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Langan

2008

**PHASE IA ARCHAEOLOGICAL INVESTIGATION  
QUEENS PLAZA REDEVELOPMENT PROJECT  
QUEENS PLAZA  
LONG ISLAND CITY, NEW YORK  
PR# 07PR06236**

*Prepared for:*

**New York State Department of Transportation and  
New York City Economic Development Corporation**

*For Submission to:*

**The City of New York Landmarks Preservation Commission  
1 Centre Street, 9N  
New York, NY 10007  
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NJ Certificate of Authorization No: 24GA27996400**

**April 2008  
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Langan Project # 005571308  
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April 2008

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## ABSTRACT

In order to comply with the City Environmental Quality Review Act (CEQR), National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) Langan Engineering and Environmental Services, Inc. (Langan) conducted a Phase IA Archaeological Survey of the JFK Park portion of the Queens Plaza Bicycle and Pedestrian Improvement Project in the Long Island City, Queens County, New York. The research was requested by the New York City Landmarks Preservation Commission (LPC) as a result of the preliminary review of the Project. The goal of Phase IA survey was to evaluate the possibility of the existence of prehistoric and historic sites within the project area. The survey consisted of a historical background research to establish land use history and evaluate the possibility for the existence of historic remains within the Area of Potential Effect (APE). The research methodology included a search of records at New York State Historic Preservation Office (SHPO) and LPC, as well as inspections of archival materials and records at the Greater Astoria Historical Society, the Queens County Historical Society and the New York Public Library. In addition, a series of Sanborn maps, historic aerial photographs, historic atlases and maps of the project area were examined.

The project site is located in Long Island City, Queens County, New York. The project site is approximately 175,000 square feet (sf) and includes:

- Sidewalks and roadways of Queens Plaza North and Queens Plaza South between Queens Plaza East and 29<sup>th</sup> Street
- Sidewalks and roadways of Queens Plaza East and 29<sup>th</sup> Street between Queens Plaza North (41<sup>st</sup> St) and Queens Plaza South
- Three commuter parking lots west of Queens Plaza East

The project site is situated in an urban setting that is characterized by commercial, light manufacturing, and residential development. The Queensboro Bridge is located to the west of the project site and extends into Manhattan to the west. The East River is approximately 4,200 feet west of the western boundary of the project site.

The historic background research revealed that the vicinity of the project area may have been used as hunting grounds by Native Americans and therefore it is possible that some groups also visited the project area in the past. The historic research also revealed evidence of over 350 years of European presence within the project area and its vicinity related to the early European, Dutch and British colonization, and the late 19<sup>th</sup> – early 20<sup>th</sup> century industrialization and urbanization of the area. It is possible that the project APE still contains some evidence of the historic land use, but due to the intensity of landscape modifications (especially the construction of subway line and raised rail lines) introduced to the project area in the 20<sup>th</sup>

century, it is unlikely that intact deposits or buried cultural horizons may have survived until our times. In addition, the proposed Plaza Bicycle and Pedestrian Improvement Project does not include heavy earth moving. In light of these facts, Langan does not recommend further work for the JFK Park portion of the Project.

## **ACKNOWLEDGEMENTS**

Several individuals provided assistance in completion of this study.

Ludomir Lozny of the Department of Anthropology William Paterson University, Wayne, New Jersey served as the project's Principal Investigator. Michael Audin of Langan Engineering and Environmental Services, Inc. performed the tasks of research coordinator, assisted with the writing of the report and supervised the production and editing of the report. Sarah Hlubik produced figures and assisted with the production and editing of the report.

Special thanks to Robert Singleton of the Greater Astoria Historical Society for his assistance regarding the history of the project and the surrounding areas, the staff of the Queens County Historical Society, and to the staff of the New York Public Library Map room in Manhattan, New York.

Ludomir Lozny  
Principal Investigator

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## 1.0 INTRODUCTION

This report describes the Phase IA Archaeological Survey – Historic Background Research conducted by Langan Engineering and Environmental Services, Inc. (Langan) for the JFK Park portion of the Queens Plaza Bicycle and Pedestrian Improvement Project (Project) in the Long Island City, Queens County, New York. The research was requested by the New York City Landmarks Preservation Commission (LPC) as part of the City Environmental Quality Review Act (CEQR), National Environmental Policy Act (NEPA) and Section 106 for the reconstruction of the JFK Park portion of the Project. The goal of the Project is to improve pedestrian and biking safety and the capacity of pedestrian facilities and bicycle movements while maintaining the ability of the street network to accommodate existing and anticipated vehicles using the Queensboro Bridge. The project proposes road, bicycle and pedestrian improvements. These improvements include realignment of the travel lanes, redevelopment of parking areas and medians into parks with trees, shrubs, and other vegetation, construction of bicycle and pedestrian lanes, and general beautification of the project site. A site location, vicinity and aerial photograph are included as figures 1, 2, and 3.

The project site is located in Long Island City, Queens County, New York. The project site is approximately 175,000 square feet (sf) and includes:

- Sidewalks and roadways of Queens Plaza North and Queens Plaza South between Queens Plaza East and 29<sup>th</sup> Street
- Sidewalks and roadways of Queens Plaza East and 29<sup>th</sup> Street between Queens Plaza North (41<sup>st</sup> St) and Queens Plaza South
- Three city owned commuter parking lots west of Queens Plaza East (Figure 2)

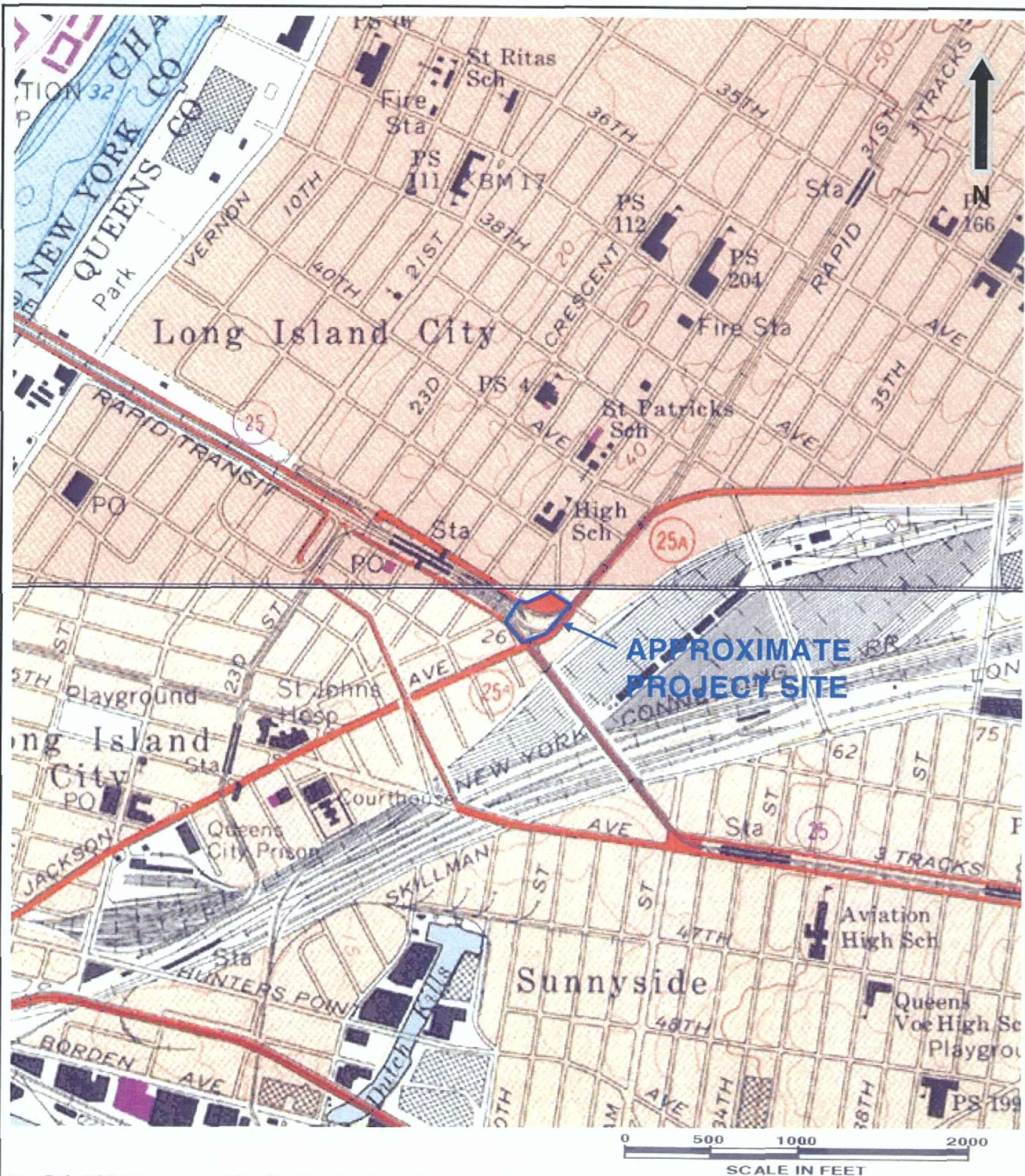
The project site is situated in an urban setting that is characterized by commercial, light manufacturing, and residential development. The Queensboro Bridge is located to the west of the project site and extends into Manhattan to the west. According to the United States Geological Survey (USGS) Central Park Quadrangle 7.5-minute Series Topographic Map, the project site is relatively flat and the surrounding area generally slopes westerly, towards the East River. The East River is approximately 4,200 feet west of the western boundary of the project site.

The historic background research revealed that the vicinity of the area where the project is located may have been used as hunting grounds by Native Americans and therefore it is possible that some groups also visited the project site in the past. However, due to intensive landscape modifications related to early industrialization and urbanization the possibility of recording such remains is minor. The historic research also revealed over 350 years of European settlers presence within the project area and its vicinity. It is possible that the project

APE still contains some evidence of the historic land use, but due to intensity of landscape modifications introduced to the project area during the 20<sup>th</sup> century, it is unlikely that intact deposits or buried cultural horizons may have survived until our times. Therefore Langan concluded that the proposed project will not significantly alter the presently existing landscape as no heavy earth removing activities are planned.

All work for this project was carried out in accordance with the instructions and the intents set forth in the CEQR Technical Manual (2001), section 106(b)(4) of the *National Environmental Policy Act* of 1969; Section 1(3) and 2(b) of *Executive Order 11593*; Section 106 of the *National Historic Preservation Act*, 23 CFR 771, as amended October 30, 1980; the guidelines developed by the Advisory Council on Historic Preservation, published November 26, 1980; the amended Procedures for the Protection of Historic and Cultural Properties, as set forth in 36 CFR 800; and the Guidelines for Archaeological Investigations established by the New York City Landmarks Commission. The cultural resource specialists that performed the investigations meet or exceed the criteria outlined in 36 CFR 66.3(b) (2) and 36 CFR 61.

This report was prepared in accordance with the Phase I guidelines delineated in the Landmark Preservation Commission Guidelines for Archaeological Work in New York City, April 12, 2002. Langan personnel who meet the *National Park Service's Professional Qualifications Standards* conducted the survey and prepared the report. Résumés of the key personnel are presented in Appendix A.



Map Ref.: USGS Topographic Map (Brooklyn Quadrangle)



ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

## SITE LOCATION MAP

QUEENS PLAZA BICYCLE AND PEDESTRIAN  
IMPROVEMENT PROJECT - JFK PARK

QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571305	4/11/08	AS SHOWN	1



Map Ref.: Mapquest.com



ELMWOOD Pk, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

**VICINITY MAP**  
**QUEENS PLAZA BICYCLE AND PEDESTRIAN**  
**IMPROVEMENT PROJECT – JFK PARK**

QUEENS

NEW YORK

JOB NO.

5571301

DATE

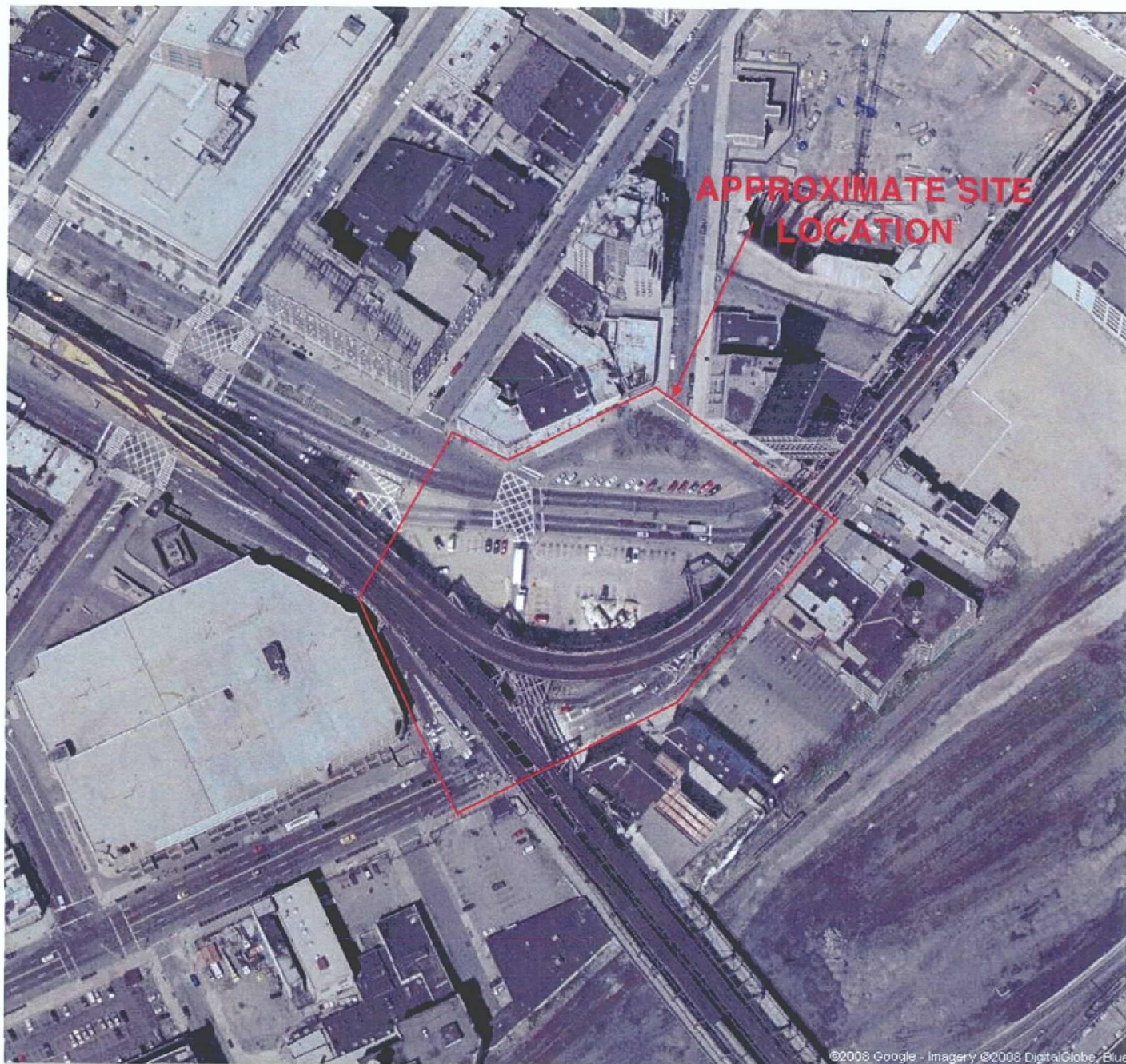
4/11/08

SCALE

AS SHOWN

FIGURE NO.

2



Map Ref.: Google Maps 2008



ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

**2006 AERIAL PHOTOGRAPH**  
**QUEENS PLAZA BICYCLE AND PEDESTRIAN**  
**IMPROVEMENT PROJECT – JFK PARK**

QUEENS

NEW YORK

JOB NO.

5571301

DATE

4/11/08

SCALE

NTS

FIGURE NO.

3

## 2.0 ENVIRONMENTAL SETTINGS

This chapter briefly describes the ecological characteristics of the project area including physiography, geology, soils, and flora and fauna of the area. The project site is located in Queens County, New York. The total land area within Queens County is 178.28 square miles or 114,099.2 acres. Of this 68.2% of the area is land, and 38.8% is water. Land is used in urban industrial, residential and commercial uses.

### *Topography*

The topography of the region is characterized by nearly flat to gently sloping land. The project area is located above the floodplain of the East River (approximately 25 to 30 feet above sea level) and is characterized by saturated natural and anthropogenic fills over marshland.

### *Physiography and Geology*

The project area is located within the Atlantic Coastal Lowland which includes all of Long Island and most of Staten Island (Eisenstadt, 2005). The bedrock consists of Cretaceous-age sedimentary rock which is buried beneath large deposits of glacial till ranging from 400 to 2,000 feet deep (Eisenstadt, 2005).

### *Soils*

The Soil Survey of New York City identifies one soil complex on the project site, made up of two soil types and urban development. The project area soil complex has been identified as the LaGuardia-Ebbets-Pavement and Buildings complex, characterized by nearly level slopes of 0 to 8%. The individual soil types are detailed below.

#### *Ebbets Series*

The Ebbets series is characterized by loamy fill, greater than 40 inches deep. It is comprised of construction debris and other anthropogenic fill materials. The soils are generally well-drained comprised of silty to sandy loam throughout, containing 10-34% coarse grains, and better than 10% artificial material contained in the matrix. The soil is highly acidic to moderately alkaline. Table I details the soil profile for this series

**Table I.** A representative profile of the Ebbets soil series.<sup>1</sup>

Layer	Characteristics	Thickness
Surface layer	Very dark grayish brown loam	4 inches
Subsoil, upper part	Dark yellowish brown gravelly sandy loam	4 inches
Subsoil, lower part	Dark yellowish brown gravelly sandy loam	8 to 60 inches

*Laguardia Series*

Laguardia soils consist of deep moderately well-drained soils on floodplains, formed primarily of anthropogenic urban fill. The soils are primarily made of silty to sandy loam with 35 to 75% coarse fragments. The soils are generally neutral to highly acidic.

**Table II.** A representative profile of the Laguardia soil series.<sup>2</sup>

Layer	Characteristics	Thickness
Surface layer	Brown gravelly sandy loam	8 inches
Subsoil, upper part	Brown, very gravelly coarse sandy loam	14 inches
Subsoil, lower part	Brown, very gravelly coarse sandy loam	26-79 inches

*Climate*

Queens County has a humid temperate climate and extreme changes of temperature are rare. Average temperatures range from 40 degrees Fahrenheit in the winter to 85 degrees Fahrenheit in the summer. Rain is plentiful, averaging about 41.8 inches per year (NOAA Historic Climatic Data).

*Floral and Faunal*

Floral and faunal conditions contribute to the soil formation and its quality and impact the overall ecological conditions of the area. Ecological conditions, on the other hand, stimulate human activities. Vegetation also influences erosion by limiting the runoff rate and increasing the available water capacity.

Various animal species were present in the study area in the prehistoric and historic times and were included into subsistence patterns, providing a variety of biologically and economically significant items such as meat, furs, hide, marrow, bones, antler, etc. In the upland forest regions game birds, deer, bear, small mammals and elk for at least a portion of the prehistoric period. Mussels, fish, amphibians, reptiles and migratory birds would have been in the

<sup>1</sup> Source: Soil Survey of New York City, New York.

<sup>2</sup> Source: Soil Survey of New York City, New York.

streams, marshes and lakes in the region (Boesch, 1997). In this context, the types and distribution of the region's fauna are important to interpretations of the archaeological record.

The original vegetation of Queens County was a mix of marshlands and forest including oak, chestnut, hickory, maple and pine. Various birds, rabbits and squirrels could be found in the area as well as water fauna including a range of fish, mammals and waterfowl (Sanderson and LaBruna, 2005).

This brief discussion of the ecological and physiographic conditions presently existing in Queens County suggests that human who lived there in the past would have been able to support themselves either through foraging, fishing, or limited subsistence farming. Intense developments induced by the European colonization, especially during the 20<sup>th</sup> century industrialization and urbanization, dramatically impacted the ecological conditions of the project area and conditions which existed in the past are no longer prevalent in the modern landscape.

#### Land Use

Prehistoric exploitation of riverine habitats is well-documented in the region (Funk 1976, Ritchie 1980), and the drainage systems of the New York City Area were no exception. Due to the intensity of development and limited archaeological research conducted in the region, only several archaeological sites are known from the project area (Table IV). Further, the amount and intensity of land modifications and alterations during nearly four centuries of European presence have severely reduced the likelihood of finding prehistoric and/or historic sites within the project area.

### **3.0 PROJECT METHODOLOGY**

The Phase IA Survey – historic background research – methodology consisted of archival research, a review of the existing literature on the prehistory and history of the project area and its vicinity. The research included a search of records at the New York State Historic Preservation Office, inspections of archival materials and records at the Queens County Historical Society and the New York Public Library, and a research report on the areas history was provided by the Greater Astoria Historical Society (Appendix C). A series of Sanborn maps, historic aerial photographs, historic atlases and maps were reviewed for the property. The background research established a detailed history of the land use during historic times, especially from the 18<sup>th</sup> through the 20<sup>th</sup> century.

#### **3.1 Research Methods**

The following research methods have been employed in this Phase I survey:

1. Historic background research in several institutions and archives in Manhattan and Queens.
2. Field inspection survey.
3. Review of the existing literature on prehistory and history of the project area and its vicinity.

##### **3.1.1 Historic Background Research**

The historic background research involved inspections of archival materials and records at the New York Public Library in Manhattan and the Queens County Historical Society Library located in Queens, New York. A research report on the areas history was provided by the Greater Astoria Historical Society (Appendix C). A series of atlases, proprietor's maps, and Sanborn maps were reviewed for the property.

##### **3.1.2 Field Inspection**

Field inspection methods included:

- Pedestrian survey of the Area of Potential Effect (APE) and visual inspection of the impacted area,
- Analysis of the topography of the proposed APE of the project area and its vicinity in order to assess the potential for the presence of buried cultural deposits, prehistoric and historic, and

As no historic architectural structures will be directly affected by the project, no architectural survey was completed as part of this survey.

Environmental research testing was performed on the site area by Langan and Langan archaeologist was present to monitor the coring and pit excavation. Field testing consisted of seven geoprobes and a six-foot by twelve-foot test pit. The geoprobes were advanced to a depth between eight and twelve-feet. The test was excavated to a depth of five feet.

## **4.0 RESEARCH RESULTS**

This chapter presents a brief history of the project site and its vicinity since the times of early European settler's arrival until the 20<sup>th</sup> century. The first part of the chapter contains a short review of regional history, the second part presents a detailed land use history of the project area, and the third part offers a short review of prehistoric and historic sites known from the vicinity of the project area.

### **4.1 History**

This chapter presents an overview of the prehistoric and historic occupations and land uses in the project area. Regional journals, cultural resource reports, and local archives were examined for information on regional prehistory and history.

#### **4.1.1 Prehistoric Times**

Since the late Pleistocene, humans have occupied all areas of the continental United States adapting to its regionally diverse ecosystems. Only the past 500 years are historically documented; most of the past 13,000 years can be recorded only through the study of prehistoric archaeological sites. The prehistory of the northeastern US is commonly divided into four major chronological sub-periods: Paleo-Indian, Archaic, Woodland, and Contact.

The earliest period, when the first people crossed the Beringian Gap between Asia and North America, dates from around 13,000 years before present (B.P.) until approximately 10,000 B.P. During this period dramatic changes in the continental environment happened (e.g. Pielou 1992), climate (e.g. Delcourt and Delcourt 1985), including a change in animal species available for exploitation (e.g. Martin and Klein 1984). Considerable attention has been devoted to the Paleo-Indian life ways (e.g. Anderson 1990; Frison and Todd 1986; Haynes 1966; Tankersley and Isaac 1990).

##### *Paleo-Indian Period (13,000 B.P. to 10,000 B.P.)*

The Paleo-Indian period began around 13,000 B.P. and continued to ca. 10,000 B.P., coinciding with the end of the Pleistocene and the beginning of the Holocene. The earliest documented inhabitants of the continental U.S. crossed from Asia sometime before 13,000 B.P. and rapidly colonized all of North and South America. Late Pleistocene adaptation

Archaeological research in various parts of the U.S. has documented numbers of surface finds of the fluted points diagnostic of this period. Far fewer Paleo-Indian sites with subsurface cultural materials have been documented. Recent analysis of Paleo-Indian tool assemblages has established chronologically significant tool types to identify three temporal subdivisions of the Paleo-Indian time period (Anderson 1990; Tankersley 1990).

Despite a refinement of the chronology, the temporal range and spatial distribution of these point types is poorly understood. Some inferences may be drawn, however, from the frequent isolated finds, and paucity of large Paleo-Indian sites in the Southeast.

Paleo-Indian occupation in New York City area is no better known than in other parts of the country. Occupation of New York appears to have begun after the first humans appeared on the North American continent, at around 11,000 years B.P. The earliest evidence of occupation in the New York City area are the Clovis points and other fluted points and several small possible camp-sites (Port Mobil tank farm site and Charleston Beach in Staten Island) found in the 1950's. A total of 21 fluted points and more than 120 stone tools were found in three separate areas: the tank farm, on Charleston beach and another beach to the north. Tools found at this site include projectile points, scrapes, knives, drills, spokeshaves for preparing wood shafts, and graters for working on bone or antler (Ritchie and Funk, 1973; Funk 1976; Ritchie, 1980; and Cantwell and Wall, 2001), and testify of multiple activities of early inhabitants of the region.

In general, fluted points were found in certain locations in New York which are close to permanent source of water, like swamps or lakes, and sometimes slightly elevated. The distribution of points is primarily limited to the valleys of big rivers and their tributaries (Ritchie 1994).

Although few sites have been thoroughly excavated and reported, some information on Paleo-Indian life ways is available. Anderson (1990) has suggested two models of Paleo-Indian settlement patterns, one appropriate to the Northern Tundra-Spruce Parkland zone, and one to the Southern Boreal-Deciduous forest zone.

Anderson's model of Southeastern Paleo-Indians suggests that they were generalized foragers, exploiting the diverse plant and animal resources of the Boreal-Deciduous forests. As a result of this foraging strategy, the dense accumulation of animal bone and lithic materials that characterize sites in the Western plains (e.g. Olson-Chubbuck, Colby) and some of the Northeastern sites (e.g. Delbert, Vail, Bull Brook) is absent. According to Anderson, southeastern Paleo-Indian occupations are characterized by light lithic scatters, with some functional diversity in the tool assemblage. Although

Anderson's model of Paleo-Indian period settlement is reasonable, several large Paleo-Indian sites or site clusters have been documented in the Southeast (e.g., Adams site, Big Bone Lick, Pine Tree, Quad, Thunderbird, Well Creek Crater); yet, almost none have been intensively excavated (Daniel and Wisenbaker 1987; Sanders 1986, 1983). Current excavation at the Thunderbird site in Virginia may provide more detailed information on Paleo-Indian life ways in the Boreal-Deciduous Forest zone.

Paleo-Indian subsistence strategy was based on foraging. This type of subsistence includes the hunting of wild animals as well as the gathering of wild plants, and also fishing (wherever possible). The archaeological record confirms hunting activities, including hunting of big game, while gathering is not well documented for this period. The settlement distribution pattern of Paleo-Indian sites strongly suggests that indigenous people preferred well-drained, elevated locales in close proximity to a stable source of water. Such adaptation derives from the strategy of utilizing the ecosystem according to certain patterns. In addition to occupying lower terraces and sometimes flooded areas, other types of Paleo-Indian sites have been located near outcropping sources of chert (quarry sites), or in rock shelters (probably seasonal habitations), etc.

The Paleo-Indian settlement patterns cannot be fully recognized due to the adverse impact to these sites which was caused by the environmental change by the end of Pleistocene and the beginning of Holocene. As a consequence, the warmer climate during the Holocene period led to the retreat of glaciers and rise of sea levels, which covered many areas that may have previously been utilized by humans. This climatic transition also contributed to the change of the ecosystem, especially the new pattern of distribution of faunal and floral elements. These changes subsequently encouraged new designs in the pattern of human migrations and alterations in the subsistence pattern characteristic for a new prehistoric period – the Archaic Period, ca. 10,000 to 3,700 BP. Compared to the Paleo-Indian period, a new type of culture developed, containing a greater variety of implements, especially used to process diverse foodstuffs (scrapers, knives, expedient tools, grinding stones, and the development of the earliest pottery).

#### Archaic Period (10,000 B.P. to 3,700 B.P.)

The Archaic period is divided into three sub periods, characterized by different cultural adaptation and typical tool-kits. These are briefly summarized below.

#### *Early Archaic (10,000 B.P. to 8,000 B.P.)*

The Early Archaic Period is distinguished from the preceding Paleo-Indian Period primarily on the basis of projectile point styles. These include the widespread Kirk and LeCroy points. Early Archaic bifaces, in contrast with Paleo-Indian projectile points, are unfluted, and usually have a well-defined haft element (see Justice 1987).

Very little is known of this early period of human settlement in the Americas, although some general inferences may be drawn. The widespread occurrence of similar point types over much of North America suggests that social groups were highly mobile, and probably maintained a fluid social organization, as many modern hunters and gatherers do. Given their mobility, these groups probably created very ephemeral sites, with little midden accumulation, and only light scatters of lithic and bone debris. Highly mobile societies are unlikely to invest time and energy in the creation of permanent storage facilities. Consequently, storage pits and houses from this period are unknown. It should be noted, however, that such archaeologically visible remains are known from the European and Eurasian Paleolithic period. Problems of identification and the rapid environmental changes associated with the European colonization of North America compound the difficulties of locating ephemeral sites in upland and alluvial settings.

Very few tool types, other than bifaces, are known for this period, although research in the Far Northeast and Southeast has identified a variety of expediently prepared tools (Petersen 1991; Starbuck and Bolian 1980; Tankersley 1990). Although the lack of ground stone tools in this period is frequently taken as an indication that Early Archaic people exploited few plant resources, it is more than likely that they did use plant foods, but did not invest much energy in the preparation of the tools to exploit them. Ground stone tools are a hallmark of the Middle and Late Archaic and probably reflect not a change in resource use per se, but a more intensive and less mobile adaptation to a region. Chapman (1977) for example documented the presence of basket fibers in an Early Archaic context, suggesting that knowledge and use of plant fibers was certainly a characteristic of the Early Archaic.

Few sites that date to this period have been excavated. Consequently information about this period must be inferred from general models of hunters and gatherers or from the small number of sites that are reported. In both cases, such models have serious biases (cf. Jefferies 1990, for discussion on the Archaic Period in the Southeastern U.S.).

A cultural horizon that characterizes most of the Archaic period in New York and greater Northeast was identified as the Laurentian tradition. It is interesting to notice certain cultural unification identifiable within this horizon. This observation led some (for

instance Ritchie) to suggest that the Laurentian might be the time when new indigenous social structure and political system emerged – tribal societies. One of the examples of the material evidence of such a claim could be the western New York phenomenon identified as the Lamoka culture with the subsequent Brewerton and Meadowood horizon linking the Archaic with the Early Woodland times. The sites Lamoka Lake, Geneva, Woodchuck Hill, and at Frontenac Island in Cayuga Lake are representative sites of Lamoka phase in New York. The large Lamoka Lake site is the only sizeable site from this time period. The evidence from the Ward's Point site suggests either an extended period of use or more likely the reuse of a known site over several years. Several hearth-centered workshops have been identified at the site including tool making, cooking and hide-working.

In summary, the early Archaic is a poorly known period. Native Americans in the mid-continent must have had to adapt to a variety of local ecozones, which may have changed rapidly, sometimes within a generation, as a result of the Hypsithermal. During the Early Archaic Period new types of projectile points appeared which were smaller in size and in greater variety. The new styles include corner-notched points, stemmed points and bifurcate base points (Justice 1987). Such technological change probably indicates cultural transition manifested in diversified adaptation strategies that people must have followed during that time. New climatic conditions created more options in terms of exploiting diverse ecosystems and subsequently designing appropriate mobility patterns. A greater diversity in decision-making contributed to creation of diversified tool assemblages. Some researchers suggested however, that such technological change might not necessarily indicate a significant cultural change (e.g., Gardner 1974). The variety of tools, they argue, implies a technological rather than economic shift.

#### *Middle Archaic (8,000 B.P. to 5,000 B.P.)*

Although this sub period is somewhat longer than the Early Archaic, and spans an important period of climatic and environmental change, archaeological investigations indicate that cultural adaptations did not differ markedly from the preceding period. More sites dating to the Middle Archaic have been identified than in the preceding period, although many are not thoroughly documented.

One of the most significant changes occurring sometime after 8,000 B.P. is the development of regional projectile point styles. In addition, a variety of ground stone tools were made for the first time, indicating a greater investment of time and energy in the manufacture of tools for the exploitation of plants. Such investments may be associated with an overall decrease in mobility, or a change in the rate of movement, or

the distance between camps. Earlier Archaic hunters probably manufactured only a small portion of their tool assemblage from stone. Middle Archaic hunters created a greater variety of tools, although most were geared to the exploitation of plants.

Although some Middle Archaic sites are as ephemeral as those of the Early Archaic, others contain deep midden deposits with large and diverse assemblages. The presence of burials at some of these sites might be an indication of long term or repeated use of these site localities. Brown and Vierra (1983) have addressed these issues for sites in Illinois.

An important innovation in the Middle archaic was the use of shellfish in the diet. The Hudson River at this time was a rich estuary and the salinity was such that it could support large numbers of shellfish. A site approximately 30 miles north of New York City, Dogan Point, is the earliest evidence for use of shellfish in the Middle Archaic dating between the Middle and Late Archaic periods (6,900 to 4,400 years B.P.). This site is one of the few identified in the New York City area dating to this time period. It is possible that many of the sites were flooded with the rise of sea levels to their modern position, or just as likely these important sites were destroyed during the development of the city itself. (Ritchie and Funk, 1973; Funk 1976; Ritchie, 1980; and Cantwell and Wall, 2001)

Although the Middle Archaic differs in its stone tool assemblage, little information is available to determine if major differences exist in the life ways of Early and Middle Archaic Native Americans.

#### *Late Archaic (5,000 B.P. to 3,000 B.P.)*

Unlike the preceding sub-periods, the Late Archaic is a better known period of Eastern Woodlands prehistory. In part this is a reflection of the greater preservation of artifacts and features, and a larger number of sites, with more substantial deposits. The sites are diverse in their setting, artifact assemblages, and probable function. Late Archaic societies continued on the same cultural trajectories identified in the Middle Archaic: greater regionalization, an increase in overall population, and population densities in the river valleys. Other changes, however, represent innovations in technology, subsistence activities and social organization. Studies of projectile points document an increase in regional forms, perhaps representing stylistic innovations associated with stronger inter-societal boundaries.

Various authors (e.g., Jefferies 1990) have suggested that Late Archaic settlements were larger and occupied for longer periods of time than Middle Archaic settlements. The implication of such changes is that the subsistence regime may also have been significantly different.

The use of cultivars and 'encouraged' vascular plants is documented for many sites occupied during this period (e.g., Chomko and Crawford 1978; Watson 1985) although a variety of nuts formed an important component of the diet. The exploitation of such plants, which can be stored for later consumption, probably reduced the need to exploit geographically extensive resource territories, and resulted in the more intensive utilization of smaller areas. One consequence of such a change in subsistence strategy is the creation of archaeologically visible sites, many with a greater degree of alteration (pit features, hearths, and house floors) and built up of thicker midden deposits. Such sites are more likely to be occupied over greater periods of time and to be revisited over many years. Localization of cultural behaviors also frequently resulted in a greater incidence of interment in a confined locality. More people died and were buried at a specific location: Late Archaic burial populations are much better known, and frequently larger, than Middle or Early Archaic burial populations for this reason. Human skeletal remains from this period form one of the most important sources of information on how Native American populations lived and died.

The excavation or surface collection of an archaeological assemblage provides information on raw material use, tool production and use, and subsistence activities. The collection of additional information on the spatial relationships among artifacts and cultural features has enormously increased our understanding of the internal organization of archaic communities, their use of space, and the identification of specific activity loci within the community (e.g. Whallon 1974). For these reasons, the investigation of surface and subsurface cultural remains, even in plowed fields, offer opportunities to collect information relevant to a number of research issues.

Two sites along the north side of Manhattan Island have been identified and excavated from this time period, Tubby Hook and Inwood. Tubby Hook is a large shell midden alongside the Hudson Railroad tracks. Within this midden, several tools and other artifacts of daily life were found. Inwood is located on the northern tip of the island, in what is currently a city park. This is a rockshelter site with a large shell midden associated with it. Several of the tools on this site are woodworking tools which indicate the manufacture of canoes, fish weirs and homes. Also found on this site are the banner stones from atlatls. The tools suggest that both terrestrial and aquatic resources were being used.

By about 3,700 years before present, the landscape was very similar to modern times. At this point a culture known as the Orient emerged in the New York area. This group is known for their complex funerary rituals and use of steatite (soapstone) bowls. The Throg's Neck Site is the best known site in Long Island for this time period. Two hilltop cemeteries face the water and several habitation sites surround these cemeteries. The burials represent in-the-flesh burials, fleshed cremations and cremations of defleshed bone. The burials included several grave goods including broken steatite containers, fire-making kits, 'cosmetic' stones (used for their pigments), red ochre, woodworking kits, spear points and knives. This period appears to mark the beginning of distinct cemeteries and could be a sign of intense social changes, likely due to the drastic environmental change which occurred during the Late Archaic. (Ritchie and Funk, 1973, Ritchie, 1980 and Cantwell and Wall, 2001)

#### Woodland Period (3,000 B.P. to 400 B.P.)

The Woodland period, like the preceding Archaic is divided into three sub periods, although a greater number of cultural phases and spatially discrete societies are recognized. The major distinctions between the Woodland and Archaic periods are the development of ceramic technology and the use of ceramic vessels as part of everyday life. Coinciding with this is the development of complex, hierarchical societies in many parts of the Eastern Woodlands. Such societies appear to have developed after the adoption of a small number of native plants as cultivars. A reliance on these crops and the development of storage techniques enabled Native American populations to inhabit more restricted territories than hunters and gatherers.

The evolution of Woodland society from relatively noncomplex foragers to hierarchically organized chiefdoms is one of the major research foci of North American archaeology. Only a brief overview of the major characteristics of these three sub-periods is presented here.

#### Early and Middle Woodland (3,000 B.P. to 1,500 B.P.)

The Woodland period is marked in the Ohio and Mississippi valleys by extensive societies who built large earthworks, sedentary cities, and extensive roadways, over which vast trade networks formed. During this period the people occupying present-day New York were no different than the people located elsewhere in the country and the trend appears to be away from the small, highly mobile camps toward more sedentary camps. Though some researchers have dismissed the tidewater communities in New York as marginal due to the absence of complex societies and

hierarchical organization, many still argue that the area was nonetheless culturally rich and incredibly significant (Ritchie and Funk, 1973, Ritchie, 1980 and Cantwell and Wall, 2001).

Most notably, these early and middle Woodland periods are marked by the adoption of ceramic making technology by Native Americans and the use of cultivars as a major component of the diet (Cowan 1985; Watson 1985). They are considered here as a unit because the chronological division between them is the subject of debate, and because activities such as mound building are associated with both periods.

Though agriculture had an effect on the life ways and settlement patterns of Woodland societies in Pennsylvania, New Jersey and New York, cultural change was not very dramatic as for example in the Ohio River Valley (e.g. the Hopewell tradition). The tidewater area of New York is often seen as being the most culturally marginal environment of all. However, the presence of goods which are not native to the region indicates that these people were either traveling or trading with peoples around Trenton and Southeastern Pennsylvania (Ritchie and Funk, 1973, Ritchie, 1980 and Cantwell and Wall, 2001).

Sites of this time period tend to be relatively small and to have been occupied by a small group of people for a relatively short period of time. One of the major distinctions between Early Woodland society and Late Archaic society is a change in the social organization from a less complex to a more complex social system. Evidence for such changes can be documented by analysis of the mortuary program. Small numbers of individuals were buried in large well-built log tombs within burial mounds, while others were buried in adjacent areas or in caves. Artifacts found with these individuals are interpreted as evidence of differences in social status within society.

Although the primary habitation sites tend to be small homesteads which are removed from neighboring sites, occasionally archaeologists have documented large special purpose sites. These sites range from specialized settlements to sacred enclosures. Recent investigation of caves and rock shelters has documented intense utilization of these localities during this period.

Trends towards greater sedentism and subsistence specialization begun during the Terminal Archaic continued and were accompanied by experimentation with cultigens. The earliest ceramics are named the Mercey Creek and Ware Plain types and consist of flat-bottomed, straight-sided vessels with lugs or handles. The Vinette I type with characteristic conical bases, coarse grit tempered paste, and cord marks in the interior

and exterior walls have followed these two types (Kraft 1975; Williams and Thomas 1982). Meadowood projectile points are typical of this time period.

During the Middle Woodland period (ca. 2000 to 1300 BP) decorated pottery replaced coarse tempered vessels. The usual decorative motifs include net impressions and the unusual zoned geometrical patterns from the Abbott Farm. Among projectile points Rossville, Fox Creek, and Jack's Reef Pentagonal dominate the assemblage. Other tools include pestles, hammer stones, anvil stones, net sinkers, etc. (Ritchie and Funk, 1973, Ritchie, 1980 and Cantwell and Wall, 2001)

The early woodland site of North Beach, located on the present-day site of LaGuardia Airport, yielded a variety of broken and discarded artifacts which suggest that the area was used as a base camp for a small family group. This is the only site identified to this time period in the area; unfortunately it was destroyed during the grading activities associated with the construction of the airport. The artifacts from this site were hastily rescued from the bulldozers (Ritchie and Funk, 1973, Ritchie, 1980 and Cantwell and Wall, 2001).

The Middle Woodland is better represented in the area, but not by much. The best known site is the Morris-Shurz site on Throg's Neck in the Bronx. Here the archaeologist digging the site, Edward Kaeser, found an 8-foot wide circle, surrounded by water-worn stones, which Kaeser thought to be a foundation for a house. As Kaeser dug through the deposits he found a stack of over 150 plates of sheet mica, the origin of which has been traced to Southeastern Pennsylvania, as well as reddish-purple argillite which has been traced to the area around Trenton. Additionally the pottery found at this site suggests trade ties with the people living near present-day Trenton, as its design is similar to that found at the Abbot Farm site (Cantwell and Wall, 2001).

#### *Late Woodland (1,500 B.P. to 400 B.P.)*

The activities that mark the Early and Middle Woodland period such as the extensive trade and construction of large burial mounds are not apparent during the Late Woodland. Habitations tend to be larger and agglomerated into circular villages in contrast with the preceding periods. Ceramics associated with these occupations tend to lack decoration and appear to be utilitarian in function rather than associated with any particular ritual. Information on plant and animal food resources is available from numerous sites and indicates a reliance on cultivated foods, although hunted and gathered resources comprised an important component of the diet.

The largest sites are usually located on major rivers and probably represent permanently occupied base camps. Smaller sites are abundant along tributaries and near natural springs. These sites probably functioned as temporary or seasonal camps. An economic system based on horticulture was well established during this time period, although foraging and fishing persisted as the major subsistence activities. Hickory nuts, acorns, butternuts, and blueberries remained important wild foodstuffs. Gathering of freshwater foods like mussels found on sites along the Upper Delaware (Kinsey et al. 1972; Kraft and Mournier 1982b) contributed significantly to the daily diet.

Tidewater New York and Southern New England do not appear to have been caught in the agricultural revolution that swept much of the rest of the country. While no one knows exactly why this is so, there is no lack of speculation as to the reasoning. It could have been that the environment in which these people were living was so rich that large settlements and agriculture were not necessary (Ritchie and Funk, 1973, Ritchie, 1980 and Cantwell and Wall, 2001).

The Aqueduct site, between the Aqueduct Race Track and J.F. Kennedy International Airport was discovered in 1939, just prior to the construction of the roadways which now encircle the area and much of the city. In this site, researchers found a plethora of discarded tools, broken pottery and shells as well as one double burial which included one infant and one old woman between the ages of fifty and seventy-five. This grave was surrounded by fourteen post-holes. After further research, the archaeologists discovered 17<sup>th</sup> Century accounts of the burial rituals of the people, which included a structure with palisade around the grave to protect it from wild animals. This burial site was a primary burial – a burial of an individual at or very near the time of death. This however, was not the only way that the Late Woodland peoples honored their dead. If an individual of note died far from his primary homeland, his traveling companions would carry his bones back to the homeland to be buried on his own soil. Evidence of these 'bundle burials' are found all over the city. One such site, Archery Range, was found near Pelham Bay by Edward Kaeser. In total he found the remains of 21 bundle burials and 3 dogs in the mass grave. Kaeser argued that this site, like the Aqueduct site and others like it in the area, was evidence of a burial in or near the settlement of people buried there (Cantwell and Wall, 2001).

#### Contact Period (after 400 B.P.)

At the time of European contact, the Matinecock, Canarsee, and Rockaway, Algonquian-speaking tribes of the Lenape, occupied what is now Queens County. These groups shared a common language and ultimately a common fate with their relatives the in

New Jersey and Eastern Pennsylvania. They were also known as the Delaware tribe, a name given to the native residents of New Jersey, New York and Pennsylvania by European settlers (Kraft 1987; Kraft et al. 1996). The Delaware or Lenape or Lenni Lenape, spoke a language belonging to the eastern branch of the Algonquian stock. They lived in the lower Hudson River Valley and the Delaware River Valley until the late 17th and early 18th centuries.

Pressed by white settlers, the Delaware moved to the Tuscarawas branch of the Muskingum River in Ohio. During the Revolutionary War the Delaware Indians were divided by three different political allegiances based on geographic location. Those Delaware living in Pittsburgh were pro-colonist, while the group in northwest Ohio sided with the loyalists. Other groups in Ohio tried to remain neutral. During the 1790s, most of the pro-British Delaware Munsee went to Canada, where they remain today.

The history of New York dates back to the 17<sup>th</sup> century when the Dutch settled in the area. Settlement of what is now Queens County began in 1635 with the colonization of Maspeth and Vlissingen (now Flushing). Queens was one of the original counties of New York, formed in 1683. When the English took over the New Amsterdam Colony, and renamed it New York, all of Long Island was known as Yorkshire. Queens was not as instrumental during the Revolutionary War as Brooklyn, and when the British took over the island after the Battle of Long Island in 1776, the British quartered in many public inns and abandoned buildings in Queens.

#### **4.1.2 Historic Times**

##### County History

The written history of New York dates back to the beginning of the 17<sup>th</sup> century, 1609-1624, when Dutch settlers moved into the area and established the New Netherlands. Initially the Dutch occupied the southern tip of Manhattan and also established farms in Brooklyn before settling the northwestern shore of Long Island along the East River. In 1639 the Dutch began acquiring land in present-day Queens from the Matinecock Indians. Willem Kieft purchased much of the land that later became Queens County (Hermalyn and Ultan, 1995). By 1640, when Chief Penhawitz of the Canarsee tribe sold the lands around Jamaica Bay, the Dutch West India Company (WIC) owned all the lands of western Long Island (Hermalyn and Ultan, 1995).

English settlement of the region began in the 1640s with the approval of the Dutch government. In 1642 Some English settlers from New England took up lands in Maspeth at the headwaters of Newtown Creek (Hermalyn and Ultan, 1995). The

settlement was abandoned because of Indian attacks the following year. In 1652 a second settlement in the area was established further inland. It was initially named Middleburg and renamed Newtown, and at present it is known as Elmhurst (Hermalyn and Ultan, 1995).

In 1645 other English settlers started Vlissingen (Flushing), while in 1656 Englishmen from Hempstead founded Rustdorp, presently known as Jamaica (Hermalyn and Ultan, 1995). Local place-names confirm early Dutch settlements. The Dutch introduced their culture including the form of government. Because Dutch farmers who moved from Brooklyn settled among the English farmers, Queens became a place of diverse cultural traditions from its outset (Seyfried and Peterson, n.d.). In 1664, the English conquered New Netherlands and renamed the colony New York. The area (including all of Long Island) became known as Yorkshire.

In 1683 the British government divided the New York colony into twelve counties. Queens named after Catherine of Braganza, the Portuguese-born wife of King Charles II of England, was one of these original counties. The county originally included all of the area that at present is known as Nassau County. It originated as a cluster of five towns: Flushing, Hempstead, Jamaica, Newtown, and Oyster Bay. The sixth, Town of North Hempstead, was added in 1784.

Queens played a minor role in the American Revolution. Most of the population remained loyalist and, like the rest of Long Island, was occupied by the British after the Battle of Long Island in 1776. It remained under British occupation throughout the rest of the war (Hermalyn and Ultan, 1995). Under the Quartering Act, British soldiers used the public inns and uninhabited buildings owned Queens residents as their quarters. Capitan Nathan Hale, a hero of American Revolutionary War considered the country's first spy, was captured by the British on the shore of Flushing Bay in Queens and executed in Manhattan. The last British troops marched out of Jamaica in December 1783.

The seat of county government was first located in Jamaica, and around 1788 moved to Clowesville (present-day Mineola). In 1870, Long Island City was incorporated; it consisted of what had been the Village of Astoria and some unincorporated areas in the Town of Newtown. The seat of county government was moved to Long Island City from Mineola around 1874.

The New York City Borough of Queens was formed January 1, 1898 when Long Island City, the towns of Newtown, Flushing, and Jamaica, and the Rockaway Peninsula

(previously part of the Town of Hempstead) were merged to form a new administrative unit (Hermalyn and Ultan, 1995). The eastern Long Island towns that did not become a part of the borough, North Hempstead, Oyster Bay, and the remaining portion of the Town of Hempstead, formed Nassau County in 1899 (Hermalyn and Ultan, 1995). After administrative consolidation, Jamaica again became the seat of county government.

Significant cultural changes were introduced at the time of industrialization. From 1905 to 1908 the Long Island Railroad (LIRR) in Queens was electrified. The Queensboro Bridge was finished in 1909 enabling direct transportation to and from Manhattan and opening new economic options for the people of Queens and also contributing to demographic changes in the borough. Railway tunnels under the East River were completed in 1910. From 1915 onward much of Queens was connected to the New York City by the subway system. The construction of the elevated Interborough Rapid Transit Company (IRT) subway lines between Queens and Manhattan, and the expanded use of the automobile resulted in the population of Queens more than doubling in the 1920s, from 469,042 in 1920 to 1,079,129 in 1930. Table III shows the changes in the Queens County population from 1790 to 2000.

**Table III.** Population trends for Queens County between 1790 and 2000.

<b>Year</b>	<b>Population</b>	<b>Year</b>	<b>Population</b>
1790	16,014	1900	152,999
1800	16,893	1910	284,041
1810	19,336	1920	469,042
1820	21,519	1930	1,079,129
1830	22,460	1940	1,297,634
1840	30,324	1950	1,550,849
1850	36,833	1960	1,809,578
1860	57,391	1970	1,986,473
1870	73,803	1980	1,891,325
1880	90,574	1990	1,951,598
1890	128,059	2000	2,229,379

#### Project area land-use history

Sources suggest (cf. Greater Astoria Historical Society documents) that the project area and its vicinity was occupied by a native group whose name is not known. The people probably used the name Canapaukah for a creek and a 1656 deed describes the creek in relation to a mill (LIC Rezoning document). This is probably the mill later known as the

"Burger" Jorissen's mill, which is most likely located in the Sunnyside Rail Yard to the northeast of the project site (Singleton, 2008).

The history of the project's area land-use relates to European presence in the area called Dutch Kills which later became a part of Long Island City. No prehistoric and historic sites are known to exist within the project area. The land has been used as farmland and there are also evidence of intensified farming and industrialization. The data used in the description presented below were derived from Singleton (2008).

#### Grist Mill History

The project area and its vicinity are linked to several historic structures. Singleton (2008) provides key data on the history of the Grist Mill and other structures existing in its vicinity. The mill was a center of the 17<sup>th</sup> century economic activities and a road network was established to link the mill with local farms. "Burger" Jorissen secured a deed for land in Dutch Kills. The Jorissen's house stood between Northern Boulevard and the Sunnyside railroad yard, a few hundred feet north of the intersection between 41<sup>st</sup> Avenue and Northern Boulevard. Jorissen built a dam across Dutch Kills (now in the rail yard) to create a millpond to power the tidal mill. In 1650 he dug a ditch through the swamp to get better flow through his mill and also to drain his property. Known as the "Burger's Sluice" the ditch parallels present-day Northern Boulevard south of 40<sup>th</sup> and 48<sup>th</sup> Streets. In 1667 Jorissen and five other freeholders, vacated their claim to the Newtown Patent and this land became the Hamlet of Dutch Kills. Jorissen's sons moved to Manhattan and sold the mill and farm to John Parcell. The Bolting Act of 1678 regulated the construction and use of mills in New York State.

Burgen Brocard (or Bragaw) bought the Jorissen tract around 1690, either from Parcell, or from another owner. Bragaw owned it for about twelve years and sold it in 1702. His son Isaac bought the house some years later and probably built the house known as the Paynter house, which is shown on the tract until 1913. This house is likely on the site of Jorissen's original house and may have incorporated parts of the original late-17<sup>th</sup> century house. Isaac's son Richard inherited the house and farm, but later sold the house and built a gambrel-roofed dwelling on another part of the property; this is the same house pictured on a mural in the former Long Island Savings Bank in Queens Plaza

During the revolutionary war, British troops occupied Long Island, and centered their occupation on the "Narrow Passage", a strip of land at the junction of Northern Boulevard, Newton Road and Woodside Avenue. By controlling this area the British

were able to grant access to surrounding communities. At this time the mill was known as Ryerson's Mill, after John Ryerson, who owned a tavern and a grocery store in the vicinity. Some sources suggest Ryerson owned the mill at this time, while other sources attribute the mill to a widow named Gertrude Polhemus. According to some sources, a British officer named James Larremore, fell in love with the young widow, married her after peace came and became a miller (cf Singleton 2008 for further discussion).

The Larremore family owned the mill until 1831, when they sold it to the Payntars. The mill fell into disrepair by 1861, when the construction of the railroad destroyed the mill. The Payntars are said to have rescued two millstones and incorporated them into their front sidewalk. The introduction of the railroad made the incorporation of Long Island City inevitable and introduced the process of urbanization and industrialization of this area. Although Dutch Kills developed slowly, it too succumbed to urbanization.

When Queens's residents voted to become a part of New York City, planning began for the Queensboro Bridge. The Payntar property, which included much of the present-day Queens Plaza, was acquired under eminent domain. In 1902, after engineers filled in the marshes, only the roof and chimneys of the house were visible. By 1913, the house was vacated and Elmer Payntar tore down the house; in its place he built the five-story Payntar building.

After the construction of Queens Plaza, the area looked much like it does today, with only some changes, minor when compared to the drastic changes of filling marshes and urbanizing of the area. A portion of the original roadbed remains under the Belgian block at 41<sup>st</sup> Ave., but the millstones, which are said to have been incorporated into the sidewalk in front of the Payntar house, are said to have been incorporated into the plaza, in front of the former Long Island Savings Bank.

In sum, the area of the present-day Queens incorporates over 350 years of European presence and combined with the history of Native Americans that inhabited the region, spans almost 10,000 years.

## **4.2 Map Review**

The Vermule and Bien map (1890) provides topographic and physiographic information on the area presently included in the Borough of Queens. It refers, however, to the times of early urbanization and industrialization and therefore some critical information on small watercourses or wetlands might not be included. A review of historic maps

and aerial photographs reveals the scale of developments at the project area since the mid-19<sup>th</sup> century. These maps are described below. Descriptions are presented chronologically beginning with the oldest maps and always begin at the northernmost lots of the project site and move southward. 16 maps spanning ca. 150 years were examined and their short descriptions are provided below.

On the 1829 Burr Atlas (Figure 4) the project area is shown in close proximity or a part of wetlands, next to a stream and a country road. A flouring mill is shown to have been located on the eastern bank of the stream. The map does not reveal the area's topography but only limited physiographic features, like streams and wetland, farmland, etc.

On the 1844 United States Costal Survey Map (Figure 5) the project area is shown as being surrounded by farmland and several farmsteads. The mill was located on a small knoll next to a tidal marsh. A farmhouse was located on or close to the mill and to the cross-roads which included the road going through the project area. The map shows Manhattan as urbanized area with clear-cut street pattern and Queens as rural and developing (lot boundaries are shown, but most are undeveloped or associated with small farmsteads).

On the 1866 United States Costal Survey Map (Figure 6) more farmhouses are visible around the project area. Because more topographic features were included, the project site is visible as located on a terrace overlooking floodplain. The map also shows the level of development as many farmsteads, especially along the East River were turned to urban area. The topography of the areas has not changed but the landscape consists of new houses and road pattern. Early elements of urbanization are visible on this map.

The 1872 Map of Kings County (Figure 7) is the first map showing the urbanization of the area. It depicts Long Island City street pattern and shows the project area located between Hunters Road and Jackson Avenue, in the section called Dutch Kills. Several streets run through and adjacent to the project area. Rail lines run to the east of the project area. The wetland area is still visible, but is under development. The map shows that the landscape of the project area and its vicinity changed profoundly since 1829.

## EXPLANATIONS

*Town lines distinguished by Colours*

*Stage Roads thus*

*County Roads*

*Villages*

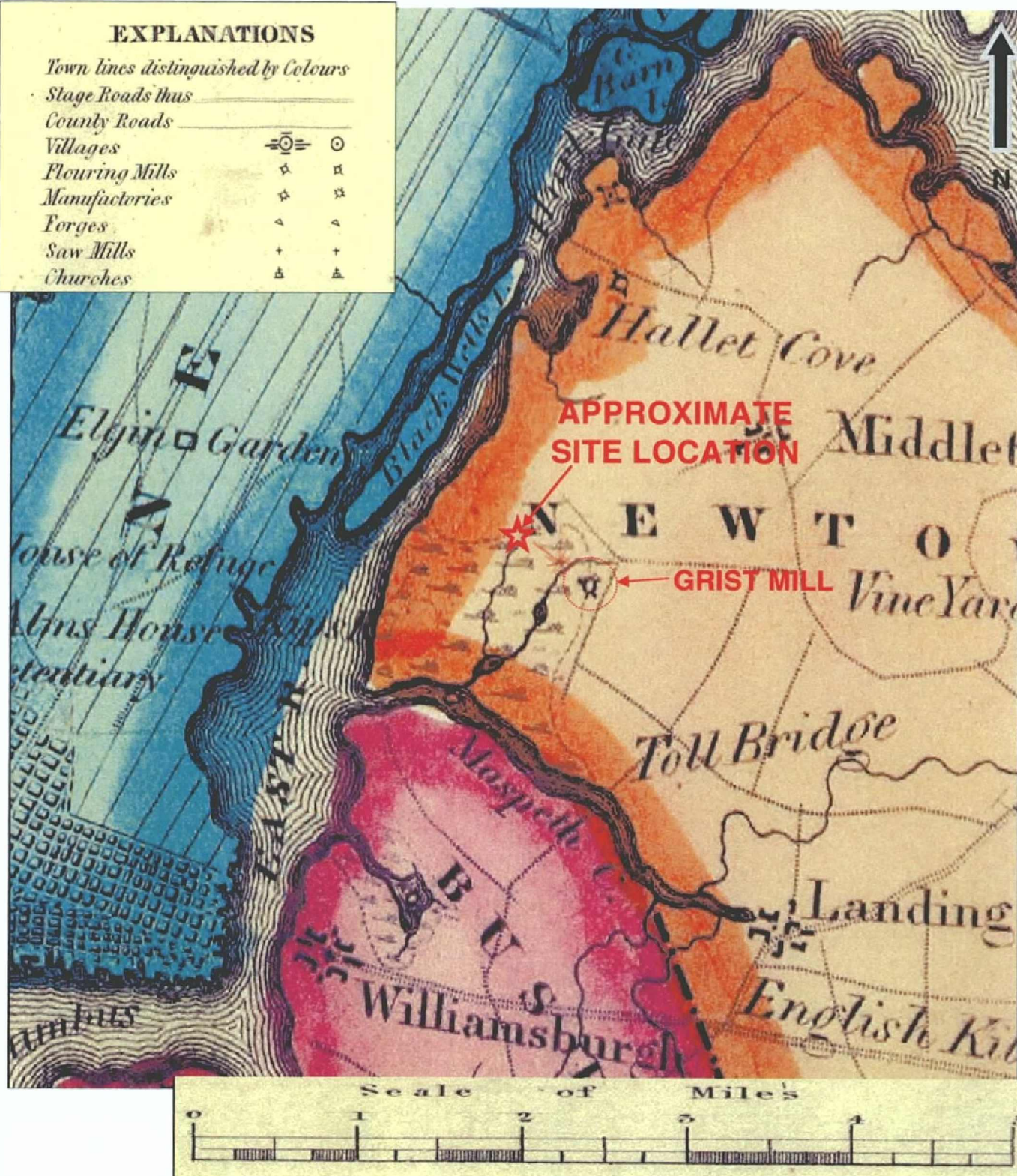
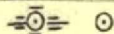
*Flouring Mills*

*Manufactories*

*Forges*

*Saw Mills*

*Churches*



Map Reference: Burr Atlas New York, 1829



ELMWOOD Pk, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

## 1829 BURR ATLAS

QUEENS PLAZA BICYCLE AND PEDESTRIAN  
IMPROVEMENT PROJECT – JFK PARK AREA

QUEENS

NEW YORK

JOB NO.

DATE

SCALE

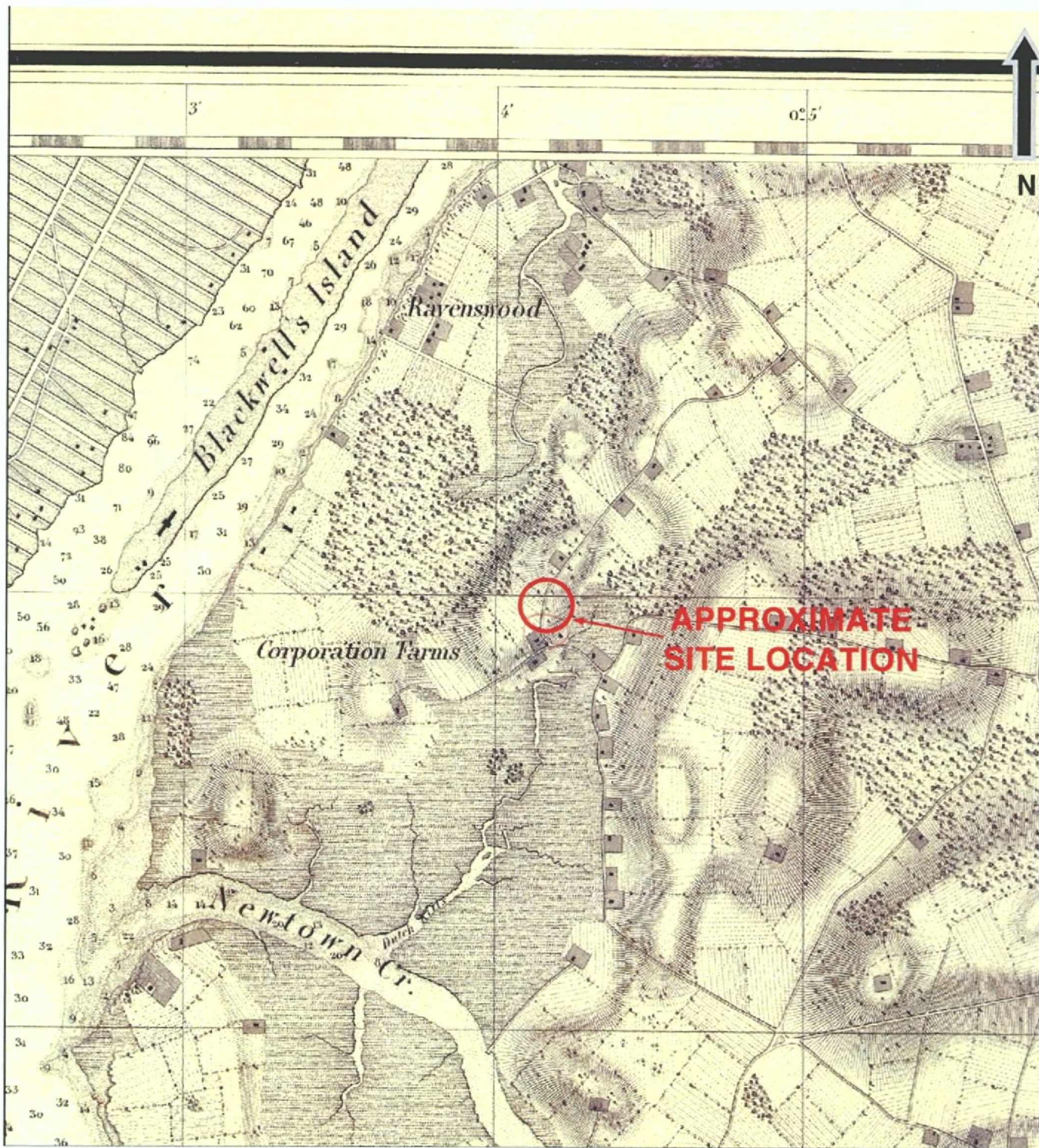
FIGURE NO.

5571301

4/11/08

AS SHOWN

4



Map Ref.: 1844 US Coast Survey Map of New-York Bay And Harbor And The Environ



ELMWOOD Pk, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1844 U.S. COAST SURVEY			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	NTS	5



Map Ref.: 1866 US Coast Survey Coast Chart No. 20 New York Bay And Harbor, New York



ELMWOOD Pk, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1866 U.S. COAST SURVEY			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	NTS	6



The 1891 Chester Wolverton Atlas Map (Figure 8) shows increased level of urbanization of the project area including the wetland area. No structures are shown to have existed at that time within the project area.

The 1898 Sanborn Map (Figure 9) shows the site area divided into residential lots. Six buildings classified as dwellings and four other structures are visible. The information presented by the map suggests that the site area was considered for residential development but the plan never materialized, probably due to the construction of the Queensboro Bridge 1903-1909.

The 1909 GW Bromley Atlas of the City of New York (Figure 10) shows the project site as empty lot not containing any buildings or structures. More landscape modification and adjustments happen in the beginning of the 20<sup>th</sup> century as the area is fully urbanized. The Queensboro Bridge is shown on this map.

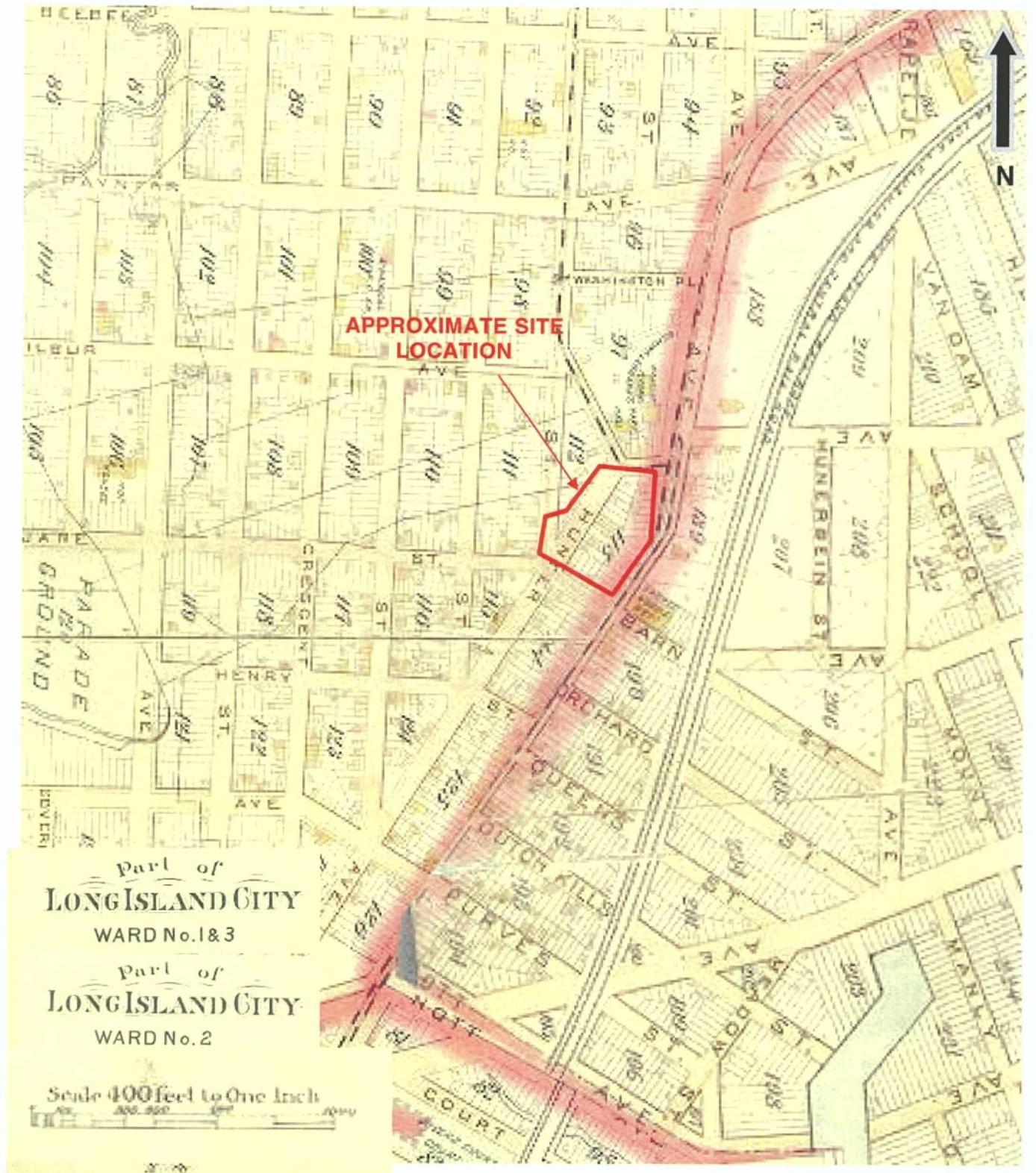
The 1914 NYC Department of Transportation Trolley Track Alignment Map (Figure 11) shows the alignment of the trolley tracks that looped within and travel through the project site. There are multiple sets of tracks in the project area. The trolley ran until 1919 when the line was shut down. Additional landscape modifications were introduced at the time of the construction of these lines.

The 1915 Sanborn Map (Figure 12) shows the project site containing only a single structure labeled Queens Plaza Waiting Station. This station is presumably for the trolley tracks that loop around in Queens Plaza. The trolley lines are not present. This suggests that the lines were removed and the project area leveled and modified.

The 1936 Sanborn Map (Figure 13) does not show any buildings or structures in the project site.

The 1947 Sanborn Map (Figure 14) shows the project site being named as Bridge Plaza and a new street alignment for automobile traffic. There are also two areas that could have been used as parking lots and a building labeled "public lavatory." The new street pattern suggests further landscape modifications and adjustments introduced to the project area.

The 1950 Sanborn Map (Figure 15) and the 1966 Aerial Photograph (Figure 16) does not show any changes in the project site since 1947.



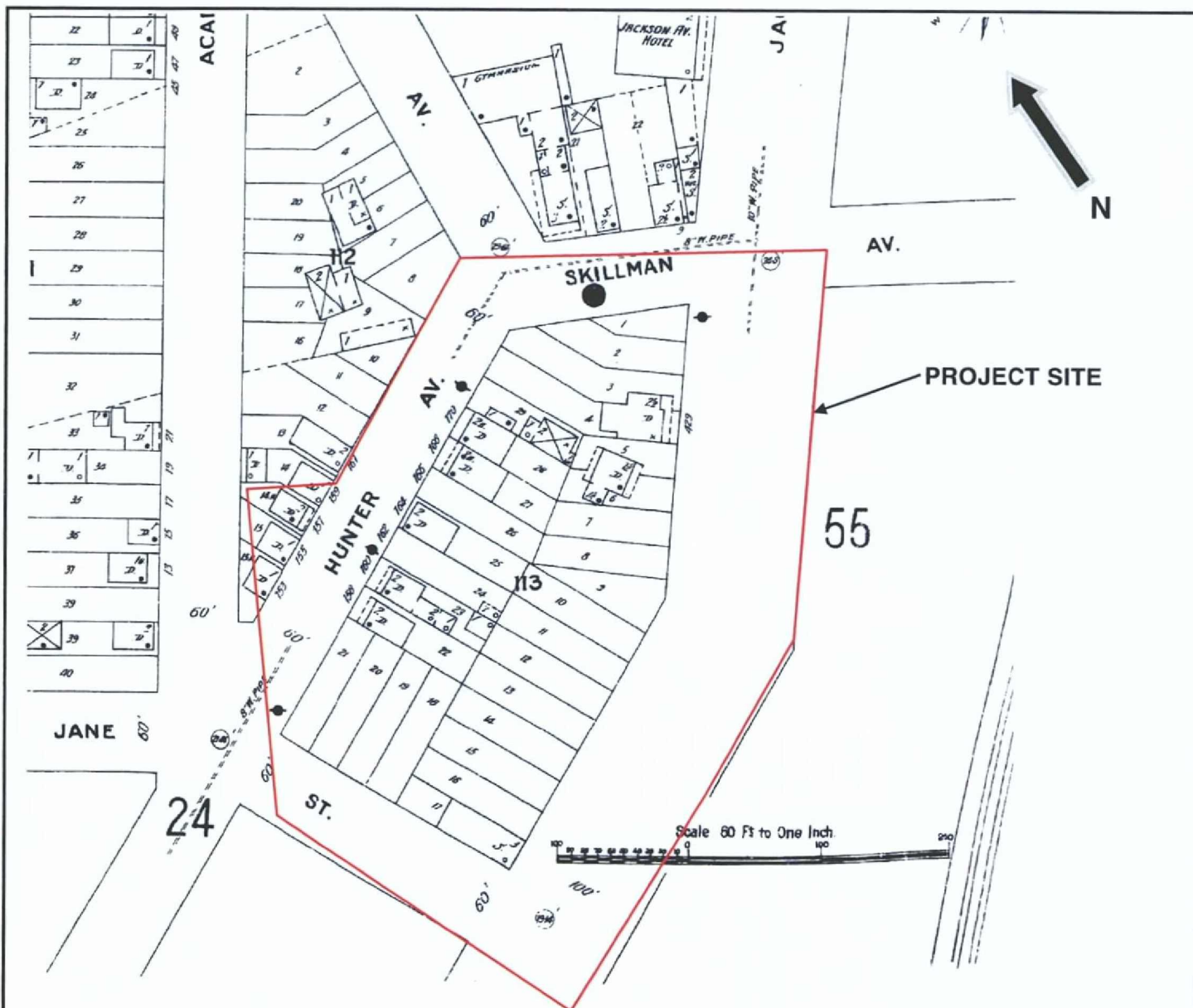
Map Reference: Chester Wolverton, Atlas of Queens County, New York, 1891



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**1891 CHESTER WOLVERTON ATLAS**  
**QUEENS PLAZA BICYCLE AND PEDESTRIAN**  
**IMPROVEMENT PROJECT – JFK PARK AREA**  
**QUEENS NEW YORK**

JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	8

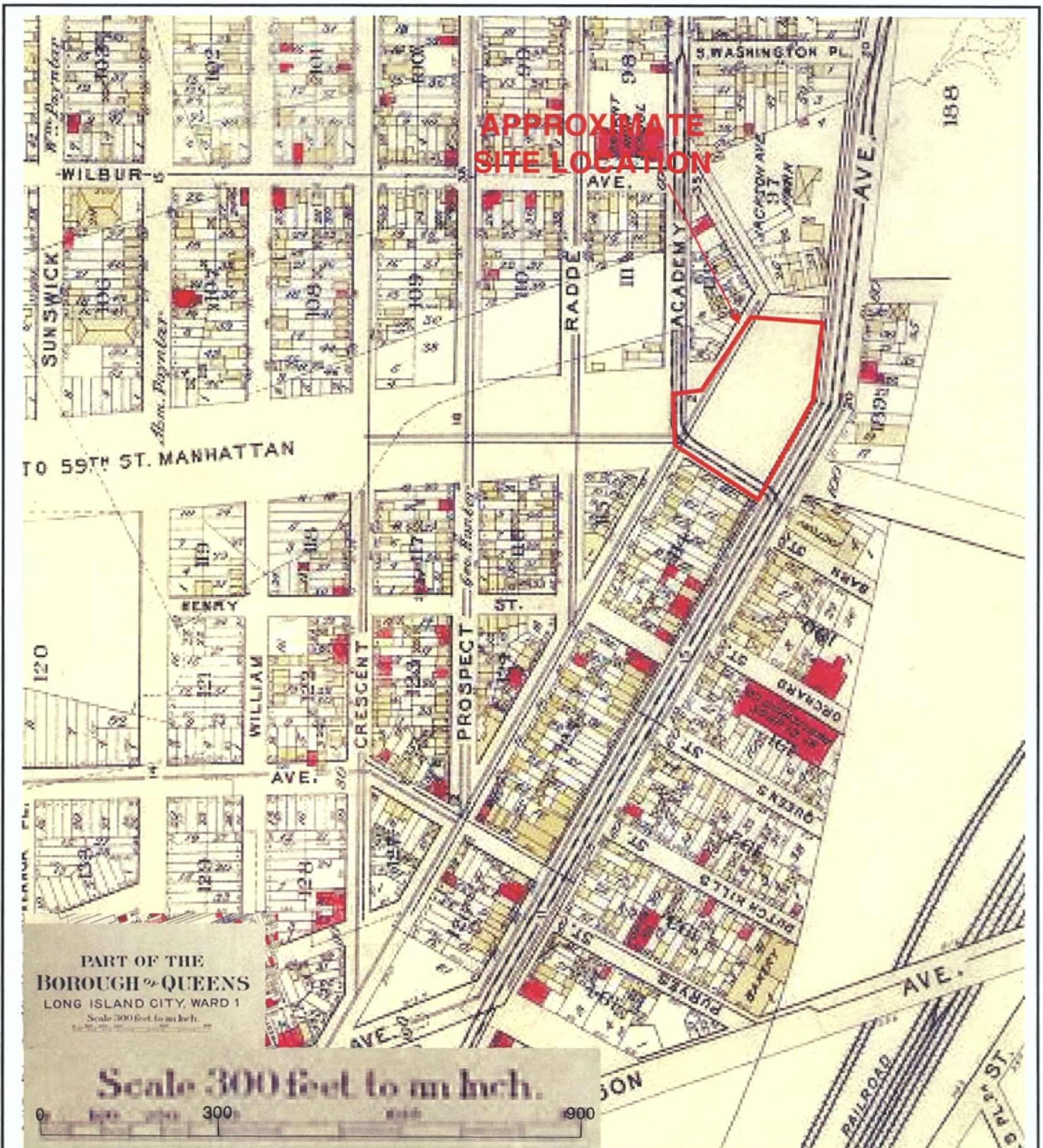


Map Ref.: Environmental Data Resources Inc., 1898 Sanborn Map.



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1898 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	9

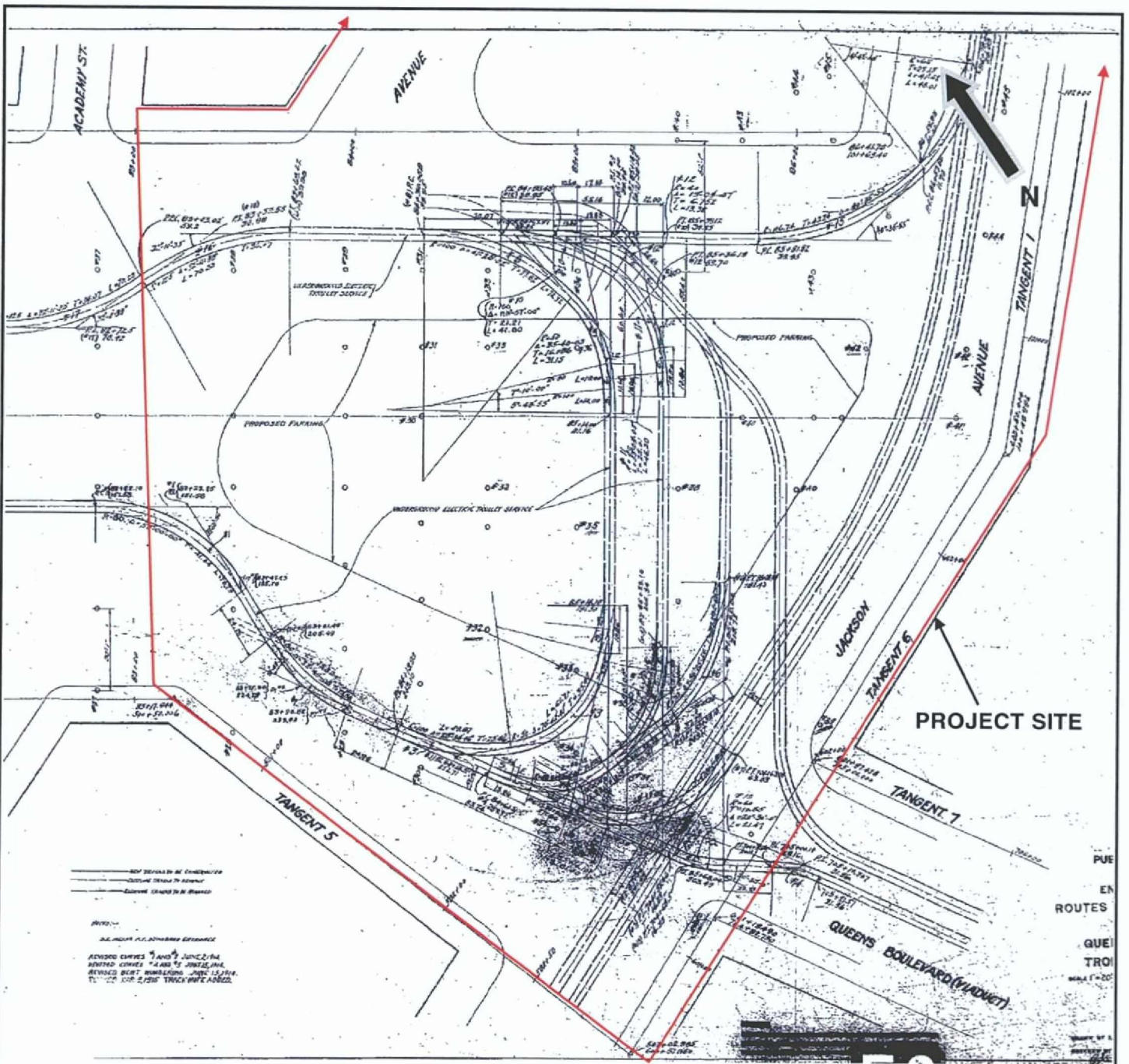


Map Reference: G.W. Bromley and Co. Atlas of the City of New York, Borough of Queens, 1909, Plate 1



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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1909 G.W. BROMLEY ATLAS			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	10/15/07	AS SHOWN	10



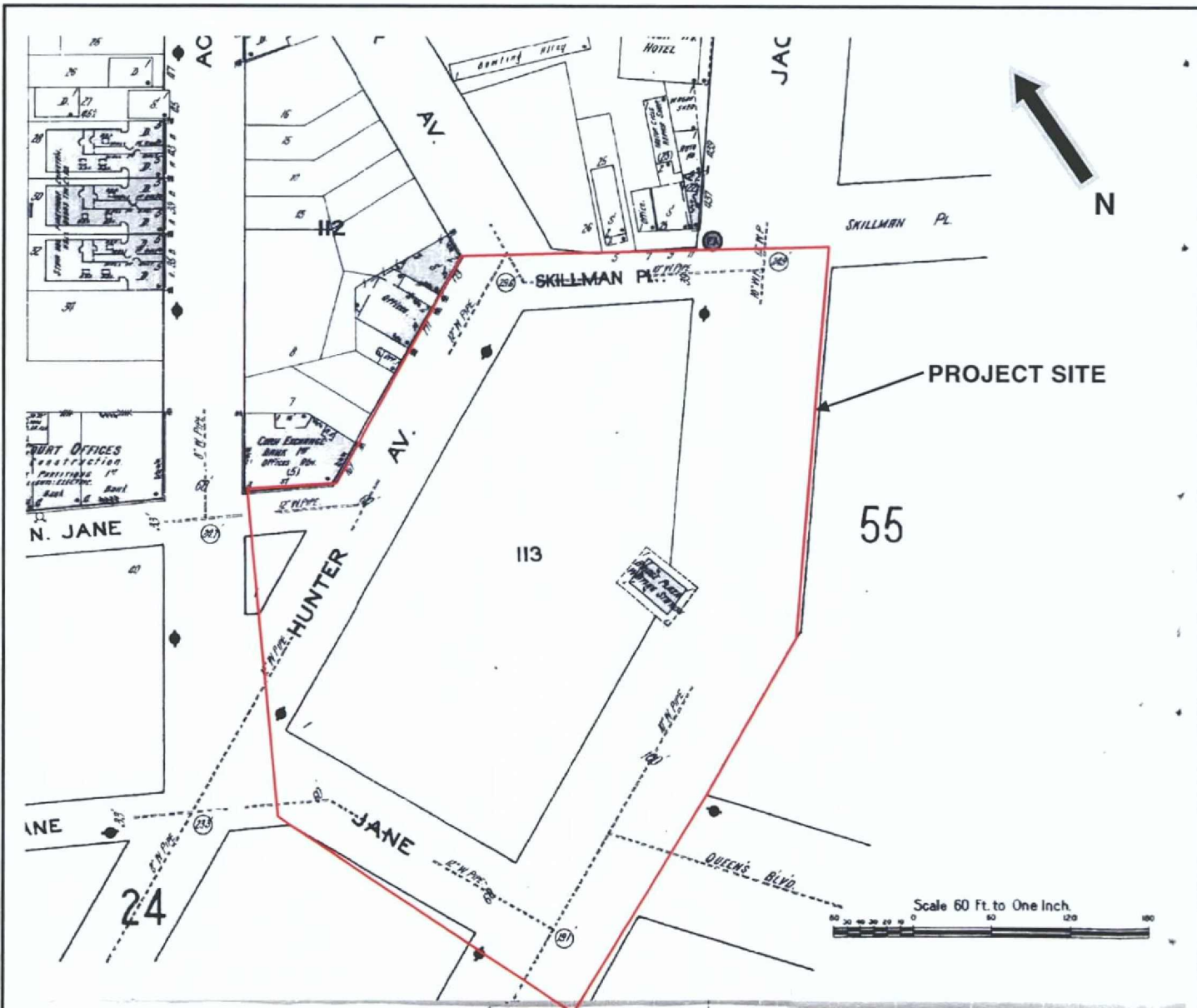
Map Ref.: New York City Department of Transportation, Mass Transit Planning Division, Trolley Track Alignment, May 18, 1914



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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

# **1914 TROLLEY TRACK ALIGNMENT** **QUEENS PLAZA BICYCLE AND PEDESTRIAN** **IMPROVEMENT PROJECT - JFK PARK AREA** **QUEENS** **NEW YORK**

JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	11

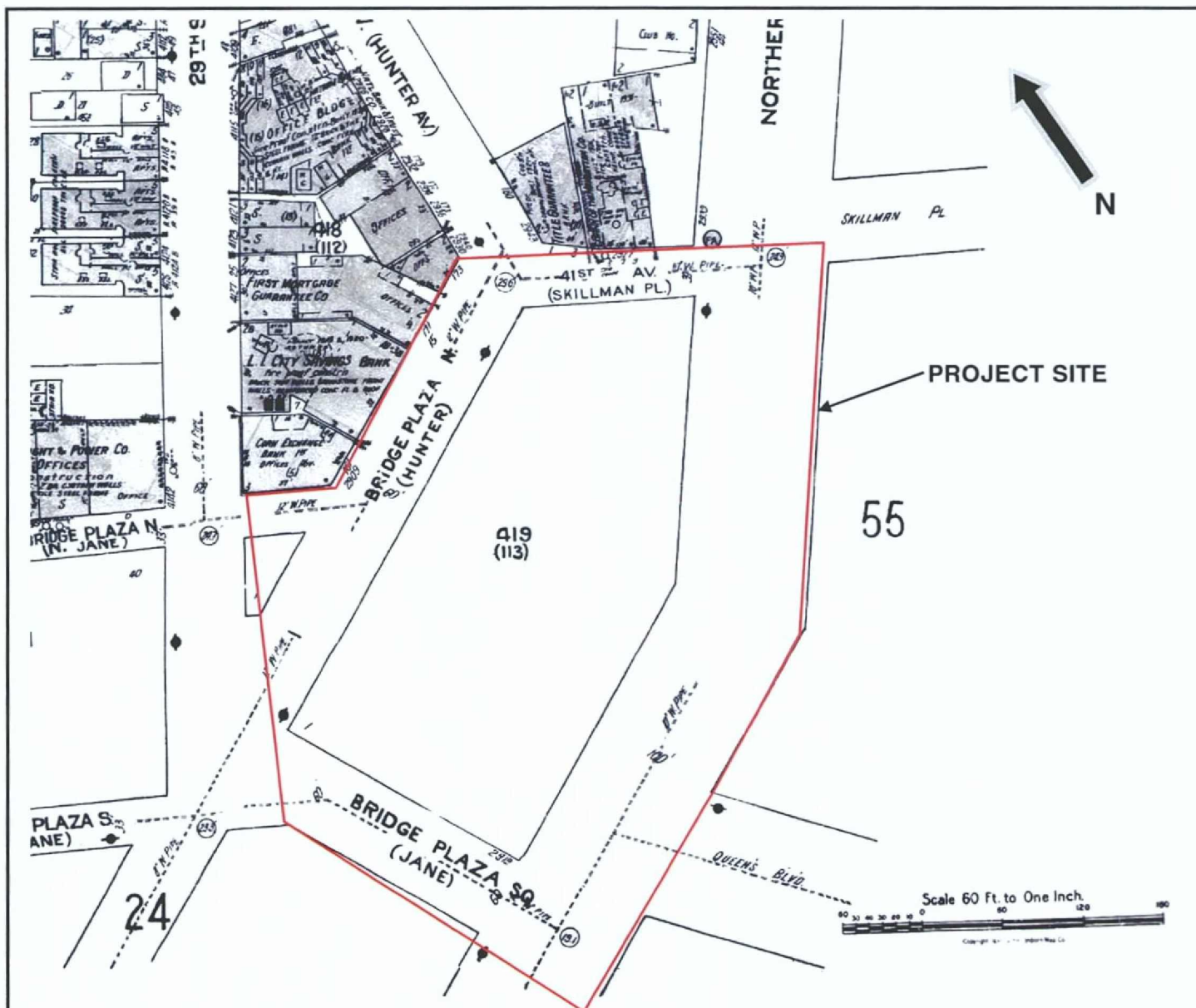


Map Ref.: Environmental Data Resources Inc., 1915 Sanborn Map.



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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1915 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS			NEW YORK
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	12

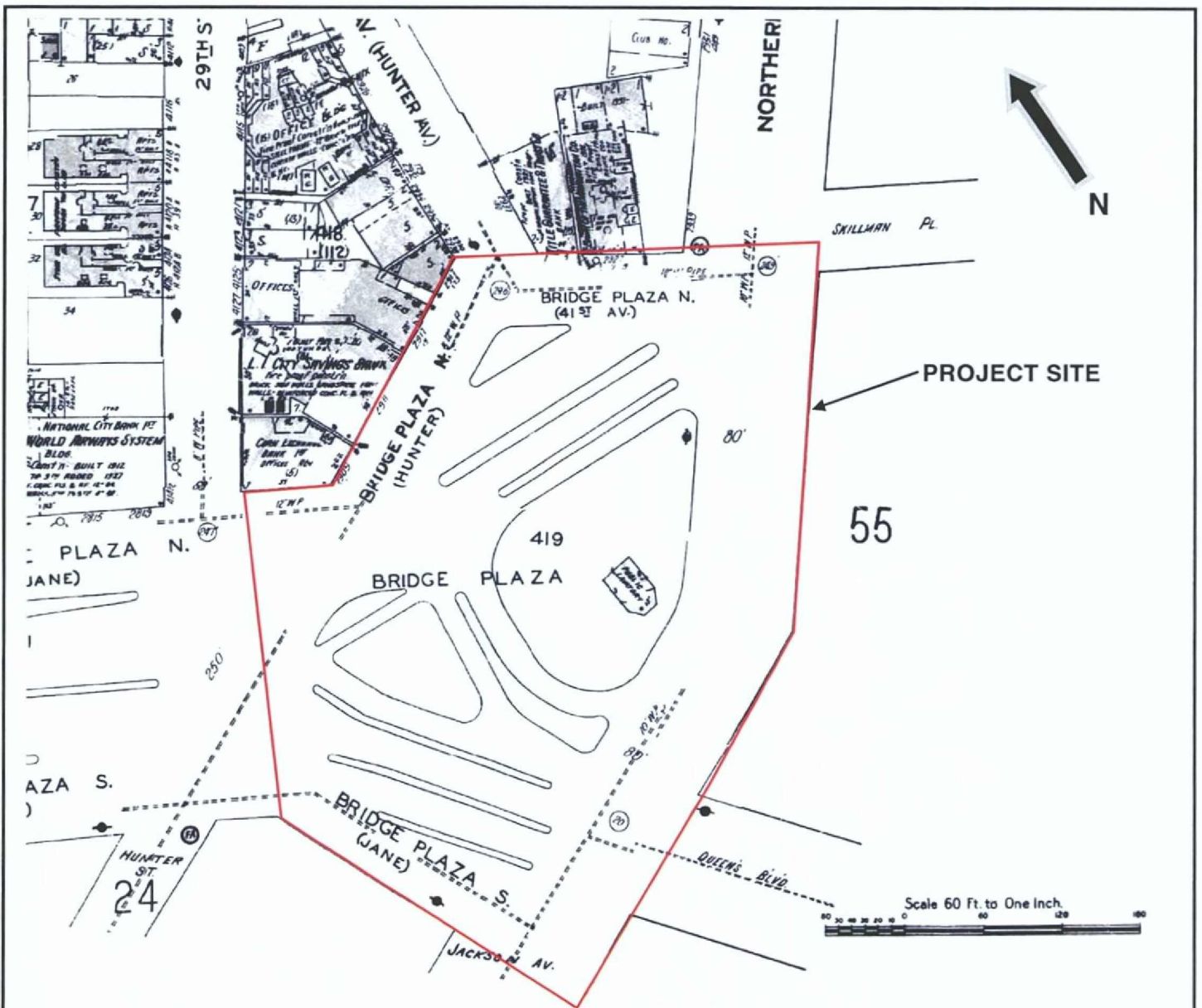


Map Ref.: Environmental Data Resources Inc., 1936 Sanborn Map.



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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1936 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	13

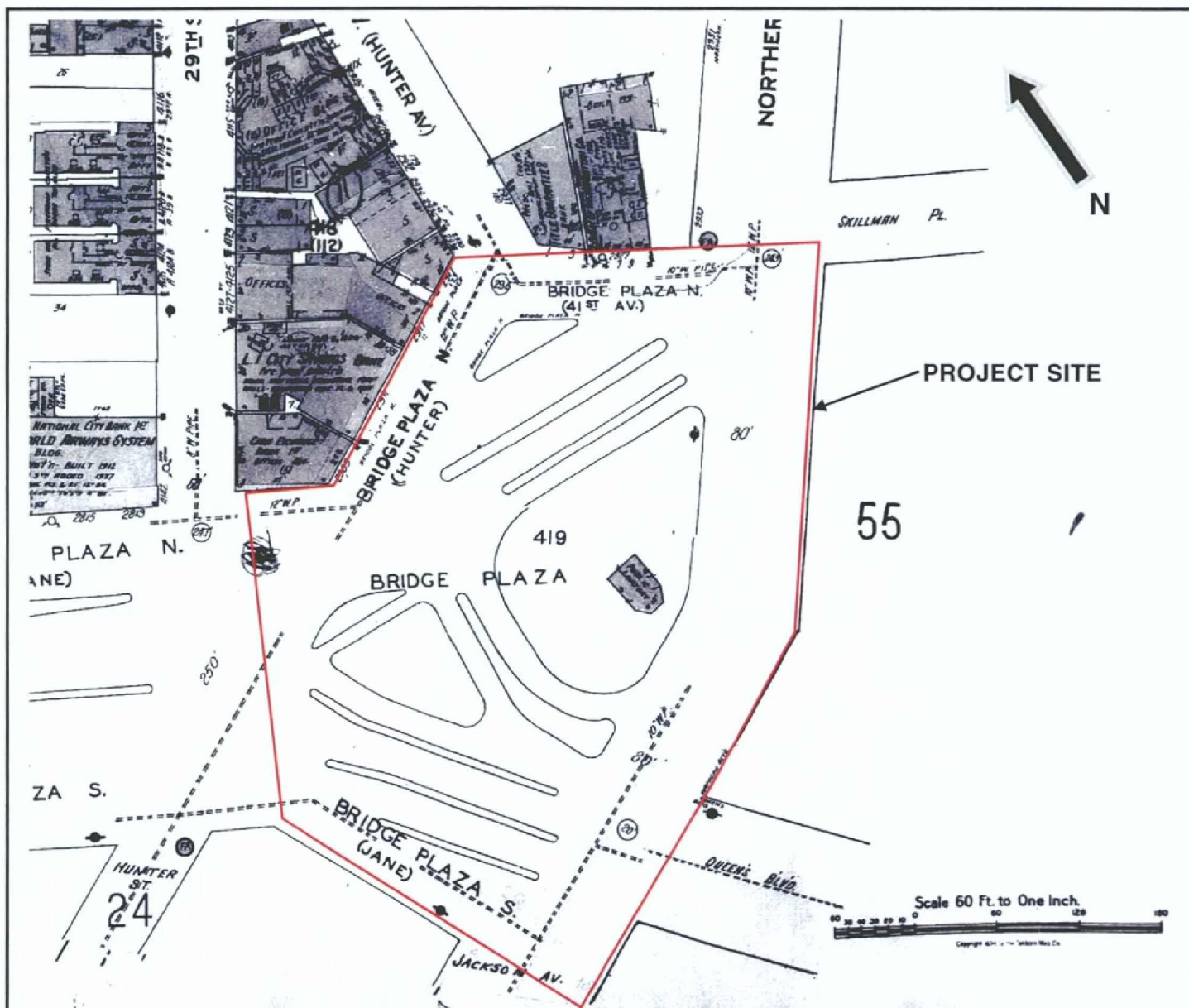


Map Ref.: Environmental Data Resources Inc., 1947 Sanborn Map.



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1947 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS			NEW YORK
JOB NO.	DATE	SCALE	FIGURE NO.
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Map Ref.: Environmental Data Resources Inc., 1950 Sanborn Map.



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1950 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	15



— = 750'

Map Ref.: Environmental Data Resources Inc., 1966 Aerial Photograph.



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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

**1966 AERIAL PHOTOGRAPH**  
**QUEENS PLAZA BICYCLE AND PEDESTRIAN**  
**IMPROVEMENT PROJECT – JFK PARK AREA**

QUEENS

NEW YORK

JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	16

The 1970 Sanborn Map (Figure 17) no longer shows the building labeled "public lavatory." Otherwise the project site is the same as in 1947 and 1950.

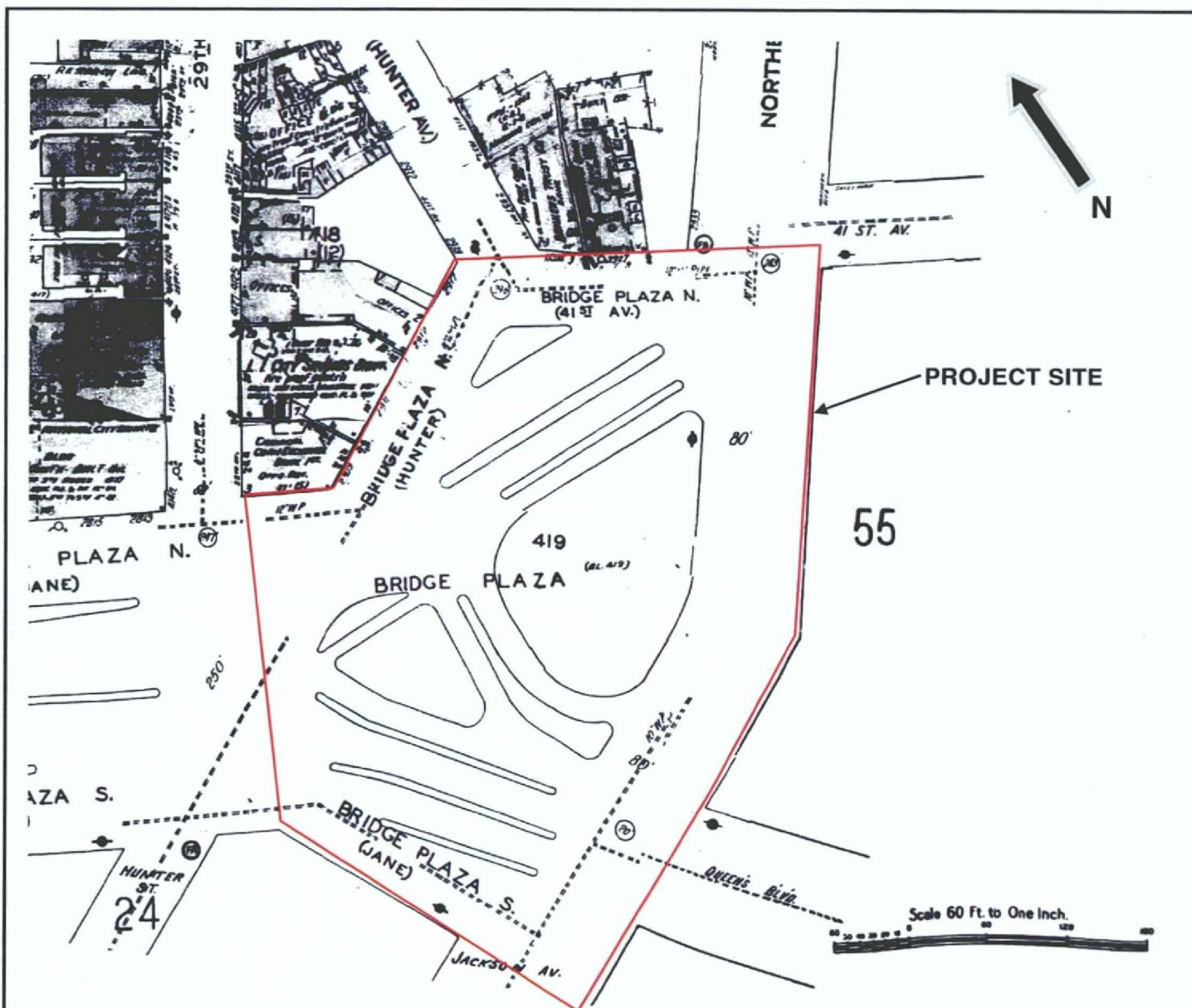
The 1980 and 1990 Sanborn Maps (Figures 18 and 19) show no changes to the project site and depict the same street pattern as shown on 1947-1970 Sanborn maps.

The 1996 Sanborn Map (Figure 20) shows unchanged since 1947 street alignment and reveals the new name of the project site - (Bridge) Queens Plaza.

Overall, the review of maps revealed that people have lived in the vicinity of the project area for at least 150 years. Since 1829 until 1872 it was primarily rural area, undeveloped vicinity of Manhattan. First significant changes are visible on the 1872 map. These landscape modifications were related to early urbanization and industrialization. The area went through more landscape modifications and adjustments in the early 20<sup>th</sup> century, especially during the construction of the Queensboro Bridge (1903-1909). The construction of the bridge and the Bridge Plaza required land leveling (ca. 10 ft), and other landscape modifications including demolition of small frame houses (LIC Rezoning document). The third most significant modifications were introduced in 1947. Since then the site area remains unchanged. The development in the project site may have included dwellings and other buildings shown on the Sanborn map from 1898. After these buildings were demolished the project site was turned to traffic easement section of the street pattern related to the newly constructed bridge.

#### **4.3 Environmental Field Testing Data**

Environmental field testing was requested by the EDC and was a part of the Phase II environmental assessment of the project site. The testing consisted of seven geoprobes and one 6-foot by 12-foot test pit excavated in the parking lot area to become JFK Park (see Figure 21). Langan archaeologist monitored these works and raked through the back piles for artifacts and ecofacts. On 8 April 2008 seven geoprobes and one 6-foot by 12-foot test pit were excavated on the project site (Photographs 1 through 3). The geoprobes recorded a layer of concrete or pavement (sometimes both) varying from 6 inches to three feet in thickness followed by a layer of fill varying from one to three feet in thickness. Below the fill layer was a layer of dark brown silty sand followed by a layer of light brown fine silty sand that extended to the bottom of all the geoprobes (probes varied from eight to eleven feet in depth).

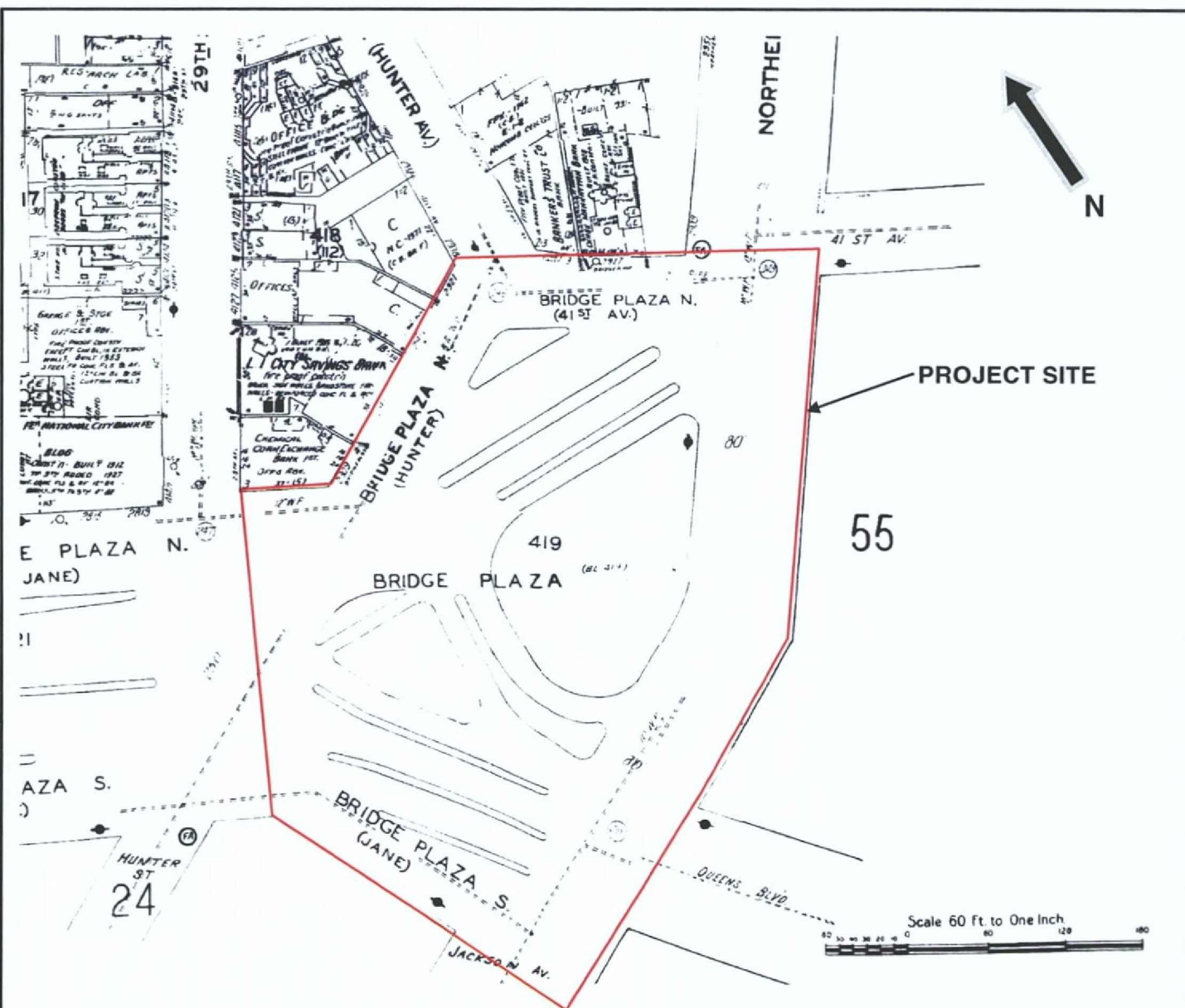


Map Ref.: Environmental Data Resources Inc., 1970 Sanborn Map.



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1970 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	17

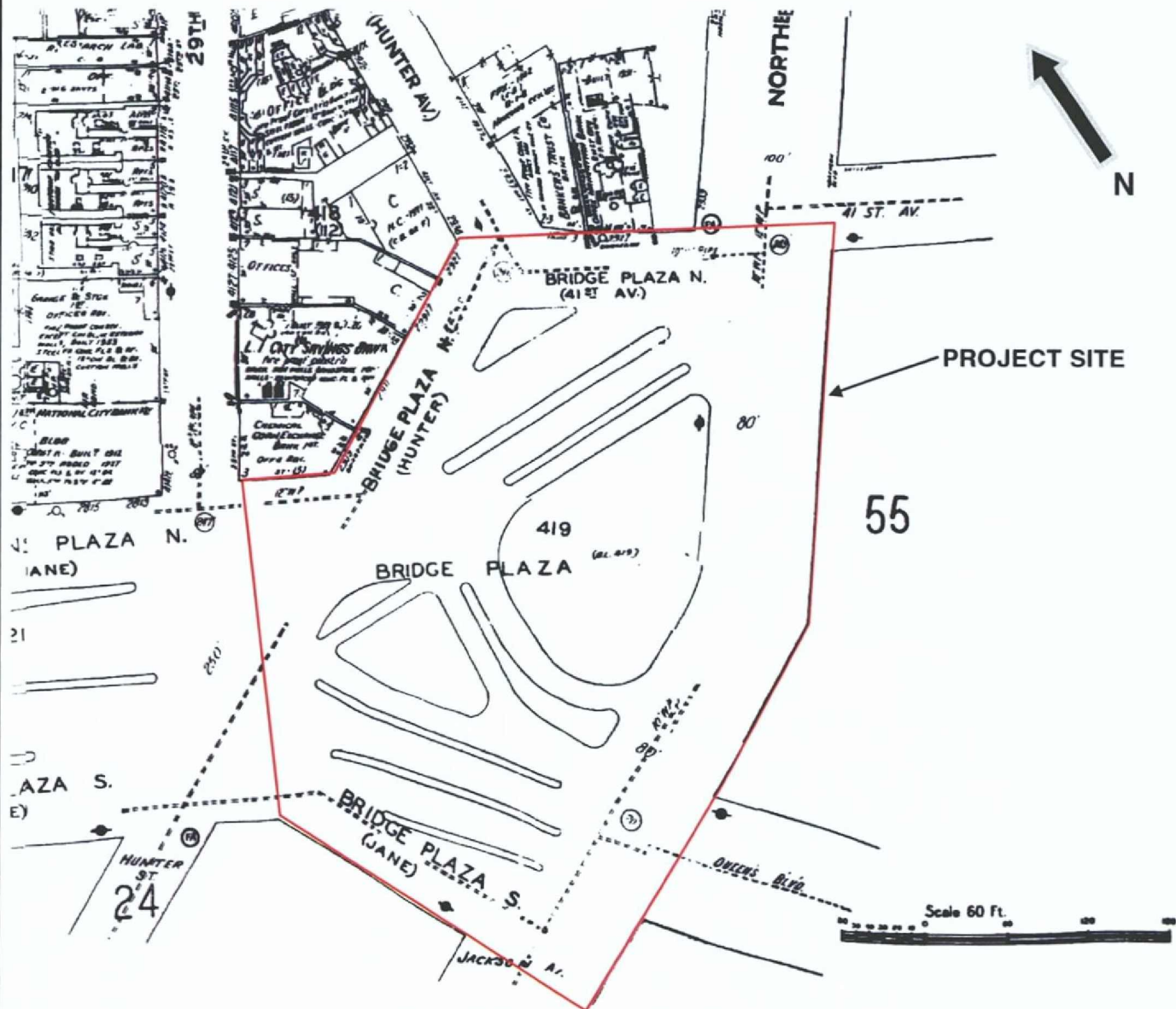


Map Ref.: Environmental Data Resources Inc., 1980 Sanborn Map.



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1980 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	18

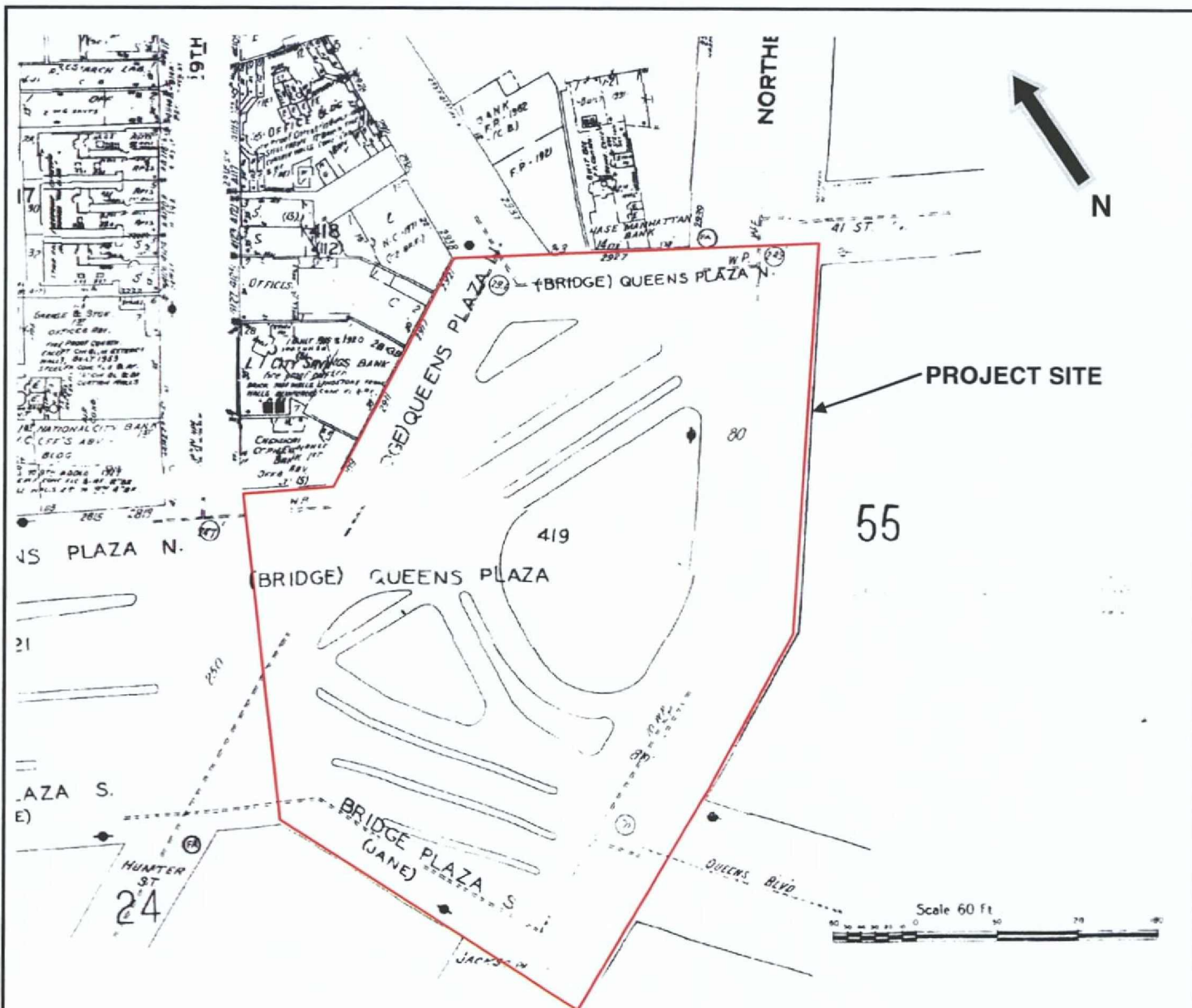


Map Ref.: Environmental Data Resources Inc., 1990 Sanborn Map.



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NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1990 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT – JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	19



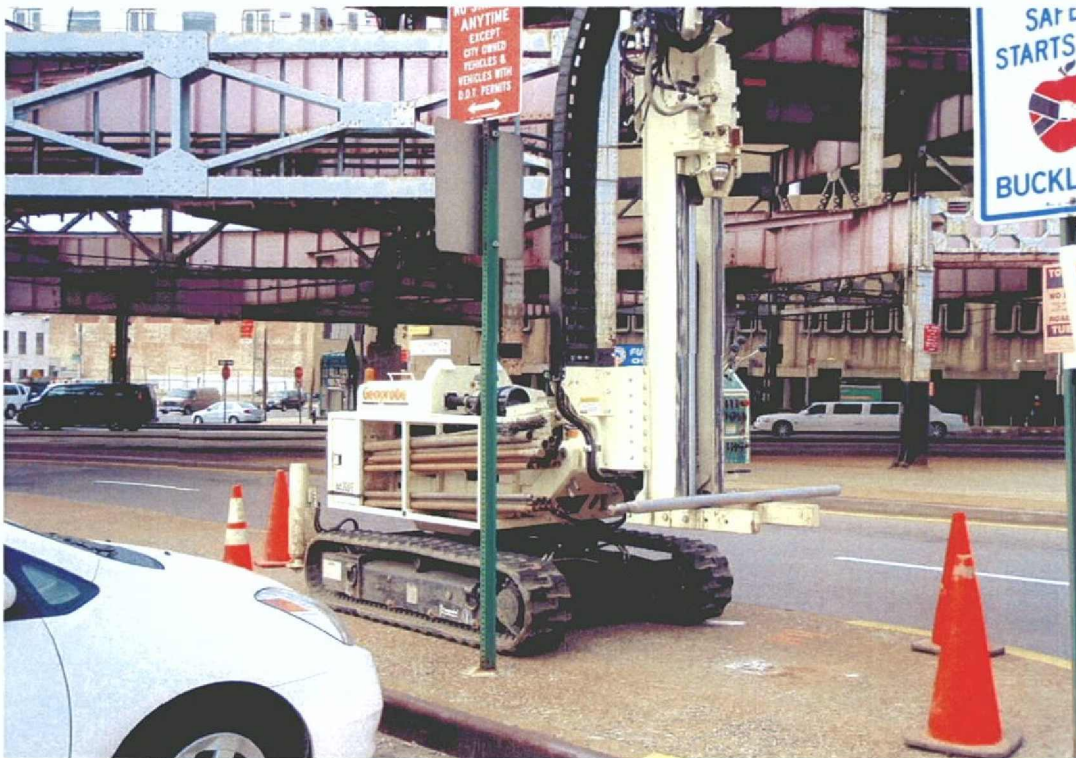
Map Ref.: Environmental Data Resources Inc., 1996 Sanborn Map.



ELMWOOD PK, NJ • NEW YORK, NY • PHILADELPHIA, PA • DOYLESTOWN, PA  
NEW HAVEN, CT • MIAMI, FL • TRENTON, NJ

1996 SANBORN MAP			
QUEENS PLAZA BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT - JFK PARK AREA			
QUEENS		NEW YORK	
JOB NO.	DATE	SCALE	FIGURE NO.
5571301	4/11/08	AS SHOWN	20

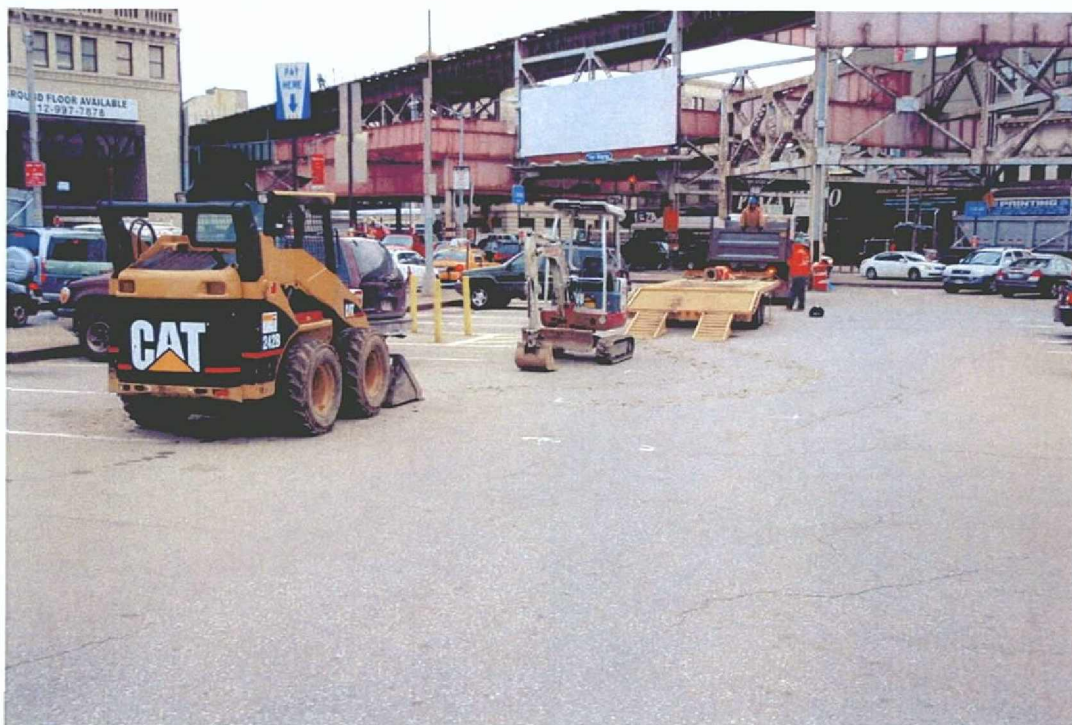




Photograph 1 - Equipment used for the geoprobes. Facing northwest, photo taken by Travis Andrews 4-8-08.



Photograph 2 - Equipment used for the test pit excavation. Facing east, photograph taken by Travis Andrews 4-8-08.



Photograph 3 - Removing pavement for test pit. Facing east, photograph taken by Travis Andrews 4-8-08.



Photograph 4 - Western part of the test pit. Discovery of possible trolley line rail mount. Facing east, photograph taken by Travis Andrews 4-8-08.

The 6-foot by 12-foot test pit was oriented on a north south access and was placed to identify the old trolley tracks that used to run through Queens Plaza (Figure 21). The test pit was excavated in three four-foot by six-foot sections, starting in the west and moving to the east. The top six-inches of the test pit consisted of pavement that was removed by a mini track hoe (Photograph 4). Following the pavement was a layer of gravel and fill approximately 10-inches thick. In the first section a layer of brick and a steel truss were found at approximately 15-inches below surface (Photographs 5 through 8). The layers below the pavement were securely removed in 10 cm (4-inch) increments.

The steel truss found could have been used for the trolley line that existed in this area. The truss has an opening in the middle that could have served to keep the steel cable for the trolley line. The bricks are placed in line with the opening in the truss as if they were used to line the steel cable corridor (Photograph 6). Upon expanding the test pit to the second section to the west a layer of concrete was encountered. The concrete layer seems to match the level of the former trolley tracks (Photograph 9 through 16).

In the third section to the west only a layer of fill was found at the approximate level of the concrete. Below this was a layer of dark brown layer of silty sand followed by the light brown layer of fine silty sand (Photograph 15). Found in this last layer was a portion of a railroad tie at approximately 26-inches deep, possibly from the old trolley line. No ecofacts or prehistoric artifacts were found during the test pit excavation. No artifacts or ecofacts of any type were found in any of the geoprobes.

The historic artifacts found in the test pit include six possible rail spikes, a metal screw and nut, seven metal nails/spikes, three unidentifiable metal objects, three pieces of wood that were not kept (Photograph 17), one piece of thick glass (possible window type) and 2 small pieces of white modern ceramics. All of the artifacts except for the ceramics and possibly the glass can be associated with the former trolley line. The ceramics are too small and non diagnostic and the glass looks like old thick window glass of some type. The remainder of the artifacts seem to be from securing the tracks in place to the wood or metal trusses.

All artifacts were collected by Langan archaeologist, bagged, and are curated at Langan headquarters in Elmwood Park, NJ. Appendix C contains the environmental log sheets, the profiles for the in the JFK park area geoprobes and the test pit, and the artifact code sheet.



Photograph 5 - Western part of the test pit. Discovery of possible trolley line rail mount. Facing north, photograph taken by Travis Andrews 4-8-08.



Photograph 6 - Western part of the test pit, possible trolley line rail mount. Facing northeast, photograph taken by Travis Andrews 4-8-08.



Photograph 7 - Discovery of concrete slab close to the possible trolley line rail mount. Facing north, photograph taken by Travis Andrews 4-8-08.



Photograph 8 - Geotechnical and archaeological monitors overseeing the test pit excavation. Facing northwest, photo taken by Travis Andrews 4-8-08.



Photograph 9 - Overview of test pit excavation. Facing west, photo taken by Michael Audin 4-8-08.



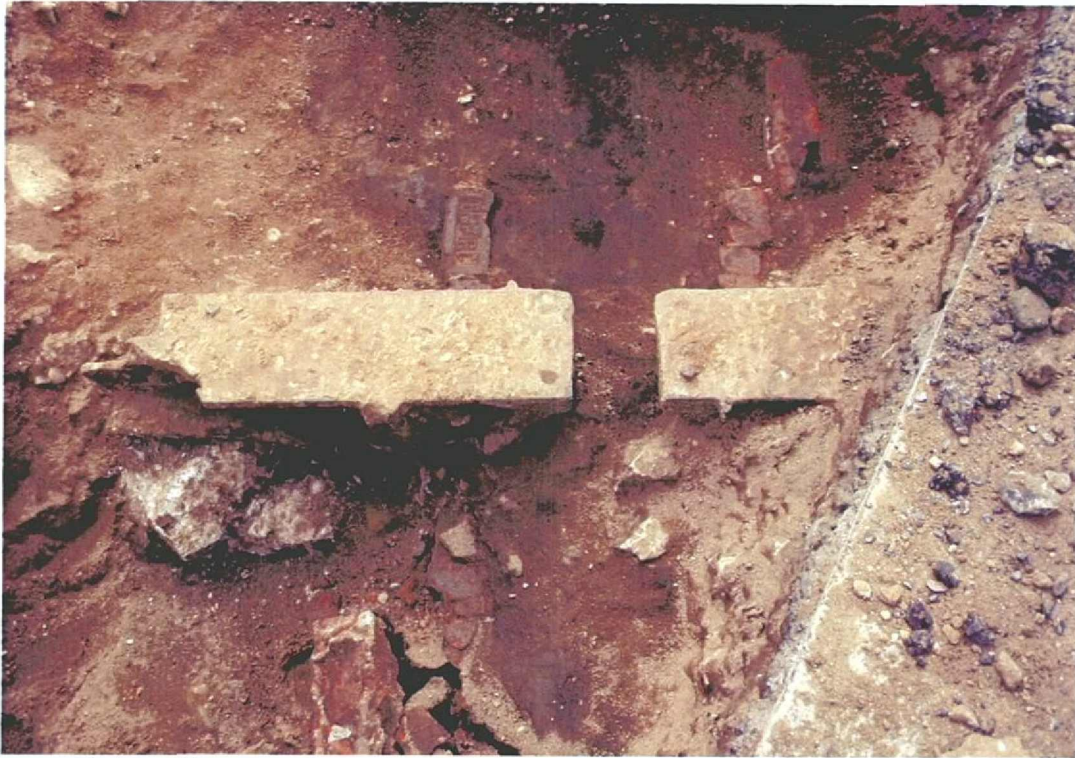
Photograph 10 - Overview of concrete slab (possible side walk) and possible trolley rail mount. Facing southwest, photo taken by Michael Audin 4-8-08.



Photograph 11 - Overview of concrete slab (possible side walk) and possible trolley rail mount. Facing south, photo taken by Michael Audin 4-8-08.



Photograph 12 - Overview of possible trolley line rail mount and brick lining for cable (oriented NW to SE). Facing south, photo taken by Michael Audin 4-8-08.



Photograph 13 - Close up of possible trolley line rail mount with gap for cable. Facing south, photo taken by Michael Audin 4-8-08.



Photograph 14 - Side view close up of possible trolley line rail mount with gap for cable. Facing southwest, photo taken by Michael Audin 4-8-08.



Photograph 15 - West wall profile under the concrete slab to bottom of excavation. Facing west, photo taken by Michael Audin 4-8-08.



Photograph 16 - Close up of possible trolley line rail mount brick liner for cable. Facing south, photo taken by Michael Audin 4-8-08.



Photograph 17 - Wood found in the eastern part of the test pit at the top of the light brown fine sand layer. Facing west, photo taken by Michael Audin 4-8-08.

#### 4.4 Previous Surveys

In 2000 Historical Perspectives, Inc. (Kearns, Saunders and Schneiderman-Fox 2000) completed a survey in the project area and provided a preliminary archaeological assessment. The report describes the site area and its proximity to rivers and streams and the likelihood for inundation. The authors suggested that deeply buried prehistoric archaeological deposits may be present where historic ground disturbance is less than five feet below grade. Historic remains, such as builders' trenches, fence-lines or foundations, are not as likely to have survived urban development because they are generally much shallower, and have had less time to be buried by flood deposits.

#### 4.5 Known Prehistoric Sites in the Vicinity of the Project

On 22 February 2008 a search of sites inventoried at the New York State Office of Parks Recreation and Historic Preservation (OPRHP) and the New York State Museum (NYSM) was conducted. The existence of these sites was confirmed in the 2000 Preliminary Archaeological Assessment (Kearns, Saunders and Schneiderman-Fox 2000). Of the six archaeological sites recorded two, a burial site and a village, might be included within the project area. Table IV presents the six archaeological sites.

**Table IV.** Prehistoric Archaeological sites within the vicinity of the project site.

Site No.	Localization	Function	Chronology	Distance & Direction	Source
OPRHP #A081-01-0100	'Sunwick'	shell midden and few artifacts	No date mentioned	Approximately 1.5 miles northwest of project area	Bolton, 1922; Grumet, 1981
NYSM #3613	ACP Kings no #	'traces of occupation	No date mentioned	3000 feet southwest	Parker 1920
NYSM #4535	ACP Queens 12 Sanford's Point west of Vernon Blvd and Main Ave intersection across from northern tip of Roosevelt Island and at Halletts Cove	Shell midden and 'early modern relics'	Likely contact period	2 miles northeast	Parker, 1920; Bolton 1972 Boesch, 1997
NYSM #8217	ACP Queens no 12 Halletts Cove	Campsite	No date mentioned	2 miles northeast	Parker, 1920 Boesch, 1997
NYSM #4538	ACP Queens no #	Habitation village site	No date mentioned	Possibly in rezoning project area,	Parker, 1920 Boesch, 1997

				possibly near north of the project area	
NYSM #4537	ACP Queens 14	Burial site	No date mentioned	Possibly in rezoning project area, possibly north of the project area	Parker, 1920; Bolton, 1972 Boesch, 1997

Some discrepancy exists as to the location of the last two sites mentioned in the table (NYSM #4538 and 4537). According to the NYSM map, both of these are located within the project area, though maps available to the researchers at the time the report was written suggested that both sites were located north of the project area, 7 blocks and 11 blocks respectively. Kearns, Saunders and Schneiderman (2000) suggested that the NYSM may have access to more detailed maps than those available to the researchers. This same issue was discussed in the *Long Island City Zoning Changes and Related Actions Final EIS* and after LPC reviewed the preliminary archaeological assessment, LPC determined that the rezoning area is not sensitive for prehistoric resources (LIC Rezoning FEIS, 2001)

The report also suggests that, due to frequent inundation of the area as a result of its proximity to rivers, creeks, and marshes, a possibility still exists for deeply buried archaeological deposits, especially from the late Pleistocene, Paleo-Indian horizon.

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

In order to comply with NEPA and Section 106 of the NHPA Langan conducted a Phase IA Archaeological Survey of the future JFK Park in Queens Plaza, Long Island City Queens County, New York. The research was requested by the New York City Landmarks Preservation Commission (LPC) as a result of their preliminary review of the Queens Plaza Bike Path River Project. Historical background research was performed to establish the land use history and evaluate the possibility for the existence of prehistoric sites within the APE. The research methodology included a search of records at NY SHPO as well as inspections of archival materials and records at the Queens County Historical Society and the New York Public Library located in New York and a report by the Greater Astoria Historical Society on the former Grist Mill. In addition a series of Sanborn maps, historic aerial photographs, historic atlases and maps were reviewed for the property. The background research established a detailed history of the land use during historic times, especially from the late 19<sup>th</sup> and throughout the 20<sup>th</sup> century.

The background research revealed that the project area and its vicinity could have been used by Native Americans in prehistoric times but the research did not confirm the existence of any prehistoric or historic sites within the project site. However a number of national register and national register eligible sites are located adjacent to the project site. The review of maps and historic records only revealed that the project area may contain historic evidence related to human activities since the mid-19<sup>th</sup> century. The historic background research confirmed that the project area was used in the past but no archaeological sites are threatened by the proposed development.

Archaeological records collected in the vicinity of the project area suggest a long history of Native American presence. Historic background research further revealed over 350 years of European presence in the vicinity of the APE. Native Americans may have used the present-day Queens Plaza area in the past, but remains confirming such use were probably significantly altered as a result of previous land disturbance and might be difficult or impossible to recover.

In summary, as the historic background research revealed, the vicinity of the project area may have been used as hunting grounds by Native Americans since the Paleo-Indian Period and therefore it is possible that some groups also visited the project area in the past. The historic research also revealed the 350 years of European settlers presence within the project area and its vicinity. It is possible that the project APE still contains some evidence of the historic land use, but due to intensity of urban alterations and landscape modifications introduced to the project area during the 20<sup>th</sup> century, it is unlikely that intact deposits or buried cultural horizons may have survived until our times. The proposed Bicycle and Pedestrian Improvement Project

does not include heavy earth movement and the soil will not be significantly disturbed. In light of these findings, we do not recommend further works at the area of study.

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1991 Archaeological Testing at the Sharrow Site: a Deeply Stratified Early to Late Holocene Cultural Sequence in Central Maine. Occasional Publications in Maine Archaeology # 8. Maine Archaeological Society and Maine Historic Preservation Council, Augusta.

Pielou, E.C.

1992 After the Ice Age: The Return of Life to Glaciated North America. University of Chicago Press, Chicago.

Redman, Charles L.

1974 Archaeological Sampling Strategies. Addison-Wesley Modules in Anthropology No. 55. Addison-Wesley Publishing Company, Reading Massachusetts.

Ritchie, William A.

1980 *The Archaeology of New York State Revised Addition*. Harbor Hills Books, Harrison, NY

Ritchie, William A. and Robert E. Funk

1973 *Aboriginal Settlement Patterns in the Northeast*. Memoir 20, New York state Museum and Science Service, The University of the State of New York, The State Education Department, Albany, NY.

Sanders, T.N.

1983 The Manufacturing of Chipped Stone Tools at a Paleo-Indian Site in Western Kentucky. Unpublished M.A. thesis, Department of Anthropology, University of Kentucky, Lexington.

Sanderson and LaBruna

2005 *Mapping the Historical and Ecology and Reconstructing the Historical Flora of the Lower Bronx River*. Wildlife Conservation Society, New York

Singleton, Robert

2008 *A report on the Millstones at Queens Plaza*. Long Island City, NY: The Greater Astoria Historical Society

Starbuck, D. R. and C. E. Bolian (editors)

1980 Early and Middle Archaic Cultures in the Northeast. Occasional Publications in Northeastern Anthropology, No. 7. Dept. of Anthropology, Franklin Pierce College, Ringe, New Hampshire.

Tankersley, K. B., and Isaac, B. L.

- 1990 Concluding Remarks on Paleoecology and Paleoecconomy. In *Early Paleoindian Economies of Eastern North America*, edited by K. B. Tankersley and B. L. Isaac, pp. 337-355. Research in Economic Anthropology, Supplement No. 5, JAI Press.

United States Department of Agriculture and New York City Soil and Water Conservation District

- 2004 *New York City Soil Reconnaissance Survey*

United States Geologic Survey

- 1979 Brooklyn Quadrangle Topographic Map

Wallace, P.A.

- 1873 *Indians in Pennsylvania*. The Pennsylvania Museums and Historical Commission, Anthropological Series Number 5, originally published, 1961

Watson, P. J.

- 1985 The Impact of Early Horticulture in the Upland Drainages of the Midwest and Midsouth. In *Prehistoric Food Production in North America*, edited by R. I. Ford, pp. 99-147. Anthropological Papers No. 75, University of Michigan, Museum of Anthropology, Ann Arbor, Michigan.

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- 1974 Spatial Analysis of Occupation Surfaces II: the Application of Nearest Neighbor Approach. *American Antiquity* 59 (1):16-34.

Williams, L and R. Thomas

- 1982 The Early/Middle Woodland Period in New Jersey. In *New Jersey's Archaeological Resources: A Survey of Research Problems and Survey Priorities*, edited by Olga Chesler. New Jersey Department of Environmental Protection, Trenton.

### **Maps and Atlases**

- 1829 Burr Atlas Courtesy of the David Rumsey Online Collection

- 1844 US Costal Survey Map of NY Bay and Harbor Courtesy of the David Rumsey Online Collection

- 1866 US Costal Survey Map of NY Bay and Harbor Courtesy of the David Rumsey Online Collection

- 1872 Map of Kings County Courtesy of the David Rumsey Online Collection

- 1891 Chester Wolverton Atlas of Queens, NY Courtesy of the David Rumsey Online Collection

- 1898 Sanborn Map Courtesy of Environmental Data Resources, Inc

- 1909 G.W. Bromley Atlas Courtesy of the David Rumsey Online Collection
- 1914 New York City Dept. of Transportation, Trolley Track Alignment
- 1915 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1936 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1947 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1950 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1966 Aerial Photograph Courtesy of Environmental Data Resources, Inc
- 1970 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1980 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1990 Sanborn Map Courtesy of Environmental Data Resources, Inc
- 1996 Sanborn Map Courtesy of Environmental Data Resources, Inc

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## **APPENDIX A**

### **Qualifications of Preparers**

**LUDOMIR R. LOZNY, MA, ABD, RPA**

**Academic teacher and researcher  
Author of academic books and papers  
Supervised Phase I, Phase II, and  
Phase III fieldwork  
Supervised laboratory analysis  
Analysed prehistoric, historic  
artifacts and ecofacts  
Author, lead author, co-  
author, and contributor in over  
100 technical field reports**

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**EDUCATION**

The Graduate School and University Center of The  
City University of New York: Ph.D. Program in  
Anthropology, ABD.  
Warsaw University, Warsaw, Poland: MA in  
Archaeology

**SUMMARY OF ACADEMIC QUALIFICATIONS:**

Present academic rank: Adjunct Associated Professor

Over 20 years of academic teaching and research experience in Europe and the US. American colleges and universities include Adelphi University, City University of New York (Hunter College, Lehman College, and Kingsborough Community College), Dowling College, Hofstra University, Long Island University, and William Patterson University. Courses taught include Introduction to Anthropology, Cultural Anthropology, Rise of Civilizations, Ethnology of Native Americans, North American Archaeology, Old World Archaeology, Applied Anthropology, Field Archaeology and Laboratory Analysis, etc.

**ACADEMIC PUBLICATIONS**

Author of two books: *Archaeology and the Idea of Cultural Resource Management in the USA*. Polish Ministry of Culture Press, Warsaw 1999. *Landscapes under Pressure. Theory and Practice of Cultural Heritage Research and Preservation*. New York: Springer 2006 (hardback) and 2008 (paperback). The third book, *Archaeologies. A sociological view on the science of the past* Springer, is under contract and will appear in 2009. Author and co-author of 14 book chapters in edited volumes, ten papers in peer-reviewed journals, and 17 book reviews. Other academic experience includes editorial duties as managing editor of *Human Ecology. The Interdisciplinary Journal* and co-editor of the *Studies in Human Ecology and Adaptation Book Series* (with Daniel Bates) published by Springer. Recipient of several research grants including Fulbright Fellowship. Conducted research and excavations in cooperation and /or upon special invitations from the University of Trondheim, Norway, University of Groningen, The Netherlands; Kiev University, Ukraine, Warsaw University, Poland, University of Bordeaux. Presented 16 papers on academic conferences in the US and Europe. Organized two international academic symposia and delivered four guest lectures in American and European Universities.

## **SUMMARY OF CLUTURAL RESOURCE QUALIFICATIONS:**

Principal Investigator; independent contractor

With Langan since 2003 as independent contractor  
Previously with Louis Berger and Associates and  
Wilbur Smith and Associates as Field Director and  
Analyst

Over 20 years of experience in cultural resource management in Europe and the US. Served in different capacities on over 60 projects, as field technician, crew chief, field director, and principal investigator. Supervised Phase I, Phase II, and Phase III fieldwork. Specialty in analyzing prehistoric and historic artifacts, and also faunal remains. Use of GPS systems and statistical analysis. Special interest in landscape archaeology. Author, lead author, co-author, and contributor of over 100 CRM research reports (full list available upon request).

## **RELEVANT EXPERIENCE**

**2003 – present**, Principle Investigator, independent contractor for Langan; supervised over 30 projects, mostly Phase I surveys and Phase II testing.

**1996- 2000**, Louis Berger and Assoc. East Orange, NJ, Analysts, analyzed prehistoric and historic artifacts from over 40 archaeological sites of the Eastern US; co-authored and contributed in over 40 technical reports.

**1993- 1996** Wilbur Smith Associates, Lexington Kentucky, Field Director. Supervised over 20 projects, Phase I, Phase II, and Phase III, co-authored and contributed in 15 technical reports

**1993 - Greenhouse, Inc**, crew chief, supervised fieldwork on Phase II and Phase III projects, contributed in two technical reports.

**1986 - 1988** Town Archaeological Service, Delft, The Netherlands, crew chief. Participated and supervised four projects including urban and early industrial sites in Delft, the Hague, and Amsterdam

**1980 - 1986** State Archaeological Museum in Warsaw, Poland, academic assistant, field director and principal investigator. Supervised Phase I, Phase II, and Phase III fieldwork, analyzed prehistoric and historic artifacts, authored and co-authored seven technical reports.

## **RELEVANT RESEARCH EXPERIENCE (CRM and academic)**

Analyzed historic and prehistoric assemblages (lithics, pottery, faunal and floral remains) from over 100 archaeological sites (full list available upon request).

## **SELECTED ARCHAEOLOGICAL TECHNICAL FIELD REPORTS (short list of only US reports; last 15 years)**

*Phase I Archaeological Investigation Montgomery Towne Square, Montgomery, Orange County, New York with contributions by Michael Audin. Langan Engineering and Environmental Services, Inc.*

Elmwood Park, NJ, 2007. Ms on file at OPRHP, Pebbles Island, NY.

*Phase II Archaeological Investigation of the Edgewater Colony, Edgewater, Bergen County, New Jersey* with contributions by Michael Audin. Langan Engineering and Environmental Services, Inc. Elmwood Park, NJ, 2007. Ms on file at NJSHPO, Trenton, NJ.

*Phase IA Archaeological Investigation Bronx River Park, Bronx, Bronx County, New York* with contributions by Michael Audin and Sarah Hlubik. Langan Engineering and Environmental Services, Inc. Elmwood Park, NJ, 2007. Ms on file NYC LPC, New York, NY.

*Phase I Archaeological Survey Camp Hidden Falls, Lehman Township, Pike County, Pennsylvania*, with contributions by Michael Audin and Erol Kavountzis, and Sarah Hlubik Langan Engineering and Environmental Services, Inc. Elmwood Park, NJ, 2006. Ms on file at PHMC, Harrisburg, Pa.

*Phase I Archaeological Investigation Creighton Farm, Willistown, Chester County, Pennsylvania*, 2006, with Michael Audin and Sarah Hlubik, MS on file.

*Phase I Archaeological Investigation Eaton, Wyoming County, Pennsylvania*, with contributions by Michael Audin and Erol Kavountzis. Langan Engineering and Environmental Services, Inc. Elmwood Park, NJ, 2006. Ms on file at PHMC, Harrisburg, Pa.

Phase IB Archaeological Survey of Hoeffner Farm, Montgomery Township, Orange County, New York, 2006. With contributions by Michael Audin, Sarah Hlubik, Erol Kavountzis. Project terminated by the client, partial report submitted to NY SHPO, MS on file.

*Phase IA Archaeological Assessment, Newark Circulation Improvements Project, Newark, Essex County, New Jersey*. Langan Engineering and Environmental Services, Inc. Elmwood Park, NJ, 2005. Ms on file at NJSHPO, Trenton, NJ.

*Archaeological Monitoring for the Central Railroad of New Jersey, Newark, Essex County, New Jersey*. Langan Engineering and Environmental Services, Inc. Elmwood Park, NJ, 2005. Ms on file NJSHPO, Trenton, NJ.

*Phase II Archaeological Investigation Site 28-BU-590*. Pemberton Development Tract, Pemberton Borough, Burlington County, New Jersey, 2004. Prepared for Lenny Feinberg PenDel Associates. Ms on file at NJ SHPO.

*Lithic assemblages from Mounmoth Co. New Jersey*. A report submitted to The Artifact Research Center, Hackettstown, NJ. 2000.

*Use-wear Analysis of the Lithic Tools From Site 7K-C-51 (Puncheon Run) Dover, Delaware*. Report submitted to The Cultural Research Group Louis Berger and Associates, Washington, DC 1999-2000.

*Use-wear Analysis of the Lithic Assemblage from site 40Wm184, Tennessee*. Report submitted to Cultural Horizons, Inc., Harrodsburg, KY. 1999.

The Application of Refitting Technique to the Lithic Assemblage from Site 28GI266, Gloucester Co., New Jersey. *Phase III Archaeological Data Recovery Site 28-GL-266*. Prepared by Chris Borstel, Rhea Rogers,

John Killeen, Ludomir Lozny, and Kathryn Pusemna. Report on file. Louis Berger and Assoc., Inc. 1997.

*Phase I Survey of the KY81 Bridge Over the Green River at Calhoun-Rumsey, McLean County, Kentucky.* Report on file at Kentucky Heritage Council and OSA. (co-author with James Fenton and Thomas Stetar). 1995.

*Phase II Investigation of the Richmond by-pass, Madison Co., KY.* Report on file at Kentucky Heritage Council and OSA. 1995 (co-author with James Fenton).

*Phase II Archaeological Survey of the Proposed Reconstruction of the KY 1151 over Dry Fork Creek, Russellville, Logan County, Kentucky.* Report on file at Kentucky Heritage Council and OSA. 1995 (co-author with James P. Fenton).

*Phase II Archaeological Testing of the Site 15LO169, Russellville, Logan County, Kentucky.* Report on file at Kentucky Heritage Council and OSA. 1995 (co-author with James P. Fenton).

Contributed in over 80 other field technical reports.

#### **MUSEUM EXHIBITIONS**

Organized five museum exhibitions on archaeological subjects.

#### **REACHOUT**

Wrote popular pamphlets on archaeology and organized public displays on archaeological subjects. Awarded the first price for the best public archaeological display in 1983 by the Polish Ministry of Culture.

#### **PROFESSIONAL AFFILIATIONS**

- X Society for Archaeological Sciences
- X Register of Professional Archaeologists
- X Society for American Archaeology
- X Southeastern Archaeology Conference
- X Middle Atlantic Archaeological Conference
- X Society for Pennsylvania Archaeology
- X North Atlantic Biocultural Organization
- X Archaeological Society of Virginia
- X Ontario Archaeology Society

#### **OTHER**

Native fluency in Polish, excellent command in Russian, abilities in German and French languages.

**MICHAEL AUDIN**  
**Archaeologist**

**Field Crew Management**  
**Phase I, II and III Excavation**  
**Human Remains/Burial Excavation**  
**Site Preparation and Survey**  
**Historic Research**  
**Photographer**  
**Laboratory Analysis**  
**Field Illustration**  
**Report Writing and Editing**

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**EDUCATION**

Hunter College: M.A. Anthropology (attending)  
William Paterson University: B.A. Anthropology  
Archaeological Field School: Somerset County Parks Commission, New Jersey

**Year with Langan: 5**

**SUMMARY QUALIFICATIONS**

Mr. Audin has over 4 years of professional experience in Cultural Resource Management. Responsibilities include coordination and implementation of archaeological and historical tasks associated with all Langan projects requiring cultural and historic assessments as part of permit and regulatory review. Office tasks include communication with State Historic Preservation Offices and other regulatory offices, budgeting, proposal writing, hiring of field technicians, report writing, production and editing. Field tasks include field supervision and excavation positions, monitoring, site photographer, assisting/conducting prehistoric and historic site assessments, site survey, field illustration, field documentation on Phase I, II and III archaeological and historical investigations and preliminary architectural evaluations.

In addition Mr. Audin has 3 years of experience as a land surveyor and 10 years business management experience prior to coming to cultural resources.

**RELEVANT EXPERIENCE**

**2007- 2008 Queensboro Plaza, Long Island City, New York**

Prepared cultural resources section for a NEPA assessment for bike path in the Queensboro Plaza. Includes an archaeological assessment and architectural evaluation of the current facility and property

**2007 Lowes, Phase IB, Montgomery, New York**

SEQRA review for retail store. Performed duties of research coordinator, field director (1 week), photographer, preparation of site and survey. Post field work included laboratory analysis of artifacts (2 days), writing of sections of report, prepared, edited and produced report for submission.

**2007 Public School #3, Archaeological Monitoring, West New York, New Jersey**

NJ Executive Order 215 Compliance. Performed historic research and 1 day of archaeological monitoring for human remains on school site that found headstone during excavation. Post field activities included report writing for submission to state.

**2007 Former Koppers Superfund Site, Phase IB and II, Newport, Delaware**

EPA compliance for superfund site. Crew Chief and OSHA Site Safety Officer during six month phase IB and II field excavations conducted by 20 archaeologists, teamed with John Milner and Associates. Work included setting of testing grid and field testing of over 3000 phase IB auguring

**MICHAEL AUDIN**  
**Archaeologist**

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and STP units and over 180 phase II units. Additional work included lab work (2 weeks), field tech training, and safety oversight.

**2007 Bronx River Park, Phase IA, Bronx, New York**

New York City Landmarks Preservation Commission Compliance. Performed duties of researcher and research coordinator, report writing, editing and production.

**2007 Weeksville Village, Phase IB testing, Brooklyn, New York**

SEQRA review for village cultural center. Performed 1 day of field duties, with Joan Geismar. Work included monitoring of back hoe trenching for foundations and artifact deposits associated with the Huntely Houses.

**2006-2007 Edgewater Colony, Phase II, Edgewater, New Jersey**

For EPA storm water improvements loan. Field Supervisor responsible for the preparation of a Phase II prehistoric/historic site investigation. Included is the direction of two field technicians digging a total of 8 standard test units (1 week), project coordination with the principal investigator, photographer and the coordination of lab work (1 week). Other post-field responsibilities include writing sections, preparation and production of the final report for submittal to New Jersey DEP Municipal Finance and Technical Services.

**2006 Portion of the Northeast Business Park, Phase IA, Washington Township, New Jersey**

New Jersey Wetlands Permit. Performed duties of researcher and research coordinator, report writing, editing and production.

**2006 Creighton Farm Bridge Crossing, Phase I, Willistown, Pennsylvania**

Army Corps of Engineers Permit. Performed duties of research coordinator, field director (2 days), photographer, preparation of site and survey. Post field work included laboratory analysis of artifacts (1 day), assisting with the writing, prepared, edited and produced report.

**2006 Camp Laughing Water, Phase I, New Hanover and Upper Fredrick, Pennsylvania**

Army Corps of Engineers Permit. Performed duties of research coordinator, field director (1 day), photographer, preparation of site and survey. Post field work included laboratory analysis of artifacts (1 day), assisting with the writing, prepared, edited and produced report.

**2006 Camp Hidden Falls, Phase I, Delaware and Lehman Townships, Pennsylvania**

Army Corps of Engineers Permit. Performed duties of research coordinator, field director (1 day), photographer, preparation of site and survey. Post field work included laboratory analysis of artifacts (1 day), assisting with the writing, prepared, edited and produced report.

**2006 Select Sires, Phase I, Eaton, Pennsylvania**

Pennsylvania section 105 Permit. Performed duties of research coordinator, field director (3 weeks), photographer, preparation of site and survey. Post field work included laboratory analysis of artifacts (1 month), assisting with the writing, prepared, edited and produced report.

**2005 Tournament World, Phase IB, Montgomery, New York**

SEQRA review. Research coordinator, field coordinator (3 weeks), photographer, site preparation and survey. Post-field work included laboratory analysis of artifacts (2 weeks), assisting with the writing, prepared, edited and produced report.

**MICHAEL AUDIN**  
**Archaeologist**

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**2005 Former Old First Presbyterian Church Cemetery, Phase III Data Recovery, Newark, New Jersey**

Project Manager/Field Director

Responsibilities included:

- Over sight of all field activities for 2.2 acre cemetery excavation (9.5 weeks)
- Preparation and implementation of a comprehensive field plan for the locating human remains and associated artifacts
- Hiring and managing a field staff of 35
- Directing and coordinating sub contractor with field staff of 30
- Directing and coordinating 4 backhoes on site to move overburden and back fill site
- Over sight of cataloging all burials and artifacts
- Laboratory analysis of artifacts (1 month)
- Writing, coordinating and editing of final report

**2005-2006 Circulations Improvement Project, Phase IA and IB, Newark, New Jersey**

NJ Executive Order 215 Compliance. Project coordinator/field director responsible for preparation of a Phase I background investigation and Phase IB field testing (1 week). Work included coordinating conducting research, conducting photographic pedestrian survey site, and conducting field testing. Post field work included laboratory analysis of artifacts (1 week) and preparation of the final reports. Report preparation included writing sections of the report, preparation and production of final report for submittal.

**2005 Edgewater Colony, Phase IB, Edgewater, New Jersey**

For EPA storm water improvements loan. Field Supervisor responsible for the preparation of a Phase IB prehistoric/historic site investigation. Included is the direction of three field technicians digging a total of 139 standard test pits (4 weeks), project coordination with the principal investigator, photographer and the coordination of lab work (3 weeks). Other post-field responsibilities include assisting with the writing, preparation and production of the final report for submittal to New Jersey DEP Municipal Finance and Technical Services.

**2005 Ford Avenue Redevelopment, Phase IA, Milltown, New Jersey**

Project coordinator responsible for preparation of a Phase IA background investigation. Work included coordinating and conducting research, conducting informant interviews, conducting photographic pedestrian survey of 22-acre site and preparation of the final report. Report preparation included writing sections of the report, preparation and production of final report for submittal to regulatory agency.

**2005 Former Central Railroad Terminal, Monitoring, Newark, New Jersey**

Application for project authorization compliance. Crew Chief/Project Coordinator for 6 week monitoring during demolition of former railroad terminal for SHPO resolution on application for project authorization. Monitor for human remains associated with the Old First Presbyterian Church cemetery, identifying, excavating, cataloging and turn over to mortician for reburial. Post field work included lab analysis of artifacts (2 weeks).

**2005 Regional Biocontainment Laboratory – Newark Center, University of Medicine and Dentistry of New Jersey, Newark, New Jersey** – Prepared cultural resources section of Environmental Assessment in accordance with the requirements of NEPA for the construction of a new Regional Biocontainment Laboratory under a grant from the National Institutes of Health (NIH)

## **MICHAEL AUDIN**

### **Archaeologist**

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#### **2005 USDA, Health-Based Plant Genomics Facility, Cornell University, Ithaca, New York**

Prepared cultural resources section of a Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site. It includes an archaeological assessment and architectural evaluation of the current facility and property.

#### **2004-2006 Newark Downtown Core Redevelopment and Circulations Improvement Plan, Newark, New Jersey**

Responsibilities included:

- Preparing a multi-phased strategy for investigating, testing and mitigating the project area
- Conducting preliminary research regarding various aspects of the project area, including possible intact remains within the former First Presbyterian Church cemetery
- Supervising research
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Contributing to the Application for Project Authorization regarding the proposed demolition of five historic structures located within the Four Corners Historic District

#### **2003-Present NJSCC School Development Program, New Jersey**

NJ Executive Order 215 Compliance and NJSCC Guidelines. Participated in the development and redevelopment of 20 new and existing school sites located throughout New Jersey. Responsibilities included:

- Conducting and overseeing background research at the New Jersey Historic Preservation Office, the New Jersey State Museum and local archives
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Preparation and assistance in writing of the Cultural and Historical Resource Assessment section of Environmental Assessment and Environmental Impact Statement Reports and Phase IA background investigations
- Overseeing report production and preparing maps and figures
- Producing for internal departments/clients memos, letters and other documentation outlining potential issues and possible recommendations.

#### **2003 Pen Del Development, Phase IB and II, Pemberton, New Jersey**

Field/Laboratory Technician of a Phase I & II prehistoric site investigation/excavation (2 weeks). Field responsibilities also included photographer and mapping excavation locations using GPS equipment. Laboratory Technician (3 weeks) responsibilities included; cleaning, cataloging and photographing all artifacts. Other post-field responsibilities included assisting with the preparation and production of the final cultural resource report for submittal to New Jersey HPO.

#### **2003 Field School, Lenape Meadows, Phase II, Basking Ridge, New Jersey**

Field and Laboratory Technician for phase II prehistoric excavation. Field work (2 weeks) included daily preparation of site, field excavations, documentation of artifact finds, field crew management and the closing up the site for the winter. Laboratory work (1 week) included cleaning, identifying, cataloging and photographic documentation of all artifacts.

#### **2003 Lithics Identification Project, William Paterson University, New Jersey**

## **MICHAEL AUDIN**

### **Archaeologist**

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Volunteer. Conducted laboratory analysis (1 month), identification and cataloging, of over 5,000 stone fragments from the Wallkill River basin in Northern New Jersey, submitted to Dr. Janet Pollak. Research included identifying and cataloging human produced stone flakes and tools vs. naturally altered stone.

### **SELECTED PUBLICATIONS**

*Phase I Archaeological Investigation Montgomery Towne Square, Montgomery, Orange County, New York.* Ludomir Lozny Principle Investigator, Michael Audin, and Sarah Hlubik, 2007. MS on file at OPRHP, Pebbles Island, NY.

*Phase II Archaeological Investigation of the Edgewater Colony, Edgewater, Bergen County, New Jersey.* Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file at NJSHPO, Trenton, NJ.

*Phase IA Archaeological Investigation Bronx River Park, Bronx, Bronx County, New York.* Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file NYC LPC, New York, NY.

*Phase I Archaeological Survey Camp Laughing Waters, New Hanover and Upper Frederick, Montgomery County, Pennsylvania.* Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, and Sarah Hlubik 2006. Ms on file at PHMC Harrisburg, Pa.

*Phase I Archaeological Survey Camp Hidden Falls, Lehman Township, Pike County, Pennsylvania.* Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

*Phase I Archaeological Investigation Creighton Farm, Willistown, Chester County, Pennsylvania.* Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2006. MS on file at PHMC, Harrisburg, Pa.

*Phase I Archaeological Investigation Eaton, Wyoming County, Pennsylvania.* Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

*Phase I Archaeological Investigation of the Edgewater Colony, Edgewater, Bergen County, New Jersey.* Ludomir Lozny PI, Michael Audin, Hugh Goodman, Erol Kavountzis and Nils Conway, 2005. MS on file NJSHPO, Trenton, NJ.

*Phase III Cemetery Excavation, Old First Presbyterian Church, Newark Downtown Core Redevelopment, Newark, Essex County, New Jersey.* Michael Audin, Erol Kavountzis, and Sarah Hlubik, 2005. Manuscript on file at NJSHPO, Trenton NJ.

*Phase IA Archaeological Assessment, Newark Circulation Improvements Project, Newark, Essex County, New Jersey.* Ludomir Lozny PI, Ulana Zakalak PI, Michael Audin, Hugh Goodman, and Erol Kavountzis, 2005. MS on file at NJSHPO, Trenton, NJ.

*Archaeological Monitoring for the Central Railroad of New Jersey, Newark, Essex County, New Jersey.* Ludomir Lozny PI, Michael Audin, Nils Conway, and Erol Kavountzis, 2005. MS on file NJSHPO, Trenton, NJ.

### **SUMMARY OF PROFESSIONAL ACTIVITIES**

## **MICHAEL AUDIN**

### **Archaeologist**

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Mr. Audin is the author or co-author of thirty-eight (38) cultural resource reports in New Jersey, New York and Pennsylvania.

#### **PROFESSIONAL DEVELOPMENT**

Historic Preservation Research Course, Drew University, February 2005  
OSHA 40 Hour Certified HAZWOPER Training (December, 2005) and refreshers (10/06, 10/07)  
OSHA Site Supervisor Certified (June, 2007)  
NJSHPO Cultural Resources Best Practices Workshop, October 2006  
Introduction to ArcGIS I, November 2006  
American Red Cross CPR Certified (11/30/06 – 11/29/07)  
Preservation Planning in the Highlands, Drew University, March 2007  
Section 106 Essentials Class with ACHP, July 2007

#### **PROFESSIONAL AFFILIATIONS**

Archaeological Conservancy  
Archaeological Institute of America  
Archaeological Society of New Jersey  
Council for Northeast Historical Archaeology  
Lambda Alpha National Collegiate Honors Society for Anthropology  
Middle Atlantic Archaeological Conference  
National Trust for Historic Preservation  
New Jersey Historical Society  
New York State Archaeological Association (Lifetime Member)  
Society of American Archaeology  
Society for Historical Archaeology

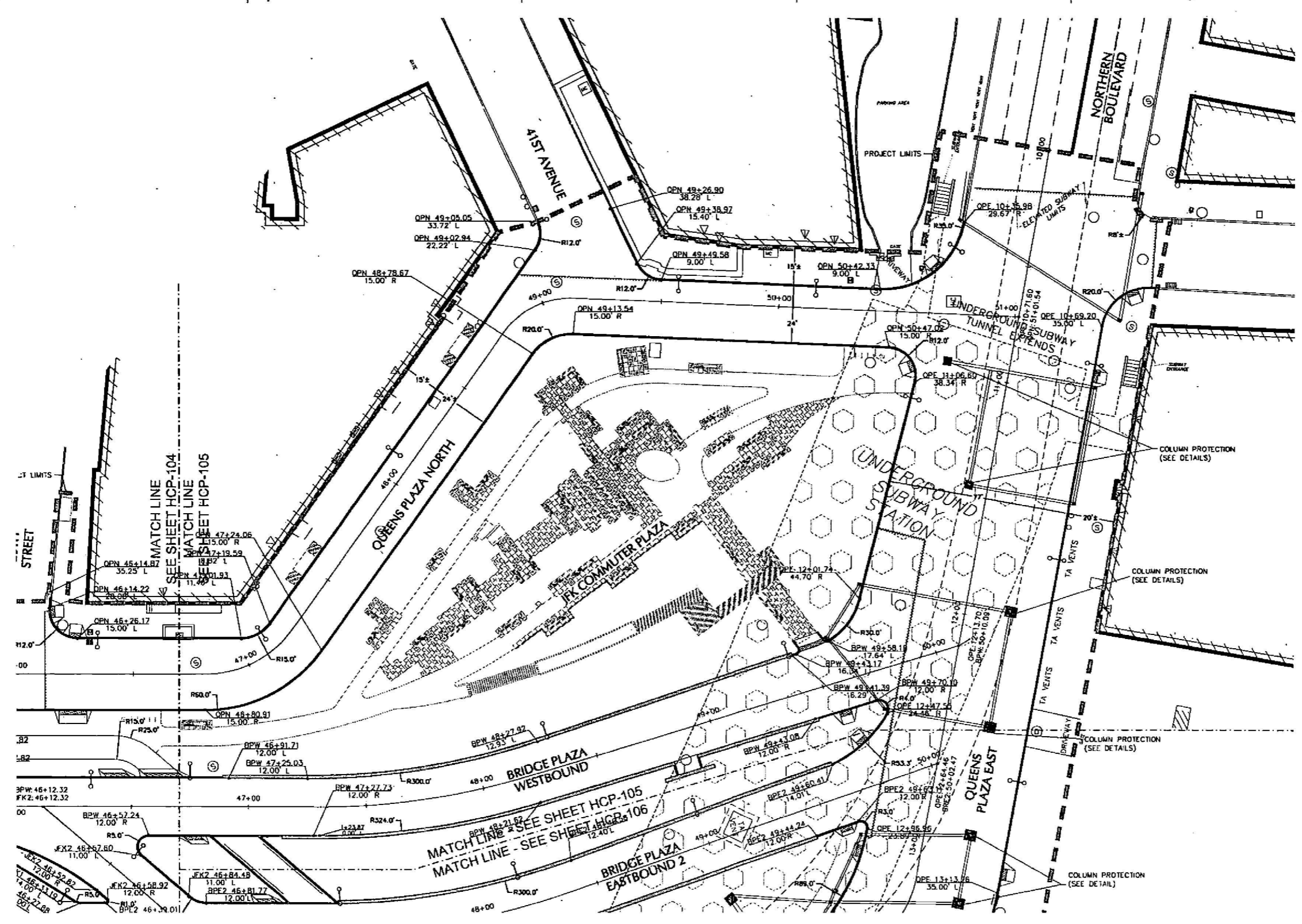
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## **APPENDIX B**

### **Drawing and Plans of the Project site**

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# Queens Plaza Bicycle and Pedestrian Improvement Project

Long Island City, New York



**Economic Development Corporation**  
110 William Street  
New York, NY 10038



**WRT Planning & Design**

**Wallace Roberts & Todd, LLC**  
247 W 35th Street, 11th Floor  
New York, NY 10001  
646.428.2710  
fax 212.564.5255

**CONSULTANTS**  
**Site/Civil Engineering:**  
Langan Engineering & Environmental Services  
21 Penn Plaza  
360 West 31st Street, 8th Floor  
New York, NY 10001-2727  
212.479.5400  
fax 212.479.5444

**Architecture/Urban Design:**  
Marpillero Pollak Architects - MPA  
132 Duane Street  
New York, NY 10013  
212.619.5560  
fax 212.619.5561

**Lighting Design:**  
Lentl Schwendinger Light Projects LTD  
336 West 37th Street, Studio 1410  
New York, NY 10018  
212.947.6282  
fax 212.947.6289

**Urban Design/Artist:**  
Michael Singer, Inc.  
PO BOX 682  
Wilmington, VT 05363  
802.464.2781  
fax 802.464.2670

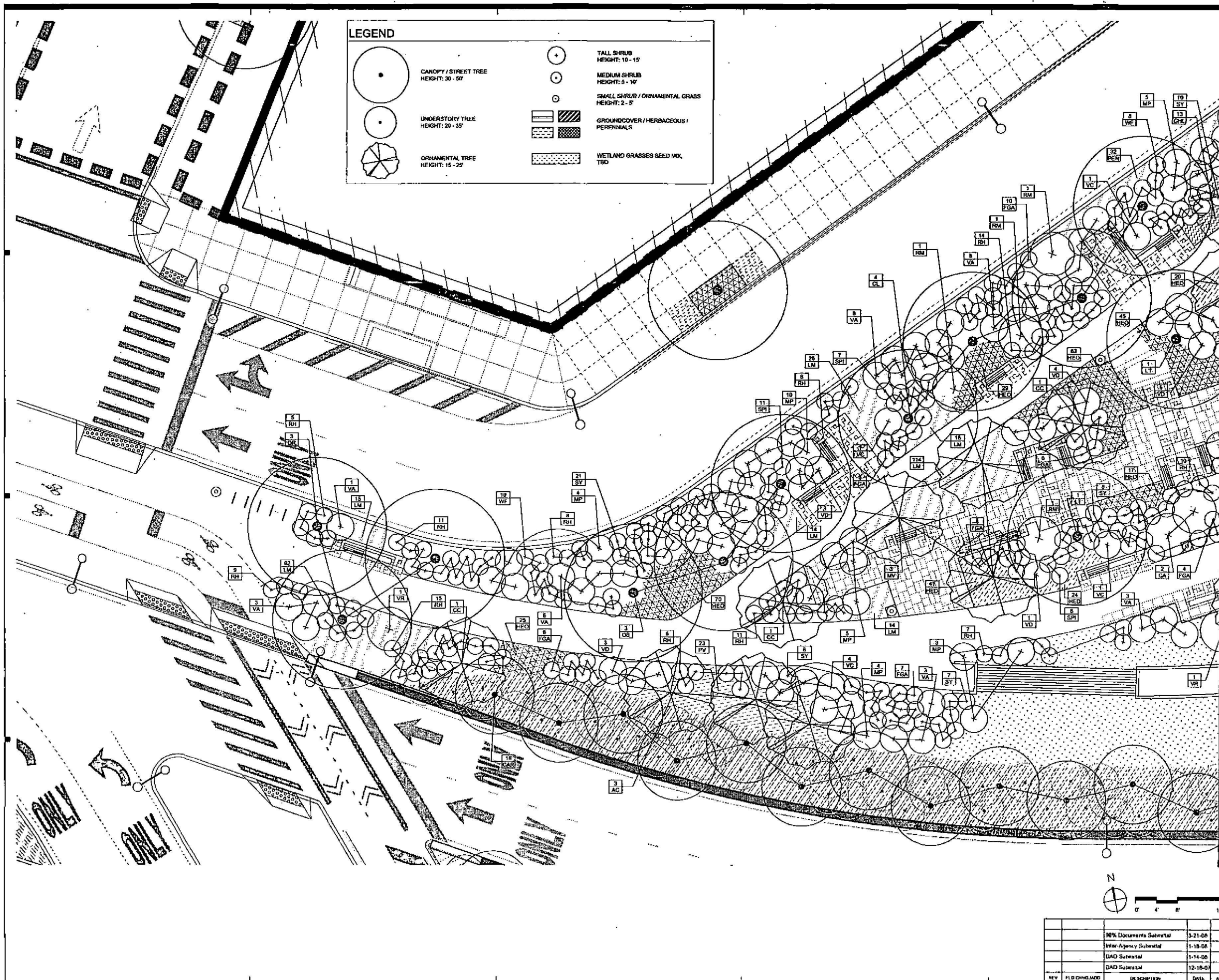
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Date:	JANUARY 2008	Checked By:	CM, AN
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DRAWING TITLE			
QUEENS PLAZA NORTH:	46+70 - 51+01.54		
BRIDGE PLAZA:	46+70 - 50+06.17		
QUEENS PLAZA EAST:	10+00 - 12+50		

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FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK			
P.L.N. 1501.02.121		B.A.N.		

## Queens Plaza Bicycle and Pedestrian Improvement Project

Long Island City, New York

**Economic Development Corporation**  
 110 Wilton Street  
 New York, NY 10038

**WRT** Planning & Design

**Wallace Roberts & Todd, LLC**  
 247 W 35th Street, 11th Floor  
 New York, NY 10001  
 646.428.2710  
 fax 212.564.5255

**CONSULTANTS**

**Site/Civil Engineering:**  
 Langan Engineering & Environmental Services  
 21 Penn Plaza  
 360 West 31st Street, Suite 900  
 New York, NY 10001-2727  
 212.479.5400  
 fax 212.479.5444

**Architecture/Urban Design:**  
 Marpillero Pollak Architects - MPA  
 132 Duane Street  
 New York, NY 10013  
 212.619.5560  
 fax 212.619.5561

**Lighting Design:**  
 Leni Schwendinger Light Projects LTD  
 336 West 37th Street, Studio 1410  
 New York, NY 10018  
 212.947.6282  
 fax 212.947.6289

**Artist:**  
 Michael Singer, Inc.  
 PO BOX 682  
 Wilmington, VT 05363  
 802.464.2781  
 fax 802.464.2670

Scale

Job No. 04328  
 Date: MARCH 21, 2008  
 Scale: 1/8"=1'-0"

Drawn By: —  
 Checked By: —

Drawing Title: **ENLARGED PLANTING PLAN**

Drawing No. **PP-107**

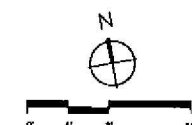
REV	FLD CHANGES	DESCRIPTION	DATE	APPRO
		30% Documents Submittal	3-21-08	
		Inter-Agency Submittal	1-18-08	
		DAD Submittal	1-14-08	
		DAD Submittal	12-18-07	

CONTRACT NO. 11180005



# LEGEND

- EXISTING TREE TO REMAIN
- CANOPY / STREET TREE  
HEIGHT: 30 - 50'
- UNDERSTORY TREE  
HEIGHT: 20 - 35'
- ORNAMENTAL TREE  
HEIGHT: 15 - 25'
- TALL SHRUB  
HEIGHT: 10 - 15'
- MEDIUM SHRUB  
HEIGHT: 5 - 10'
- SMALL SHRUB / ORNAMENTAL GRASS  
HEIGHT: 2 - 5'
- GROUND COVER / HERBACEOUS / PERENNIALS
- WETLAND GRASSES SEED MIX, TID



REV	DESCRIPTION	DATE	APPD
1	10% Documents Submitted	3-21-08	
2	Inter-Agency Submittal	1-18-08	
3	DAD Submittal	1-14-08	
4	DAD Submittal	12-18-07	

FILE NO.	STATE	FEDERAL AID PROJ. & CL. NO.	SHEET NO.	TOTAL SHEETS
PARK	NEW YORK			
<h2>Queens Plaza Bicycle and Pedestrian Improvement Project</h2> <p>Long Island City, New York</p> <p><b>Economic Development Corporation</b>          110 Wilson Street          New York, NY 10038</p> <p><b>Wallace Roberts &amp; Todd, LLC</b>          247 W 35th Street, 11th Floor          New York, NY 10001          646.428.2710          fax 212.564.5255</p> <p><b>CONSULTANTS</b>  <b>Site/Civil Engineering:</b>          Langan Engineering &amp; Environmental Services          21 Penn Plaza          360 West 31st Street, Suite 900          New York, NY 10001-2727          212.479.5400          fax 212.479.5444</p> <p><b>Architecture/Urban Design:</b>          Marpillero Pollak Architects - MPA          132 Duane Street          New York, NY 10013          212.619.5560          fax 212.619.5561</p> <p><b>Lighting Design:</b>          Leni Schwendinger Light Projects LTD          336 West 37th Street, Studio 1410          New York, NY 10018          212.947.6282          fax 212.947.6289</p> <p><b>Artist:</b>          Michael Singer, Inc.          PO BOX 682          Wilmington, VT 05363          802.464.2781          fax 802.464.2670</p>				
<p>Job No. 04328          Date: MAY/08 21, 2008          Scale: 1/8" = 1'-0"</p> <p>Drawn By: ---          Checked By: ---</p> <p>Drawing Title: <b>ENLARGED PLANTING PLAN</b></p> <p>Drawing No. <b>PP-108</b></p> <p>CONTRACT NO. 1118905</p>				



## **APPENDIX C**

### **Environmental and Archaeological Field Data**

**agan**

Engineering and Environmental Services, Inc.

# STP/Auger Test For

Site # \_\_\_\_\_ Project Name Queens Plaza Phase 1

Address MA, TA Date 4/8/08 Screened Yes ☒ No ☐ Mesh Size \_\_\_\_\_

Comments - Adjacent Landmarks, Tests, Features Etc \_\_\_\_\_

Excavate by natural strata. Record soil texture, Munsell color, and depth below ground surface for each stratum. Provide brief description of material in each stratum (artifact class and count).

(geoprobe 34)

Test # 6 (27)

Concrete
5/6 sh Brn trace of gravel
5/6 Brn fine sand
6/6 sh yellow sand
probe
nm

16"	Concrete
	10YR 6/4 light yellowish Brn.
	Fine sand w/ trace of gravel Stratifications in lower 10"
48"	10YR 6/4 light yellowish Brn Fine sand
96"	End of probe NCR

Test # 7 (Test pit South wall)

4"	Pavement
10"	Gravel / Fill
16"	Concrete
17"	Cinder / ash
31"	2.5 YR 4/3 w/ 2.5 YR 5/6 mottled in. sand (Brown) + (Strong Brn)
46"	10YR 5/6 Yellowish Brn Fine sand
	End of Excavation

Test # 8 (3)

3"	Concrete
8"	asphalt
13"	Concrete
40"	10YR 5/6 Yellowish Brn Fine sand w/ trace of silt
	10YR 6/4 light yellowish sand w/ some silt Stratifications
96"	End of probe NCR

igan

Engineering and Environmental Services, Inc.

# STP/Auger Test For

Site # \_\_\_\_\_ Project Name Queens Plaza Bike + Ped Phase 1

Drawers MA, TA Date 4/8/08 Screened Yes No Mesh Size \_\_\_\_\_

Comments - Adjacent Landmarks, Tests, Features Etc Parking lot, near potentially eligible building

Excavate by natural strata. Record soil texture, Munsell color, and depth below ground surface for each stratum. Provide brief description of material in each stratum (artifact class and count).

(geoprobe # 25)

walk to
14 live Brown /some cavel
6/4 brownish Brown c) w/some
as ve

probe

Test # 2 (geoprobe # 35)

17"	Concrete
17"	10YR 5/8 yellowish brown sand w/silt
17"	10YR 6/4 light yellowish Brown Fine sand
96"	End of probe
	NCM

Test # 3 (geoprobe # 22)

12"	Concrete
12"	2.5 Y 5/4 sand light olive Brn.
40"	10YR 6/4 Fine sand
96"	End of probe
	NCM

Test # 4 (geoprobe # 22)

7"	Concrete
13"	2.5 Y 5/4 Sandy silt
19"	Concrete
25"	10YR 3/2 very Dark gray Brown sandy s
96"	10YR 6/4 Fine sand w/ of silt
	End of probe
	NCM

Legal Site # \_\_\_\_\_ Temp Site #/Area 256 1048

Unit # 1 Stratum \_\_\_\_\_ Level 1 Feature # \_\_\_\_\_ F-Stratum \_\_\_\_\_ F-Level \_\_\_\_\_

Other Provenance- Trench Stratum, Soil Cut Etc. \_\_\_\_\_ Stratum \_\_\_\_\_ Level 1

Excavation Techniques and Controls Machine excavated by mini-backhoe

Screened? Yes ☐ No ☒ Wet ☐ Dry ☒ Mesh Size \_\_\_\_\_

Datum Elevation Location \_\_\_\_\_

Depth at Top SW \_\_\_\_\_ NW \_\_\_\_\_ NE \_\_\_\_\_ SE \_\_\_\_\_ C \_\_\_\_\_

Depth at Bottom SW \_\_\_\_\_ NW \_\_\_\_\_ NE \_\_\_\_\_ SE \_\_\_\_\_ C \_\_\_\_\_

Stratum Description - Munsell, Texture, Type of Deposit \_\_\_\_\_

Level Description - Arbitrary or Natural thickness 4" of Pavement followed by 6" gravel/fill then 6" conc.

Stratigraphic Relationships - Overlaid By \_\_\_\_\_ Underlaid By \_\_\_\_\_ Cut By/Cuts Into \_\_\_\_\_

Disturbance - Degree, Type Some disturbance

Samples Taken - Type, Size, Location none

Materials Discarded or Sample - Weight and or Count \_\_\_\_\_

#### Bags/ Artifacts Recovered


Comments \_\_\_\_\_

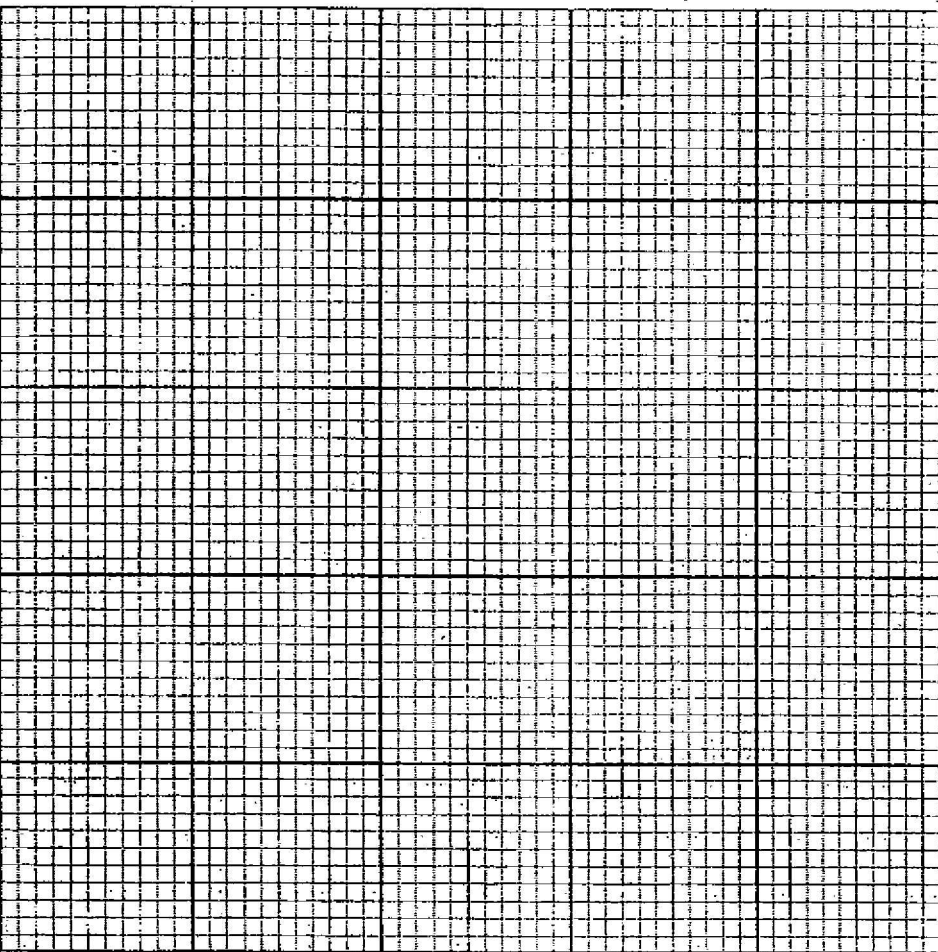
Legal Site # \_\_\_\_\_ Temp Site #/Area \_\_\_\_\_

Unit # \_\_\_\_\_ Stratum \_\_\_\_\_ Level \_\_\_\_\_ Feature # \_\_\_\_\_ F-Stratum \_\_\_\_\_ F-Level \_\_\_\_\_



Indicate Datum Location

1" = \_\_\_\_\_



Key

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Spot Elevations

1 \_\_\_\_\_

2 \_\_\_\_\_

3 \_\_\_\_\_

4 \_\_\_\_\_

Comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Legal Site # \_\_\_\_\_ Temp Site #/Area \_\_\_\_\_

Unit # 1 Stratum \_\_\_\_\_ Level 2 Feature # \_\_\_\_\_ F-Stratum \_\_\_\_\_ F-Level \_\_\_\_\_

Other Provenance- Trench Stratum, Soil Cut Etc. \_\_\_\_\_ Stratum \_\_\_\_\_ Level \_\_\_\_\_

Excavation Techniques and Controls machine excavated in approx 4" intervals

by mini back-hoe Screened? Yes ☐ No ☒ Wet ☐ Dry ☒ Mesh Size \_\_\_\_\_

Stratum Elevation Location \_\_\_\_\_

Depth at Top SW \_\_\_\_\_ NW \_\_\_\_\_ NE \_\_\_\_\_ SE \_\_\_\_\_ C \_\_\_\_\_

Depth at Bottom SW \_\_\_\_\_ NW \_\_\_\_\_ NE \_\_\_\_\_ SE \_\_\_\_\_ C \_\_\_\_\_

Stratum Description - Munsell, Texture, Type of Deposit \_\_\_\_\_

Level Description - Arbitrary or Natural thickness \_\_\_\_\_

Stratigraphic Relationships - Overlaid By \_\_\_\_\_ Underlaid By \_\_\_\_\_ Cut By/Cuts Into \_\_\_\_\_

Disturbance - Degree, Type \_\_\_\_\_

Samples Taken - Type, Size, Location \_\_\_\_\_

Materials Discarded or Sample - Weight and or Count \_\_\_\_\_

#### Bags/ Artifacts Recovered


Comments \_\_\_\_\_

See Sketch

Legal Site # \_\_\_\_\_ Temp Site #/Area \_\_\_\_\_

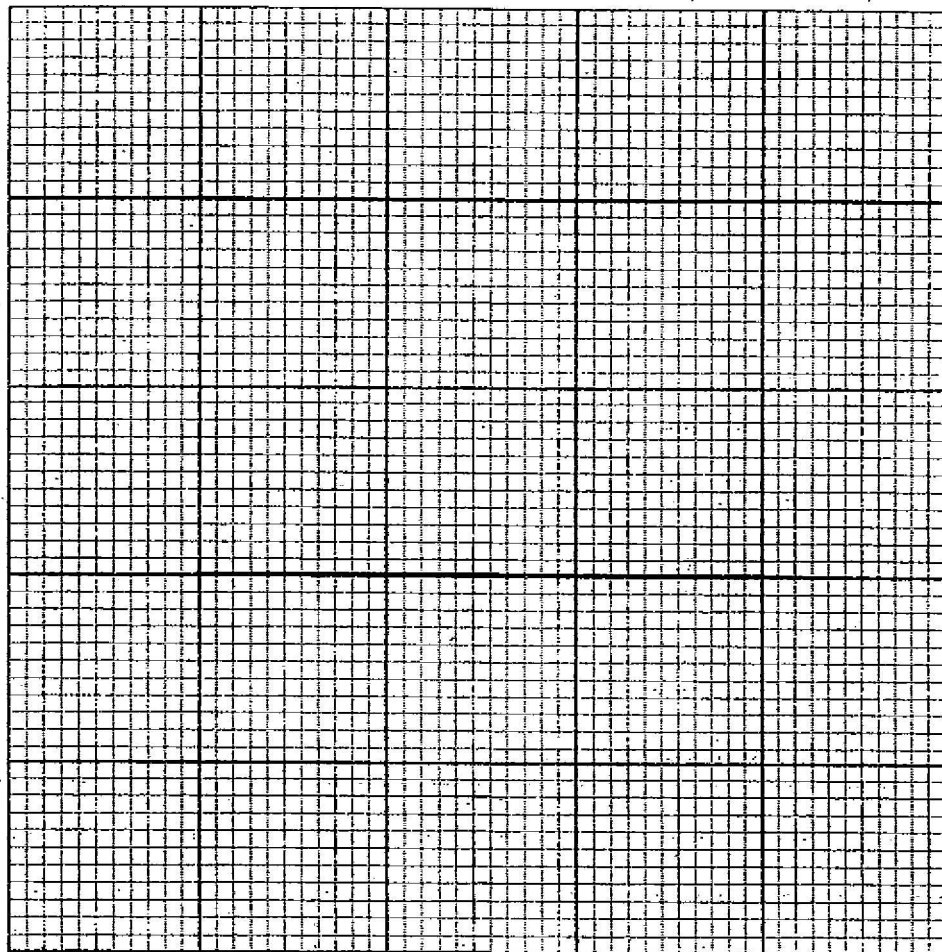
Unit # \_\_\_\_\_ Stratum \_\_\_\_\_ Level \_\_\_\_\_ Feature # \_\_\_\_\_ F-Stratum \_\_\_\_\_ F-Level \_\_\_\_\_



Indicate Datum Location

1" = \_\_\_\_\_

Key

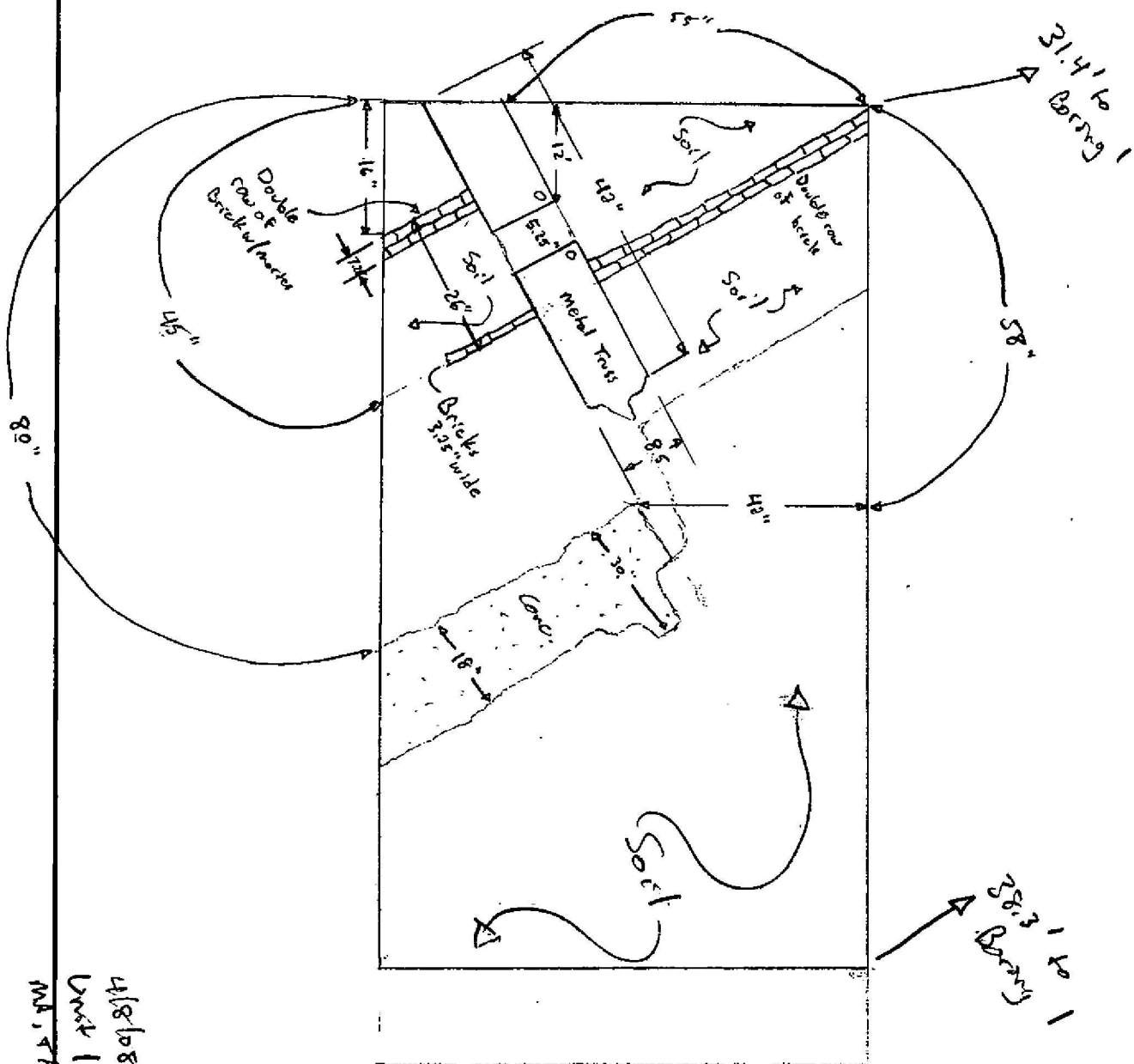


Spot Elevations

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_

Comments \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



4/8/08  
Unit 1  
MA, 5A



## Historic Code Sheet

Date 4/28/08

Project # 5571308

State ID #

aza Bike and Ped. Path JFK Park

Compiled by: MA

Entered by: MA

Group	Class	Type	Subtype	Qty	Description	Comments
F	M			6	longnails or spikes	
F	M			6	rail spikes	possible railroad spikes for holding t
F	M			1	metal screw and nut	possibly to hold down tracks
F	M			4	large bulbs of rusted metal	unknown probably from trolley line
A	G			1	small piece of thick straight glass	thick window glass
K	C			2	small pieces of white ceramics	possible whiteware
F	O			3	wood trusses for tracks	not kept
				23		0

re  
tion

**Class:**

C = ceramic

G = glass

M = metal

S = stone

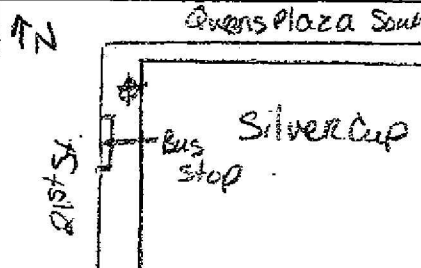
P = plastic

B = biological remains

Z = combination

O = others

LOCATION <b>Queens Plaza LIC, NY</b>			ELEVATION AND DATUM <b>5511201 N/A</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/10/08</b>		DATE FINISHED <b>4/10/08</b>
DRILLING EQUIPMENT <b>6620 OT T-M Geoprobe</b>			COMPLETION DEPTH <b>5'</b>		ROCK DEPTH —
SIZE AND TYPE OF BIT <b>2" Shore</b>			NO. SAMPLES	DIST. <b>1</b>	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Andrea Pachel</b>		
SAMPLER <b>5' macrocore</b>			INSPECTOR <b>A. Gatzoulis</b>		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	REC'D. FT.	PENETR. RESIST. BLU. IN.	
5" of concrete sidewalk 1" of asphalt 14" of br silty SAND, so gravel [FILL]	1 2 3	SI	macro	85"		↑ N Queens Plaza South 
E.O.B @ 5'	4 5 6 7 8 9 10 11 12					Begin drilling SB-1 @ 12:15 on 4/10/08 No odor, no staining PID = 0.0 ppm Collect env sample SB-1(1-3) @ 12:20

LOCATION Queens Plaza LIC, NY			ELEVATION AND DATUM N/A		
DRILLING AGENCY ADT			DATE STARTED 4/9/08		DATE FINISHED 4/9/08
DRILLING EQUIPMENT 6620 DT T.M. Geoprobe			COMPLETION DEPTH 5		ROCK DEPTH
SIZE AND TYPE OF BIT 2" shoe			NO. SAMPLES	DIST. 1	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN Andrea Babel		
SAMPLER 5' macro core			INSPECTOR H. Gatzoulis		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST.	BUR. IN.	
6" of concrete	1						<div> <div>8/3/08</div> <div> <div>Paving Lot</div> <div>Gray bar</div> </div> </div>
5" of br silty SAND + brick, gravel	2						
9" of GRAVEL to sandy silt + brick	3						Queens Plaza Nor
[FILL]	4						↑N
C.O.B @ 5'	5						Start drilling on SB-2 @ 9:45am on 4/9/08
	6						No odor, no staining.
	7						PID = 0.0 ppm
	8						Collect env sample @ 9:55am SB-2 (1-3)
	9						
	10						
	11						
	12						

LOCATION Queens Plaza LIC, NY			ELEVATION AND DATUM 55' 11" 50' 1"		
DRILLING AGENCY ADT			DATE STARTED 4/10/08		DATE FINISHED 4/10/08
DRILLING EQUIPMENT 1620 DT T-m Geoprobe			COMPLETION DEPTH 5'		ROCK DEPTH —
SIZE AND TYPE OF BIT 2" shoe			NO. SAMPLES	DIST. 1	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN Andrea Pabel		
SAMPLER 5' macro core			INSPECTOR H. Gatzoulis		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOG.	TYPE	REC'D. FT.	PENETR. RESIST. BLU. IN.		
5' of concrete sidewalk 3" of asphalt 12" of br silty SAND [FILL] <small>sogrowel, concrete, &amp; brick</small>	1 2 3 4	SI	macro	30			↑N Queens Plaza South Silver Cup
E.O.B. @ 5'	5 6 7 8 9 10 11 12						start drilling SB-3 at 12:30 on 4/10/08 No odor, no staining. PID = 0.0 ppm Collect end sample SB 30-37 @ 12:45

LOCATION LIC, NY			ELEVATION AND DATUM 5571.307 N/A		
DRILLING AGENCY ADT			DATE STARTED 4/9/08		DATE FINISHED 4/9/08
DRILLING EQUIPMENT 6620 DT track mounted Geoprobe			COMPLETION DEPTH 4'		ROCK DEPTH —
SIZE AND TYPE OF BIT 2" Shoe			NO. SAMPLES	DIST.	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN Andrea Babel		
SAMPLER	5' macrocone		INSPECTOR H. Gatzoulis		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BUE IN.		
5" of concrete sidewalk 10" of black asphalt + perme material 22' br silty SAND so gravel, brick [FILL]	1 2 3	5/	macro	37"			<div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p>Queens Plaza North TN</p>
E.O.B @ 4'	4 5 6 7 8 9 10 11 12						<p>Start drilling on SB-4 @ 9am on 4/9/08.</p> <p>No odor PID = 0.0 ppm Collect env. sample @ 9:30 am SB-4 (2-4')</p> <p>End boring @ 4'. Take photos.</p>

LOCATION <b>Queens Plaza</b> <b>LIC NY</b>			ELEVATION AND DATUM <b>5571501</b> <b>NIA</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/9/08</b>		DATE FINISHED <b>4/9/08</b>
DRILLING EQUIPMENT <b>6620DT Track mounted Geoprobe</b>			COMPLETION DEPTH <b>41'</b>		ROCK DEPTH —
SIZE AND TYPE OF BIT <b>2" Shoe</b>			NO. SAMPLES	DIST. <b>1</b>	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Andrea Babel</b>		
SAMPLER <b>5' macro core</b>			INSPECTOR <b>H. Gatzoulis</b>		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST. BL/6 in.	
5' of concrete sidewalk 8" of black asphalt like material 22' br silty SAND, + r brick, gravel	1 2 3	47	macro	35'		<div style="border: 1px solid black; width: 150px; height: 80px; margin: 0 auto; position: relative;"> <span style="position: absolute; left: -20px; top: 50%; transform: translateY(-50%);">22' br silty SAND</span> <span style="position: absolute; right: -20px; top: 50%; transform: translateY(-50%);">8" asphalt</span> </div> <p style="text-align: center;">↑N Queens Plaza North</p>
	4					
	5					
	6					
E.O.B @ 41'	7 8 9 10 11 12					<p>Start drilling SB-5 @ 10:00 am on 4/9/08</p> <p>No odor</p> <p>DEID = 0.0 ppm</p> <p>Collect env. sample @ 10:15 am SB-5 (1-3')</p>

LOCATION Queens Plaza LIC, NY			ELEVATION AND DATUM 331150' / N/A		
DRILLING AGENCY ADT			DATE STARTED 4/10/08		DATE FINISHED 4/10/08
DRILLING EQUIPMENT 6620 DT T-M Geoprobe			COMPLETION DEPTH 4'		ROCK DEPTH
SIZE AND TYPE OF BIT 2" shoe			NO. SAMPLES	DIST. 1	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN Andrea Babel		
SAMPLER 5' macro cone			INSPECTOR A. Gatzoulis		
SAMPLER HAMMER	WEIGHT	DROP			

	SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
			NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST.	BUS IN.	
	5" of concrete sidewalk 24" of brt SAND, so silt so gravel, tabeick	1 2 3	SI	Macro	24"			<p>Queens Plaza South</p> <p>Silvercup Parking Lot</p> <p>Begin drilling SB-6 @ 12:55 on 4/10/08</p> <p>No odor, no staining</p> <p>PID = 0.0 ppm</p> <p>Collect env. sample</p> <p>SB-6 (1-3) @ 13:10</p>
	E.O.B @ 4'	4 5 6 7 8 9 10 11 12						

LOCATION <u>Queens Plaza</u> <u>LIC, NY</u>				ELEVATION AND DATUM <u>N/A</u>			
DRILLING AGENCY <u>ADT</u>				DATE STARTED <u>4/9/08</u>		DATE FINISHED <u>4/9/08</u>	
DRILLING EQUIPMENT <u>6620DT Track mounted Geoprobe</u>				COMPLETION DEPTH <u>10'</u>		ROCK DEPTH —	
SIZE AND TYPE OF BIT <u>2" Shore</u>				NO. SAMPLES —		DIST. <u>2</u> UNDIST. —    CORE —	
CASING —				WATER LEVEL —		FIRST —    COMPL. —    24 HR. —	
CASING HAMMER —		WEIGHT —		DROP —		FOREMAN <u>Andrew Pabel</u>	
SAMPLER <u>5'</u>				INSPECTOR <u>H. Gatzoulis</u>			
SAMPLER HAMMER —		WEIGHT —		DROP —			


	SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
			NO. LOG.	TYPE	RECOV. FT.	PENETR. RESIST BLU/IN.	
	5.5" of concrete sidewalk slab 3" of asphalt 24" of br m-f SAND; resilt, gravel [FILL]	1 2 3 4	51	MACRO	32.5"		<div style="border: 1px solid black; padding: 2px;">QB Bridge Footings</div> <div style="border: 1px solid black; padding: 2px;">2nd st</div> <div style="border: 1px solid black; padding: 2px;">QB Bridge Footings</div>
	14" br f-m SAND & resilt	5 6 7 8 9	32	MACRO	14"		Start drilling SB-7 @ 10:20am on 4/9/09  No odor, no staining PID = 0.0 ppm  Collect env. samples  SB-7 (5-10) 10:35am  Take Photos
	E.O.B @ 10'	10 11 12					

LOCATION <i>Queens Plaza</i> <b>LIC, NY</b>			ELEVATION AND DATUM <b>N/A</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/9/08</b>		DATE FINISHED <b>4/9/08</b>
DRILLING EQUIPMENT <b>6620 DT track-mounted Geoprobe</b>			COMPLETION DEPTH <b>4'</b>		ROCK DEPTH —
SIZE AND TYPE OF BIT <b>2" shoe</b>			NO. SAMPLES	DIST. <b>1</b>	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPT. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Andrea Babel</b>		
SAMPLER <b>5 MACRO CORE</b>			INSPECTOR <b>A. Gatzowis</b>		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/6 IN.	
6" of top soil & fine sand, so tree roots, gravel	1	<b>5</b>	<b>MACRO</b>	<b>35"</b>		<div> <div>Construction site</div> <div>↑ N</div> <div>Start drilling SB-8 @ 10:45am on 4/9/08.</div> <div>No odor, no staining</div> <div>PID = 0.0 ppm</div> <div>Collect env. sample SB-8(1-3) @ 10:55am</div> </div>
24" of br sandy SILT, so gravel, tree roots	2					
	3					
	4					
E.O.B @ 4'	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

LOCATION <u>LIC, NY</u>				ELEVATION AND DATUM <u>N/A</u>			
DRILLING AGENCY <u>ADT</u>				DATE STARTED <u>4/10/08</u>		DATE FINISHED <u>4/10/08</u>	
DRILLING EQUIPMENT <u>6620DT T-M Geoprobe</u>				COMPLETION DEPTH <u>4'</u>		ROCK DEPTH <u>—</u>	
SIZE AND TYPE OF BIT <u>2" Shore</u>				NO. SAMPLES <u>—</u>		DIST. <u>1</u> UNDIST. <u>—</u> CORE <u>—</u>	
CASING <u>—</u>				WATER LEVEL <u>—</u>		FIRST <u>—</u> COMPL. <u>—</u> 24 HR. <u>—</u>	
CASING HAMMER <u>—</u>		WEIGHT <u>—</u>		DROP <u>—</u>		FOREMAN <u>Andrea Babel</u>	
SAMPLER <u>5' macrocore</u>				INSPECTOR <u>A. Gatzoulis</u>			
SAMPLER HAMMER <u>—</u>		WEIGHT <u>—</u>		DROP <u>—</u>			

	SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
			NO. LOC.	TYPE	REC'D FT.	PENETR. RESIST. BLB IN.	
1	7" of asphalt						<u>QB Bridge</u> <u>Parking spaces</u>  <u>Subway Footing Queens Plaza South</u>
2	20" of br sandy SILT, so gravel						
3	8" of 1/2 br f SAND, + silt						
4	[FILL]						
5	E.O.Bc 4'						start drilling SB-9@13:30 on 4/10/08  No odor, NO staining PID = 0.0 ppm  Collect env. sample SB-9(1'-3')@13:45
6							
7							
8							
9							
10							
11							
12							

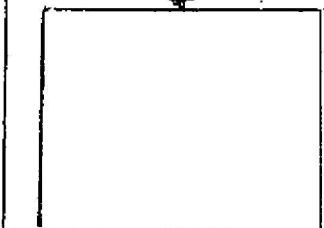
LOCATION <u>Queens Plaza</u> <u>LTC, NY</u>			ELEVATION AND DATUM <u>2211361</u> <u>N/A</u>		
DRILLING AGENCY <u>ADT</u>			DATE STARTED <u>4/9/08</u>		DATE FINISHED <u>4/9/08</u>
DRILLING EQUIPMENT <u>6620DT Track mounted Gasperib</u>			COMPLETION DEPTH <u>4'</u>		ROCK DEPTH <u>      </u>
SIZE AND TYPE OF BIT <u>2" Shore</u>			NO. SAMPLES	DIST. <u>      </u>	UNDIST. <u>      </u>
CASING			WATER LEVEL	FIRST <u>      </u>	COMPL. <u>      </u>
CASING HAMMER <u>      </u>	WEIGHT <u>      </u>	DROP <u>      </u>	FOREMAN <u>Andres Patel</u>		
SAMPLER <u>5' Macrocone</u>			INSPECTOR <u>H. Gatzowis</u>		
SAMPLER HAMMER <u>      </u>			WEIGHT <u>      </u>		
DROP <u>      </u>					


SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST. BLW. W.	
4" of concrete sidewalk slab	1	5	Macro	3"		<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Scandal's </div> 44th St ↕ TN Queens Plaza North
3" of asphalt & brick	2					
24" of bel-m SAND, ss silt, gravel, & brick	3					
[FILL]	4					
E.O.B @ 4'	5					Start drilling SB-10 @ 11:05 am on 4/9/08
	6					No odor, no staining
	7					PID = 0.0 ppm
	8					Collect env. sample
	9					SB-10 (1-3') @ 11:15 am
	10					
	11					
	12					

LOCATION <b>LIC, NY</b>		ELEVATION AND DATUM <b>N/A</b>	
DRILLING AGENCY <b>ADT</b>		DATE STARTED <b>4/10/08</b>	DATE FINISHED <b>4/10/08</b>
DRILLING EQUIPMENT <b>6620DT Track mounted Geoprobe</b>		COMPLETION DEPTH <b>4'</b>	ROCK DEPTH <b>—</b>
SIZE AND TYPE OF BIT <b>2" shoe</b>		NO. SAMPLES	DIST.   UNDIST.   CORE
CASING		WATER LEVEL	FIRST   COMPL.   24 HR.
CASING HAMMER	WEIGHT	DROP	
SAMPLER <b>5' macrocore</b>		FOREMAN <b>Andreea Babal</b>	
SAMPLER HAMMER		INSPECTOR <b>J. Gonzalez</b>	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST. BLOW IN.	
5" of concrete sidewalk	1	51	macro	38"		<p>↑N</p> <p>Queens Plaza South</p>  <p>Start drilling SB-11 @ 13:55 on 4/10/08</p> <p>No odor, no staining</p> <p>PID = 0.0 ppm</p> <p>Collect env. sample SB-11 (F-3) @ 14:10</p>
1" of m-f SAND, so gravel	2					
3" of asphalt	3					
19" of br f-m SAND, so gravel, + silt	4					
4" of GRAVEL [FILL]	5					
E.O.B @ 4'	6					
	7					
	8					
	9					
	10					
	11					
	12					

LOCATION <u>Queens Plaza</u> <u>LIC, NY</u>		ELEVATION AND DATUM <u>N/A</u>	
DRILLING AGENCY <u>ADT</u>		DATE STARTED <u>4/9/09</u>	DATE FINISHED <u>4/9/09</u>
DRILLING EQUIPMENT <u>6620DT track mounted geoprobe</u>		COMPLETION DEPTH <u>4'</u>	ROCK DEPTH <u>—</u>
SIZE AND TYPE OF BIT <u>2" Macrocone</u>		NO. SAMPLES	DIST. <u>1</u> UNDIST. <u>—</u> CORE <u>—</u>
CASING		WATER LEVEL	FIRST <u>—</u> COMPL. <u>—</u> 24 HR. <u>—</u>
CASING HAMMER	WEIGHT	DROP	
SAMPLER <u>5" Macrocone</u>		FOREMAN <u>Andrea Rabel</u>	
SAMPLER HAMMER		INSPECTOR <u>H. Gatzoulis</u>	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/IN.	
Remove 1.5' brick & drill underneath	1	15	Macro	6.5' 3"		↗ Queens Plaza North  Roadway to QB Bridge
17" dk sandy SILT, so gravel, 1/2 brick	2					
1" of roots	3					
15" of concrete	4					
11" of <sup>BRICK</sup> sandy SILT, so gravel, <sub>FL BRICK</sub>	5					Start drilling SB-12 on 4/9/09 @ 11:35am No odor, no staining PID = 0.0 Collect env. sample SB-12 (1-3) @ 11:45am Take Photo
E.O.B. @ 4'	6					
	7					
	8					
	9					
	10					
	11					
	12					

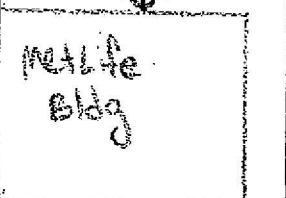
LOCATION Queens Plaza LIC, NY				ELEVATION AND DATUM NIA			
DRILLING AGENCY ADT				DATE STARTED 4/10/08		DATE FINISHED 4/10/08	
DRILLING EQUIPMENT 6620DT T.M. Geoprobe				COMPLETION DEPTH 5'		ROCK DEPTH —	
SIZE AND TYPE OF BIT 2" shoe				NO. SAMPLES —		DIST. 1 UNDIST. — CORE —	
CASING —				WATER LEVEL —		FIRST — COMPL. — 24 HR. —	
CASING HAMMER —		WEIGHT —		DROP —		FOREMAN Andrew Babel	
SAMPLER S macro cone				INSPECTOR H. Gotzoulis			
SAMPLER HAMMER —		WEIGHT —		DROP —			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/IN.	
6" of concrete sidewalk 2" of asphalt + mixed w/ m.f. SAND 18" of br sandy SILT, SO gravel [FILL]	1 2 3	51	macro	86"		AN Crescent St. Queens Plaza South
E.O.B @ 5'	5 6 7 8 9 10 11 12					start drilling SB-13 @ 14:10 on 4/10/08.  No odor, no staining.  PID = 0.0 ppm  Collected env. sample SB-13 (1-3') @ 14:20

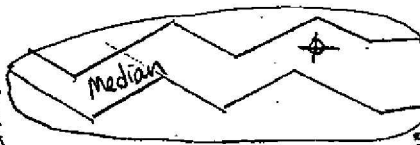
LOCATION <b>LIC, NY</b>			ELEVATION AND DATUM <b>N/A</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/11/08</b>		DATE FINISHED <b>4/11/08</b>
DRILLING EQUIPMENT <b>6620DT T-M Geoprobe</b>			COMPLETION DEPTH <b>4'</b>		ROCK DEPTH _____
SIZE AND TYPE OF BIT <b>2" Shoe</b>			NO. SAMPLES	DIST. <b>1</b>	UNDIST. _____
CASING			WATER LEVEL	FIRST _____	COMPL. _____
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Andrea</b>		
SAMPLER	<b>5' macrocore</b>		INSPECTOR <b>A. Gatzoulis</b>		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	REC'D. FT.	PENETR. RESIST. BLU IN.		
5' of concrete	1	5	macro	27"		<b>Queen's Plaza North</b> 	
3' of GRAVEL - 20 brick, asphalt	2						
10" of br m- SAND, 150 silt, gravel + 2 brick	3						
9" of br silt SAND, in gravel [FILL]	4						
E.O.B. @ 4'	5					<b>Start drilling SB-15 @ 12.00 on 4/11/08</b> <b>Due to scaffolding, moved boring location 9 ft to the south</b> <b>No odor, no staining</b> <b>PID = 0.0 ppm</b> <b>End sample</b> <b>SB-15 (1-3') @ 12.15</b> <b>Photo taken.</b>	
	6						
	7						
	8						
	9						
	10						
	11						
	12						

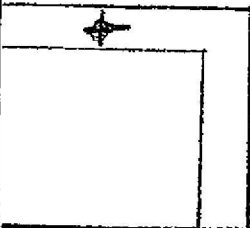
LOCATION LINDEN TUNNEL LTC, NY		ELEVATION AND DATUM N/A	
DRILLING AGENCY ADT		DATE STARTED 4/9/08	DATE FINISHED 4/9/08
DRILLING EQUIPMENT 680 DT track mounted Geoprobe		COMPLETION DEPTH 5'	ROCK DEPTH —
SIZE AND TYPE OF BIT 2" shoe		NO. SAMPLES	DIST. 1
CASING		WATER LEVEL	FIRST —
CASING HAMMER	WEIGHT	DROP	FOREMAN Andres Bobb
SAMPLER 5' MACROCORE		INSPECTOR H. Gateoulis	
SAMPLER HAMMER		WEIGHT	DROP

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/6 IN.	
1" of very fine m-f SAND	1	51	MACRO	32'		TN Queens Plaza North  Queens Plaza South
14" of dk br sandy SILT, so gravel, fabric	2					
22" of br f SAND, so silt, gravel	3					
[FILL]	4					
	5					
E.O.B @ 5'	6					Start drilling SB-16 @ 13:00 on 4/9/08. No odors, no staining PID = 0.0 ppm Collect env. sample SB-16 (1'-3') @ 13:15
	7					
	8					
	9					
	10					
	11					
	12					

LOCATION <b>LIC, NY</b>		ELEVATION AND DATUM <b>N/A</b>	
DRILLING AGENCY <b>AST</b>		DATE STARTED <b>4/11/08</b>	DATE FINISHED <b>4/11/08</b>
DRILLING EQUIPMENT <b>6620DT T.M. Geoprobe</b>		COMPLETION DEPTH <b>4'</b>	ROCK DEPTH —
SIZE AND TYPE OF BIT <b>2" Shoe</b>		NO. SAMPLES	DIST. <b>1</b> UNDIST. —    CORE —
CASING		WATER LEVEL	FIRST —    COMPL. —    24 HR. —
CASING HAMMER	WEIGHT	DROP	
SAMPLER <b>5' macrocone</b>		FOREMAN <b>Andrea Babel</b>	
SAMPLER HAMMER		INSPECTOR <b>A. Gatzoulis</b>	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOG.	TYPE	RECOV. FT.	PENETR. RESIST. BLU/IN.	
6" concrete sidewalk	1					<b>Queens Plaza South TN</b> 
2" of asphalt	2					
60" of brk silty SAND, soggy, + brick	3					
<b>[FILL]</b>	4					Start drilling SB-17 @ 10:15am on 4/11/08. Feel something hard at 1' Check bsm of blg. moved boring 1' North. No staining, no odor PID = 0.0 ppm  Collect env. sample SB-17 (1-3') @ 11:00am
EOB @ 4'	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

LOCATION <b>QUEENS PLAZA LIC, NY</b>		ELEVATION AND DATUM <b>5511001 NIA</b>	
DRILLING AGENCY <b>ADT</b>		DATE STARTED <b>4/9/08</b>	DATE FINISHED <b>4/9/08</b>
DRILLING EQUIPMENT <b>6620DT T-M Geoprobe</b>		COMPLETION DEPTH <b>5'</b>	ROCK DEPTH
SIZE AND TYPE OF BIT <b>2" shoe</b>		NO. SAMPLES	DIST. <b>1</b> UNDIST. CORE
CASING		WATER LEVEL	FIRST COMPL. 24 HR.
CASING HAMMER	WEIGHT	DROP	
SAMPLER <b>5' macro core</b>		FOREMAN <b>Andrea Pabel</b>	
SAMPLER HAMMER		INSPECTOR <b>H. Gatzoulis</b>	

	SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
			NO. LOG.	TYPE	REC'D. FT.	PENETR. RESIST.	BLU. IN.	
	9" of concrete sidewalk slab 1" of asphalt 3" of sandy SILT and GRAVEL 7.5' of concrete 17" of sandy SILT, 50% gravel, + brick [FILL]	1 2 3 4 5						<p>Queens Plaza North <b>↑N</b></p> <p><b>SB-18</b></p> <p>Queens Plaza South</p>
	E. O. B @ 5'	6 7 8 9 10 11 12						<p>started drilling SB-18 @ 1340pm on 4/9/08</p> <p>No odor, no staining</p> <p>DID = 0.0 ppm</p> <p>Collect env. sample SB-18 (2-4') @ 1350</p>


WILSONS PLAZA			00 NEW		
LOCATION LIC, NY			ELEVATION AND DATUM N/A		
DRILLING AGENCY ADT			DATE STARTED 4/11/08		DATE FINISHED 4/11/08
DRILLING EQUIPMENT 6620 DT T-M Gumbo			COMPLETION DEPTH 5		ROCK DEPTH
SIZE AND TYPE OF BIT 2" Shore			NO. SAMPLES	DIST. 1	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN Andrea Katsel		
SAMPLER 5' macrocone			INSPECTOR H. Gatzoulis		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST. BLB IN.	
5.5' of concrete	1	SI	MACRO	29.5'	200 st.	TN Queens Plaza South
5' of brk-m SAND, 50 gravel, 12 silt	2					
3' of GRAVEL	3					
13' of br silty f SAND, 50 gravel, 9' of GRAVEL 12 brick	4					
[FILL]	5					
E.O.B @ 5'	6					start drilling on SB-19 @ 9:55am
	7					No odor, no staining
	8					PID = 0.0 ppm
	9					Collect env. sample SB-19 (1-3") @ 10:00am
	10					
	11					
	12					

PROJECT: <u>Queens Plaza</u>		ELEVATION AND DATUM: <u>N/A</u>	
LOCATION: <u>LIC, NY</u>		DATE STARTED: <u>4/8/08</u> DATE FINISHED: <u>4/8/08</u>	
DRILLING AGENCY: <u>ADT</u>		COMPLETION DEPTH: <u>10'</u> ROCK DEPTH: <u>—</u>	
DRILLING EQUIPMENT: <u>6200T T-m Geoprobe</u>		NO. SAMPLES: <u>2</u> DIST. <u>2</u> UNDIST. <u>—</u> CORE <u>—</u>	
SIZE AND TYPE OF BIT: <u>2" shoe</u>		WATER LEVEL: <u>FIRST</u> COMPL. <u>—</u> 24 HR. <u>—</u>	
CASING: <u>—</u>		FOREMAN: <u>Andrea Babel</u>	
CASING HAMMER: <u>—</u> WEIGHT: <u>—</u> DROP: <u>—</u>		INSPECTOR: <u>H. Gatzow's</u>	
SAMPLER: <u>5' macro cone</u>			
SAMPLER HAMMER: <u>—</u> WEIGHT: <u>—</u> DROP: <u>—</u>			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/6 IN.	
5' concrete	1	15	macro	48"		Queens Plaza North median 
3' asphalt, brick, wood fragments	2					
1' concrete	3					
31" of	4					
dark brown A-M SAND, 50 silt gravel [FILL]	5					
A-br & SAND, 50 silt	6	22	macro	24"		Start drilling SB-20 @ 2:50pm on 4/8/08  No odors, no staining PID = 0.0ppm  Collect SB-20(2-4) @ 3:00pm
	7					
	8					
	9					
	10					
C.B. @ 10'	11					
	12					

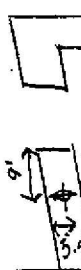
LOCATION LIC, NY			ELEVATION AND DATUM N/A		
DRILLING AGENCY ADT			DATE STARTED 4/9/08		DATE FINISHED 4/9/08
DRILLING EQUIPMENT WardDOT T-m Goodrich			COMPLETION DEPTH 4'		ROCK DEPTH —
SIZE AND TYPE OF BIT 2" shoe			NO. SAMPLES	DIST. 1	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL. — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN Archea Poebel		
SAMPLER 5' Macrocore			INSPECTOR H. Gatzoulis		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST	BUB IN.	
5" of concrete sidewalk 1" of asphalt 2" of br f SAND, w/ silt, gravel [FILL]	1 2 3	51	MACRO	22"			<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Crescent Club 24-09 </div> Queens Plaza North ↑N
E.O.B @ 4'	4 5 6 7 8 9 10 11 12						Begin drilling SB-21 @ 14:00 on 4/9/08 No odor, No staining PID = 0.0 ppm Collect env. sample SB-21(1-3) @ 14:20

LOCATION <i>Queens Plaza</i> <b>LTC, NY</b>			ELEVATION AND DATUM <b>N/A</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/8/08</b>		DATE FINISHED <b>4/8/08</b>
DRILLING EQUIPMENT			COMPLETION DEPTH <b>10'</b>		ROCK DEPTH
SIZE AND TYPE OF BIT			NO. SAMPLES	DIST. <b>2</b>	UNDIST. <input type="checkbox"/> CORE <input type="checkbox"/>
CASING			WATER LEVEL	FIRST <input type="checkbox"/>	COMPL. <input type="checkbox"/> 24 HR. <input type="checkbox"/>
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Andrea Brebel</b>		
SAMPLER			INSPECTOR <b>H. Gatzoulis</b>		
SAMPLER HAMMER	WEIGHT	DROP			

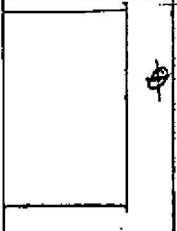
SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST. 80/100 IN.	
5.5' of concrete sidewalk slab 1' of asphalt 24" of m SAND, 50 silt, gravel <b>[FILL]</b>	1 2 3	51	MACRO	30.5"		 <p>Begin drilling SB-22 @ 10<sup>00</sup> am on 4/8/08. Drill through 5.5' of concrete</p>
36" of 14.6% SAND, 48 silt, gravel	4 5 6 7 8 9	52	MACRO	36"		
EOB @ 10'	10 11 12					

LOCATION LIC, NY			ELEVATION AND DATUM N/A		
DRILLING AGENCY ADT			DATE STARTED 4/11/08		DATE FINISHED 4/11/08
DRILLING EQUIPMENT 6620DT T.M. Goppenko			COMPLETION DEPTH 10'		ROCK DEPTH
SIZE AND TYPE OF BIT 2" Shore			NO. SAMPLES		DIST. 8
CASING			WATER LEVEL		FIRST
CASING HAMMER			WEIGHT		DROP
SAMPLER 5' macrocone			FOREMAN Andrea Babel		INSPECTOR J. Gatzoulis
SAMPLER HAMMER			WEIGHT		DROP

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	REC'D. FT.	PENETR. RESIST. BLU. IN.	
5.5' of concrete sidewalk						<div> <div>Queens Plaza South</div> <div>Municipal Garage</div> </div>
8" of f-m SAND, so gravel, + silt	1					
2" of GRAVEL	2					
2" of besilly f SAND, so gravel + glass	3	51	macro	36.5"		
[FILL]	4					start drilling SB-23 @ 9:05am on 4/11/08
26.5" of besilly f SAND, so gravel	5					No odor, no staining  PID = 0.0 ppm  Collect env. sample SB-23 (1'-3') @ 9:30am  photos taken
5" of 116 f SAND, so silt (moist)	6					
	7	58	macro	31.5"		
	8					
	9					
	10					
	11					
	12					

E.O.B. @ 10'

PROJECT <b>Queens Plaza</b>			PROJECT NO. <b>5571307</b>		
LOCATION <b>LTC, NY</b>			ELEVATION AND DATUM <b>NIA</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/9/08</b>		DATE FINISHED <b>4/9/08</b>
DRILLING EQUIPMENT <b>6620 DT T-M. Geopac 20</b>			COMPLETION DEPTH <b>4'</b>		ROCK DEPTH <b>—</b>
SIZE AND TYPE OF BIT <b>2" shoe</b>			NO. SAMPLES	DIST. <b>1</b>	UNDIST. <b>—</b>
CASING			WATER LEVEL	FIRST <b>—</b>	COMPL. <b>—</b>
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Andrea Babel</b>		
SAMPLER <b>5' macrocore</b>			INSPECTOR <b>A. Gatzow</b>		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECON. FT.	PENETR. RESIST. BLU IN.	
5" of concrete sidewalk 3" of asphalt 18" of br f SAND, + silt, gravel [FILL]	1 2 3	51	macro	26"		<b>41st Ave</b>  <b>Commen Parking lot</b> <b>Queens Plaza North</b> Start drilling SB-24 @ 14:30 on 4/9/08 No odor, no staining. PID = 0.0 ppm Take end. sample SB-24(1-3) @ 14.45.
E.O.B @ 4'	4 5 6 7 8 9 10 11 12					

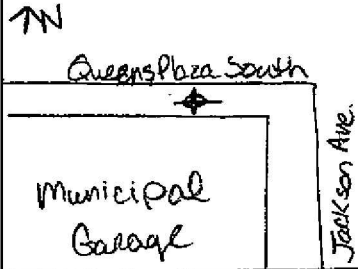
LOCATION <u>Waters Plaza</u> <u>LIC, NY</u>				ELEVATION AND DATUM <u>N/A</u>			
DRILLING AGENCY <u>ADT</u>				DATE STARTED <u>4/8/08</u>		DATE FINISHED <u>4/8/08</u>	
DRILLING EQUIPMENT <u>6020DT Gasperche - track mounted</u>				COMPLETION DEPTH <u>11'</u>		ROCK DEPTH <u>—</u>	
SIZE AND TYPE OF BIT <u>2" shoe</u>				NO. SAMPLES		DIST. <u>3</u>	
CASING				WATER LEVEL		FIRST <u>—</u>	
CASING HAMMER <u>—</u> WEIGHT <u>—</u> DROP <u>—</u>				FOREMAN <u>Andrew Babel</u>		UNDIST. <u>—</u> CORE <u>—</u>	
SAMPLER <u>5' macrocone</u>				INSPECTOR <u>H. Gatzoulis</u>		COMPL. <u>—</u> 24 HR. <u>—</u>	
SAMPLER HAMMER <u>—</u> WEIGHT <u>—</u> DROP <u>—</u>							

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/6 IN.	
5.5' of concrete 1' of asphalt 2" of DE + m SAND, silt, gravel	1 2 3	51	macro	7.5"		<p>Begin drilling SB-25 @ 8:30am on 4/8/08 Drill through 5.5' of concrete</p>
14.6' of SAND, silt	4 5 6 7	SA	macro	36"		
14.6' of SAND, silt	8 9 10	S3	macro	18"		<p>collect env sample SB-24(1-3') @ 8:50am</p>
E.O.B @ 11'	11 12					<p>End boring @ 11'</p>

LOCATION <b>Queens Plaza LIC, NY</b>		ELEVATION AND DATUM <b>NA</b>	
DRILLING AGENCY <b>ADT</b>		DATE STARTED <b>4/7/08</b>	DATE FINISHED <b>4/7/08</b>
DRILLING EQUIPMENT <b>54 LT T-M Geoprobe</b>		COMPLETION DEPTH <b>5'</b>	ROCK DEPTH —
SIZE AND TYPE OF BIT <b>2" shoe</b>		NO. SAMPLES	DIST. <b>2</b> UNDIST. —    CORE —
CASING		WATER LEVEL	FIRST —    COMPL. —    24 HR. —
CASING HAMMER —	WEIGHT —	DROP —	
SAMPLER <b>4' macro core</b>		FOREMAN <b>B. Cruz</b>	
SAMPLER HAMMER —		INSPECTOR <b>H. Gatzoulis</b>	
SAMPLER HAMMER —		WEIGHT —    DROP —	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER. FT.	PENETR. RESIST. BLB IN.	
2' of concrete 1' of asphalt 30" of br f-m SAND, so silt, gravel [FILL]	1 2 3	54	macro	33"		<b>TN</b> 
4. br f-m SAND, so silt	4 5	58	macro	18"		
E.O.B @ 5'	6 7 8 9 10 11 12					Begin drilling SB-26 @ 16:15 on 4/7/08 Drill thru concrete sidewalk Slab. NO. odors or staining PID = 0.0ppm Collect SB-26(1-3' @ 4:15pm End boring @ 5'

Queens Plaza  
LIC, NY

ADT

6020 BT Track mounted Gasprobe

2" Shore

5' macrocone

0011201

ELEVATION AND DATUM N/A

DATE STARTED 4/18/07

DATE FINISHED 4/18/07

COMPLETION DEPTH 10'

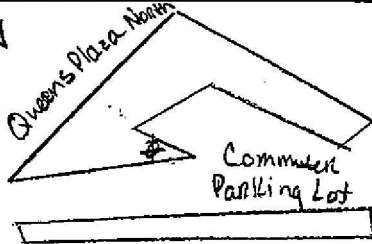
ROCK DEPTH

NO. SAMPLES DIST. 2 UNDIST. CORE

WATER LEVEL FIRST COMPL. 24 HR.

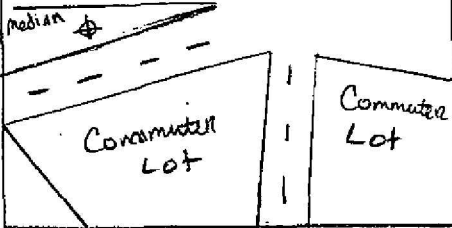
FOREMAN Andrea Pobel

INSPECTOR H. Gatzoulis

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/6 IN.	
6" concrete 3" asphalt 8" concrete 20" br f-m SAND, re silt [FILL]	1 2 3 4	SI	macro	32"		
	5					
	6					
	7					
14 br f SAND, re silt, gravel	8 9 10	SR	macro	28"		Start drilling SB-27 @ 1200 on 4/18/08.  No odors, no staining PID = 0.0  Collect env Sample SB-27 (1-3') @ 12:20pm
	11					
	12					
EOB @ 10'						

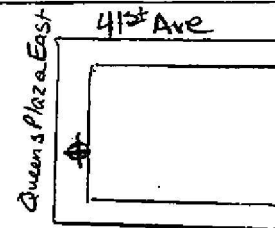
PROJECT <u>Queens Plaza</u>		ELEVATION AND DATUM <u>25:11:50 / N/A</u>	
LOCATION <u>LIC, NY</u>		DATE STARTED <u>4/8/08</u> DATE FINISHED <u>4/8/08</u>	
DRILLING AGENCY <u>ADT</u>		COMPLETION DEPTH <u>10'</u> ROCK DEPTH <u>      </u>	
DRILLING EQUIPMENT <u>6620 DT T-m. Geoprobe</u>		NO. SAMPLES <u>2</u> DIST. <u>2</u> UNDIST. <u>      </u> CORE <u>      </u>	
SIZE AND TYPE OF BIT <u>2" shoe</u>		WATER LEVEL FIRST <u>      </u> COMPL. <u>      </u> 24 HR. <u>      </u>	
CASING <u>      </u>		FOREMAN <u>Andrea Pabel</u>	
CASING HAMMER <u>      </u> WEIGHT <u>      </u> DROP <u>      </u>		INSPECTOR <u>H. Gatzowis</u>	
SAMPLER <u>5' macrocone</u>			
SAMPLER HAMMER <u>      </u> WEIGHT <u>      </u> DROP <u>      </u>			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOG.	TYPE	RECOVER. FT.	PENETR. RESIST. BL/6 IN.	
5" of concrete	1	51	macro	39"		Queen's Plaza North <span style="float:right">TN</span> 
3" of asphalt	2					
3" of wood fragments, possibly remnants of old trolley tracks	3					
6" of asphalt	4					
20" of br. f SAND, sd silt, irregular	5	52	macro	24"		Start drilling SB-23 @ 2:20pm on 4/8/08 Drill thru concrete sidewalk slab 5".  No odor, no staining PID = 0.0ppm  Collect env. sample SB-28(2-4) at 2:45pm  Finish boring at 10'.
	6					
14. br. f SAND, sd silt	7					
	8					
	9					
	10					
E.O.B @ 10'	10					
	11					
	12					

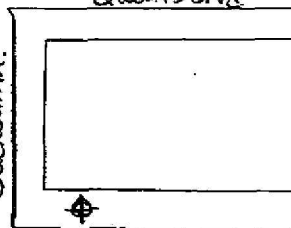
LOCATION <b>Queens Plaza LIC, NY</b>			ELEVATION AND DATUM <b>N/A</b>		
DRILLING AGENCY <b>ADT</b>			DATE STARTED <b>4/7/08</b>		DATE FINISHED <b>4/7/08</b>
DRILLING EQUIPMENT <b>54 LT T-m Geoprobe</b>			COMPLETION DEPTH <b>10'</b>		ROCK DEPTH <b>—</b>
SIZE AND TYPE OF BIT <b>2" shoe</b>			NO. SAMPLES	DIST. <b>3</b>	UNDIST. <b>—</b> CORE <b>—</b>
CASING			WATER LEVEL	FIRST <b>—</b>	COMPL <b>—</b> 24 HR. <b>—</b>
CASING HAMMER	WEIGHT	DROP	FOREMAN <b>Bernie Cew</b>		
SAMPLER	<b>2' macro core</b>		INSPECTOR <b>H. Gatzoulis</b>		
SAMPLER HAMMER	WEIGHT	DROP			

	SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
			NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/IN.	
	Drill thru 4" of concrete 3" of asphalt 36" of br m-f SAND, silt, gravel, beck [FILL]	1 2 3	S1	macro	43"		<b>TN</b>  Queens Plaza East 41st Ave Queens Blvd.
	br m-f SAND, silt, gravel	4 5 6 7	S2	macro	38"		
	br m-f SAND, silt, gravel	8 9	S3	macro	29"		
	E.O.B @ 10'	10 11 12					Set up & begin drilling SB-29 @ 10:30am on 4/7/08 2 attempts w/ refusal Hard drilling to get through 4" of concrete sidewalk. S1-S3 → No odors & no staining, PEO = 0.0ppm Take environmental sample at <sup>SB-29</sup> (2-4') @ 12:00

PROJECT: <u>Queens Plaza</u>		ELEVATION AND DATUM: <u>25'130"</u>	
LOCATION: <u>LIC, NY</u>		DATE STARTED: <u>4/7/08</u> DATE FINISHED: <u>4/7/08</u>	
DRILLING AGENCY: <u>ADT</u>		COMPLETION DEPTH: <u>4'</u> ROCK DEPTH: <u>—</u>	
DRILLING EQUIPMENT: <u>54 LT T-m Geoprobe</u>		NO. SAMPLES: <u>1</u> DIST. <u>1</u> UNDIST. <u>—</u> CORE <u>—</u>	
SIZE AND TYPE OF BIT: <u>2" shoe</u>		WATER LEVEL: <u>FIRST</u> COMPL. <u>—</u> 24 HR. <u>—</u>	
CASING HAMMER: <u>—</u>	WEIGHT: <u>—</u>	FOREMAN: <u>B. Cruz</u>	
SAMPLER: <u>4" macro probe</u>	INSPECTOR: <u>H. Gatzoulis</u>		
SAMPLER HAMMER: <u>—</u>	WEIGHT: <u>—</u>	DROP: <u>—</u>	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVER, FT.	PENETR. RESIST. BLG IN.	
4" of concrete 2" of asphalt be m-f SAND, so silt (moist) [FILL]	1 2 3	31	macro	36"		TN  West St
E.O. Be 4'	4 5 6 7 8 9 10 11 12					Begin drilling @ SB-30 on 4/7/08 @ 14:15.  No staining, no odors PID = 0.0ppm  collect env. sample SB-30 (1-3') @ 14:15.

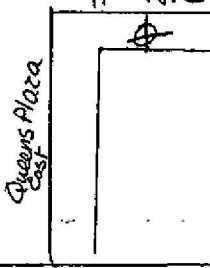
PROJECT: <u>Queens Plaza</u>		5511501	
LOCATION: <u>LIC. NY</u>		ELEVATION AND DATUM: <u>N/A</u>	
DRILLING AGENCY: <u>ADT</u>		DATE STARTED: <u>4/11/08</u>	DATE FINISHED: <u>4/11/08</u>
DRILLING EQUIPMENT: <u>6020DT T-M Geoprobe</u>		COMPLETION DEPTH: <u>1'</u>	ROCK DEPTH: <u>      </u>
SIZE AND TYPE OF BIT: <u>2" shoe</u>		NO. SAMPLES: <u>0</u>	DIST. <u>0</u> UNDIST. <u>      </u> CORE <u>      </u>
CASING: <u>      </u>		WATER LEVEL: <u>      </u>	FIRST <u>      </u> COMPL. <u>      </u> 24 HR. <u>      </u>
CASING HAMMER: <u>      </u>	WEIGHT: <u>      </u>	FOREMAN: <u>Andrea Babel</u>	
SAMPLER: <u>      </u>	INSPECTOR: <u>H. Gatzowis</u>		
SAMPLER HAMMER: <u>      </u>	WEIGHT: <u>      </u>	DROP: <u>      </u>	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVERED	PENETR. RESIST. BLOW IN.	
E.O.B @ 1'	1					<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">           Queens Plaza North         </div> TN Start drilling SB-31 @ 12:55 on 4/11/08 Drill 1 ft on hit refusal Abandon hole.
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					
	11					
	12					

LOCATION <u>Queens Plaza</u> <u>LIC, NY</u>		ELEVATION AND DATUM <u>551100'4</u>	
DRILLING AGENCY <u>ADT</u>		DATE STARTED <u>4/17/08</u>	DATE FINISHED <u>4/17/08</u>
DRILLING EQUIPMENT <u>54 LT track mounted Geoprobe</u>		COMPLETION DEPTH <u>5'</u>	ROCK DEPTH _____
SIZE AND TYPE OF BIT <u>2" Shore</u>		NO. SAMPLES _____	DIST. <u>2</u> UNDIST. _____    CORE _____
CASING _____		WATER LEVEL FIRST _____	COMPL. _____    24 HR. _____
CASING HAMMER _____	WEIGHT _____	DROP _____	
SAMPLER <u>4" macrocone</u>		FOREMAN <u>Bernie Ceur</u>	
SAMPLER HAMMER _____		INSPECTOR <u>Heisa Gatzoulis</u>	

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BL/IN.		
2" concrete 5" asphalt 3" pot be 1'-m SAND, +r silt, brick [FILL]	1 2 3	31	MACRO	38"			↑N 41st Ave 
be 1'-m SAND, so brick, gravel, silt [FILL]	4 5	32	MACRO	18"			
E.O.B @ 5'	6 7 8 9 10 11 12						Setup on PSB-32 on 4/17/08 and begin drilling at 9:30am Take S1 & S2 No oboes, staining PID=0.0 Take environmental sample at <sup>SB-32</sup> (2-4') @ 10:00am

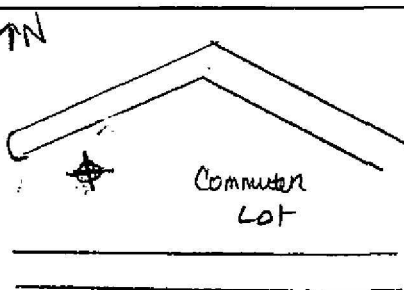
LOCATION <b>Queens Plaza</b> <b>LIC, NY</b>				ELEVATION AND DATUM <b>55'130"</b>			
DRILLING AGENCY <b>ADT</b>				DATE STARTED <b>4/8/08</b>		DATE FINISHED <b>4/8/08</b>	
DRILLING EQUIPMENT <b>6625 DT T-M Geoprobe</b>				COMPLETION DEPTH <b>8'</b>		ROCK DEPTH —	
SIZE AND TYPE OF BIT <b>2" shoe</b>				NO. SAMPLES <b>2</b>		DIST. <b>2</b>	
CASING —				WATER LEVEL FIRST —		UNDIST. —	
CASING HAMMER —		WEIGHT —		DROP —		FOREMAN <b>Andrea Babel</b>	
SAMPLER <b>5' macrocore</b>		WEIGHT? —		DROP —		INSPECTOR <b>H. Gatzewitz</b>	
SAMPLER HAMMER —		WEIGHT? —		DROP —			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOVERY, FT.	PENETR. RESIST. BLB IN.	
3" concrete	1	5/	MACRO	39"		<p>Queens Plaza</p> <p>Commuter Lot</p>
5" asphalt	2					
4" concrete	3					
29" brk SAND, silt	4					
[FILL]	5	SB	MACRO	23"		<p>Begin drilling on SB-33 at 12:30 on 4/8/08.</p> <p>No odor, no staining</p> <p>PID = 0.0 ppm</p> <p>Collect env. sample SB-33(1-3) @ 1:00pm</p>
14" brk SAND, so silt	6					
	7					
	8					
E.O.B. @ 8"	9					
	10					
	11					
	12					


LOCATION <u>Queens Plaza</u> <u>LIC, NY</u>			ELEVATION AND DATUM <u>55'1.507</u> <u>N/A</u>		
DRILLING AGENCY <u>ADT</u>			DATE STARTED <u>4/8/08</u>		DATE FINISHED <u>4/8/08</u>
DRILLING EQUIPMENT <u>6620DT T-M Geopac</u>			COMPLETION DEPTH <u>8'</u>		ROCK DEPTH —
SIZE AND TYPE OF BIT <u>2" Shoe</u>			NO. SAMPLES	DIST. <u>2</u>	UNDIST. — CORE —
CASING			WATER LEVEL	FIRST —	COMPL — 24 HR. —
CASING HAMMER	WEIGHT	DROP	FOREMAN <u>Andrew Boebel</u>		
SAMPLER	<u>5' macrocore</u>		INSPECTOR <u>H. Gatzowis</u>		
SAMPLER HAMMER	WEIGHT	DROP			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOG.	TYPE	REC'D. FT.	PENETR. RESIST. BL/8 IN.	
11" of concrete bet-m SAND, so silt, & gravel [FILL]	1 2 3 4	51	macro	24"		
8" br-c-f SAND, so silt, gravel Bottom 9" bet SAND, & silt	5 6 7	52	macro	17"		
E.O.B @ 8'	8 9 10 11 12					Start drilling on SB-34 @ 11:30am on 4/8/08. Drill through concrete to asphalt NO staining, no odors PID = 0.0 ppm End boring at 8'. No collection of env. sample, only for archeological purposes.

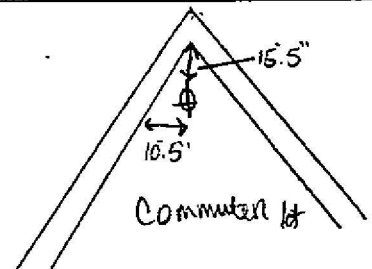
PROJECT <b>Queens Plaza</b>				504001			
LOCATION <b>LIC, NY</b>				ELEVATION AND DATUM <b>N/A</b>			
DRILLING AGENCY <b>ADT</b>				DATE STARTED <b>4/8/08</b>		DATE FINISHED <b>4/8/08</b>	
DRILLING EQUIPMENT <b>20 DT T-m Geoprobe</b>				COMPLETION DEPTH <b>8'</b>		ROCK DEPTH	
SIZE AND TYPE OF BIT <b>2" Shore</b>				NO. SAMPLES		DIST. <b>2</b>	
CASING				WATER LEVEL		FIRST <b>-</b>	
CASING HAMMER		WEIGHT		DROP		FOREMAN <b>Andrea Pabel</b>	
SAMPLER		5' macrocore		INSPECTOR <b>A. Gatzowis</b>			
SAMPLER HAMMER		WEIGHT		DROP			

	SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES				REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
			NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. PLUS IN.	
1	5.5' of concrete 1' of asphalt and cobble stones 3" of b.sandy SILT 18" of br. f-m SAND, some gravel silt [FILL]	1	S1	MACRO	27.5"		 commuter lot
2							
3							
4							
5	Abr. f SAND, some gravel, silt	5	S2	MACRO	36"		Begin drilling SB-35 @ 9am on 4/8/08 Drill through 5.5' of concrete. No staining, no odds PID = 0.0ppm
6							
7							
8	E.O.B @ 8'	8					No env. sample, for archeological purposes.
9							
10							
11							
12							

LOCATION <u>Queens Plaza</u> <u>LIC, NY</u>			ELEVATION AND DATUM <u>N/A</u>		
DRILLING AGENCY <u>ADT</u>			DATE STARTED <u>4/8/08</u>		DATE FINISHED <u>4/8/08</u>
DRILLING EQUIPMENT <u>6620DT T-M Geoprobe</u>			COMPLETION DEPTH <u>8</u>		ROCK DEPTH <u>-</u>
SIZE AND TYPE OF BIT <u>2" shoe</u>			NO. SAMPLES	DIST. <u>2</u>	UNOIST. <u>-</u> CORE <u>-</u>
CASING			WATER LEVEL	FIRST <u>-</u>	COMPL. <u>-</u> 24 HR. <u>-</u>
CASING HAMMER <u>-</u>	WEIGHT <u>-</u>	DROP <u>-</u>	FOREMAN <u>Andrew Pabel</u>		
SAMPLER <u>5' macrocone</u>			INSPECTOR <u>H. Gatzoulis</u>		
SAMPLER HAMMER <u>-</u>	WEIGHT <u>-</u>	DROP <u>-</u>			

SAMPLE DESCRIPTION	DEPTH SCALE	SAMPLES					REMARKS (DRILLING FLUID, DEPTH OF CASING, CASING BLOWS, FLUID LOSS, ETC.)
		NO. LOC.	TYPE	RECOV. FT.	PENETR. RESIST. BLU IN.		
7' of concrete 1' of asphalt 5' of br sandy SILT 5" of concrete 8" of dk br sand SILT	1 2 3 4	51	macro	26"			
br lt. br. f SAND, +silt	5 6 7	52	macro	26"			
E.O.B.C 8'	8 9 10 11 12						

Begin drilling SB-36 @ 10:30am on 4/8/08

No odor, no staining  
PID = 0.0 ppm  
for S1 & S2

No env. sample for archaeological purposes!



## **APPENDIX D**

**Report by the Greater Astoria Historical Society**

**A Report on the Millstones at Queens Plaza**

March 14, 2008

Bob Singleton  
Greater Astoria Historical Society  
35-20 Broadway, Long Island City, NY 11106

## **I. Purpose of paper**

Michael Audin, Archaeologist at Langan Engineering and Environmental Services of Elmwood Park, NJ approached the Greater Astoria Historical Society to do research on the prehistory and history of Queens Plaza, including the grist mill that used to be located close by. He also requested copies of maps and images for an archaeological study his firm was doing for the Landmarks Preservation

## **II. About gristmills**

Milling grain was a complex, highly sophisticated process – it was certainly more involved than simply dropping corn cobs between two stones. Throughout the colonial period, the miller held an important role in their community.

The machinery of the mill is simple, often only one pair of millstones, but there were sometimes two pairs. One of them was used to grind grains such as wheat, rye, oat or barely, into flour and meal. The other pair used for corn.

Most mills did bolting, where a cloth, called a bolting cloth, sifted the flour. This next step created bran, another product of milling.

Many early water wheels were inside buildings or at least under a roof for protection from winter's ice. Grist mills operated seasonally with the harvest. For payment, the miller kept a portion of each grain shipment brought to their mill.

## **III. Colonial gristmills and the Bolting Act**

By damming or draining a swamp, a settler could create a pond to run a tidal mill. The concept behind tidal mills was simple. When the tide came in, the pond filled up. By channeling that inrushing water, the miller could turn millstones that ground grain or corn. A few hours later, as the tide went out, the millstones continued to ground grain, but this time, geared for the opposite direction. Water power again ground grain, but this time as the pond emptied.

New York's Governor Edmund Andros encouraged parliament to pass the Bolting Act of 1678, which granted New York merchants not only a monopoly for milling grain, but to build ships to transport flour and meal. Many historians credit this single legislative act as the foundation for the city's fortune. New York became the third arm of the familiar triangular trade route across the Atlantic between the British Isles and the colonies. We find the Bolting Act symbolized in the seal of New York City, whose shield bears the sails of a windmill and the two flour barrels.

Queens had a number of tidal mills. (Exhibit 1)

Jorrisen's Mill, built sometime between 1643 (the year of his patent) and 1654, was the first in western Queens. Some sources state that stones arrived from Holland as ballast in a West Indies merchantman. They are supposed to be the oldest surviving European artifacts in the borough.

#### **IV. From 1643 – 1690 Burger Jorissen**

Burger Jorissen, was a native of German Silesia. He was living on the Hudson by 1637 earning his living for five years as a blacksmith. Jorissen then bought a vessel and became a trader on the river. He might have picked up the millstones at this time. He must have been familiar with places similar to Van Courtlandt Manor, on the Hudson, that had a working gristmill (and in the present day displays a number of millstones similar to those at Queens Plaza.).

The word 'Burger,' which has no precise English equivalent, means roughly 'Citizen,' but in the political jungle of seventeenth century Germany, that concept had many shades of meaning. The title implied that he came from a town where he had full rights to live as a citizen and to practice a trade. We are not certain of his first name.

In July 1643 he secured a deed for land in Dutch Kills. A modern description of his property would be just north of Queensboro Plaza and east along Northern Boulevard perhaps as far as 48<sup>th</sup> Street. The Jorissen's colonial house stood between Northern Boulevard and the railroad yards and just a few hundred feet north of where 41<sup>st</sup> Avenue intersects with Northern Boulevard.

During the first five years of his grant he constructed a dam across Dutch Kills (at a point now in the Sunnyside Rail Yards) and created a millpond, the motive power behind his water-powered grist mill. From the topography, it might have been about 100 feet to the south and east of his house.

To drain his land and to get a better flow of water through his mill, about 1650 Jorissen dug a ditch or channel through the swamp. It parallels modern Northern Boulevard on the south from 40<sup>th</sup> to 48<sup>th</sup> Streets. It was called 'Burger's Sluice.'

The spot was well chosen. There were no roads in Hunter's Point or Dutch Kills, as most of the district was tidal marsh. The road on the west bank of the kills started at today's Northern Boulevard between 41<sup>st</sup> Avenue and 43<sup>rd</sup> Avenue. It then bent sharply west towards the East River along 43<sup>rd</sup> Road. On the east bank of the stream (in the opposite direction), the road followed the grants along Dutch Kills. It traced a route roughly following Van Dam Street to Borden Avenue and then to Newtown Creek. (Exhibit 2)

Burger Jorissen (or Jorisz) must have been a man of character and ability. His name appears repeatedly on important documents relating to Newtown Township. On July 13, 1666, Jorissen (with a handful of others) is on a deed for the township with the natives when they agreed to extinguish their claim to the land. Governor Richard Nicoll mentioned Jorissen by name (as one of six freeholders) on the Newtown Township patent of March 1, 1667. In 1671, a year before he died at 59, he was a road and fence overseer.

Jorissen's sons all took the patronymic 'Burger.' They moved to Manhattan and sold the farm to John Parcell. Burger Jorissen was remembered years later, even in death. Governor Dognan listed a 'Berger Joorst' in the Newtown Patent of November 1686.

#### **V. The Hamlet of Dutch Kills**

The gristmill was the center of an early road network. The road at the foot of the milldam crossed Northern Boulevard, and heading west, split into two roads. One led to Astoria and the other, to the

East River, then north to Ravenswood along Vernon Boulevard. To the east, the road split into another two lanes. One led to Sunnyside and the other to Newtown Creek. (Exhibit 3)

The 1852 Riker Map shows another view of the hamlet of Dutch Kills along with a list of the original settlements (and a school, later known as PS 3). (Exhibit 4)

## **VI. From 1690 – 1776 The Bragraw Family**

Around 1690, Burgon Brocard (or Bragaw) bought Burger Jorissen's farm and gristmill (perhaps from Parcell?) Bragaw, a French Huguenot, immigrated to America in 1675. He stayed only twelve years at the mill before selling out and moving in 1702.

His son, Isaac, would buy the same farm some years later. The traditional date for the Payntar House construction, circa 1720, would fit in nicely with that timeline. That venerable dwelling we have in photographs and it lasted to 1913. It seems reasonable to assume it was the site of Burger Jorissen's house and likely incorporated parts of it.

Isaac's son, Richard Bragaw, inherited the farm and lived on it throughout the Revolution until his death in 1818. But well before that time, he sold his father's house and built a handsome 2½ story gambrel-roof house on another part of their property (on the east side of mill dam) on Middleburg (or Dutch Kills) Road in modern Sunnyside. This was the building on a mural in the former trustee's room at the Long Island Savings Bank in Queens Plaza. (Exhibit 26a)

## **VII. From 1776 – 1801 American Revolution and John Ryerson**

Vast swampy meadows surrounded and separated the areas that would be the modern communities of Astoria, Hunter's Point, Woodside and Elmhurst. A narrow neck of land, called the "Narrow Passage," (the junction of Northern Boulevard, Woodside Avenue and Newtown Road) controlled access to them.

By keeping troops stationed at this location, the British controlled the surrounding communities. For the seven years of the occupation, 1776-1783, this strategic passage was constantly garrisoned and patrolled. The troops were billeted and bivouacked along the Middleburg (or Dutch Kills) Road.

It was called Ryerson's Mill during the Revolution. This important crossroads at Dutch Kills supported a tavern and grocery store run by John Francis Ryerson, who grew up near by. His tavern appears on the British Military Map of 1783 and would be located today at the corner of 41<sup>st</sup> Avenue and 28<sup>th</sup> Street. (See Exhibit 5.)

John Ryerson was killed in his own tavern during a brawl on August 3, 1798 and was buried in his orchard behind the tavern. On July 7, 1902 when workmen were excavating for the basement of William Cullent Bryant (the old Long Island City High School) on the northwest corner of 29<sup>th</sup> Street and 41<sup>st</sup> Avenue, they found, six feet below the 29<sup>th</sup> Street sidewalk, the grave of John Ryerson along with his tombstone, recording the date and the fact that he was then 74 yrs. 3 months and 22 days old.

While Ryerson supposedly owned the mill during the Revolution, another story has the mill run by a young widow, Gertrude Polhemus.

Supposedly, James Larremore, one of the British officers stationed at Dutch Kills, fell in love with her and when peace came in 1783, he stayed behind and married her. The former British officer became a miller.

We do not have dates, or know the exact order of Bagraw, Ryerson, Polhemus, and Larremore ownership.

### **VIII. From 1831 – 1913 The Payntar Family**

After the Revolution the Larremore family owned the mill and house. In 1831 they sold the property to the Payntar family.

Burger Jorissen's mill lasted for a century and a half after his death. But the middle of the nineteenth century, it, like other mills in the area, seems to have fallen into disuse. As late as 1861 the remains of the mill and its grass-grown pond were clearly visible. That year the Long Island Railroad, in driving tracks to Hunters Point, went through the headwaters of Dutch Kills and obliterated the mill. (See Exhibits 6 and 7).

That year also saw the Hunter's Point and Flushing Turnpike (later Jackson Avenue, today Northern Boulevard) connect the 34<sup>th</sup> Street ferries to Manhattan with northern Long Island. (See Exhibit 8).

The Biers Map of 1873, shows the railroad and turnpike (Northern Boulevard) as well as the picnic grove across the road. Most of the original landmarks and road network are still visible. (Exhibit 9)

When the railroad destroyed the mill, legend tells us the Payntar family rescued two millstones. They placed them in the sidewalk in front of their home.

Within a decade of the railroad's arrival in Hunter's Point, the creation of Long Island City, in 1870, was inevitable. The area around the future Queens Plaza surveyed and streets plotted. A picnic grove opened across the street from the Payntar House. (Exhibit 10)

The Belcher-Hyde Map of 1903 shows the old lane at the foot of the former mill dam (Skillman Avenue) as still open. Dutch Kills still meandered between blocks. In a few years construction began on the Sunnyside Rail Yards. The road, as Dutch Kills itself, would disappear. The Payntar House grimly hung on. (Exhibit 11)

Perhaps because of its marshy conditions Dutch Kills was slow to develop. A photograph (ca 1900) shows the Payntar House facing old PS 3 across the valley. The lazy meandering Dutch Kills in the foreground. (Exhibit 12)

Several photographs of the Payntar House exist. This photo (ca 1900), with the family and their chickens best captures the flavor of place that was antique even one hundred years ago. (Exhibit 13)

### **IX. From 1902 – 1917 Queensboro Bridge, Queens Plaza, and Sunnyside Railyards**

When Queens voted to become part of greater New York in 1898, it was only a matter of time before a bridge would connect Manhattan and Queens. Between 1901 and 1909, the Queensboro Bridge rose to open a link between Second Avenue in Manhattan and Dutch Kills, in Queens.

In 1902, engineers were busy raising Northern Boulevard above the marshy terrain. (Exhibit 14) After this project, only the roof and chimneys of the Payntar House were visible from the road. (Exhibit 15)

The Pennsylvania Railroad, in building the Sunnyside Rail Yards, destroyed the colonial homes along Middleburg Avenue. Deprived of students, old PS 3 closed. After moving 2.5 million cubic feet of earth, the stream no longer existed except as a dotted line on property maps.

Only a three block segment of 41<sup>st</sup> Avenue that runs by the Clock Tower Building remained from the colonial road network. The rest disappeared in the excavation of Sunnyside Rail Yards along with Dutch Kills itself. (Exhibit 16)

The William Payntar estate, who owned much of Queens Plaza, must have received a generous portion of the city's million dollar payout when they took title under eminent domain. Planners sketched out an image of Queens Plaza as a gateway to Queens with a network of elevated trains leading to Brooklyn, Astoria, and Flushing. (Exhibit 17.)

Queensboro Plaza, completed in 1915, was one of the most complex stations within the New York City mass transportation system. The decade between 1910 and 1920 saw the plaza become a noisy crossroads of trains, trolleys, and traffic. It was the business, banking, (and, from 1916 to 1940 when Queens Borough Hall was located there) the political center of Queens. (Exhibit 18)

Kids repeatedly broke into the empty Payntar House and set fires. Elmer Payntar, William's grandson, reluctantly tore down the 200 year old landmark in January 1913 and replaced it with the five story 'Payntar Building.' (Exhibit 19)

An interesting photo from the 1920s shows just how much the area had changed in the previous two decades. Sunlight fell onto a noisy, busy, Northern Boulevard through a latticework of steel girders and wooden ties. The elevated train clattered overhead. We are just feet from the former Payntar House. Gone were chickens and meadows. About this time the city moved the millstone to their current location. (Exhibit 20)

A modern Belcher Hyde Map (corrected to 1968) shows a Queens Plaza that is similar to today. The two mill stones are on opposite sides of a traffic island. (Exhibit 21)

Queens Plaza was subject to many plans over the years, and some never made it off the drawing board. This is an exquisite rendering (from the 1930s) of a great rail terminal planned for the Queens Boulevard viaduct. Is it interesting to note that the gristmill, a center of industry and commerce for seventeenth century Queens, would be but stone's throw from a similar commercial center planned (but never executed) for the twentieth century. (Exhibit 22)

#### **X. From 1909 – 2003 Long Island Savings Bank**

This photograph, taken in April 1920, shows the Long Island City Savings Bank, along with a number of other banks at Queens Plaza. Supposedly by this time (although impossible to determine from this picture) the millstones are in the traffic island in front of the bank. (Exhibit 23)

In another image from about 1920, it appears that there was landscaping and some sort of structure (a trolley waiting room?) near the millstones. To the immediate right is the Clock Tower Building (Exhibit 24)

The bank's Trustee's Room (pictured) as well as in the executive offices, was in the Georgian style with paneling of African mahogany brought in from Ghana. Over the fireplace (on the left) was a mural of the Bragaw mansion, mentioned in our narrative of the mill. (Exhibit 25)

The banking room, equipped to serve a thousand people at a time, boasted black and gold marble quarried from the Gulf of Spezia region in northwest Italy. The mural, 'History of Newtown' was on the wall near the entrance behind the viewer. The millstones were just steps away from the entrance. (Exhibit 26)

The bank commissioned Bayside native, Vincent Aderente, to execute these murals. The charming house was the old Bragaw mansion, home of the bank's founders, Richard Bragaw. (Exhibit 27a)

Aderente's other work, completed in 1939 for the main banking floor, was entitled 'The History of Newtown.' It traced the community's heritage of industry and commerce from the earliest times. Going through time, from top to bottom, it depicts Indians making wampum, a tidal gristmill and fields of wheat, Redcoats during the Revolution, the oldest church of Newtown (St James) and the oldest house (Riker-Smith.) Modern renderings included the horse trolley on Northern Boulevard, the Queensboro Bridge, and finally, modern factories and airplanes. (Exhibit 27b)

For years, the main office of the Long Island Savings Bank was a local landmark. At night, the neon advertising sign would tell thousands of home bound commuters that LISB was their 'Home Town Bank' and alternately displayed the temperature and time. The Queens Chamber of Commerce was next door. (Exhibit 28)

Astoria Federal Savings (which itself had long moved out to Lake Success on Long Island) purchased LISB and sold off the local branches. An investor purchased the main building on Queens Plaza and gutted it. The marble, paneling, furnishings, and murals are lost.

The new owner turned the former bank into a series of short lived nightclubs with names like 'Bliss' and 'The Vault.' Closed, it sat vacant for several years. (Exhibit 29)

The Bank of Manhattan (called the 'Clock Tower Building,') is to the east of the LISB. Completed in 1925, it was once the tallest building in Queens. Although we believe that the millstones were in front of the building, they are not on the postcard (left image from the 1930s.) A creative artist painted in an imaginative foreground that did not correspond with a photograph of nearly the same location, but a different angle (Exhibit 23.)

In this modern view of the Clock Tower building, the original lane that led to the mill (dating from the mid-seventeenth century) runs by its front door. (Exhibit 30)

During the 1990s, someone took this picture from a vantage point within Sunnyside Rail Yards. It shows the approximate location for the Paynter House and the gristmill. (Exhibit 31)

## **XI. Today (2008)**

A fragment of an ancient road remains at 41<sup>st</sup> Avenue. Under the Belgium block paving is a 350 year old roadbed. Lines in the pavement mark old trolley rails from lines abandoned over one hundred years ago. This view looks south towards the millstones and the Plaza. (Exhibit 32)

The next plate is a photo is from a brochure published by LISB (ca 1940). It is the earliest picture we could find of the millstones in their current location. (Exhibit 33)

Recent pictures of the millstones record their condition and show their deterioration over six decades. (Exhibit 34)

In 2007 a development project removed the LISB building. (Exhibit 35)

The space once occupied by the Payntar House and Jorissen's Mill is now a large construction site in Sunnyside Rail Yards that is a part of the East Side Access project. (Exhibit 36)

## **XII. Mysteries of the Millstones**

**Where are the stones from and who carved them?** A professional examination of the rock comprising the stones and their carving style might solve these questions.

**Are they as old as the record claims?** Is it possible that millstones can survive grinding grain for 200 years without being replaced?

**Legend states the Payntar family moved the stones to the sidewalk in front of their home when the railroad destroyed the mill in 1860.** Northern Boulevard was almost certainly did not have gutters and sidewalks when the mill was destroyed in 1860, so where exactly did they place the millstones? In 1902 the roadbed of Northern Boulevard was raised a number of feet. What happened to the millstones?

**When did the city move the stones to their current location?** Until we discover a city report or a newspaper article, we can suggest several dates:

In the 1903 map, the north east corner of what would become Queens Plaza was still plotted with buildings and lots, we can be confident that they were moved to the plaza after this date. (Exhibit 11)

In the 1912 map, a thin wood structure is near the millstone's current location. (Exhibit 16)

In 1913, the Payntar House was torn down.

The 1915 opening of Queensboro Plaza transforms the area requiring a complete makeover of the former Bridge Plaza space.

In 1920, the buildings along Queens Plaza take shape. LISB opens at the northwest corner of Queens Plaza. (Exhibit 18)

Maps, as this one from the 1920s, show the millstone location as blank. (Exhibit 19)

A circa 1930 photograph shows a row of shrubbery on a traffic island near the stones, but the stones themselves are not visible. (Exhibit 28)

**How long has Queens Plaza had its present configuration?** If it has changed over the years, were the stones moved more than once?

### **XIII. A Note on Sources**

There are a host of on-line sources on milling, the source of the text in this paper. Old manuals on milling are routinely available, and a number of historic mills have websites discussing their operations. Van Cortlandt Manor and Saddle Rock in Great Neck, Long Island, both have gristmills. In the former, a number of millstones are on exhibit.

Early histories of the community as Riker's 1852 'Annals of Newtown,' and the delightful City History Club's 1912 survey of historic sites are invaluable collections on information found nowhere else.

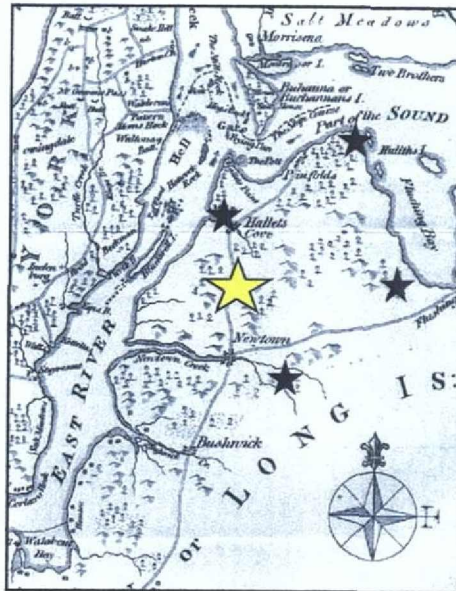
Some modern images were taken by Richard Melnick or from the Forgotten NY website of Kevin Walsh.

The an image of Sunnyside Rail Yards and history of the Payntar commercial building was from excellent research on the Sunnyside Rail Yards by Nick Kalis.

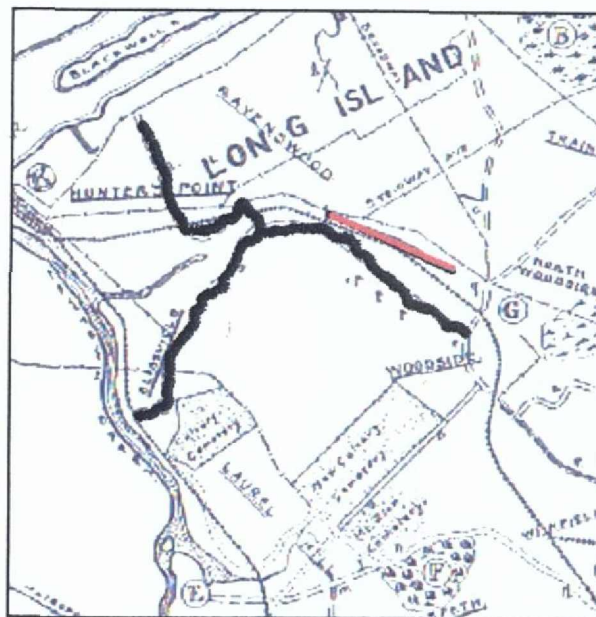
The writer met William Paytar, the son of Elmer, in 1995 and inquired if the family has any artifacts from their many years at Dutch Kills. William did remember 'some old papers' but his father died while he was overseas during World War II. When he came back he found nothing of value in their safe deposit box at Long Island Savings Bank at Queens Plaza.

Finally, the Greater Astoria Historical Society has a most extensive collection of images, maps, and research papers on western Queens.

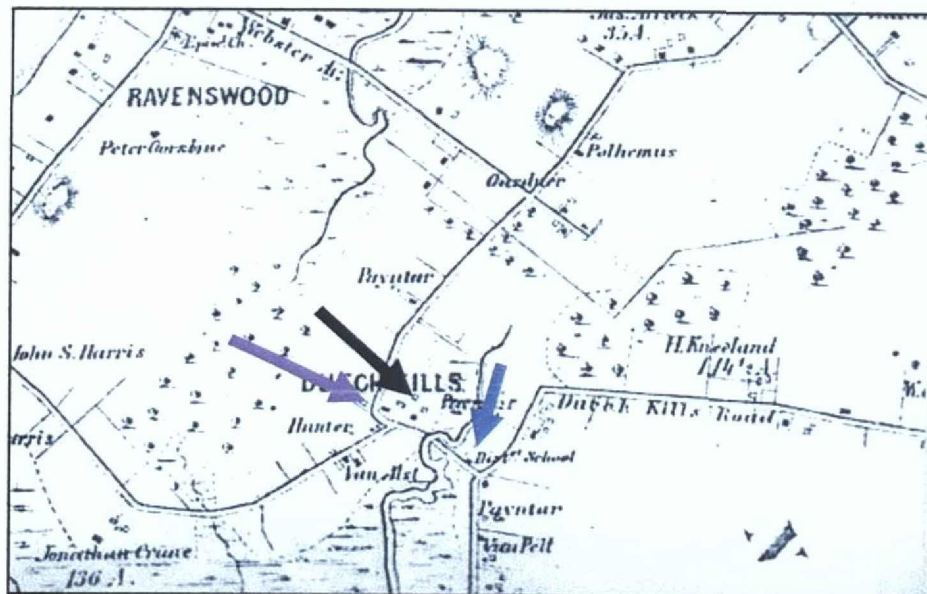
All information copyright 2008 by the Greater Astoria Historical Society.



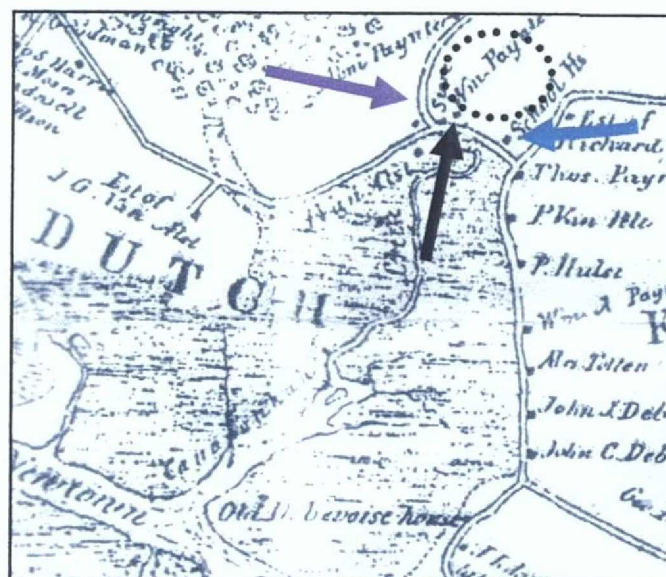
**Exhibit 1: The Kitchin Map of New York (1778)** Colonial Mills in Queens are designated by black stars. Berger Jorisen's mill by yellow star



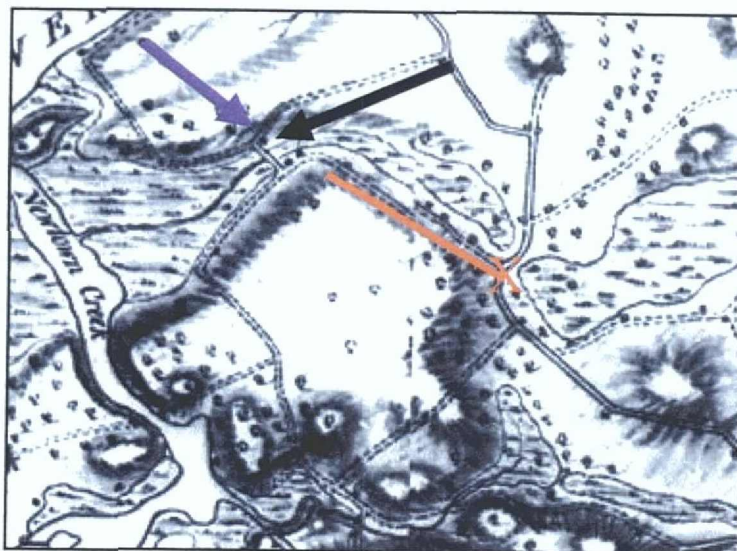
**Exhibit 2: The City History Club "Map of Dutch Kills about 1650" (1913)** Roads leading to mill (Black Lines), Berger's Sluice (Red Line)



**Exhibit 3: Drips Map of Queens and Brooklyn (1852):** Old Road (Purple Arrow), Payntar House (Black Arrow), School (Blue Arrow)



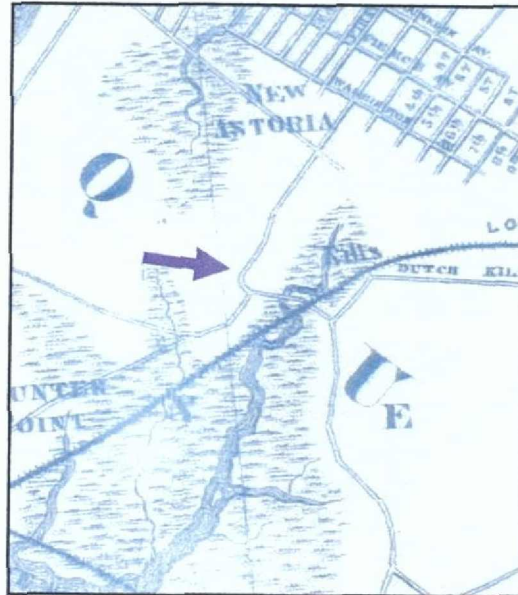
**Exhibit 4: Riker Map from "Annals of Newtown" (1852)** Old Road (Purple Arrow), William Payntar House (Black Arrow) School House (Blue Arrow) / Pond? (Black Dots)



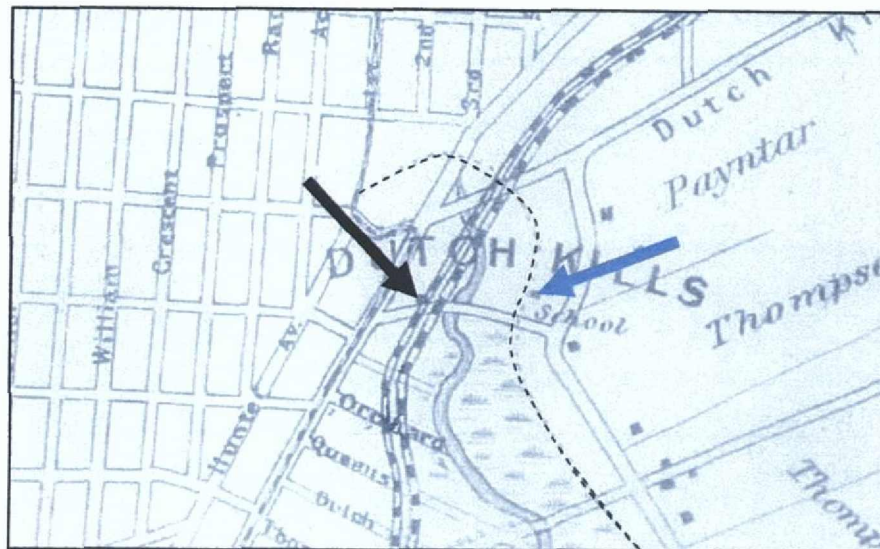
**Exhibit 5: The Clinton Map of New York (1783)** Payntar House (Black Arrow), Old Road (Purple Arrow), British Bivouac and Garrison (Red Line and X)



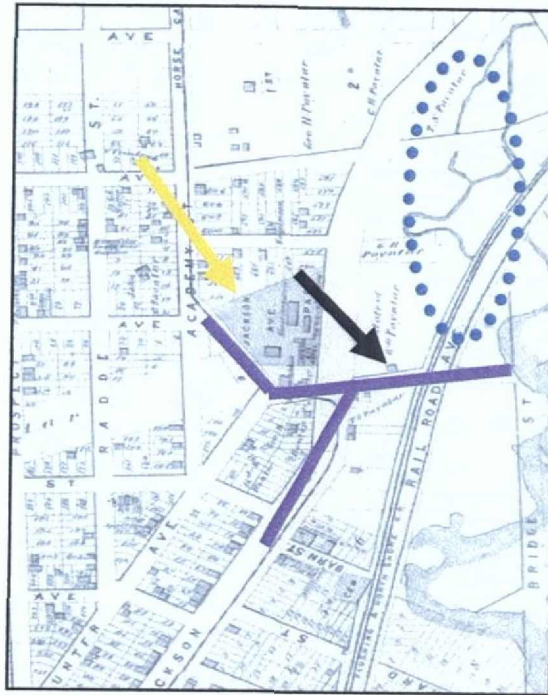
**Exhibit 6: Map of Queens and Brooklyn [?] (ca 1860)** Old Road (Purple Arrow), Payntar House (Black Arrow)



**Exhibit 7: Queens County [Unknown] (ca 1860) Old Road.**  
(Purple Arrow)



**Exhibit 8: Queens County [Unknown] (ca 1865) School**  
(Blue Arrow), Payntar House (Black Arrow), Dutch Kills  
Swamp (Dotted Line)



**Exhibit 9: Biers Map of Long Island: Dutch Kills (1873)** Old Roads (Purple Lines), Mill Pond? (Blue Dots), Paytar House (Black Arrow), Beer Garden (Yellow Arrow)



**Exhibit 10: Viele Topographical Map of New York (1891)** Old Road (Purple Arrow)

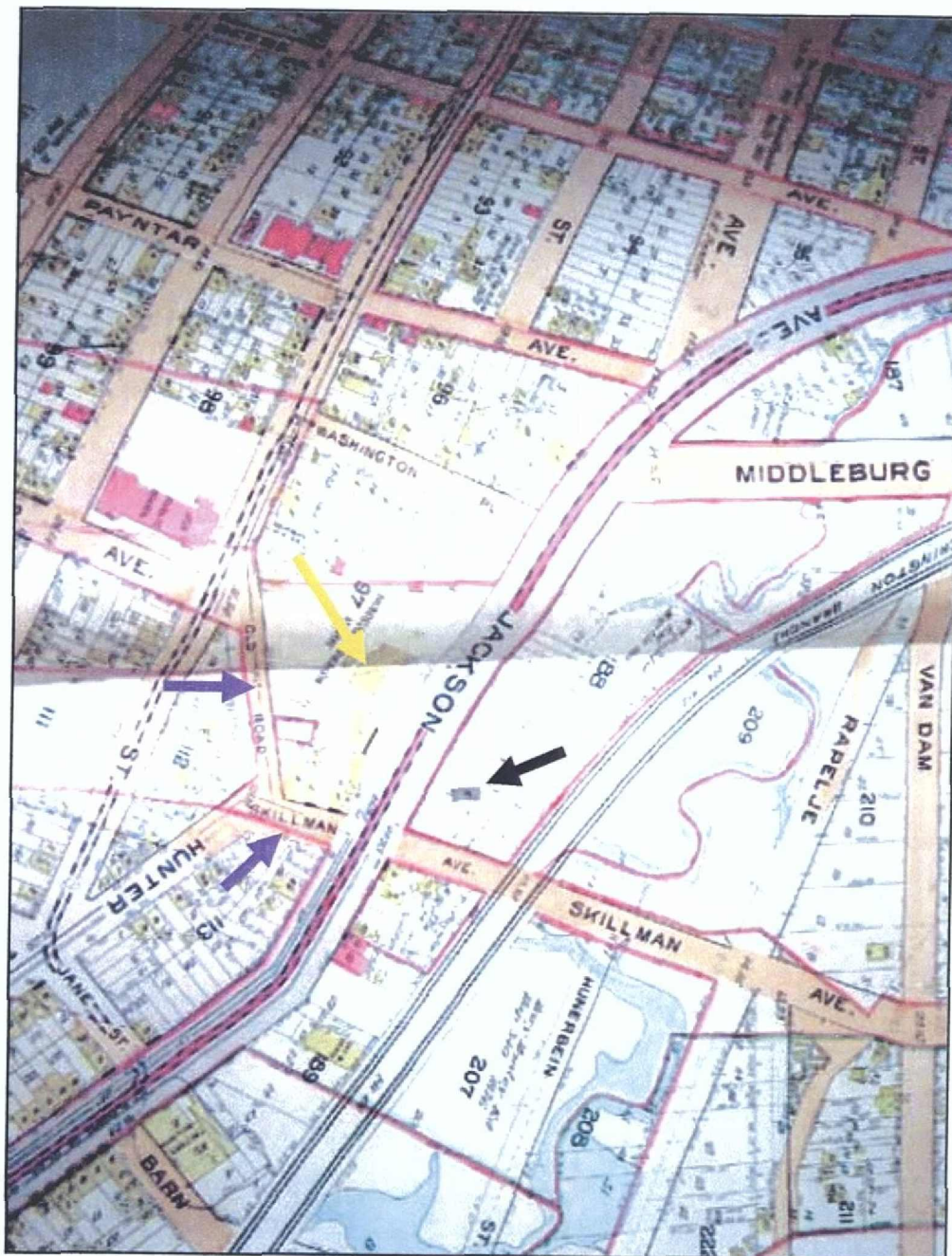
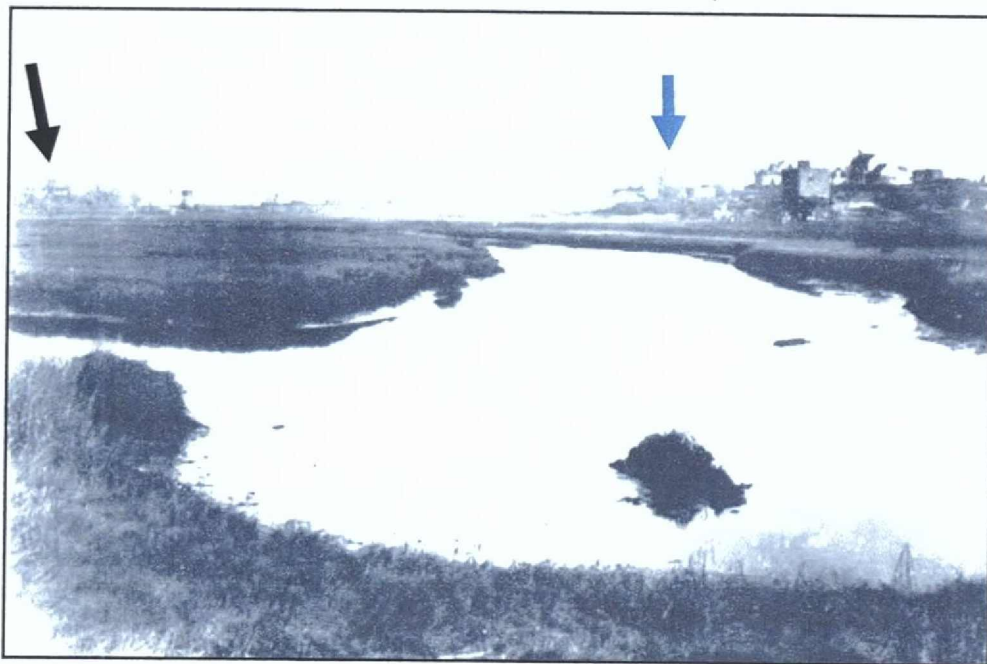


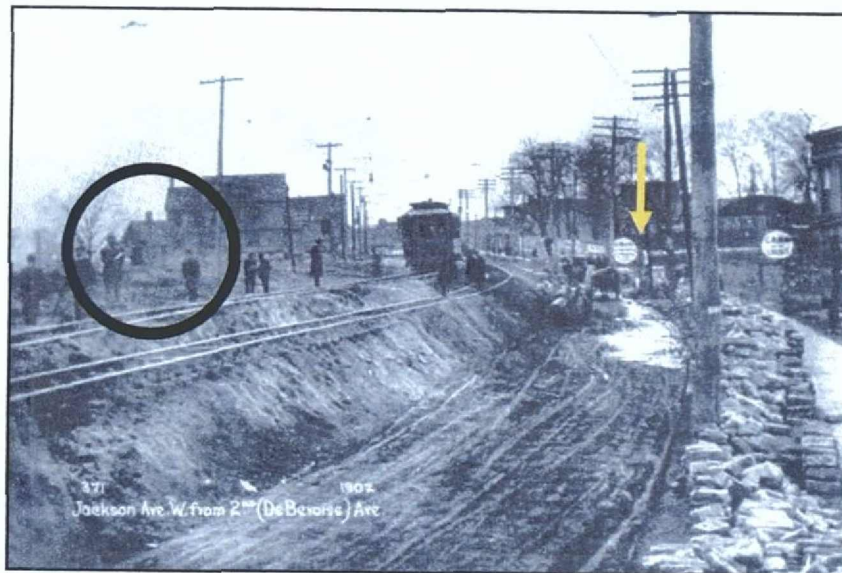
Exhibit 11: Belcher-Hyde (1903) Old Road (Purple Arrows),  
Payntar House (Black Arrow) , Beer Garden (Yellow Arrow)



**Exhibit 12: Dutch Kills (ca 1900?)** Looking north from near modern Viaduct over Sunnyside Rail Yards



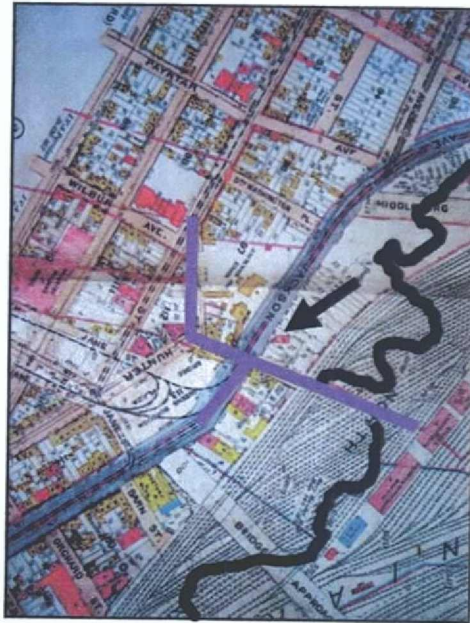
**Exhibit 13: Payntar House (ca 1900?)** Looking east. Northern Boulevard is to the view's left, Dutch Kills is to the right.



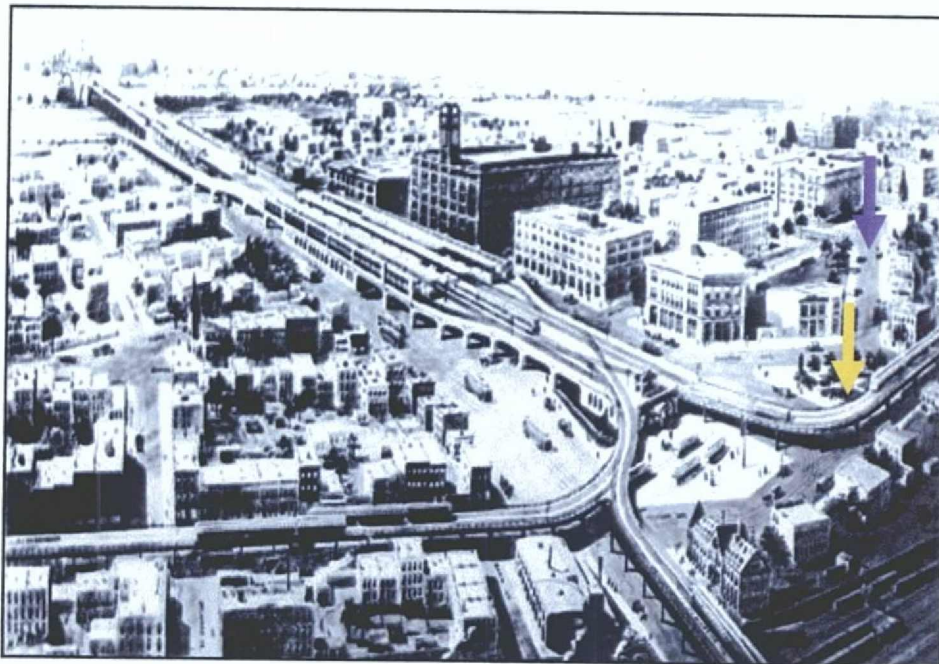
**Exhibit 14: Northern Boulevard south of 31st Street (1902)**  
 Picnic Grove (Yellow Arrow), Payntar House (Black Circle)



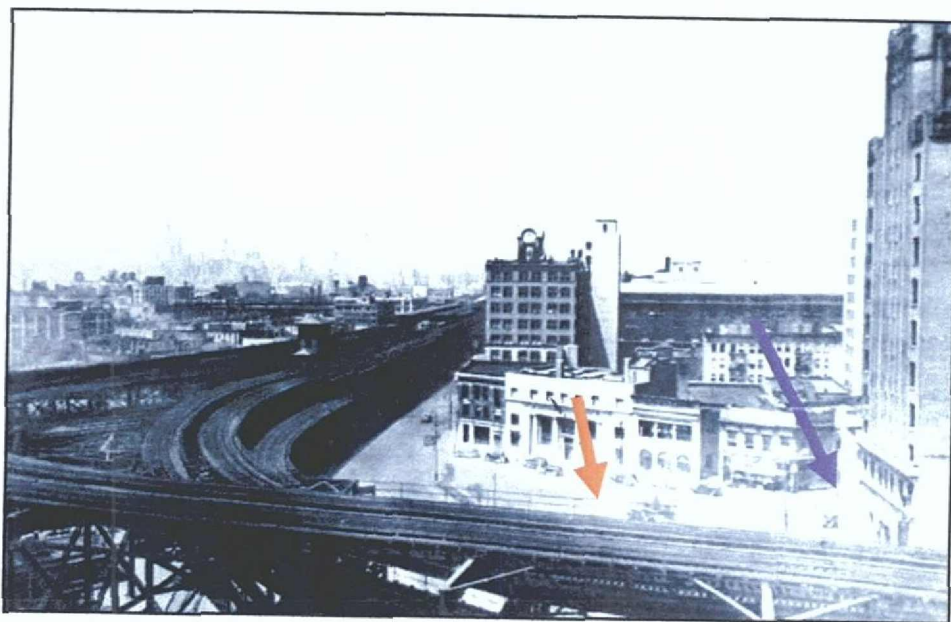
**Exhibit 15: Payntar House (Long Island Star) (ca 1909)**  
 View from Jackson Avenue (Northern Boulevard) looking east.



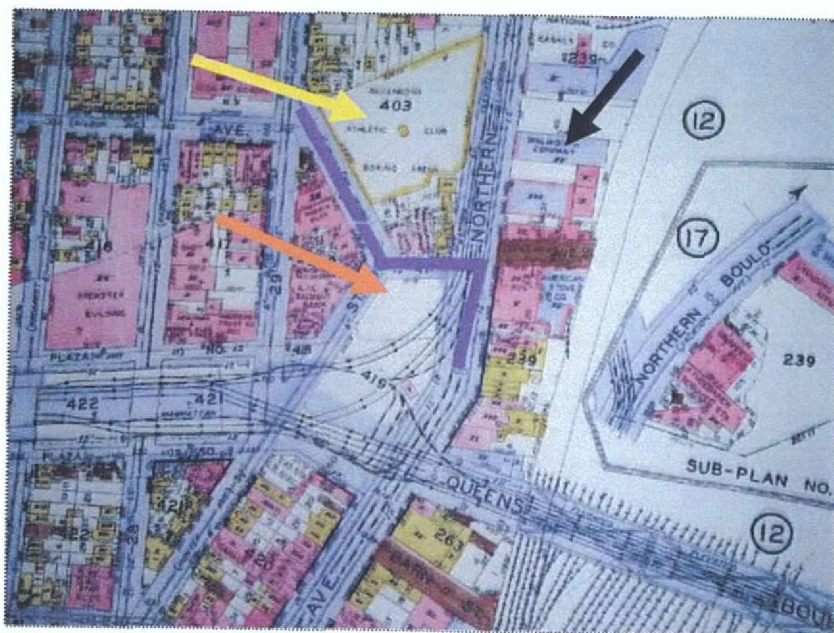
**Exhibit 16: Belcher-Hyde Long Island City (1912)** Old Road (Purple Lines), Mill Stream (Black Line), Paynter House (Black Arrow)



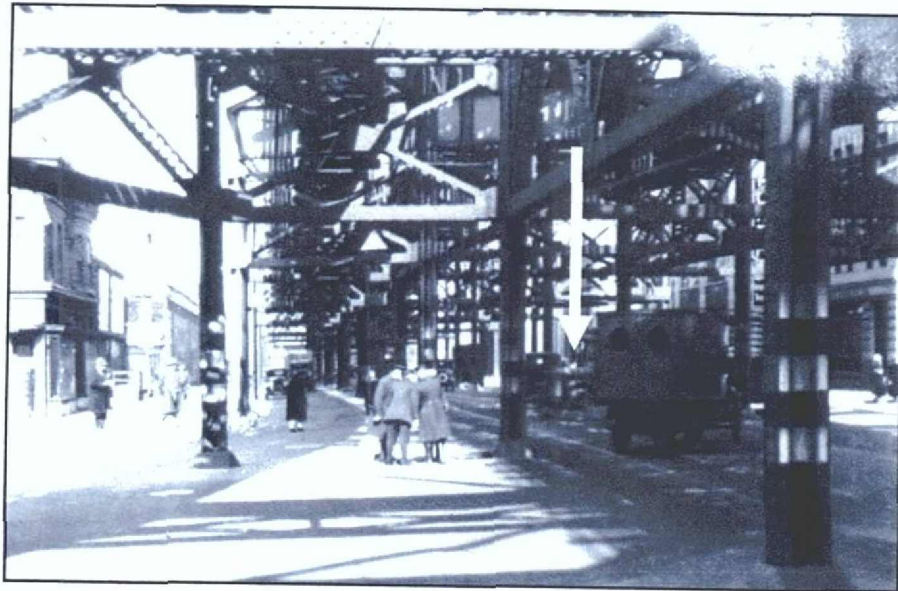
**Exhibit 17: Fanciful View of Queens Plaza (ca 1910)** Future home of Millstones (Orange Arrow), Old Road (Purple Arrow)



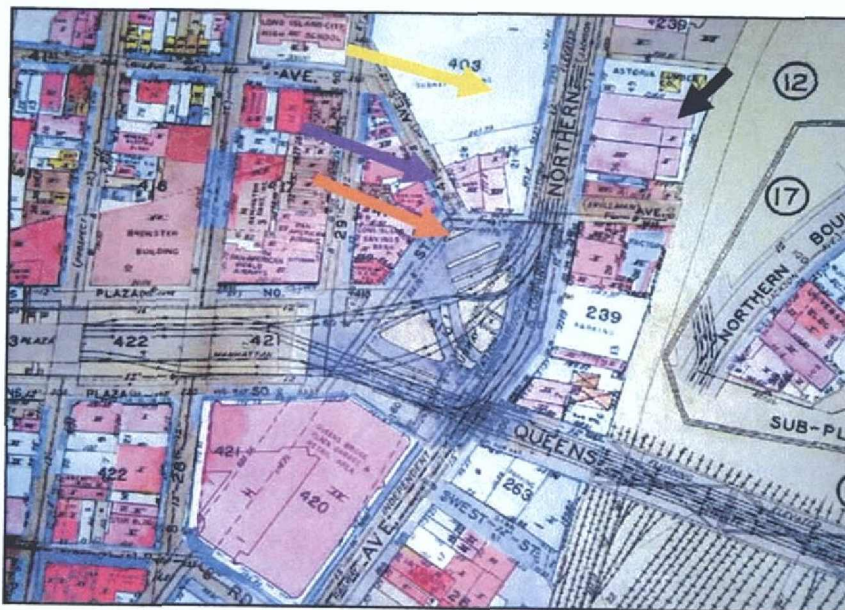
**Exhibit 18: Queens Plaza (ca 1930)** Millstones (Orange Arrow), Old Road (Purple Arrow)



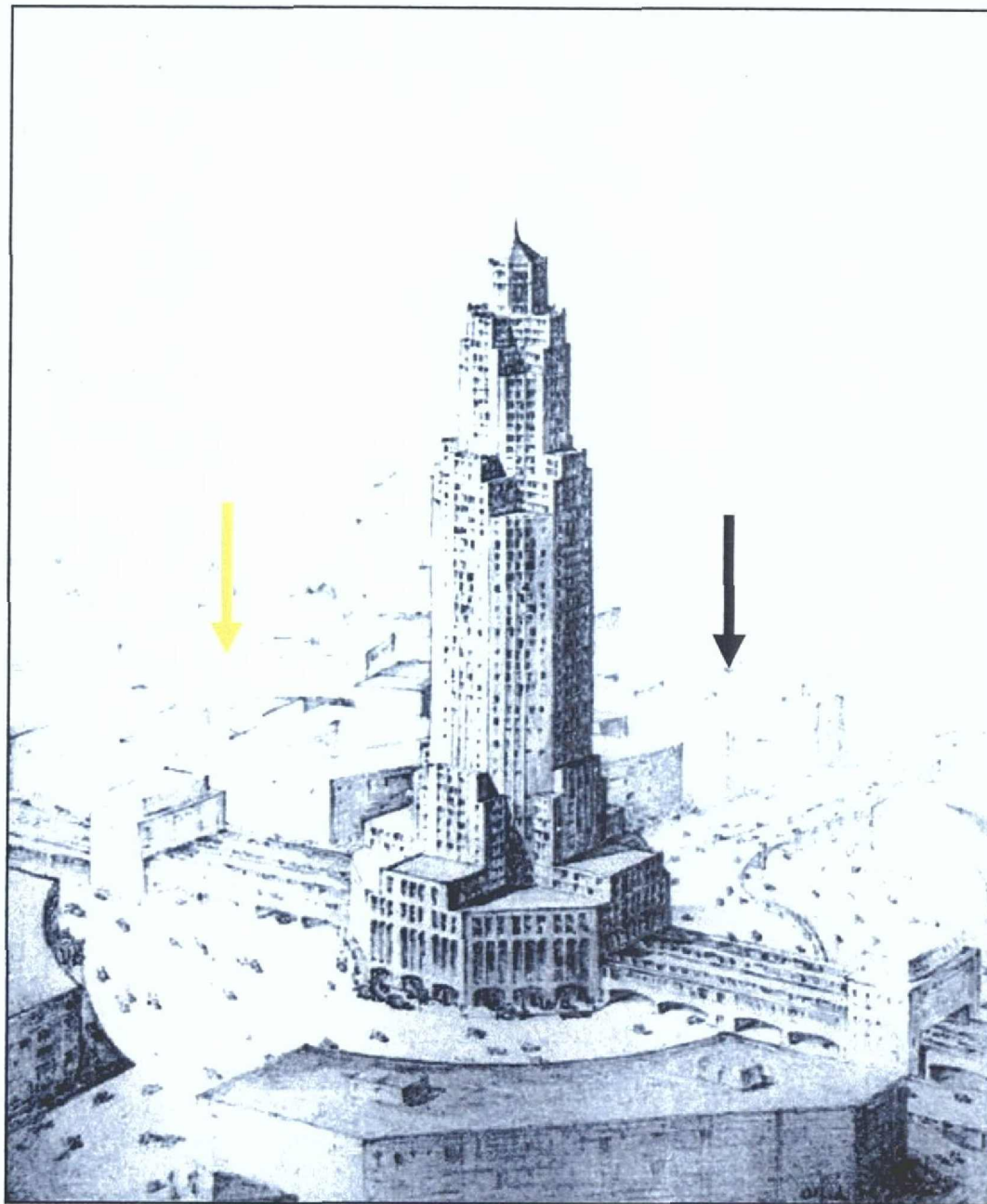
**Exhibit 19: Belcher-Hyde Long Island City (1926)** Old Road (Purple Line, Former Paynter House (Black Arrow), Millstones (Orange Arrow), Former Picnic Grove now Queensboro Arena (Yellow Arrow)



**Exhibit 20: Northern Boulevard (ca 1920)** Former location of Payntar House (White Arrow)



**Exhibit 21: Belcher-Hyde Long Island City (1926—corrected to 1968)** Old Road (Purple Line, Former Payntar House (Black Arrow), Millstones (Orange Arrow), Former Beer Garden (Yellow Arrow)



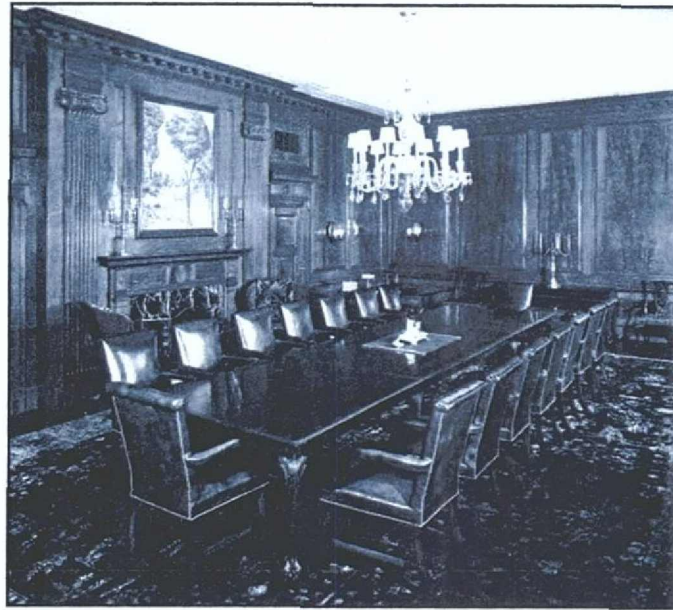
**Exhibit 22: Queens Plaza (ca 1945) Clock Tower Building**  
Millstones (Orange Arrow), former Payntar building location  
(Black arrow)



**Exhibit 23: Queens Plaza (ca 1920)** Millstones (Orange Arrow), Old Road (Purple Arrow)



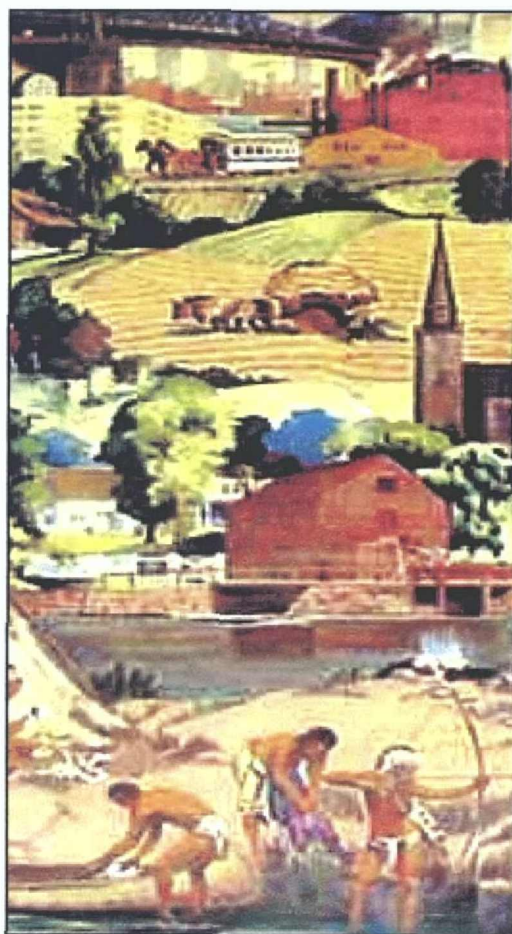
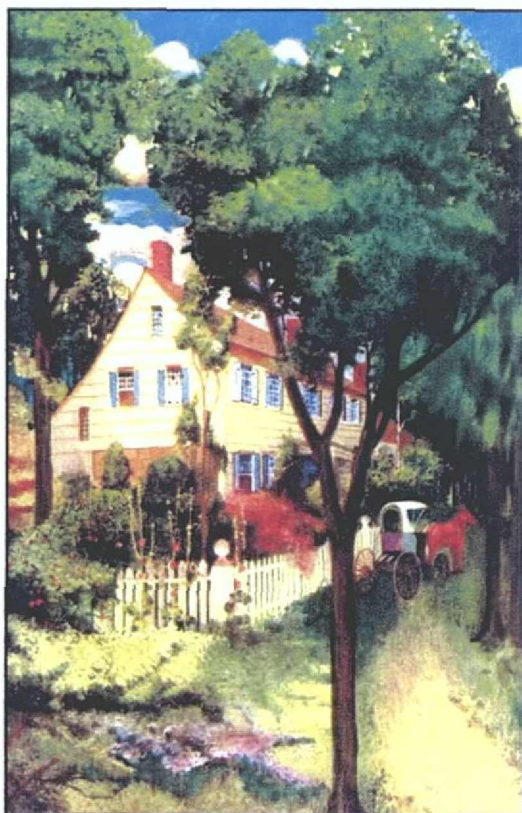
**Exhibit 24: Queens Plaza (ca 1920)** Millstones (Orange Arrow), Old Road (Purple Arrow)



**Exhibit 25: Long Island Savings Bank (ca 1940) Trustees Room (note mural of Begraw House)**

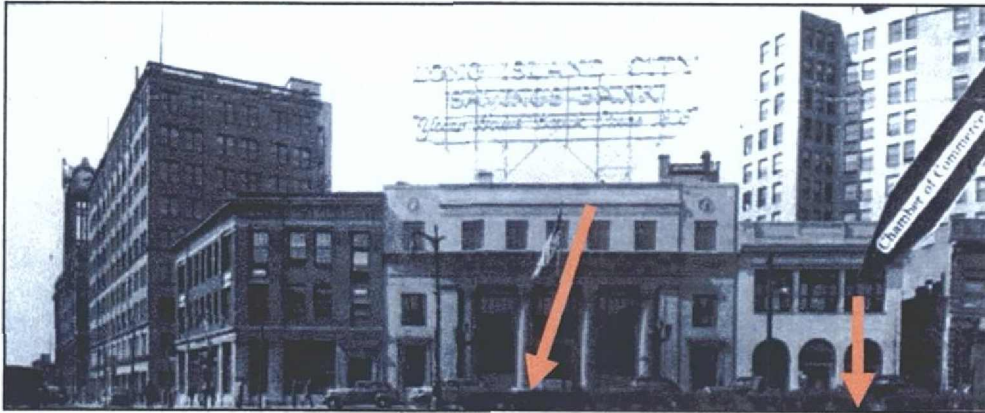


**Exhibit 26: Long Island Savings Bank (ca 1940) Main Banking Room (mural of Long Island City)**



**Exhibit 27 a (left): Bragraw Mansion (ca 1940)** Mural at Long Island Savings Bank Trustees Room

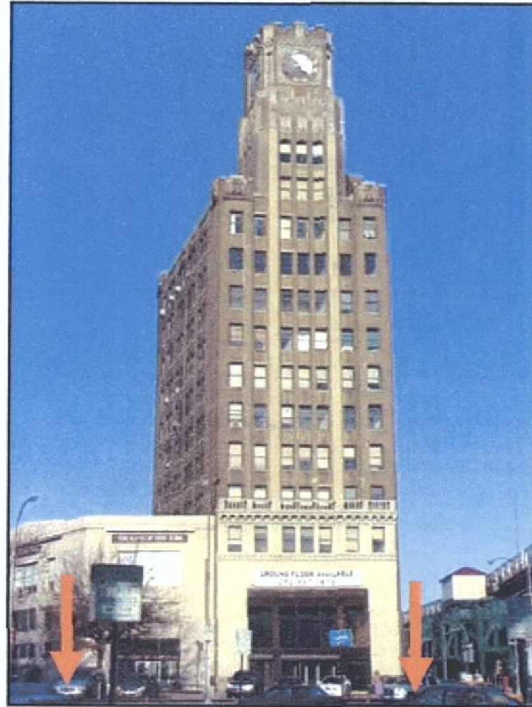
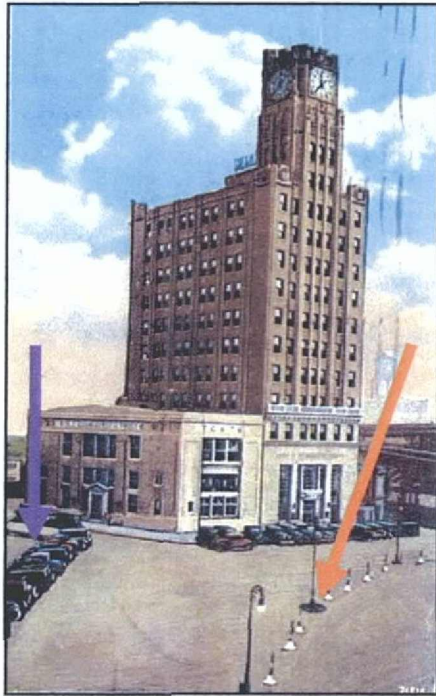
**Exhibit 27 b (right): History of Long Island City (ca 1940)** Mural at Long Island Savings Bank Main Banking Floor



**Exhibit 28: Queens Plaza (ca 1940) Long Island City Savings & Loan Building  
Millstones (Orange Arrow)**

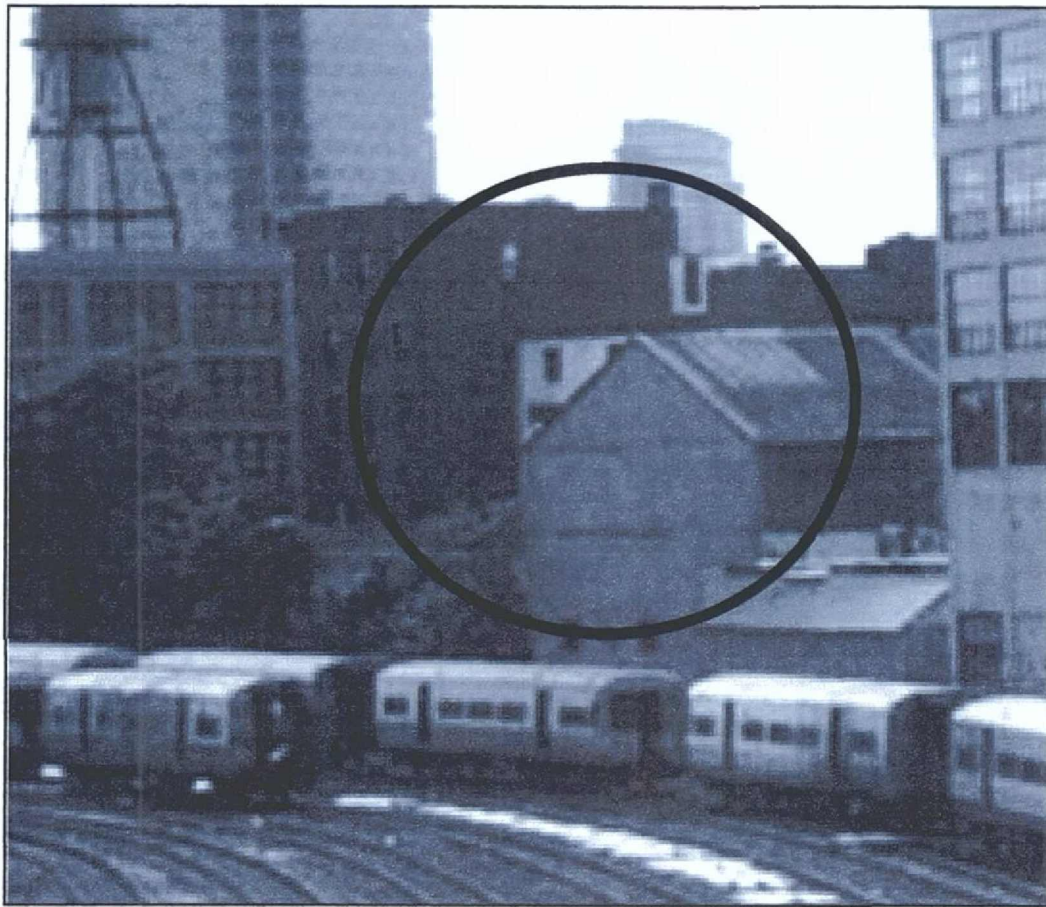


**Exhibit 29: Long Island Savings Bank (2007)**



**Exhibit 30 a (left): Queens Plaza (ca 1940) Clock Tower Building (Bank of Manhattan) Millstones (Orange Arrow), Old Road (Purple Arrow)**

**Exhibit 30 b (right): Queens Plaza (2007) Clock Tower Building (Bank of Manhattan) Millstones (Orange Arrows)**



**Exhibit 31: Sunnyside Rail Yards (ca 2001)** Location of Payntar House and gristmill (Black circle)



Exhibit 32: Old Road at Queens Plaza (2007)



Exhibit 33: Queens Plaza Millstones (ca 1940)



Exhibit 34: Queens Plaza Millsstones (2007)



**Exhibit 35: The former location of the Long Island Savings Bank (2008)** Millstones (orange arrows), former bank (white arrow)



**Exhibit 36: The former location of the Payntar House and gristmill (2008)** Payntar House (black arrow), school (blue arrow), grist mill (white arrow)



## **APPENDIX E**

**Relevant communications with the New York State Historic  
Preservation Office and the New York City Landmarks  
Preservation Commission**

## ENVIRONMENTAL REVIEW

ECONOMIC DEVELOPMENT CORP./LA-CEQR-Q

1/4/2008

Project number

Date received

Project:

*Archaeology review only*

Properties with no archaeological significance:

Roadbed portion of the following lots only:

QUEENS PLAZA SOUTH, BBL 4004650300  
QUEENS PLAZA SOUTH, BBL 4004210017  
QUEENS BOULEVARD, BBL 4002700002  
QUEENS BOULEVARD, BBL 4002700001  
QUEENS BOULEVARD, BBL 4002700001  
VERNON BOULEVARD, BBL 4004770007  
VERNON BOULEVARD, BBL 4004770007  
QUEENS PLAZA SOUTH, BBL 4004650425  
QUEENS PLAZA SOUTH, BBL 4004650325

The following properties possess architectural or archaeological significance:

JFK Park; QUEENS PLAZA NORTH and adjacent parkland locations

**Comments:** LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from 19th Century occupation on the "JFK Park" portion of the project site. Accordingly, the Commission recommends that an archaeological documentary study be performed for this site to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary (see CEQR Technical Manual 2001).

CC:SHPO

*[Handwritten Signature]*

1/8/2008

SIGNATURE

DATE

24174\_FSO\_DNP\_01042008.doc

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION  
1 Centre Street, 9N, New York, NY 10007 (212) 669-7700 www.nyc.gov/landmarks

## ENVIRONMENTAL REVIEW

ECONOMIC DEVELOPMENT CORP./LA-CEQR-Q

12/17/2007

**Project number**

**Date received**

**Project:** QUEENS PLAZA SOUTH BICYCLE AND PEDESTRIAN IMPROVEMENT PROJECT

**The following properties possess architectural or archaeological significance:**

**Comments:** Architectural review only. In the radius: Queensborough Bridge and NY Architectural Terra Cotta Co., both LPC and S/NR listed.



1/3/2008

SIGNATURE

DATE

24174\_FSO\_GS\_01032008.doc



12 December 2007

Ms. Gina Santucci  
Environmental Review Coordinator  
The New York City Landmarks Preservation Commission  
1 Centre Street, 9N  
New York, NY 10007

**Re: Queens Plaza  
Bicycle and Pedestrian Improvement Project  
Queens, Queens County, New York  
Langan Project No. 5571305**

Dear Ms. Santucci:

In response to request for additional information in the letter dated 20 November 2007 we are sending the 400-foot radius map. We hope that this is all the additional information you need to finish conducting your review.

If you have any questions or comments please do not hesitate to contact me at (201) 794-6900 x4218 or [maudin@langan.com](mailto:maudin@langan.com).

Very Truly Yours,

**Langan Engineering and Environmental Services, Inc.**

Michael Audin  
Archeologist

MA:

Enclosures: 61.00 400-Foot Radius Map  
Copy of 20 November 2007 Landmarks Letter

cc: Dave Charette, Langan  
Sarah Joynes, Langan  
Thomas Devaney, Langan

NJ Certificate of Authorization No: 24GA27996400  
G:\Data\35571307\Engineering Data\Natural Resources\Cult Resources\Response to Landmarks comments Queens Plaza.doc

David T. Gockel, P.E., P.P.  
George P. Kelley, P.E.  
George E. Derrick, P.E.  
Michael A. Semeraro, Jr., P.E.  
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Richard R. Steiner, P.E.  
Michael Szura, C.L.A., A.S.L.A.  
Bryan Wainor, P.E.

Omar Alsamman, Ph.D., P.E.  
Ronald D. Boyer, P.E.



## The New York City Landmarks Preservation Commission

1 Centre Street, 9th Floor North New York NY 10007 (212) 669-7700 Fax (212) 669-7818

<http://nyc.gov/landmarks>

[gsantucci@lpc.nyc.gov](mailto:gsantucci@lpc.nyc.gov)



**Gina Santucci**

**Director of Environmental Review**

To: Michael Audin

Date: 11/20/07

Subject: Bicycle and Pedestrian Improvement Project, Queens Plaza

**The above mentioned project(s) need additional information before they can be reviewed.**

- ☐ Site plans and description of existing and proposed conditions
- ☒ 400' radius map measured from the edge of the site(s) on a Sanborn Map or equivalent. The subject site(s) should be clearly marked on the map. To get a map of your site use the following www addresses:

<http://gis.nyc.gov/doitt/mp/Portal.do>

<http://www.oasisnyc.net/OASISMap.htm>

- ☐ Original photographs of building façade or streetscape. All photographs to be keyed to a site map and/or the 400' radius map, and to be labeled with the address and block/lot.

- ☐ Block and lot numbers. To get to the block and lot numbers, use the use the following www addresses:

<http://gis.nyc.gov/doitt/mp/Portal.do>

<http://www.oasisnyc.net/OASISMap.htm>

- ☐ Scaled (1"=20") drawings of existing and proposed conditions in plan and section.

- ☐ Site plan showing locations of soil borings and soil boring logs

- ☐ Other:

A timely response on the part of the applicant will ensure quick processing of the request. Due to the high volume of projects received by the Environmental Review staff, project analysis may take from 2 to 4 weeks. Please take this into account when deciding when to submit the ER request. Additionally, please note that your message is not a substitute for compliance with NEPA, SEQRA, and/or CEQR, or for the NYC Landmarks Law. Prior to commencing any work, the proper Environmental Review sign-offs and/or LPC permits are required.



16 November 2007

Ms. Gina Santucci  
Environmental Review Coordinator  
The New York City Landmarks Preservation Commission  
1 Centre Street, 9N  
New York, NY 10007

**Re: Queens Plaza  
Bicycle and Pedestrian Improvement Project  
Queens, Queens County, New York  
Langan Project No. 5571305**

Dear Ms. Santucci:

Langan Engineering and Environmental Services Inc. (Langan), as agent for the New York City Economic Development Corporation (NYCEDC), is preparing the necessary documentation for the City Environmental Quality Review (CEQR) for the above-referenced project. The project proposes road, bicycle and pedestrian improvements, including realignment of travel lanes, redevelopment of parking areas and medians into parks with trees, shrubs, and other vegetation, construction of bicycle and pedestrian lanes, and general beautification of the project site. As such, Langan is asking for comments from your office as to the likelihood of any adverse effects to potential archaeological and historic resources. A site location map, vicinity map and aerial photograph are included as Figures 1 through 3.

#### **SITE LOCATION AND DESCRIPTION**

The project site is located at Queens Plaza extending from just west of Vernon Boulevard to Northern Boulevard/Jackson Avenue and Van Dam Street. The project location is shown on the enclosed USGS Site Location Map, Central Park and Brooklyn Quadrangles (Figure 1).

#### **PROJECT DESCRIPTION**

The goal of the Proposed Action is to improve pedestrian and biking safety and the capacity of pedestrian facilities and bicycle movements while maintaining the ability of the street network to accommodate existing and anticipated vehicles using the Queensboro Bridge. The project proposes road, bicycle and pedestrian improvements. These improvements include realignment of the travel lanes, redevelopment of parking areas and medians into parks with trees, shrubs, and other vegetation, construction of bicycle and pedestrian lanes, and general beautification of the project site. Enclosed is a copy of the Queens Plaza, Bicycle and Pedestrian Improvement Project, Final Schematic Design dated 12.13.05 detailing the proposed project.

David T. Gockel, P.E., P.P.  
George P. Kelley, P.E.  
George E. Derrick, P.E.  
Michael A. Semeraro, Jr., P.E.  
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Michael Szura, C.L.A., A.S.L.A.  
Bryan Waisnor, P.E.

Omar Alsamman, Ph.D., P.E.  
Ronald D. Boyer, P.E.

## RESEARCH

According to the New York State Historic Preservation Office (NYSHPO) GIS website there are two properties either listed on or eligible for listing on the National Register of Historic Places (NRHP) immediately adjacent to the project site. The Queensboro Bridge (#78001879) which was designated a National Landmark in 1973 and added to the NRHP in 1978 located adjacent to the west of the project site and the New York Architectural Terra Cotta Company Office Building (91NR00260) located adjacent to the south of the project site. Other National Register properties in the vicinity of the project site are located over 400 feet from the project site. Langan believes that due to the nature of this project none of these National Register properties will be physically impacted by the project.

The NYSHPO GIS website (Figure 4) further indicates that the project site is in an archeologically sensitive area. In addition, we have included the 1891 Chester Wolverton Map (Figure 5), 1900 Harlem Quad Topographic Maps (Figures 6) and 1909 G.W. Bromley Map (Figure 7) for review.

If you have any questions or comments please do not hesitate to contact me at (201) 794-6900 x4218 or [maudin@langan.com](mailto:maudin@langan.com).

Very Truly Yours,

**Langan Engineering and Environmental Services, Inc.**



Michael Audin  
Archeologist

MA:

Enclosures: Final Schematic Plan 12.13.05

Figure 1	U.S.G.S. Site Location Map
Figure 2	Vicinity Map
Figure 3	2004 Aerial Photograph
Figure 4	NYS Parks and Recreation, HPO GIS Map
Figure 5	1891 Chester Wolverton Map
Figure 6	1900 Harlem Quad, Topographic Map
Figure 7	1909 G. W. Bromley Map

cc: Dave Charette, Langan  
Sarah Joynes, Langan



## New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services • Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

[www.nysparks.com](http://www.nysparks.com)

Eliot Spitzer  
Governor

Carol Ash  
Commissioner

February 5, 2008

Michael Audin  
Langan Engineering and Environmental Services, Inc.  
River Drive Center 1  
Elmwood Park, NJ 07407

Re: FHWA/DOT  
Queens Plaza Bicycle and Pedestrian Improvement Project  
Queens County  
07PR06236

Dear Mr. Audin:

Thank you for requesting the comments of the New York State Preservation Office (SHPO) for the proposed bicycle and pedestrian improvement project at Queens Plaza. Since the project proposes to use Federal Highway money we have reviewed the additional information submitted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Based upon our review, we offer the following comments:

1. Virginia Bartos of our National Register Unit reminds us that Queensboro Bridge is listed on the State and National Registers of Historic Places. She further notes that the following buildings are eligible for listing on the State and National Registers of Historic Places (her resource evaluation is enclosed for your use):
  - a. Queens Plaza South and 13<sup>th</sup> Street
  - b. Silvercup Studios
  - c. Queens Plaza South 23<sup>rd</sup> -24<sup>th</sup> Streets
  - d. Former Bank of Manhattan Building
  - e. Queens Plaza North between 28<sup>th</sup> and 29<sup>th</sup> Streets
  - f. Brewster Building, 1911
2. Based upon our review of the proposed bicycle and pedestrian improvements, our office has no building concerns with the project as proposed. If there are substantive changes, these should be submitted for our review and comment.
3. Douglas Mackey of our Archeology Unit concurs with New York City Landmarks Preservation Commission (LPC) archeological findings dated 1/4/2008. He requests copies of all documentation submitted to LPC with regard to the potential resources located in JFK Park; Queens Plaza North and adjacent parkland locations.

Thank you for your request. We cannot offer a determination at this time since there remains the question of archeological sensitivity for this project. If you have any questions, I can be reached at (518) 237-8643, ext. 3282. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Beth A. Cumming  
Historic Preservation Specialist – Technical Unit  
e-mail: [Beth.cumming@oprhp.state.ny.us](mailto:Beth.cumming@oprhp.state.ny.us)

enc: Resource Evaluation



## Historic Preservation Field Services Bureau Resource Evaluation

**DATE:** January 14, 2008

**STAFF:** Virginia L. Bartos

**PROPERTY:** Multiple Properties

**MCD:** Queens

**ADDRESS:** Queens Plaza/Long Island City

**COUNTY:** Queens

**PROJECT REF:** 07PR006236

**USN:** see attachment

I. ☐ Property is individually listed on SR/NR:  
name of listing:

☐ Property is a contributing component of a SR/NR district:  
name of district:

II. ☒ Property meets eligibility criteria.

☐ Property contributes to a district which appears to meet eligibility criteria.

Pre SRB: ☐ Post SRB: ☐ SRB date:

### Criteria for Inclusion in the National Register:

A. ☒ Associated with events that have made a significant contribution to the broad patterns of our history;

B. ☐ Associated with the lives of persons significant in our past;

C. ☒ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;

D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

III. ☐ Property does not meet eligibility criteria.

### STATEMENT OF SIGNIFICANCE:

Based on the information submitted, it is the opinion of the State Historic Preservation Office that the properties on the attached sheets are eligible for listing in the State and National Registers of Historic Places and are architecturally and historically important as representative examples of early to mid-twentieth century commercial or industrial buildings located along Queens Plaza in Long Island City in the borough of Queens.



## Historic Preservation Field Services Bureau Resource Evaluation

08101.011235

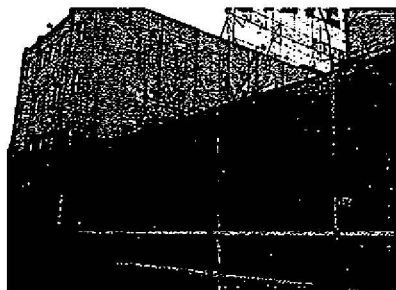
Queens Plaza South and 13<sup>th</sup> St



Mid twentieth century one-story building with flat roof and modern style cornice and parapet. Lower portion of building is brick with evenly spaced windows. Upper portion consists of square glass and aluminum multi-light clerestory. Windows are a significant feature and appear to be original.

08101.009759

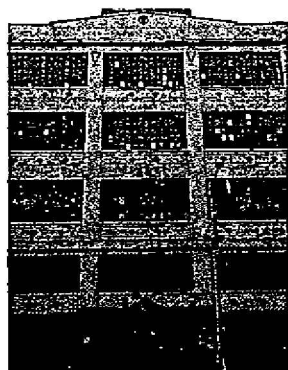
Silvercup Studios



Early twentieth century brick building with one story portion extending to 21<sup>st</sup> St and four story building at southwest corner of 22<sup>nd</sup> St. Art Deco style brick designs are found at the corners, roofline and between bays. In spite of the windows being covered in the single story portion, the building retains sufficient integrity in terms of material, design, location, feeling and association.

08101.011236

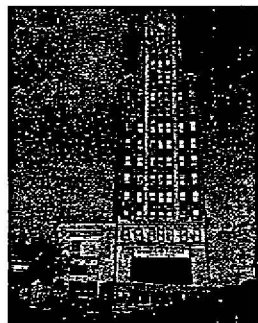
Queens Plaza South 23<sup>rd</sup> -24<sup>th</sup> Sts



Appears to be concrete-frame four-story, five-bay, early twentieth century industrial building with parapets at the center and corners. Groups of 3-4 large sets of multi-light windows pierce the frame at regular intervals. The building is also decorated with diamonds, triangles and keystones, several painted red and blue. There is some minor loss of fabric but the building retains a high degree of integrity, especially in terms of fabric and design.

08101.011246

Former Bank of Manhattan Building



Built in 1927, the bank is a 10-11-story building with a three story tower that has a clock in the uppermost portion. The building has lighter vertical banding that extends through the tower level to the decorative parapets. The parapets and clock sections are set back and the corners of the main building have decorative parapets. The main entrance has been reworked and a two-story addition was added later but neither detracts from the integrity of the building.



## Historic Preservation Field Services Bureau Resource Evaluation

08101.011248

Queens Plaza North between 28<sup>th</sup> & 29<sup>th</sup> Sts.



A large, nine-story early twentieth century classical revival style office building with stone on the first and second levels, tile on the 3<sup>rd</sup> and 4<sup>th</sup> levels and brick in the remainder. Stone columns with ionic capitals separate the windows on the second level. Windows in the center of the Queens Plaza façade are grouped in fours except for the topmost level with groups of three. Windows in the 8<sup>th</sup> level have an arched curve. Decorative corbelling and dentils are under the slightly projecting cornice. The windows appear to be replacements but the building retains much of its integrity in terms of materials, design, location, association and feeling.

08101.000048

Brewster Building, 1911



Seven-story commercial building that was originally a carriage factory. The building is brick with stone details such as keystones centered over window groupings and bands between windows. A stone course runs underneath the cornice that is decorated with dentils giving the vertical spaces between the windows the appearance of classical columns. Some restoration work was done in the 1990s and the building retains a high degree of integrity in terms of materials, design, location, association and feeling.



Eliot Spitzer  
Governor

Carol Ash  
Commissioner

## New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services • Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

www.nysparks.com

November 27, 2007

Michael Audin  
Langan Engineering and Environmental Services, Inc.  
River Drive Center 1  
Elmwood Park, NJ 07407

Re: FHWA/DOT  
Queens Plaza Bicycle and Pedestrian Improvement Project  
Queens County  
07PR06236

Dear Mr. Audin:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO) for the proposed bicycle and pedestrian improvement project at Queens Plaza. We note that the Queensboro Bridge is listed on the State and National Registers of Historic Places and portions of the structure are included in the area of potential effects (APE) for the project. Since the project proposes to use Federal Highway money and includes an historic resource we have begun to review the project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

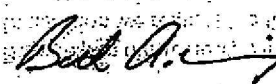
Based upon our review, Virginia Bartos of our National Register Unit requests additional information, her request is attached. In addition we request the following:

1. Plans and specifications for all proposed improvements, including realignment of travel lanes, redevelopment of parking areas and medians into parks, construction of bicycle and pedestrian lanes and other general beautification projects.
2. Existing conditions photographs and plans illustrating all areas to be effected by the proposed project. The photographs should be keyed to a site or building plan indicating the location and direction of each image.
3. Available historic photographs, particularly of historic resources within the APE.

Thank you for requesting the comments of the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) for the proposed project at 45<sup>th</sup> Street, Court Square in Queens. We have reviewed the submitted documentation in accordance with the New York State Parks, Recreation and Historic Preservation Law, Section 14.09.

Thank you for the opportunity to comment on this project. If you have any questions, I can be reached at (518) 237-8643, ext. 3282. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,



Beth A. Cumming  
Historic Preservation Specialist - Technical Unit  
e-mail: Beth.cumming@oprhp.state.ny.us  
Request for additional information, Buildings/Structures/Districts

**REQUEST FOR ADDITIONAL INFORMATION  
BUILDINGS/STRUCTURES/DISTRICTS**

**PROJECT NUMBER 07PR06236**

**( Queens Plaza Bicycle and Pedestrian Improvement Project/Along Queensboro  
Bridge  
& Queens Blvd/Long Island /QUEENS )**

In order for us to complete our evaluation of the historic signification of all buildings/structures/districts within or adjacent to your project area we will need the following additional information

- ☐ Full project description showing area of potential effect.
- ☒ Clear, original photographs of buildings/structures 50 years or older.
  - ☒ within or ☐ immediately adjacent to the project area

**\*\* key all photographs to a site map**
- ☒ Clear, original photographs of the surroundings looking out from the project site in all direction,  
**keyed to a site map.**
- ☐ Date of construction.
- ☐ Brief history of property.
- ☐ Clear, original photographs of the following:
- ☐ Other:

Please provide only the additional information checked above. If you have any question concerning this request for additional information, please call Virginia Bartos at 518 237-8643. ext 3256

**PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN  
RESPONDING TO THIS REQUEST**



16 November 2007

Ms. Ruth Pierpont, Director  
Historic Preservation Field Services Bureau  
New York State Office of Parks, Recreation and Historic Preservation  
Peebles Island State Park  
PO Box 189  
Waterford, NY 12188-0189

**Re: Queens Plaza  
Bicycle and Pedestrian Improvement Project  
Queens County, New York  
Langan Project No. 5571308**

Dear Ms. Pierpont:

Langan Engineering and Environmental Services Inc. (Langan), as agent for the New York City Economic Development Corporation (NYCEDC), is preparing the necessary National Environmental Policy Act (NEPA) documentation for the Queens Plaza Bicycle and Pedestrian Improvement Project (the "Project"). The Project, which has received Federal Congestion Mitigation and Air Quality (CMAQ) funding, proposes road, bicycle and pedestrian improvements and general beautification of the project site. As such, Langan is asking for comments from your office as to the likelihood of any adverse effects to potential archaeological and historic resources. A site location map, vicinity map and aerial photograph are included as Figures 1 through 3.

#### **SITE LOCATION AND DESCRIPTION**

The project site is located at Queens Plaza extending from just west of Vernon Boulevard to Northern Boulevard/Jackson Avenue and Van Dam Street. The project location is shown on the enclosed USGS Site Location Map, Central Park and Brooklyn Quadrangles (Figure 1).

#### **PROJECT DESCRIPTION**

The goal of the Proposed Action is to improve pedestrian and biking safety and the capacity of pedestrian facilities and bicycle movements while maintaining the ability of the street network to accommodate existing and anticipated vehicles using the Queensboro Bridge. The project proposes road, bicycle and pedestrian improvements. These improvements include realignment of the travel lanes, redevelopment of parking areas and medians into parks with trees, shrubs, and other vegetation, construction of bicycle and pedestrian lanes, and general beautification of the project site. Enclosed is a copy of the Queens Plaza, Bicycle and Pedestrian Improvement Project, Final Schematic Design dated 12.13.05 detailing the proposed project.

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Omar Alsamman, Ph.D., P.E.  
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## RESEARCH

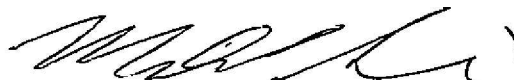
According to the New York State Historic Preservation Office (NYSHPO) GIS website there are two properties either listed on or eligible for listing on the National Register of Historic Places (NRHP) immediately adjacent to the project site. The Queensboro Bridge (#78001879) which was designated a National Landmark in 1973 and added to the NRHP in 1978 is located above and to the west of the project site. The Project will not perform any work on the Queensboro Bridge. The New York Architectural Terra Cotta Company Office Building (91NR00260) is located adjacent to the south of the project site. Other National Register properties in the vicinity of the project site are located over 400 feet from the project site. Langan believes that due to the nature of this project none of these National Register properties will be physically impacted by the project.

The NYSHPO GIS website (Figure 4) further indicates that the project site is in an archeologically sensitive area. In addition, we have included the 1891 Chester Wolverton Map (Figure 5), 1900 Harlem Quad Topographic Maps (Figures 6) and 1909 G.W. Bromley Map (Figure 7) for review.

If you have any questions or comments please do not hesitate to contact me at (201) 794-6900 x4218 or [maudin@langan.com](mailto:maudin@langan.com).

Very Truly Yours,

**Langan Engineering and Environmental Services, Inc.**



Michael Audin  
Archeologist

Enclosures: Final Schematic Plan 12.13.05

Figure 1	U.S.G.S. Site Location Map
Figure 2	Vicinity Map
Figure 3	1995 Aerial Photograph
Figure 4	NYS Parks and Recreation, HPO GIS Map
Figure 5	1891 Chester Wolverton Map
Figure 6	1900 Harlem Quad, Topographic Map
Figure 7	1909 G. W. Bromley Map

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