots would be knowledge of who lived in the homes and

for how long. For example, the New York City Landmarks Preservation Commission requires that certain conditions be met before significant archaeological potential can be assumed. is, research must identify one decade of continuous occupancy by a special affinity group about whom data is scarce - such as an Another criterion for 161 further investigation is residency by a single family for at least and twenty years. These periods of occupancy must occur at least and he part prior to the installation of municipal sewer and/or water part supplies, which, of course, obviate the need for backward. supplies, which, of course, obviate the need for backyard privies, granded wells, and cisterns. The reason for the length of resident wells, and cisterns. The reason for the length of residency to concern was succinctly stated in the 1987 Barclay's Bank Site (NYC) report: "As is clear in this and many recent urban febred archaeological studies, the research value of historical foto miles archaeological materials, especially domestic refuse, decreases when there is no historical context) to associate them with " with an it (Berger 1987:VIII-32).

Tenements, meaning multi-family dwellings, further complicate the obtaining of significant data from residences because it is very difficult to associate recovered artifacts with specific The problem would be how to evaluate remains found near these tenements which indicate multiple families that were probably unrelated, of different cultural backgrounds, and people The possible presence of commercial remains from mixed-use buildings would obscure the interpretation of artifacts and their utility still further.

Evaluating the importance of archaeological resources formerly associated with a dwelling hinges, therefore, on locating undisturbed resources that can be associated with a particular $extcolor{} =$ individual, family, or ethnic group for a particular time period never an easy task in an urban environment. In the second level elimination process, all dwellings of more than two stories were removed from further consideration. The study area was a working class neighborhood which logically would not have hosted large This assumption was single family homes of three or more stories. supported by information garnered from the 1875 King's County census which documented a large preponderance of multi-family_ Also eliminated were those buildings which served as < buildings. commercial establishments as well as residences because of the mixed context of artifacts that would be recovered.

The final cut, therefore, was directed at one or two story buildings having only residents and no businesses. For this process, the only extant nineteenth century land use atlases that show enough detail were carefully examined (1850, 1855, 1886, and A public water supply first became available in Brooklyn <in 1859 and sewers by 1869. There was often a lag time before they were actually installed, but an 1875 sewer map showed that all streets in the study area had lines in place by that date.

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Therefore, only dwellings shown in place by the 1869 atlas were identified for further research; it was assumed that if they were built after that date, they would not have had to have backyard facilities for waste and water.

d) Industrial

Eliminated on this level are industrial buildings which cannot be associated with a particular function and those that, while associated with a particular purpose, would not have left visible archaeological remains of significance for further study.

An extensive block by block cartographic review of the force main project corridor revealed numerous buildings that stood for a period of time during the last half of the nineteenth century and the first half of the twentieth century. During the nineteenth century, very few of these structures were labeled by owner and/or function which means they cannot be associated within any historic But a 1904 atlas furnished a great deal of information since buildings are labeled by function. The vast majority of the structures in the project corridor were labeled as "dwelling" or Those that were shown to be industrial rather than residential or commercial were evaluated in two ways. 1) Those that were considered to have no archaeological visibility - for example, a storage facility - were eliminated from further 2) Those that were considered to have the potential to yield important material remains were cartographically followed backwards and forwards in time to see if the building(s) footprint had existed relatively unaltered by subsequent building episodes. Any of the few industries that were named on the 1850, 1855, 1886, and 1898 atlases were evaluated in the same manner. was that all but three industries, discussed below, were eliminated from further study.

e) Public Use

Numerous buildings for public use, such as schools, churches, parks, and hospitals were identified in the study area. All of those outside the actual project corridor were eliminated since their possible remains would not be impacted by the project. Of those resources that might exist within the corridor - barracks, hospital, church and church yard - none can be confidently eliminated without further research. They are discussed in the following section.

4) Identification of loci requiring further consideration

The following discussion identifies loci that require further archaeological analysis and consideration. The loci of potential sensitivity are noted on the attached map, Figure 1. It should be

noted that on the accompanying map entire block fronts are identified as sensitive when, in reality, the loci are lot(s) specific. In-depth research will be geared to a lot-specific effort but block-level research is a necessary starting point in many circumstances.

An effort will be made, through consultations with the design engineers on the final plans, to narrow the impact zone of the proposed construction and installation. The narrowing of the impact zone may preclude certain of the identified loci from further archaeological consideration.

a) Prehistoric

The project corridor between St. Edward's Street and North Portland Avenue has been identified for further prehistoric archaeological consideration based on topographic and geographic features. It may be possible that the initial documentary work did not reveal subsurface disturbances (e.g., basement-level construction) that would have destroyed the integrity of potential prehistoric resources in this area. If such a disturbance record can be compiled on a lot(s) it would eliminate that lot(s) from further assessment.

b) Residential

Limited portions of the following blocks have been identified as potentially sensitive for residential resources: Blocks 1893, 1891, 1888, 2034, 2043, 2044, 2045, and 2046. As with the potential prehistoric resources, a disturbance record will be compiled on each of the specified lots, undoubtedly eliminating a number of the identified loci from further consideration if the backyard spaces, which would host deep household features (e.g., cisterns, privies, and wells), have been severely impacted since abandonment as a backyard.

It will be necessary to conduct a detailed nineteenth century census analysis to determine neighborhood ethnicity patterns. The potential sensitivity of a residential resource is, to a degree, determined by the recognized ethnicity of the past residents. There is the possibility that the project corridor was an African-American neighborhood during part of the nineteenth century, supporting both a church (Block 2039) and school (Block 2039).

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Another determining factor is the length of residency by an identifiable family unit. Tax records, directories, and block and lot construction files will be researched to establish a residency pattern. The in-depth study will try to determine if a single family unit occupied, for any length of time, any of the identified residences prior to the installation of utilities.

c) Industrial

Three industrial complexes have been identified as potentially sensitive resources in the project corridor: a foundry, a lace works, and a ropewalk.

Foundry

In Block 1890, between Hall and Washington Streets, was a late nineteenth century foundry. According to atlases the one and two story brick complex maintained a machine shop (with engines), the foundry, a cupola, and an erecting shop. Although not noted, the foundry had to maintain large supplies of coke and iron. Subsequent construction (c.1911) obliterated the machine shop (#266 Park Avenue) but the site of the old foundry and cupola may have remained undisturbed. The cupola, or furnace in general use for melting iron for the production of castings, was the heart of any foundry.

Lace Works

The Jennings Lace Works (A.G. Jennings & Sons), by 1884 the oldest and largest of the 15 manufacturers of silk goods in Brooklyn, was located in project corridor Block 1891, fronting on Hall Street abutting Park Avenue (Stiles 1884, Vol. II:807). It was in c.1871 that Jennings erected the facility in Brooklyn, a "commodious factory, specially adapted for the business of manufacturing silk laces in all its branches, from the raw silk to the dyeing and finishing the lace perfect for the use of the consumer" (Ibid:808). During the 1880s the works were enlarged to the north of Park Avenue, outside the project corridor. It was a common practice, more than in any other branch of the textile industry, to conduct different silk processes in separate plants, a practice which became more common as the century closed (Clark 1929, Vol. III:211).

Jennings, like many silk manufacturers in the Northeast, initially imported European skilled laborers but, by 1884 when the plant employed approximately 600 persons, the majority of the workers were local, foreign born women and girls (Stiles 1884, Vol. II:808). Cheaper female labor of the Pennsylvania coal and iron towns eventually came to play a role in the decline of this industry in the southern New York area (Clark 1929, Vol. III:215).

Jennings' Spanish and Escurial lace and hair net enterprise, originally located in New Jersey, was one of the many New York/New Jersey silk manufacturers to import raw silk from China to produce trimmings and narrow goods (Ibid). By the end of the nineteenth century New Jersey and New York produced most of the country's

laces, nets and veils (Clark 1929, Vol. III:211). Apparently the Jennings Lace Works functioned with modern, automatic belt-driven steam machinery, the lace looms using approximately 100,000 disk bobbins by 1884 (Stiles 1884, Vol. II:808). According to the 1904 and 1915 Sanborn Insurance maps, in the project corridor the Lace Works included 2 four story brick structures (one containing steaming boxes), a two story, skylighted rear structure, a coal vault, a dye house, a one story boiler room, a blacksmith shop, and a steam dry house.

Ropewalk

Operating for over 100 years, the Tucker and Carter Cordage (TCC), which was started in 1803 as Tucker and March, maintained an extensive ropewalks facility on Blocks 1881 and 1896 in the study area. Fronting on Classon Avenue, south of the project corridor, was the substantial castellate-style brick office complex. TCC had three separate distinct departments: "The ropewalk [brick], for the production of ropes and cordage, which is 1,200 feet in length, and extends from Myrtle nearly to Flushing avenue, passing under Park avenue [between Taaffe Place and Classon Avenue] by a tunnel [brick]; the Harvester twine department, which turns out one hundred tons of Harvester twine weekly, without being able to supply the demand; and the jute department, which produces Island and Upland cotton" (Stiles 1884, By 1884, when there were 14 rope and twine Vol. II:718). factories in Kings County, the "greatly enlarged and extended" TCC employed 850 hands with an annual production of 18,000,000 pounds of rope, cordage, bagging and twines, realizing more than \$3,000,000 (Ibid:719). Significantly, TCC was the first ropewalks to introduce the spinning jenny for spinning hemp in the place of hand spinning.

This change was first attempted about 1833, and met with the most strenuous opposition from the hand-spinners. Then the first installement of rope spun on the jenny was completed, the enraged spinners seized Mr. , who had charge of it, and treated him to a coat of tar and feathers; they then seized the hemp he had spun, paid the company for it, took it to a hill near by and burned it publicly. But the spinning jenny triumphed. ...[TCC] ropewalks was known for many years as "the steamer." (Stiles 1884, Vol. II:717)

By the fourth quarter of the century the entire TCC establishment was driven and heated by two steam engines, a Corliss engine of 500 horsepower and a Harris engine of 300 horsepower. To accommodate the space requirements for "laying rope" the ropewalk required almost the length of two full blocks. TCC managed to gain this length by inovatively constructing a brick, arched tunnel (approximately 30 feet wide) underneath Park Avenue.

By 1929 TCC had become the Waterbury Company Rope and Wire Works and in 1951 the Gallo Original Iron Works maintained the northern half of the old complex. The southern half of the complex is now occupied by the Taaffe Place city park and it is assumed that the brick "laying ground" is in the project corridor.

As with the other resource types work efforts will be directed at compiling a disturbance record of the industrial sites to eliminate them from further assessment if their subsurface integrity has been severely disturbed. The question of archaeological visibility will again be addressed regarding these three specific types of industrial resources.

The initial documentary work has not associated the foundry with a specific business. In-depth research will focus on establishing such an association and comparing this foundry to other iron works in the area.

The intensive research will focus on business directories and manufacturing monographs and industrial histories in order to assess the significance of the project corridor industrial complexes in the general development of technology, production, and labor relations, and in the manufacturing history of Brooklyn and greater New York.

d) Public Use

Two sections of the project corridor, the truncated northern ends of Block 2039 and Block 2040, experienced extensive public/governmental use for over one hundred years. These two blocks, and the old Division Street that ran diagonally through them prior to the opening of North Elliot Street, appear to have possibly hosted, in the project corridor, a hospital, two barracks, and a church and church yard. As with the other resource categories, a disturbance record of the public-use sensitive parcels will be compiled. This record may preclude any or all of the public-use sensitive parcels from further archaeological consideration.

Hospital

First noted on a c.1834 map, a hospital structure apparently overlapped both block fronts where North Elliot Street now intersects Park Avenue (Figure 6). By 1855 this structure had been adapted to a "barracks". Because of this change in function and the early military use of the hillocks around Wallabout Bay, the topic-intensive level of research will examine available archives to determine the precise location and potential significance of the hospital.

Barracks

As described above, the early nineteenth century hospital that straddled North Elliot Street apparently was adapted for military barracks by the mid century. A second barracks was built nearby on Block 2040, roughly parallel to Park Avenue but set back from the Avenue and placed immediately north of it. Municipal and naval archives will be examined to determine, as closely as possible, the precise locations, in relation to the project corridor, of the barracks. Also, the nature of the barracks, i.e., construction material, and the length of use, i.e., temporary or permanent structures, will need to be determined.

Church and Church Yard

Prior to 1886 the one story Methodist Episcopal Church was established at 56 and 58 Park Avenue on Block 2039. The "church" was still on the lots in 1898 and by 1904 was labeled the Park Avenue Primitive Methodist Church. Most likely serving an African-American congregation, the brick structure stood until replaced, c.1910, by the three and half story building for John Thatcher & Sons Contractors. The new construction probably destroyed remains of the earlier church structure but Thatcher & Sons maintained a rear yard approximating the church yard. project corridor appears to pass through the church structure itself but not what was the rear church yard. Building Department Block and Lot files will be examined to ascertain the amount of disturbance on the original church foundation by the subsequent The in-depth research will also attempt to construction. determine, through deed and survey research the likelihood that the rear yard area will be impacted. If the rear yard is to be impacted then the research will continue, determining (1) the disturbance record of the rear yard after the demolition of the church and (2) the likelihood that the church, in consideration of laws, health codes, and prevalent trends, used their land as a graveyard.

V. Recommendations

A second-level, or topic-intensive, study is recommended for those loci which have not been eliminated during the documentary research described in this report. The result would be either four reports, each dealing with one of the four resource types, or one report with four chapters, each chapter devoted to one of the resource types. The tasks which would be entailed are outlined in the preceding section. It is anticipated that this study would again eliminate loci from archaeological consideration. example, it may be proved that the M.E. Church was totally disturbed by subsequent building phases and thus warrant no further consideration. It is also anticipated that the installation design for the force main corridor will have been finalized by this time. Further definition of the design is expected to allow us to decrease the conservatively wide corridor. Any portions which will not be impacted, whether archaeologically sensitive or not, would be eliminated. If there are potential sites which cannot be eliminated in this final documentary research effort, mitigation measures would be proposed for them.

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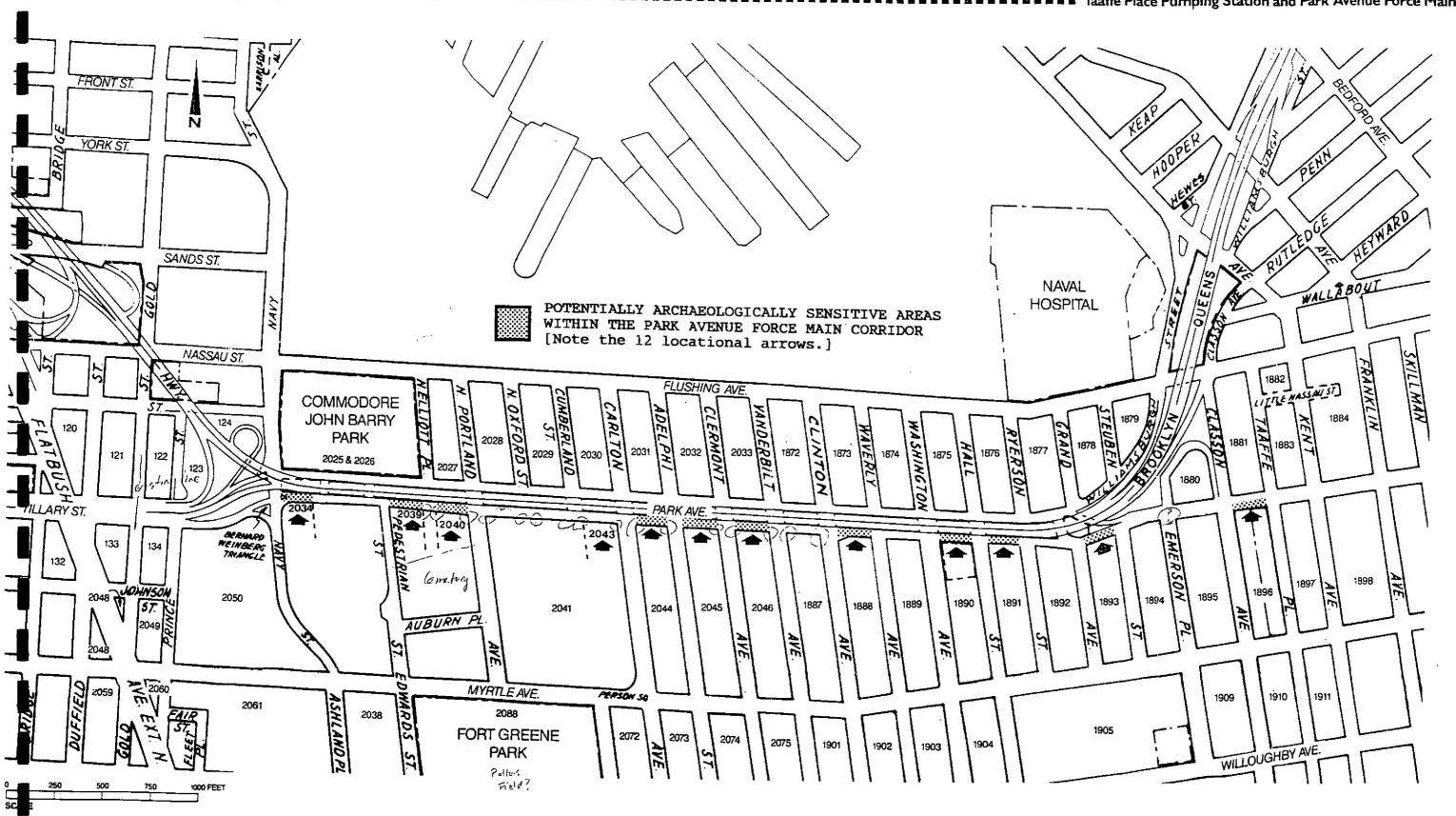
WPA
1939 GUIDE TO NEW YORK CITY. New York: Pantheon Books.

York: Harcourt Brace Jovanovich, Publishers.

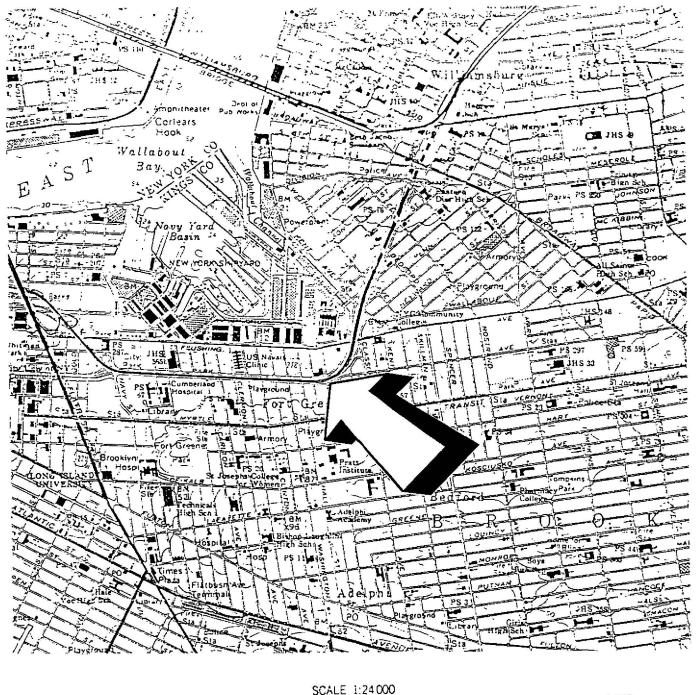
Third Edition. New

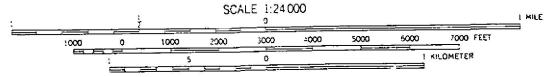
AIA GUIDE TO NEW YORK CITY.

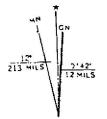
1988



USGS 7.5' Series Topographic Map Brooklyn Quadrangle







TAAFFE PLACE PUMPING STATION AND PARK AVENUE FORCE MAIN CORRIDOR

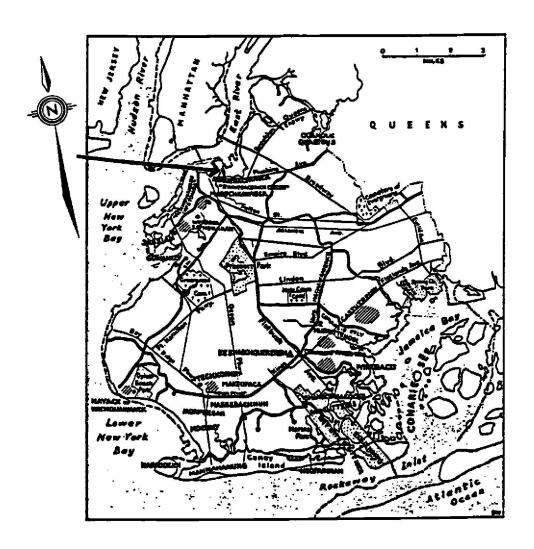
PROPOSED PUMPING STATION

SELECTED ALTERNATIVE

ALT. 5 24 0 F.M.

URS Company, Inc.

Grumet, Robert Steven
1981 Native Place Names in New York City. Museum of the City of New York, New York, pp 68 and 70. Photocopy.



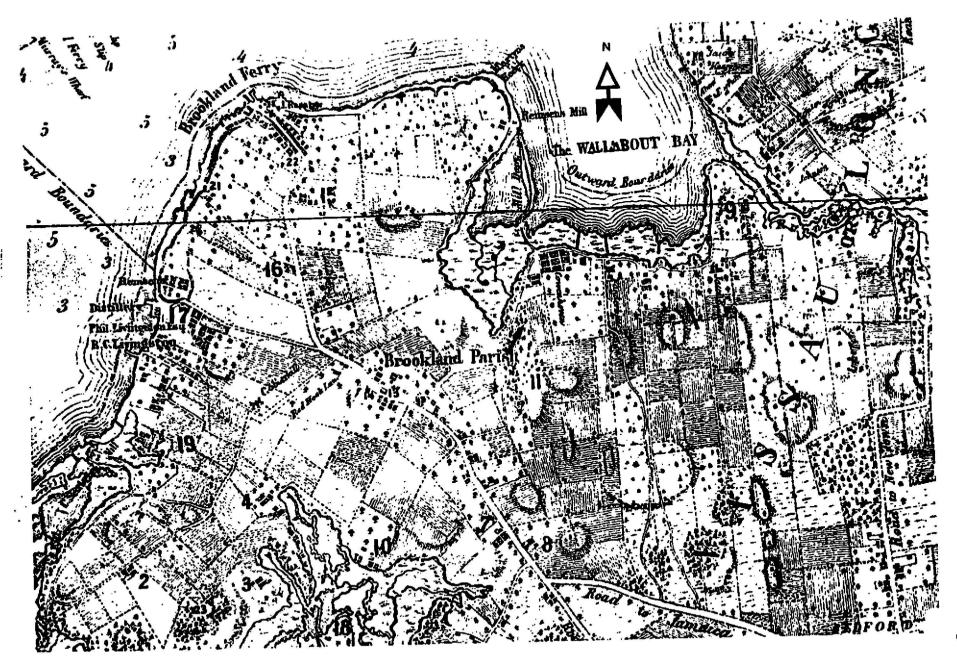
LEGEND FOR FIVE BOROUGH MAPS

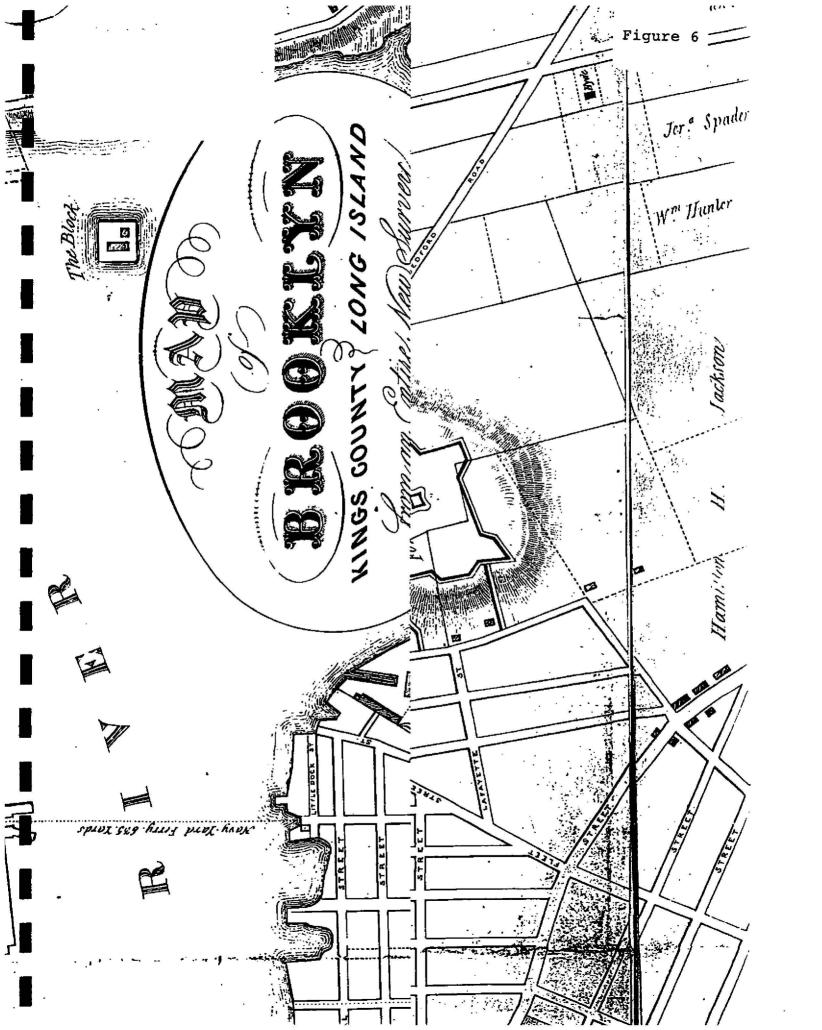
- TRAL (AFTER BOLTON 1822)
- PLANTING AREAS AND OLD FIELDS

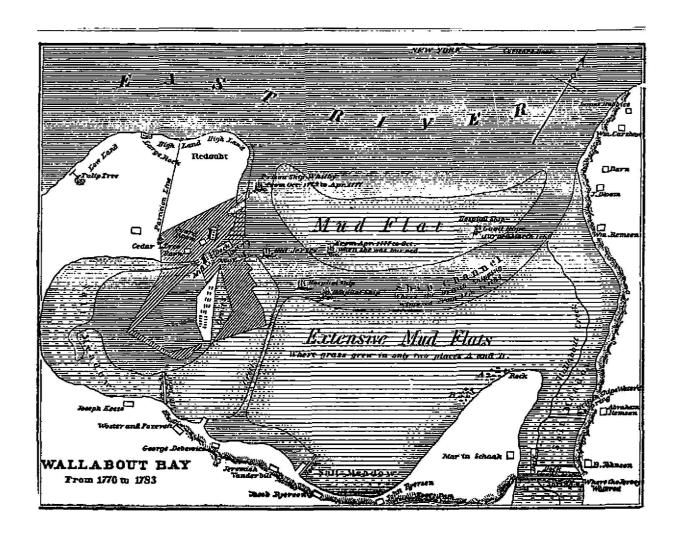
TRACTOLINDIAN NAMES OF LOCAL DRIGH

TANK! MAMES NOT OF LOCAL ORIGIN

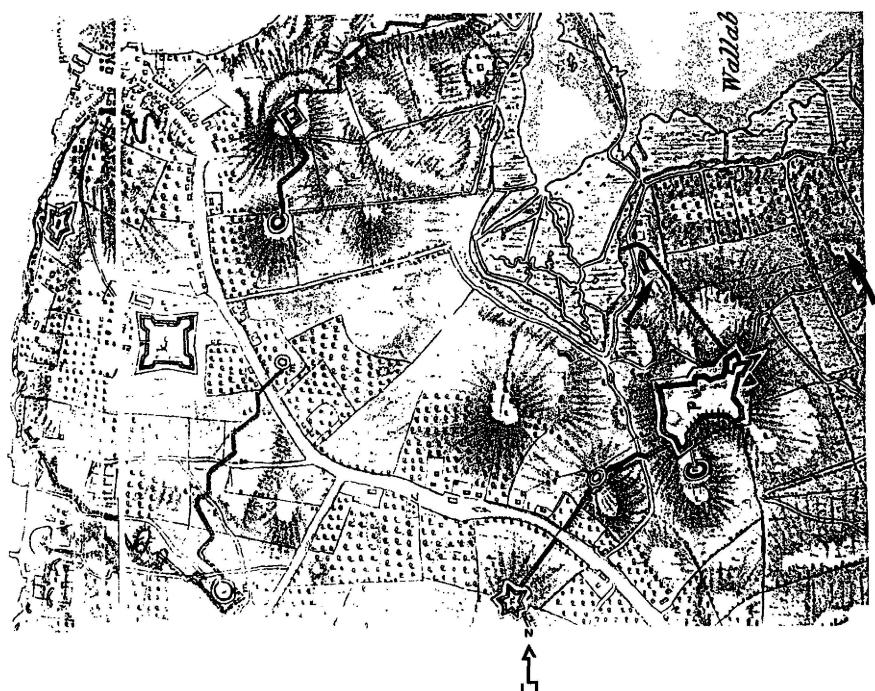
- · HABITATION SITE
- PRESENT-DAY CITY PARKS
- -- MODERN SHORELINE
- CEMETERY

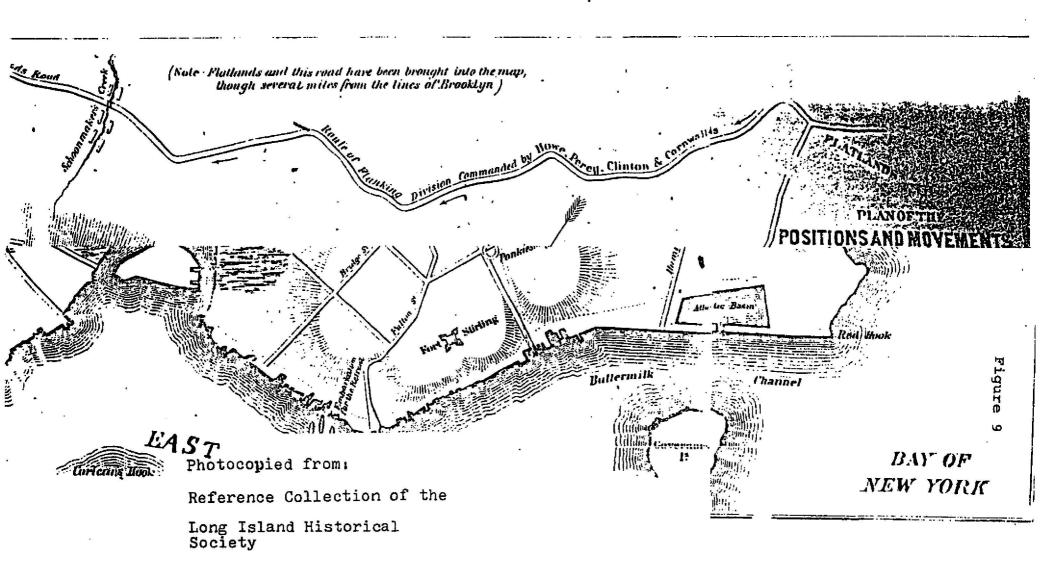


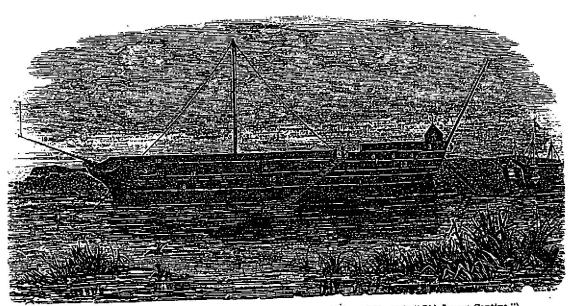




Photocopied from Stiles 1884, Vol.I







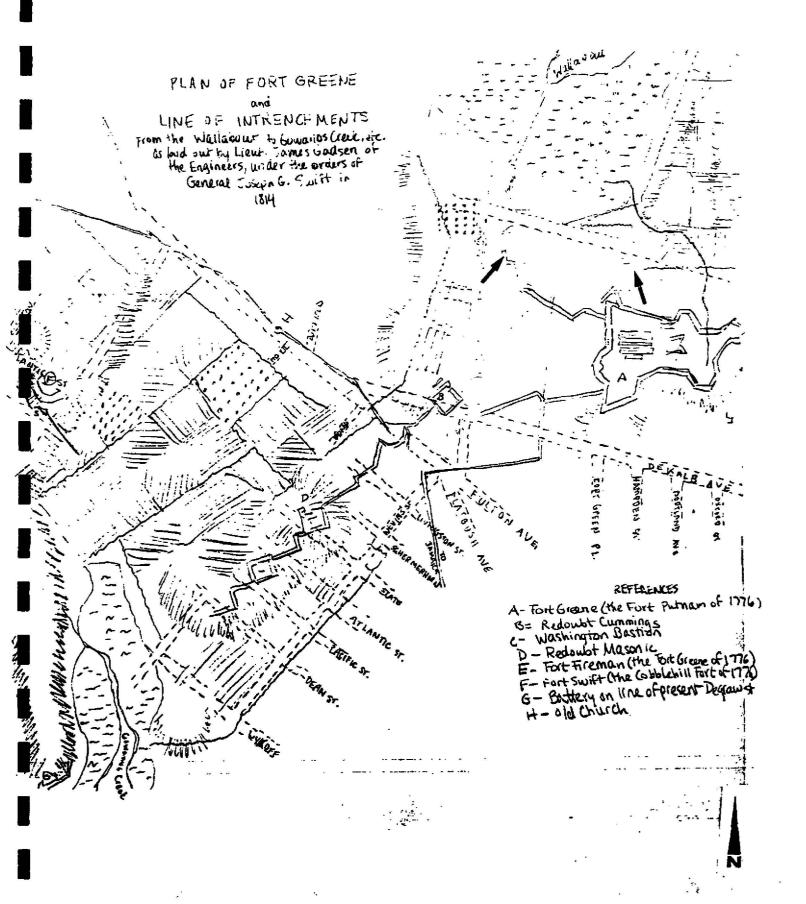
THE "OLD JERSEY" PRISON-SHIP. (From Dawson's edition of DRING's "Old Jersey Captive.")

EXTERIOR VIEW OF THE "OLD JERSEY."

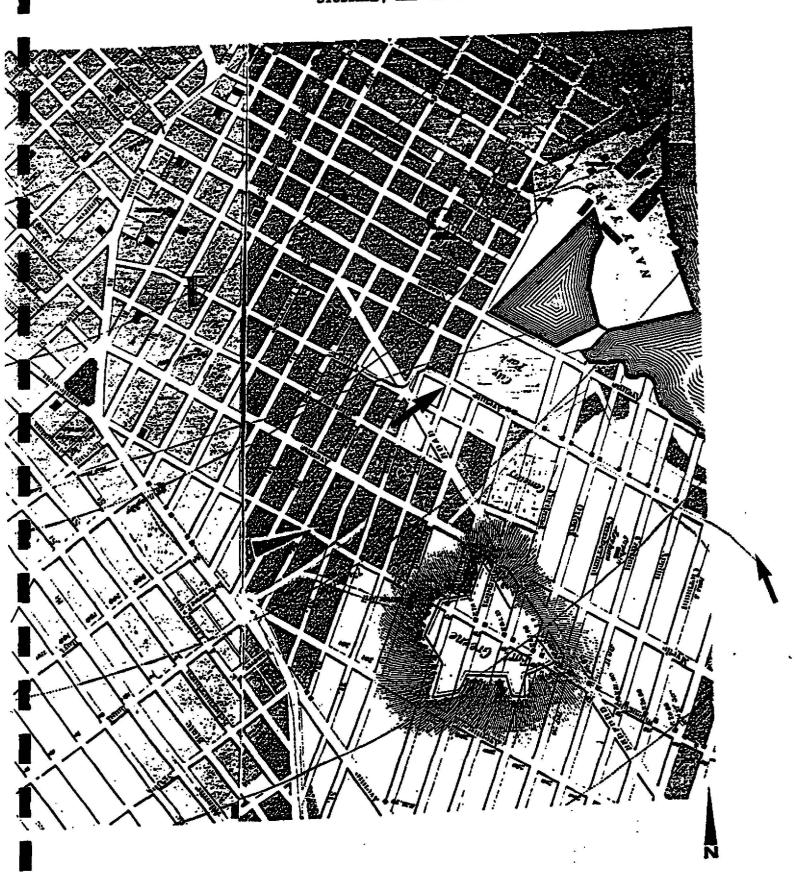
- The Flag stair, which was solden used, and only for signals.
 A canvas awring or tent, used by the generis in warm weather.
 The Quarter-tents, with its barricade about ten feet high, with a door and loop-holes on seels side.
 The Ship's (filterer) salid, under the Quarter-teck.
 Accommodation-hadder, on the starboard side, for the the of the ship's efficient.
 The Beorage, occupied by the salides indeeding to the whip.
 The Gook-room for the ship's grow and quartie.
 The Salise's room, where articles were sold to the prisoners, and delivered to them through an opening in the bulkhead.
- The dipporteck and Sparteck, where the prisoners were excasionally allowed to walk.
 The dangway indeer, on the larboard side, for the prisoners.
 The largetk, on the starboard side, for taking in water, sic., etc.
 The Calley, or the starboard side, for taking in water, sic., etc.
 The Calley, or Great Copper, under the forecastle, where the provisions were cooked for the prisoners.
 The Gun-room, eccapied by those prisoners who were officers.
 Its. Hatchways leading below, where the prisoners were confined.
 Its. Hatwam-docks, where the prisoners were continued at night.
 The Bowsprit.
 Chain cables, by which the vessel was moured.

Photocopied from Stiles 1884, Vol.I

PLAN OF FORT GREENE, 1814



STODDARD, MAP OF THE CITY OF BROOKLYN, 1839



PHOTOGRAPH A

Taaffe Place Pumping Station site view: north to south, intersection Park Ave. and Taaffe Place



PHOTOGRAPH B

Park Ave. Force Main Corridor view: east to west, from Taaffe Place corner



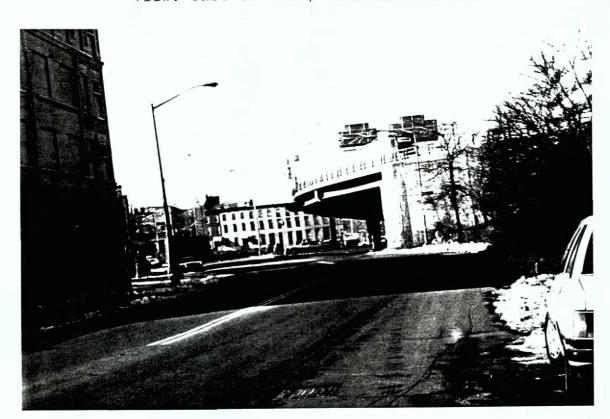
PHOTOGRAPH C

Park Ave. Force Main Corridor view: north to south, intersection Classon Ave. and Park Ave.

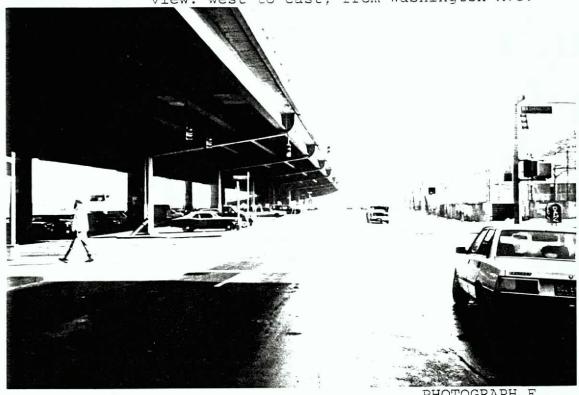


PHOTOGRAPH D

Park Ave. Force Main Corridor view: east to west, from Emerson Place corner



Park Ave. Force Main Corridor view: west to east, from Washington Ave.



PHOTOGRAPH F

Park Ave. Force Main Corridor view: west to east, Vanderbilt Ave. corner housing stock



PHOTOGRAPH G

Park Ave. Force Main Corridor view: east to west, rear of Clermont Ave. housing stock



PHOTOGRAPH H

Park Ave. Force Main Corridor view: west to east, Carlton Ave. corner



PHOTOGRAPH I

Park Ave. Force Main Corridor view: west to east, from immediately east of Navy Street



PHOTOGRAPH J

Park Ave. Force Main Corridor view: west to east, intersection of Prince and Tillary Streets



APPENDIX

CORRESPONDENCE WITH THE

NEW YORK STATE MUSEUM

and the

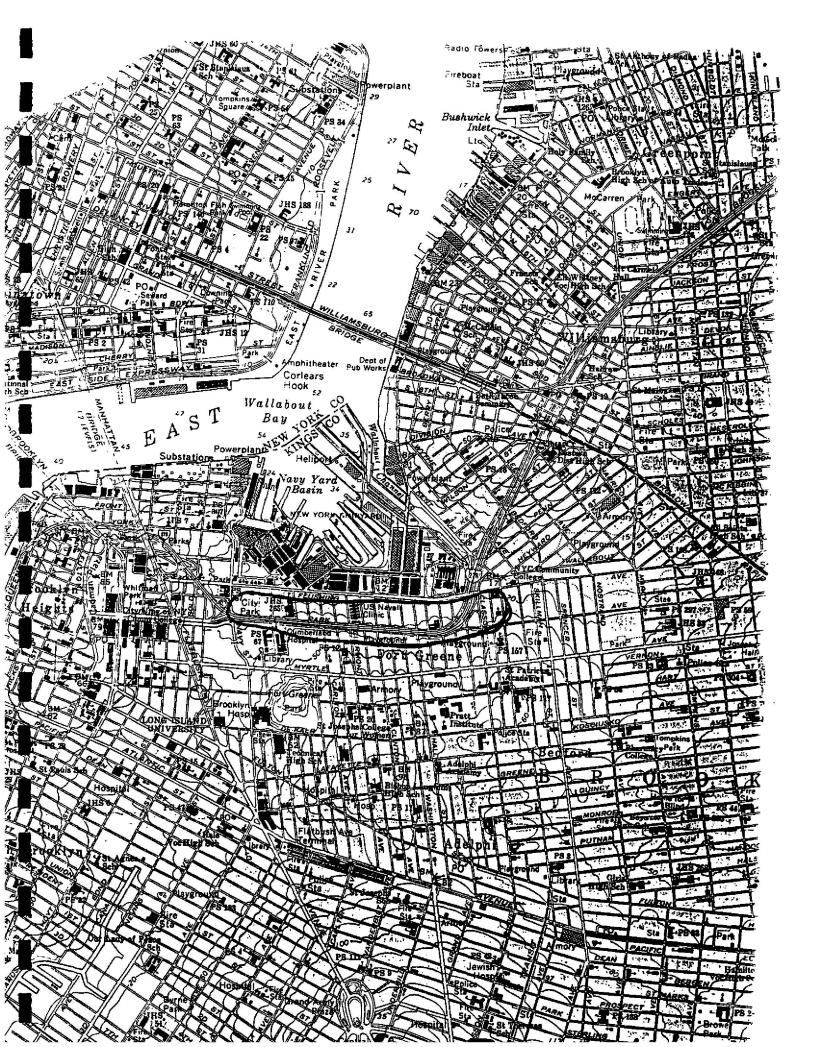
NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION

PROJECT :

NEW YORK STATE MUSEUM: OFFICE OF THE STATE ARCHEOLOGIST PREHISTORIC SITE FILE: FILE USE REQUEST FORM PROJECT SCREENING FILE

117

| HAME Historical Porspi | ectives buc | |
|---|--|-------------|
| ADDRESS P.O. Box 331 R | . 9 () The Late of the Control of t | 변환 1 및 를 |
| AC PHONE # 203 (48 1147 | | - · · · · |
| | <u>-</u> - | |
| AGENCY/COMPANY/INSTITUTION REPRESENTED | | |
| The screening file gives site circles. | locations within generalized .5 mile | |
| PURPOSE OF REQUEST: (Identify the propature of the work, depth and extent of | posed project and contractor, indicate the of ground disturbance) | |
| · water main | | |
| EVENTUAL DISTRIBUTION OF DATA: (Spec publication, reproduction, etc.). | eify range of data use and distribution, | |
| Client, municipality | 7 + review agency | • • • |
| REQUESTED APPOINTMENT: | | rii : ' |
| 1st Choice | 2nd Choice | 1 6.0 |
| Brooklyn | | |
| FOR THE FOLLOWING attach the project envelope to this request. Responses widay. | map, site data list and self-addressed. It be mailed or provided on the following | |
| The following site(s) may be within or adjacent to the project area. If so, please provide the | Please provide a sensitivity rating for the attached project area. | |
| location of: SITE #. 7.5' MAP | | |
| | | |
| | I understand that the information provided is to be used solely for the preparation of an environmental impact statement as required by State or Federalaw. | al |
| | (Signature) (Pate) | |



NEW YORK STATE MUSEUM PREHISTORIC ARCHAEOLOGICAL SITE FILES

EVALUATION OF ARCHAEOLOGICAL SENSITIVITY FOR PREHISTORIC (INDIAN) SITES Examination of the data suggests that the location indicated has the following sensitivity rating:

- [HIGHER THAN AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- [] AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- [] LOWER THAN AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- [] MIXED PROBABILITY OF PRODUCING PREHISTORIC ARCHEOLOGICAL DATA.

The reasons for this finding are given below:

- [] A RECORDED SITE IS INDICATED IN OR IMMEDIATELY ADJACENT TO THE LOCATION AND WE HAVE REASON TO BELIEVE IT COULD BE IMPACTED BY CONSTRUCTION.
- [] A RECORDED SITE IS INDICATED SOME DISTANCE AWAY BUT DUE TO THE MARGIN OF ERROR IN THE LOCATION DATA IT IS POSSIBLE THE SITE ACTUALLY EXISTS IN OR IMMEDIATELY ADJACENT TO THE LOCATION.
- [] THE TERRAIN IN THE LOCATION IS SIMILAR TO TERRAIN IN THE GENERAL VICINITY WHERE RECORDED ARCHAEOLOGICAL SITES ARE INDICATED.
- THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION SUGGEST A HIGH PROBABILITY OF PREHISTORIC OCCUPATION OR USE.
- [] THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION SUGGEST A MEDIUM PROBABILITY OF PREHISTORIC OCCUPATION OR USE.
- [] THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION ARE SUCH AS SUGGEST A LOW PROBABILITY OF PREHISTORIC OCCUPATION OR USE.
- [] EVIDENCE OF PRIOR DESTRUCTIVE IMPACTS FROM CULTURAL OR NATURAL SOURCES SUGGESTS A LOSS OF ORIGINAL CULTURAL DEPOSITS IN THIS LOCATION.
- [] THE PHYSIOGRAPHIC CHARACTERISTICS OF THE LOCATION ARE MIXED, A HIGHER THAN AVERAGE PROBABILITY OF PREHISTORIC OCCUPATION OR USE IS SUGGESTED FOR AREAS IN THE VICINITY OF STREAMS, SWAMPS AND WATERWAYS AS WELL AS FOR ROCK FACES WHICH AFFORD SHELTER. DISTINCTIVE HILLS OR LOW RIDGES HAVE AN AVERAGE PROBABILITY OF USE AS A BURYING GROUND. LOW PROBABILITY IS SUGGESTED FOR AREAS OF EROSIONAL STEEP SLOPE.
- PROBABILITY RATING IS BASED ON THE ASSUMED PRESENCE OF INTACT ORIGINAL DEPOSITS, POSSIBILITY UNDER FILL, IN THE AREA. IF NEAR WATER OR IF DEEPLY BURIED, MATERIALS MAY OCCUR SUBMERGED BELOW THE WATER TABLE.
- [] INFORMATION ON SITES NOT RECORDED IN THE N.Y.S. MUSEUM FILES MAY BE AVAILABLE IN A REGIONAL INVENTORY MAINTAINED AT THE FOLLOWING LOCATION(S). PLEASE CONTACT:

COMMENTS:

Page No. 1 10/11/90

ARCHAEOLOGICAL SITE FILE SEARCH NEW YORK STATE MUSEUM CULTURAL EDUCATION CENTER ALBANY, NEW YORK

| SITE | # | other site # acp kngj-2 | SITE NAME | TIME PERIOD | SITE TYPE | | JRCE DATA | | 5′ NA | QD ME | | QUAD AME | REPORTE NAME | R PROJ NAME | | |
|-------------|---------------|----------------------------------|-------------------------|----------------|--------------|-----|--------------|-------|----------|----------|--------|-------------|-----------------|----------------|-----|---|
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| - - | A N (w) | CP YRK wumbered) | DO Noto | NO (NEO | village | | | —Br∞K | lyn | <i>B</i> | prooKl | yn T | Parker | No INFO | | |

ARCHEOLOGICAL SITE INVENTORY FORM FOR OFFICE USE ONLY UNIQUE SITE NO. <u>AUH7 - OI - 0179</u> DIVISION FOR HISTORIC PRESERVATION QUAD. Brooklyn NEW YORK STATE PARKS AND RECREATION SERIES U.S.G. S. ALBANY, NEW YORK NEG. NO.__ 518 474-0479 REPORTED BY: Kolph S. Solecki Ph.D. TELEPHONE: YOUR ADDRESS:_____ ORGANIZATION (if any): Columbia University 1. SITE NAME: Dock Commant 2. COUNTY: Kings TOWN/CITY: Buildyn VILLAGE: 3. LOCATION: In Fulton St. openite Everith St. at soldier 4. PRESENT OWNER: _____ OWNER'S ADDRESS:___ 6. DESCRIPTION, CONDITION, EVIDENCE OF SITE: ☐ STANDING RUINS ☐ CELLAR HOLE WITH WALLS ☐ WALLS WITHOUT CELLAR HOLE ☐ SURFACE TRACES VISIBLE ☐ UNDER CULTIVATION ☐ EROSION □ UNDERWATER ☐ NO VISIBLE EVIDENCE ☐ OTHER ___ 7. COLLECTION OF MATERIAL FROM SITE: ☐ SURFACE HUNTING BY WHOM ______ DATE ___ BY WHOM _____ DATE__ ☐ TESTING EXCAVATION BY WHOM Solecki DATE 1978-79 ☐ NONE PRESENT REPOSITORY OF MATERIALS: Calumbia University 8. PREHISTORIC CULTURAL AFFILIATION OR DATE: historic 17th Cont.

| 9, | HISTORICAL DOCUMENTATION OF SITE: Soleaki, Kalph 5. (Jan. 5, 1981) Stage II Archaeological Survey, The Archaeology and History of Lower Falton and Jurnlemon Streets Project Contract IA. |
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| 0. | POSSIBILITY OF SITE DESTRUCTION OF PROTEIN |

- 11. REMARKS:
- 12. MAP LOCATION

| 7 ½ MINUTE SERIES QUAD. NAME: | Brooklyn | |
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| 15 MINUTE SERIES QUAD. NAME: | J | |
| U.S.G.S. COORDINATES: | | |
| D.O.T. COORDINATES: (if known) | | |

ATTACH SKETCH, TRACING OR COPY OF MAP

SOURCE OF MAP:

13. PHOTOGRAPHS (optional)

ARCHEOLOGICAL SITE INVENTORY FORM FOR OFFICE USE ONLY UNIQUE SITE NO. <u>A047-01-010</u> DIVISION FOR HISTORIC PRESERVATION OUAD. Brooklyn **NEW YORK STATE PARKS AND RECREATION** SERIES ALBANY, NEW YORK NEG. NO. 518 474-0479 REPORTED BY: Raloh Solichi TELEPHONE: _ YOUR ADDRESS:____ ORGANIZATION (if any): ___ 1. SITE NAME: Conponations House 2. COUNTY: <u>Kings</u> TOWN/CITY: Brooklyn_ VILLAGE: 3. LOCATION: Julton St - prosinably marked by Waxman Building & earther parking let - operate 4. PRESENT OWNER: Elizabeth (4. 5. OWNER'S ADDRESS:_ 6. DESCRIPTION, CONDITION, EVIDENCE OF SITE: ☐ STANDING RUINS ☐ CELLAR HOLE WITH WALLS ☐ SURFACE TRACES VISIBLE ☐ WALLS WITHOUT CELLAR HOLE ☐ UNDER CULTIVATION ☐ EROSION ☐ UNDERWATER ☐ NO VISIBLE EVIDENCE . ☐ OTHER __ 7. COLLECTION OF MATERIAL FROM SITE: ☐ SURFACE HUNTING ______ DATE ___ BY WHOM ... ☐ TESTING BY WHOM__ _DATE____ BY WHOM____Solecki DATE 1978-1979 ☑ EXCAVATION □ NONE PRESENT REPOSITORY OF MATERIALS: __ Columbia 8. PREHISTORIC CULTURAL AFFILIATION OR DATE: ____ \(\sqrt{2} \) \(\sqrt{2} \)

1753-181,

| 9. HISTORICAL DOCUMENTATION OF SITE: |
|--|
| Stiles 1884: The Civil, Political, Professional + Ecclesiastical History Commercial + chodustrial Record of the (curty of Kings 44 h () |
| Commercial & chrowshead Record of the (circly of Kings 4416 " |
| of Brooklyn, New York, from 1863 to 1884 |
| 2 Volo. W.W. Muraell G. |
| Solecki, Ralph S. (Van. 5, 1981) Stage II Amhacological Survey, The Archaeology a. |
| Solecki, Ralph S. (Jan. 5, 1981) Stage II Amhacological Survey, The Archaeology a. History of Lower Fulton and I Juniemon Streets Brooklyn, New York WP-15 Red Hook Water Pollution Control Project Contract 1A. |
| 10. POSSIBILITY OF SITE DESTRUCTION OR DISTURBANCE: |
| • |
| |
| 11. REMARKS: Dtage / trich. Owney tulton St., atlantic ave, turnain st., |
| 11. REMARKS: Stage I Arch. Survey Fultonist., atlantic aux, Jumain st., Jordeman St., main + Plymouth St Contract I A Red Hock Cater Pollection Control Project |
| Talallion Contract Pray 21 |
| 12. MAP LOCATION |
| 7 % MINUTE SERIES QUAD. NAME: Brookly 9 |
| |
| 15 MINUTE SERIES QUAD. NAME: |
| U.S.G.S. COORDINATES: |

See U.S.G.S. Topo.

D.O.T. COORDINATES: (if known) _____

SOURCE OF MAP:

13. PHOTOGRAPHS (optional)

| | NEW YORK STATE HISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM |
|----------------------|---|
| For | Office Use OnlySite Identifier A047-01-0074 |
| Proj Your Addr | ect Identifier <u>Empire Stores Manitoring</u> Name <u>Scts q W. Kearns</u> Phone () Tess <u>Cele Kirtorian</u> |
| Orga | nization (if any) Historical Perspectives |
| | Site Identifier(s) Empire Stores (within the Fulton Ferry Historic District) County Kings One of following: City Brooklyn Township Incorporated Village Unincorporated Village or Hamlet |
| 3. | Address |
| | Zip |
| 4. | Site Description (check all appropriate categories): Structure/site Superstructure: complete x partialcollapsednot evident Foundation: above x below x (ground level) not evident XStructural subdivisions apparentOnly surface traces visible XBuried traces detected List construction materials (be as specific as possible): |
| | Grounds |
| | Site Investigation (append additional sheets, if necessary): Surfacedate(s) Site Map (Submit with form*) Collection Subsurfacedate(s) Testing: shovel coring other backhoe trenehing unit size no. of units 7 (Submit plan of units with form*) |
| | Excavation: unit size 3x3 no. of units 3 (Submit plan of units with form*) * Submission should be 84"xll", if feasible Investigator <u>Betsy W. Kearns of Coce Kirkerian</u> Manuscript or published report(s) (reference fully): 1982 Empire Stores Report on Archaeological Manitoring for the Two Trees Management Company, Kings County (Brooklyn) |
| , | Present repository of materials |

| 6. | Site inventory: a. date constructed or occupation period |
|-----|---|
| | c. modifications, if known |
| | (append additional sheets, if necessary) |
| 7. | Site documentation (append additional sheets, if necessary): a. Historic map references 1) Name Date Source Present location of original, if known |
| | 2) Name Date Source Present location of original, if known |
| | b. Representation in existing photography 1) Photo date Where located 2) Photo date Where located |
| | c. Primary and secondary source documentation (reference fully) See Archaeological report coled in 5." |
| | d. Persons with memory of site: 1) Name Address 2) Name Address |
| 8. | List of material remains other than those used in construction (be as specific as possible in identifying object and material): |
| | If prehistoric materials are evident, check here and fill out prehistoric site form. |
| 9. | Map References: Map or maps showing exact location and extent of site must accompany this form and must be identified by source and date. Keep this submission to 8½"x11" if feasible. |
| | USGS 7% Minute Series Quad. Name Brooklyn |
| | For Office Use OnlyUTM Coordinates |
| 10. | Photography (optional for environmental impact survey): Please submit a 5"x7" black and white print(s) showing the current state of the site. Provide a label for the print(s) on a separate sheet. |

Page 2

