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ADDENDUM
STAGE 1A ARCHAEOLOGICAL ASSESSMENT
MTA/LONG ISLAND RAIL ROAD EAST SIDE ACCESS PROJECT
LOOP TRACK PORTAL
NORTH OF THE LIRR MAIN LINE WEST OF 43RD STREET
AND
YARD AREA BETWEEN THE THOMSON AVENUE AND
HUNTERS POINT AVENUE BRIDGES
AND
39TH STREET SUBSTATION AND PROPOSED
SEWER PARALLEL TO THE 39TH STREET BRIDGE

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INTRODUCTION

As a result of ongoing project engineering, the Queens Alignment has been redesigned, resulting in the addition of four new project elements in areas not previously evaluated archaeologically. This addendum refers to the following sections of the original Stage 1A prepared for the project, *Stage 1A Archaeological Assessment, MTA/LIRR East Side Access Project*, prepared by Historical Perspectives, Inc., December 1999 ("Stage 1A"):

- 3.3 EXISTING CONDITIONS (pages AR3-46 to -64), **3.3.1 Prehistoric Archaeological Potential** (AR3-68) of the Stage 1A (Loop Track Area).
- 3.3 EXISTING CONDITIONS (pages AR3-17 and -18); and **3.3.1 Prehistoric Archaeological Potential** (page AR3-68) of the Stage 1A (Yard Area between Thomson Avenue and Hunters Point Avenue Bridges).
- 3.3 EXISTING CONDITIONS (pages AR3-35 to -46), **3.3.1 Prehistoric Archaeological Potential** (AR-68), and **3.3.2 Historical Archaeological Potential** (AR3-69) of the Stage 1A (39th Street Substation and Sewer Parallel to the 39th Street Bridge).

The four new APEs are described below and shown on Figure A, "Area of Potential Effect." The archaeological assessment for the Loop Track Area is then presented first, followed by the archaeological assessment for the Yard Area Between the Thomson Avenue and Hunters Point Avenue Bridges. The archaeological assessments for the 39th Street Substation and proposed Sewer Parallel to the 39th Street Bridge are presented together since they are in the similar vicinity, and follow last.

Figures 1-18 of the Stage 1A prepared by Historical Perspectives, Inc. have been appended to this addendum and are referenced herein.

1. Loop Track Area

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In association with the portal (coming to grade from a tunnel) of a proposed fourth loop track, a new area has been added to the MTA/LIRR East Side Access Project. It encompasses the area north of the LIRR Main Line between 43rd Street (42nd Place), the former Long Island Rail Road trackbed, and the original APE for the loop track assessed in the project's original Stage 1A (see Area A of Figure A).

Subsurface excavation would be required in this area to bring the bored loop track to grade, and would involve the demolition of six commercial buildings on the west side of 43rd Street, construction of the Tunnel Boring Machine (TBM) reception chamber, and construction of a portion of the Yard Lead Approach Structure which would transition trains from the bored tunnel to grade. This work is expected to be constructed under Construction Contract CQ041.

2. Yard Area between the Thomson Avenue and Hunters Point Avenue Bridges

New work is proposed in the Sunnyside Yard complex in the area bounded by Sunnyside Yard/ Yard A to the north, Thomson Avenue to the east, Skillman Avenue to the south, and Hunters Point Avenue to the west (see Area B of Figure A). This work includes installation of utilities, an open cut for a proposed cross connector to pass beneath the LIRR main line tracks, pier supports for Thomson Avenue, as well as a new retaining wall along Skillman Avenue. This work would occur under a number of construction contracts: CH060, CH054, and CQ033.

3. 39th Street Substation

A proposed new substation would be built in Sunnyside Yard at the northwest corner of Skillman Avenue and the 39th Street Bridge, replacing a taxi brokerage (see Area C of Figure A). In addition a new access bridge would be built from Skillman Avenue over the loop track and the LIRR Main Line. This new bridge would be built just west of the proposed new substation. This work is expected to be constructed under Construction Contract CS079.

4. Sewer Parallel to the 39th Street Bridge

A new sewer is proposed to be constructed in Sunnyside Yard west of and parallel to the existing 39th Street Bridge (see Area D of Figure A). The sewer would be built commencing roughly south of the LIRR Main Line north to the northern edge of Yard A. It is presently contemplated that the sewer would be built as an open cut and extending approximately five feet in depth. This work is expected to occur under Construction Contract CH053.

ARCHAEOLOGICAL ASSESSMENT OF THE LOOP TRACK AREA (AREA A)

• APE Between the 39th Street Bridge and 43rd Street (Laurel Hill Avenue)

Former Van Buren (41st) Street (North of Middleburg Avenue)

Beginning at northern boundary of the previously-assessed part of the former Van Buren Street (See page AR3-49), the added section of the former Van Buren Street extends from 565 feet to 605 feet north of Middleburg Avenue on the east side of Van Buren, and from 582 feet to 600 feet north of Middleburg on the west side of Van Buren. In both cases the northern boundary is the old Long Island Railroad trackbed. No historical structures are recorded in this Van Buren Street section of the APE.

Prior to construction of the railyard, this Van Buren Street section of the APE was part of the northern slope of a large hill or ridge whose summit lay about 1,400 feet to the south, at what is now Skillman Avenue. In 1907, the elevations in this part of the APE ranged between 37.75 feet and 32.75 feet¹, sloping downward to the northeast (Figure 8).

Current elevations in this section of the APE lie between 30 and 32 feet (MTA/LIRR 1999:5). The change in elevation between 1907 and the present indicates that between 0.75 and 7.75 feet of the pre-Yard ground surface were removed during or subsequent to Yard construction. Depth of ground disturbance generally decreases from west to east.

Since prehistoric archaeological remains are generally within three to four feet of the predevelopment ground surface, it is possible that potential undisturbed or partially-disturbed remains have survived in this section of the APE. For recommendations and mitigation measures see Section 3.5.

Former Block 74

Beginning at northern boundary of the previously-assessed part of former Block 74 (See page AR3-50), the added section of Block 74 extends from 565 feet to 605 feet north of Middleburg Avenue on the east side of former Van Buren Street, and from 460 feet to 635 feet north of Middleburg on the west side of former Madden Street (42nd Place). In both cases the northern boundary is the old Long Island Railroad trackbed. No historical structures are recorded in this Block 74 section of the APE.

Prior to construction of the railyard, this Block 74 section of the APE was part of the northern slope of a large hill or ridge whose summit lay about 1,500 feet to the south, at what is now Skillman Avenue. In 1907, the elevations in this part of the APE ranged between 37.75 feet and 27.75 feet, sloping downward to the northeast.

Current elevations in this section of the APE lie between 30 and 37 feet, sloping upward from west to east. The contours are somewhat obscured due to the stockpiling of construction materials there during the time of the topographic survey. A hill labelled "PILE" at the center of

¹ The East Side Access Project is using a datum of 0=300. Therefore, to translate to the ESA elevation, 300+ should be added. In this case, elevation 32.75 = ESA elevation of 332.75.

the Block 74 APE rises to a height of 41.8 feet (MTA/LIRR 1999:5). A comparison of the elevations of 1907 and the present indicates that in the western parts of the APE between 0.0 and 7.75 feet of the predevelopment surface has been removed, while on the eastern side, it suggests the addition of between 0.0 and 9.25 feet of fill.

Since prehistoric archaeological remains are generally within three to four feet of the predevelopment ground surface, it is possible that due to the shallow disturbance and the presence of a protective fill overmantle, potential prehistoric remains may have survived undisturbed or partially-disturbed on parts of this APE. For recommendations and mitigation measures see Section 3.5.

Former Madden Street (42nd Street – North of Middleburg Avenue)

Beginning at northern boundary of the previously-assessed part of the former Madden Street (See page AR3-51 to AR3-52), the added section of Madden Street extends from 401 feet to 647 feet north of Middleburg Avenue on the east side of Madden, and from 460 feet to 635 feet north of Middleburg on the west side of Madden. In both cases the northern boundary is the old Long Island Railroad trackbed. No historical structures are recorded in this Madden Street section of the APE.

Prior to construction of the railyard, this Madden Street section of the APE was part of the northern slope of a large hill or ridge whose summit lay about 1,500 feet to the south, at what is now Skillman Avenue. In 1907, the elevations in this part of the APE ranged between 32.75 feet and 27.75 feet, sloping downward toward the northeast.

Current elevations in this section of the APE range from just below 35 feet at the north and south edges of the APE, to above 38 feet along the eastern side of the APE. A "PILE" of construction materials, mostly on Block 74 to the west of Madden Street extends onto the APE, obscuring the current topographic contours, and raising the elevation of the northwestern corner of the APE above 38 feet (MTA/LIRR 1999:5).

A comparison of the pre-Yard and present elevations indicates that between 2.25 and 10.25 feet have been added during or subsequent to Yard construction. Potential prehistoric remains may have survived, protected from subsequent subsurface disturbance by the fill overmantle. For recommendations and mitigation measures see Section 3.5.

Former Block 71

Beginning at northern boundary of the previously-assessed part of former Block 71 (See page AR3-52 to AR3-53), the added section of Block 71 extends from 401 feet to 647 feet north of Middleburg Avenue on the east side of former Madden Street, and from 60 feet north of Middleburg on the west side of former Laurel Hill (43rd) Avenue, following the curve of 42nd Place/43rd Avenue, which also becomes the northern boundary of this new part of the APE. No potential historical remains are indicated on this part of the APE.

Prior to construction of the railyard, this Block 71 section of the APE was part of the northern slope of a large hill or ridge whose summit lay about 1,500 feet to the southwest, at what is now Skillman Avenue.

In 1907 the northern 175 feet of the APE were in a relatively level area at the base of the hill, with elevations between 32.75 and 27.75 feet. (Figure 8)

At present the northern 175 feet of the Block 71 APE slope upward to Laurel Hill Avenue, rising from elevations of below 35 feet in the northwestern corner of this part of the APE to approximately 43 feet at the southeastern corner of this part of the APE (MTA/LIRR 1999:5).

A comparison of the pre-Yard and current elevations indicates that between 2.25 feet and as much as 15.25 feet of fill have been added to this part of the APE, with the amount of fill increasing toward the east, as one approaches Laurel Hill (43rd) Avenue. Although four woodframe buildings associated with the construction storage yard were recorded near Laurel Hill Avenue in the 1999 survey (See *Block Histories* below, Appendix 3.7.1), there is no indication of basements or deep foundations, and given a standard foundation depth of four feet in a part of the APE having a fill overmantle a minimum of 4.25 feet thick, it is unlikely that the construction of these buildings would have impacted the pre-Yard surface.

Potential prehistoric remains may have survived, protected from subsequent subsurface disturbance by the fill overmantle. For recommendations and mitigation measures see Section 3.5.

In 1907, the elevations in the remaining, southern part of the Block 71 APE ranged from 42.75 feet at the southernmost corner along Laurel Hill Avenue, down to 27.75 feet, sloping downward to the north. (Figure 8)

At present, the APE slopes steeply upward east of the Loop Track right-of-way, rising from 34 feet at the right-of-way, to between 45 and 47 feet at Laurel Hill Avenue (MTA/LIRR 1999:5). A comparison of the current and pre-Yard elevations indicates the addition of more than 2.25 feet of fill over the entire area during or subsequent to Yard construction. This layer of fill increases to as much as 14.25 feet thick as Laurel Hill (43rd) Avenue is approached on the east. As noted in the Appendix 3.7.1 (see *Block Histories* below), four two-story cinder block buildings stood along Laurel Hill Avenue, and the northernmost of the structures had basements in their rear one-story sections. This would likely have penetrated the existing fill layer in the western part of the APE, where it is the thinnest, and impacted any potentially surviving prehistoric archaeological deposits. In the remainder of this part of the APE, however, there is no indication of basements or deep foundations. Given the location of these structures in the area of the greatest amount of fill, it is likely that the fill overmantle would have protected portions of the pre-Yard surface and any shallowly-buried prehistoric cultural materials from construction impacts. For recommendations and mitigation measures see Section 3.5.

3.3.1 Prehistoric Archaeological Potential

As described in the Stage 1A report, portions of the original APEs assessed were identified as potentially sensitive for prehistoric archaeological resources based on documentary and archaeological data indicating that Native Americans had inhabited the Sunnyside Yard vicinity during the pre- and proto-historic periods. In addition, as part of that study, subsurface disturbance and its impact on and elimination of potential resources in the APEs was also assessed to determine whether potential archaeological materials may still be present.

Based on the conclusions from these two lines of research, sections of the APEs were then rated as having high, moderate or low prehistoric archaeological sensitivity. The full discussion and explanation of the determination of prehistoric sensitivity can be found on pages AR3-65 through AR3-68 of the Stage 1A report. Areas given a high sensitivity rating were those which were in near proximity to a fresh water source (e.g., a creek or marsh). No APE locations were rated as having moderate sensitivity. Areas given a low sensitivity rating were those that were located over 1,000 feet from a fresh water source, in this case Dutch Kills Creek and its marshes. Areas located within the marsh were also given a low sensitivity rating as they would not have been habitable or suitable for other archaeologically-visible activities. APEs with a low sensitivity rating were not mapped and were not recommended for further archaeological evaluation.

Based on the abovementioned criteria, the APE that is the subject of this addendum was determined to be over 1,000 feet from a fresh water source. Therefore, following the same approach used in the Stage 1A evaluation, this APE has been given a low sensitivity rating for prehistoric archaeological resources and no further archaeological evaluation is recommended. This addendum adds the following locations within the APE under the heading: Low Potential Sensitivity (page AR3-68).

Van Buren Street (North of Middleburg Avenue)
Block 74 (North of the Loop Track)
Madden Street (North of Middleburg Avenue)
Block 71 (North of the Loop Track)

3.3.2 Historic Archaeological Potential

As described above, no historical structures are recorded in this APE. Therefore, the APE possesses a low sensitivity for historical period archaeological resources and no further archaeological evaluation is warranted.

3.5 Mitigation Recommendations

This addendum repeats the recommendations of the original report (page AR3-70): “for areas determined to have a Low Potential Sensitivity rating for prehistoric resources, further consideration, research, testing or other mitigation of these locations for buried cultural remains from the prehistoric period is not recommended.” In addition, no further consideration of historical period resources is recommended. Therefore, no additional mitigation beyond that discussed in earlier addenda and the original report is recommended.

3.7 Appendix

3.7.1 Block Histories

- **APE Between the 39th Street Bridge and 43rd Street (Laurel Hill Avenue)**

Van Buren Street (North of Middleburg Avenue)

This added section of the APE on Van Buren Street extends from 565 feet to 605 feet north of Middleburg Avenue on the east side of Van Buren, and from 582 feet to 600 feet north of Middleburg on the west side of Van Buren. In both cases the northern boundary is the old Long Island Railroad trackbed.

This area was owned by T. B. Van Buren in the 1870s, and Van Buren Street was laid out on paper in the same decade. The surrounding blocks were lotted before 1891, but there is no evidence of any dwellings or other structures built within the APE (Beers 1873; Dripps 1874; Sanborn 1898). (Figure 16)

No potential historical archaeological resources are recorded in this Van Buren Street section of the APE.

Block 74 (North of the Loop Track)

This added section of Block 74 extends from 565 feet to 605 feet north of Middleburg Avenue on the east side of former Van Buren Street, and from 460 feet to 635 feet north of Middleburg on the west side of former Madden Street (42nd Place). In both cases the northern boundary is the old Long Island Railroad trackbed.

This area was owned by T. B. Van Buren in the 1870s, and although lotted before 1891, there is no evidence of any dwellings or other structures built within the APE (Beers 1873; Dripps 1874; Sanborn 1898). (Figure 16)

No potential historical archaeological resources are recorded in this Block 74 section of the APE.

Madden Street (North of Middleburg Avenue)

This added section of the APE on Madden Street extends from 401 feet to 647 feet north of Middleburg Avenue on the east side of Madden, and from 460 feet to 635 feet north of Middleburg on the west side of Madden. In both cases the northern boundary is the old Long Island Railroad trackbed.

This area was owned by T. B. Van Buren in the 1870s, and Madden Street was laid out on paper in the same decade. The surrounding blocks were lotted before 1891, but there is no evidence of any dwellings or other structures built within the APE (Beers 1873; Dripps 1874; Sanborn 1898). (Figure 16)

No potential historical archaeological resources are recorded in this Van Buren Street section of the APE.

Block 71 (North of the Loop Track)

This addendum section of the Block 71 APE extends from 401 feet to 647 feet north of Middleburg Avenue on the east side of former Madden Street, and from 60 feet north of Middleburg on the west side of former Laurel Hill (43rd) Avenue, following the curve of 42nd Place/43rd Avenue, which also becomes the northern boundary of this new part of the APE.

The APE has been divided into a northern section which comprises the northern 150 feet of the APE, and the southern section which is the remainder of the APE.

Both sections were owned by T. B. Van Buren in the 1870s, and although lotted before 1891, there is no evidence of any dwellings or other structures built within the APE prior to Yard construction (Beers 1873; Dripps 1874; Sanborn 1898). (Figure 16)

No structures are recorded on the northern section of the APE through the 1970s. At the time of the 1999 topographical survey, northern section of the APE was being utilized as a construction storage yard. Three one-story woodframe structures, as well as a number of sheds were erected there, along the Laurel Hill (43rd) Avenue and 42nd Place/43rd Avenue frontage (MTA/LIRR 1999:5). Neither basements nor deep foundations are indicated. These buildings are not recorded in the current Sanborn atlas, which shows the area as vacant.

No structures are recorded on the southern section of the APE through the 1970s. A group of three two- and one-story buildings were constructed there in 1984, 1988 and 1988. The 1999 Sanborn atlas indicates that the northern two buildings have basements recorded in their rear (western) sections. No other basements are recorded.

No potential historical remains are recorded on the Block 71 part of the APE.

ARCHAEOLOGICAL ASSESSMENT OF THE YARD AREA BETWEEN THE THOMSON AVENUE AND HUNTERS POINT AVENUE BRIDGES (AREA B)

- **APE between the Hunters Point and Thomson Avenue Bridges**

Former Block 72; Former Arch Street; Former Block 89; Former Beech Street; Former Block 90; Former Crane Street; Former Block 91; Former Davis Street; Former Block 92; Former Pearson Street; Former Block 93; Former Anable Avenue/Amstel Place; Former Block 94; Former Court Street; Former Block 95; Former Nott Avenue; Former Block 196; Former Purves Street; Former Block 199

These former blocks and streets, between the current Skillman Avenue on the south and the old Long Island Rail Road trackbed on the north, were evaluated in the original report (AR3-17 and 18).

No potential historical archaeological sites were documented in this area (Wolverton 1891; Figures 17 and 18).

Based on the evaluation of this part of the APE as a section of extensive marshland with none of the dry, elevated locations preferred by prehistoric Americans for their campsites, settlements and processing areas (Figure 3; Conner 1852), this section of the project site has very low potential for hosting prehistoric archaeological remains. It was considered not sensitive, and no further study or other investigation was recommended. For further discussion, see pages AR3-65 to 67 in the original report.

Former Block 202

Former Dutch Kills Street (south of the Long Island Railroad trackbed)

This block and street forms a triangle bounded by present Skillman Avenue (formerly Meadow Street), the Thomson Avenue Bridge and former Block 199. It occupies approximately 214 feet of frontage along Skillman Avenue, and ranges between 0.0 feet and approximately 188 feet north of present Skillman.

No potential historical archaeological sites were documented in this area (Wolverton 1891; Figures 17 and 18).

Prior to filling at the turn of the century, this area of the APE was part of the extensive marshland surrounding Dutch Kills and its tributaries (Figure 3; Conner 1852). The edge of the swamp is demarcated most clearly on the 1874 topographic map, where all land to the southeast of the Long Island Rail Road trackbed, including this APE, is marsh and/or creekbed (Figure 4). The 1907 topographic map, drawn prior to railyard construction, but subsequent to road building and filling activities in the vicinity of this area, records elevations there below 2.75 feet (Figure 6).

Although the marshes which once existed in the APE would have been attractive hunting and

gathering locations for prehistoric Americans, it is unlikely that any sort of pre- or proto-historic campsite, settlement or processing area would have been located within the marsh, rather than on nearby dry, elevated land. As a result, this section of the project site is considered to have a very low potential for hosting prehistoric archaeological remains, and is not sensitive.

Long Island Rail Road Trackbed (Hunters Point Avenue to Thomson Avenue)

The old LIRR trackbed was completed through this section of the APE by 1861. Built at the western edge of the Dutch Kills marshes, historical maps indicate that some locations were dry ground at the edge of the marsh, and others were within the marsh itself.

A comparison of 19th-century maps identifies an area of elevated, dry ground in this part of the APE, between and including former Crane Street on the west and former Nott Avenue (the existing portion of this street north of the Yard is now 44th Drive) to the east (Figure 3; Beers 1873). This appears to be the base of large hill which has its summit to the northwest. Elevations from the 1907 topographical map are only available for the area between former Anable and Nott Streets, but appear to be between 2.75 feet and 7.75 feet (Figure 5). Intersection elevations from the 1903 atlas give elevations of between 5 and 6 feet along the south side of the embankment. This may be due to extensive filling operations carried out on the adjoining properties, subsequent to trackbed construction but prior to yard construction.

Current elevations in this area of the APE rise gradually from above 8 feet on the west to 13 feet on the east (Amtrak 1994:2-4,7), indicating the deposit of a protective fill overmantle of between approximately 5 and 10 feet thick, most likely deposited at the time the LIRR trackbed was first constructed. This indicates that the embankment fill has protected the pre-development surface, and any potential buried prehistoric cultural materials, from subsequent construction impacts.

No historical structures were recorded in the Thomson Avenue to Skillman Avenue section of the old LIRR trackbed in this APE.

Construction excavation for this section of the APE may eradicate any potentially surviving buried cultural materials from the prehistoric period. For recommendations and mitigation measures, see Section 3.5.

In contrast, the remaining two sections of the old LIRR track embankment, lying between the west side of Crane Street and the Hunters Point Avenue Bridge, and between the east side of Nott Avenue and the Thomson Avenue Bridge were not dry, elevated locations prior to trackbed construction.

Prior to filling operations which accompanied the building of the trackbed embankment, this section of the APE was part of the extensive marshland surrounding Dutch Kills and its tributaries (Figures 3 and 4; Conner 1852). The 1907 topographic map, drawn after embankment construction and other pre-yard filling operations, generally records swamp elevations as below 2.75 feet (Figure 5).

As discussed in the prehistoric overview section of the original report, salt marshes, such as the one surrounding Dutch Kills and its tributaries offered valuable resources to pre- and proto-historic Native Americans. Because a marsh, undergoes regular inundation or partial inundation, however, it is extremely unlikely that Native Americans would have established a campsite, processing area, or larger settlement within its boundaries. Therefore, this part of the APE has a very low potential for prehistoric archaeological remains, and is not considered sensitive.

No potential historical archaeological sites have been documented in this area (Figures 17 and 18; Wolverton 1891).

3.3.1 Prehistoric Archaeological Potential

The LIRR trackbed section of this APE, from former Crane Street to former Nott Avenue, has been identified as having potential prehistoric sensitivity, based on the documentary and archaeological data indicating that Native Americans inhabited the vicinity during the pre- and proto-historic eras, as well as data describing the pre-development environment and topography of the APE. Sensitivity is also determined by a location's lack of deep subsurface disturbance, which can eliminate this potential. Areas with moderate and high sensitivity ratings are considered to have the potential for archaeological sensitivity; in those locations, disturbance by project-related work could result in significant impacts.

Based on these factors, the following section of the LIRR trackbed is rated as having a high potential prehistoric sensitivity (A more detailed discussion of the determination of prehistoric archaeological potential is found in the original Stage 1A report on pages AR3-65 to AR3-68):

- APE between the Hunters Point and Thomson Avenue Bridges:
Location #13 in Area B: Old LIRR Embankment (Former Crane Street to Former Nott Avenue)

This area is an addition to the areas identified in the Stage 1A report as having "High Potential Sensitivity" on pages AR3-67 to AR3-68. Please see Figure B, "Queens Alignment/Sunnyside Rail Complex: Areas of Potential Effect and Archaeologically Sensitive Areas."

3.5 Mitigation Recommendations

The installation of utilities and work required to convert Yard A into a new East Side Access storage yard, including grading and laying of new tracks, could affect potential prehistoric resources beneath a fill overmantle of approximately five to ten feet deep, if construction were to extend below the current surface to this depth range. At this time, the depth and extent of proposed construction is not known. Therefore, it is recommended that this area be added to the Stage 1B Archaeological Field Testing Protocol found within Appendix D of the *Long Island Rail Road East Side Access Construction Protection Plan*, prepared for the East Side Access Project and approved by SHPO in April 2004. This protocol stipulates that once construction locations and impact depths have been confirmed, they will be compared to the potentially-

affected areas of sensitivity to evaluate the potential for adverse effects. Due to issues of contamination and shallow groundwater in the Sunnyside Yard complex, construction within any sensitive areas in the complex would be monitored by a professional archaeologist as described in Appendix D of the Construction Protection Plan.

3.7 Appendix

3.7.1 Block Histories

- **APE between the Hunters Point and Thomson Avenue Bridges**

Former Block 202

Former Dutch Kills Street (south of the Long Island Railroad trackbed)

This block and street forms a triangle bounded by present Skillman Avenue (formerly Meadow Street), the Thomson Avenue Bridge and former Block 199. It occupies approximately 214 feet of frontage along Skillman Avenue, and ranges between 0.0 feet and approximately 188 feet north of present Skillman.

Prior to filling at the turn of the century, this area of the APE was part of the extensive marshland surrounding Dutch Kills and its tributaries (Figure 3; Conner 1852). The edge of the swamp is demarcated most clearly on the 1874 topographic map, where all land to the southeast of the Long Island Rail Road trackbed, including this APE, is marsh and/or creekbed (Figure 4).

No potential historical archaeological sites were documented in this area (Wolverton 1891; Figures 17 and 18).

Long Island Rail Road Trackbed (Hunters Point Avenue to Thomson Avenue)

The old LIRR trackbed was completed through this section of the APE by 1861. Built at the western edge of the Dutch Kills marshes, historical maps indicate that some locations were dry ground at the edge of the marsh, and the remainder was built on fill within the marsh itself.

A comparison of 19th-century maps identifies an area of elevated, dry ground in this part of the APE, between the west side of former Crane Street on the west and the east side of former Nott Avenue to the east (Figure 3; Beers 1873). This appears to be the base of large hill which has its summit to the northwest.

In contrast, the remaining two sections of the old LIRR track embankment, lying between Crane Street and the Hunters Point Avenue Bridge, and between Nott Avenue and the Thomson Avenue Bridge were not dry, elevated locations prior to trackbed construction.

Prior to filling operations which accompanied the building of the trackbed embankment, this section of the APE was part of the extensive marshland surrounding Dutch Kills and its tributaries (Figures 3 and 4; Conner 1852). The 1907 topographic map, drawn after embankment construction and other pre-yard filling operations, generally records swamp elevations as below 2.75 feet (Figure 5).

No historical structures were recorded in the Hunters Point Avenue Bridge to Thomson Avenue Bridge section of the old LIRR trackbed in this APE.

ARCHAEOLOGICAL ASSESSMENT OF THE 39TH STREET SUBSTATION (AREA C) AND THE SEWER PARALLEL TO THE 39TH STREET BRIDGE (AREA D)

• APE between Honeywell Street and 39th Street Bridges

Former Block 115

Historical maps record no structures in this part of the APE.

The Block 115 section of the APE lies between former Van Pelt and Harold Streets, with former Middleburg Avenue on the south, and the Loop Track APE on the north. Prior to yard construction, elevations ranged from 37.75 feet in northwest to above 42.75 feet in the southeast corner, sloping upward as one proceeds southeasterly. (Figure 7) At present, elevations are between 22 and 26 feet (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002). Regrading during yard construction would have removed between 11.75 to as much as 20.75 feet of the pre-construction surface, effectively eliminating all potential prehistoric or shallowly-buried Revolutionary War archaeological deposits.

Former Middleburg Avenue (between Van Pelt and Harold Streets)

Historical maps record no structures in this part of the APE.

Pre-yard elevations in the former Middleburg Avenue section of the APE were between 42.75 and 47.75 feet, sloping up toward the south. (Figure 7) Current elevations are between 22 and 25 feet (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002), indicating a regrading during yard construction that removed between 17.75 and 25.75 feet of the pre-construction surface. This would have destroyed all potential prehistoric archaeological resources, as well potential deposits from British troops who camped in this vicinity during the Revolutionary War.

Former Block 116 (North of the Main Line)

The new APE section on former Block 116 comprises most of the northern part of the block, north of the Main Line APE, which was covered in the original report (Pages AR-43 to -44). Beginning on the south side of former Middleburg Avenue, it extends southward 356 feet along the west side of former Harold Street, to the beginning of the Main Line APE. The western boundary runs along the eastern side of the former Van Pelt Street 427 feet from the south side of former Middleburg Avenue, ending at the Main Line APE.

Historical maps record no structures in this section of the APE.

Prior to yard construction, this part of Block 116 sloped upward as one proceeded southward, with elevations rising from above 42.75 feet at Middleburg Avenue to above 57.75 feet at the edge of the Main Line APE. (Figure 7) In order to discuss the topographical changes which have taken place in this area during railyard construction in the early 20th century, it is necessary

divide this part of the APE into four sections, based on the contour lines shown on the 1907 map. (Figure 7)

The first section, which lies between the 42.75 and 47.75 contour lines, extends 48 feet south of Middleburg Avenue along the western side of the former Harold Street, and 0 feet south of Middleburg along the eastern side of Van Pelt Street. (Figure 7) At present, elevations in this part of the APE lie between 20 and 25 feet (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002), indicating that between 17.75 and 27.75 feet of the pre-yard surface have been removed during or after railyard construction. This regrading would have effectively destroyed any potential archaeological deposits from the prehistoric period or shallowly-buried Revolutionary War remains.

The second section of this area of the APE, immediately south of the first section, extends between 48 and 200 feet south of former Middleburg Avenue along the western side of former Harold Street, and between 0 and 136 feet south of Middleburg along the eastern side of old Van Pelt Street. This section had elevations between 47.75 and 52.75 feet in 1907. (Figure 7) At present, elevations rise from approximately 22 to 70 feet as one goes eastward, becoming increasingly steep and elevated on the earthen bank supporting a section of the present 39th Street Bridge (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002).

Except for a small part of this second section (which presently lies above an elevation of 45 feet) this indicates a regrading for yard construction which would have removed a minimum of 2.75 feet and up to 30.75 feet of the pre-yard surface. Because potential prehistoric archaeological resources, as well as potential cultural deposits from British troops who camped in this vicinity during the Revolutionary War would be expected within three to four feet of the pre-yard surface, the removal of 2.75 feet of this surface would have destroyed most of these shallowly-buried archaeological resources. In addition, the position of the area with the least amount of regrading is along the side of a steep hill or bank. The subsequent 97 years (1907—2004) of weathering and human impacts to exposed potential archaeological resources would have eliminated any surviving potential sensitivity.

The areas which lie above the *present* 45-foot contour line, roughly the easternmost 50 feet of the second section, along the present 39th Street Bridge, would have only experienced a regrading of less than 2.75 feet, and the possibility of the addition of a layer of fill which may be as much as 17.25 feet thick near the Bridge. This fill overmantle would have protected any potential prehistoric or shallowly-buried Revolutionary War remains from subsequent subsurface disturbance. Excavation in this section of the APE could disturb any potentially surviving buried cultural materials from the prehistoric and historical periods. For recommendations and mitigation measures, see Section 3.5.

The third section of this area of the APE lies between the 1907 map's 52.75- and 57.75-foot contour lines, immediately south of the second section. (Figure 7) This third section extends from 200 to 333 feet south of former Middleburg Avenue along the western side of former Harold Street, and from 136 to 283 feet south of Middleburg on the eastern side of former Van Pelt Street. At present, elevations range from 20 feet to 72 feet, with the greatest elevations

along the side of the present 39th Street Bridge (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002),

Except for a small part of this third section (which presently lies above an elevation of 50 feet) this indicates a regrading for yard construction which would have removed a minimum of 2.75 feet and up to 37.75 feet of the pre-yard surface. Because potential prehistoric archaeological resources, as well as potential cultural deposits from British troops who camped in this vicinity during the Revolutionary War would be expected within three to four feet of the pre-yard surface, the removal of 2.75 feet of this surface would have destroyed most of these shallowly-buried archaeological resources. In addition, the position of the area with the least amount of regrading is along the side of a steep hill or bank. The subsequent 97 years (1907—2004) of weathering and human impacts to exposed potential archaeological resources would have eliminated any surviving potential sensitivity.

The areas which lie above the *present* 50-foot contour line, roughly the easternmost 50 feet of the third section, along the present 39th Street Bridge, would have only experienced a regrading of less than 2.75 feet, and the possibility of the addition of a layer of fill which may be as much as 14.25 feet thick near the Bridge. This fill overmantle would have protected any potential prehistoric or shallowly-buried Revolutionary War remains from subsequent subsurface disturbance. Excavation in this section of the APE could disturb any potentially surviving buried cultural materials from the prehistoric and historical periods. For recommendations and mitigation measures, see Section 3.5.

The fourth and southernmost section of this area of the APE lies between the 1907 map's 57.75- and 62.75-foot contour lines, immediately south of the third section. (Figure 7) This fourth section extends from 333 to 356 feet south of former Middleburg Avenue along the western side of former Harold Street, and from 283 to 427 feet south of Middleburg on the eastern side of former Van Pelt Street. At present, elevations range from 30 feet to 65 feet, with the greatest elevations along the side of the present 39th Street Bridge (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002).

Except for a small part of this fourth section (which presently lies above an elevation of 55 feet) this indicates a regrading for yard construction which would have removed a minimum of 2.75 feet and up to 32.75 feet of the pre-yard surface. Because potential prehistoric archaeological resources, as well as potential cultural deposits from British troops who camped in this vicinity during the Revolutionary War would be expected within three to four feet of the pre-yard surface, the removal of 2.75 feet of this surface would have destroyed most of these shallowly-buried archaeological resources. In addition, the position of the area with the least amount of regrading is along the side of a steep hill or bank. The subsequent 97 years (1907—2004) of weathering and human impacts to exposed potential archaeological resources would have eliminated any surviving potential sensitivity.

The areas which lie above the *present* 55-foot contour line, roughly the easternmost 50 feet of the third section, along the present 39th Street Bridge, would have only experienced a regrading of less than 2.75 feet, and the possibility of the addition of a layer of fill which may be as much as

7.25 feet thick near the Bridge. This fill overmantle would have protected any potential prehistoric or shallowly-buried Revolutionary War remains from subsequent subsurface disturbance. Excavation in this section of the APE could disturb any potentially surviving buried cultural materials from the prehistoric and historical periods. For recommendations and mitigation measures, see Section 3.5.

Former Block 116 (South of the Loop Track)

A second new area of former Block 116, south of the Loop Track APE, comprises the southeastern section of the block, with a 100-foot frontage on present Skillman Avenue extending west from the west side of 39th Street. This part of the APE ranges 130 feet north of present Skillman Avenue along the west side of 39th Street, and 120 feet north of Skillman along its western boundary.

No potential historical archaeological sites were documented in this area (Figures 11 and 16).

According to the 1907 "Contour Map of Sunnyside Yard" (Figure 7) which details pre-yard contours and elevations, this part of the APE was once on the upper slopes of a hill which probably reached its summit south of Skillman Avenue. Pre-development elevations in this section of the yard were greater than 77.25 feet, increasing as one proceeded to the southwest.

Current elevations in this area of the APE lie between 70 and 35 feet (Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated 2002), indicating that at least 7.25 to greater than 32.25 feet of the pre-yard surface were removed at the time of rail yard construction. This regrading would have effectively destroyed any potential archaeological deposits from the prehistoric period.

3.3.1 Prehistoric Archaeological Potential

The area of the former Block 116, extending from 188 to 356 feet south of former Middelburg Avenue along the west side of former Harold Street, and approximately 50 feet west of former Harold Street, has been identified as having potential prehistoric sensitivity, based on the documentary and archaeological data indicating that Native Americans have inhabited the vicinity during the pre- and proto-historic eras, as well as data describing the pre-development environment and topography of the APE. Sensitivity is also determined by a location's lack of deep subsurface disturbance, which can eliminate this potential. Areas with no or low sensitivity ratings are *not* considered to have the archaeological potential to be impacted, and are not mapped

Based on these factors, the APEs for the 39th Street Substation (Area C) and proposed sewer (Area D) are rated as having a low potential prehistoric sensitivity (A more detailed discussion of the determination of prehistoric archaeological potential is found in the original report on pages AR3-65 to AR3-68), and the following area is an addition to the list of areas determined to possess "Low Potential Sensitivity" as found on page AR3-68 in the original report:

- Block 116 (eastern 50 feet between 188 and 356 feet south of former Middleburg Avenue)

3.3.2 Historical Archaeological Potential

The same area of the former Block 116, extending from 188 to 356 feet south of former Middleburg Avenue along the west side of former Harold Street, and approximately 50 feet west of former Harold Street, has been identified as being potentially sensitive for archaeological resources relating to the British and Hessian troops who occupied the area during the Revolutionary War (1776—1783) (Figures 19, 20). This area is located approximately 0-50 feet west of the 39th Street Bridge and 0-278 feet north of the LIRR Main Line. Soldiers' huts were visible for decades after the Revolution, and the discovery of related artifacts in the plow zones of area farms was common into the late 19th century (Seyfried 1984b).

The following area is an addition to the list of areas determined to possess historical archaeological potential as discussed on page AR3-69 in the original report:

- APE between the Honeywell Street and 39th Street Bridges:
Location #14 in Area C: Block 116 (eastern 50 feet between 188 and 356 feet south of former Middleburg Avenue, a.k.a. an area approximately 0-50 feet west of the 39th Street Bridge and 0-278 feet north of the LIRR Main Line)

Please see Figure B, "Queens Alignment/Sunnyside Rail Complex: Areas of Potential Effect and Archaeologically Sensitive Areas."

3.5 Mitigation Recommendations

This addendum repeats the recommendations of the original report for mitigation measures for locations determined to have a low sensitivity rating for prehistoric archaeological resources (page AR3-70): "[F]urther consideration, research, testing or other mitigation measures of these locations for buried cultural remains from the **prehistoric period** is not recommended.

Because the area potentially sensitive for shallowly-buried Revolutionary War remains in the new Block 116 section of the APE (eastern 50 feet between 188 and 356 feet south of former Middleburg Avenue, a.k.a. an area approximately 0-50 feet west of the 39th Street Bridge and 0-278 feet north of the LIRR Main Line) in Area D (shown on Figure A) and shown on Figure B as Sensitive Area #14, lies approximately 50 feet to the east of the proposed construction impact zone, it is possible that the potentially sensitive location can be avoided. This would mean that no construction involving subsurface excavation or disturbance would occur in this location, including regrading.

If avoidance is not possible, e.g. if construction of the sewer were to occur in the sensitive area #14 and excavation would extend beneath the fill into sensitive soils, potential adverse impacts to archaeological resources could occur. Therefore, it is our recommendation that this area be added to the Stage 1B Archaeological Field Testing Protocol found within Appendix D of the

Long Island Rail Road East Side access Construction Protection Plan, prepared for the East Side Access Project and approved by SHPO in April 2004. This protocol stipulates that once construction locations and impact depths have been confirmed, they will be compared to the potentially-affected areas of sensitivity to evaluate the potential for adverse effects. Due to issues of contamination and shallow groundwater in the Sunnyside Yard complex, construction within any of the sensitive areas in the complex would be monitored by a professional archaeologist as described in Appendix D of the Construction Protection Plan.

3.7 Appendix

3.7.1 Block Histories

- **APE between Honeywell Street and 39th Street Bridges**

Former Block 115

The Block 115 section of the APE lies between former Van Pelt and Harold Streets, with former Middleburg Avenue on the south, and the Long Island Rail Road right-of-way on the north. During the 19th century the block was part of the much larger Bragaw farm, and the block was divided into lots by the 1890s, but no structures are recorded there (Dripps 1874; Figure 11).

Although there are no recorded historical structures in this part of the APE, sections of the railroad yard along Middelburgh Road/Middleburg Avenue were heavily manned by British troops during the Revolutionary War occupation of 1776 to 1783. Soldiers were bivouacked in the farmhouses, and others built their huts and pitched their tents on the farms all along the road and in the fields. Into the 1880s and 1890s some of the huts were still visible, and there were regular reports of farmers plowing up Revolutionary War relics (Munsell 1882; Seyfried 1984b).

Former Middleburg Avenue (between Van Pelt and Harold Streets)

The Middleburg Avenue sections of this APE extend eastward from the east side of former Van Pelt Street to the west side of former Harold Street. Although Middleburg Avenue was the area's major east/west route during the 18th century, no structures are recorded within the roadbed itself. Despite 19th-century street widenings, no adjacent homelots were added to this section of the APE, and historical maps record no buildings in the vicinity, before or after the construction of the LIRR roadbed in 1861 (Sidney 1849; Figure 11).

Although there are no recorded historical structures in this part of the APE, sections of the railroad yard along Middelburgh Road/Middleburg Avenue were heavily manned by British troops during the Revolutionary War occupation of 1776 to 1783. Soldiers were bivouacked in the farmhouses, and others built their huts and pitched their tents on the farms all along the road and in the fields. Into the 1880s and 1890s some of the huts were still visible, and there were regular reports of farmers plowing up Revolutionary War relics (Munsell 1882; Seyfried 1984b).

Former Block 116 (North of the Main Line)

This APE section of former Block 116 comprises most of the northern part of the block. Beginning on the south side of former Middleburg Avenue, it extends southward 356 feet along the west side of former Harold Street. The western boundary runs along the eastern side of the former Van Pelt Street 427 feet from the south side of former Middleburg Avenue. During the 19th century the block was part of the much larger Bragaw farm, and the block was divided into lots by the 1890s, but no structures are recorded there (Dripps 1874; Figure 11).

Although there are no recorded historical structures in this part of the APE, sections of the railroad yard along Middelburgh Road/Middleburg Avenue were heavily manned by British troops during the Revolutionary War occupation of 1776 to 1783. Soldiers were bivouacked in the farmhouses, and others built their huts and pitched their tents on the farms all along the road and in the fields. Into the 1880s and 1890s some of the huts were still visible, and there were regular reports of farmers plowing up Revolutionary War relics (Munsell 1882; Seyfried 1984b).

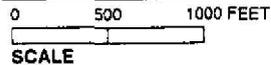
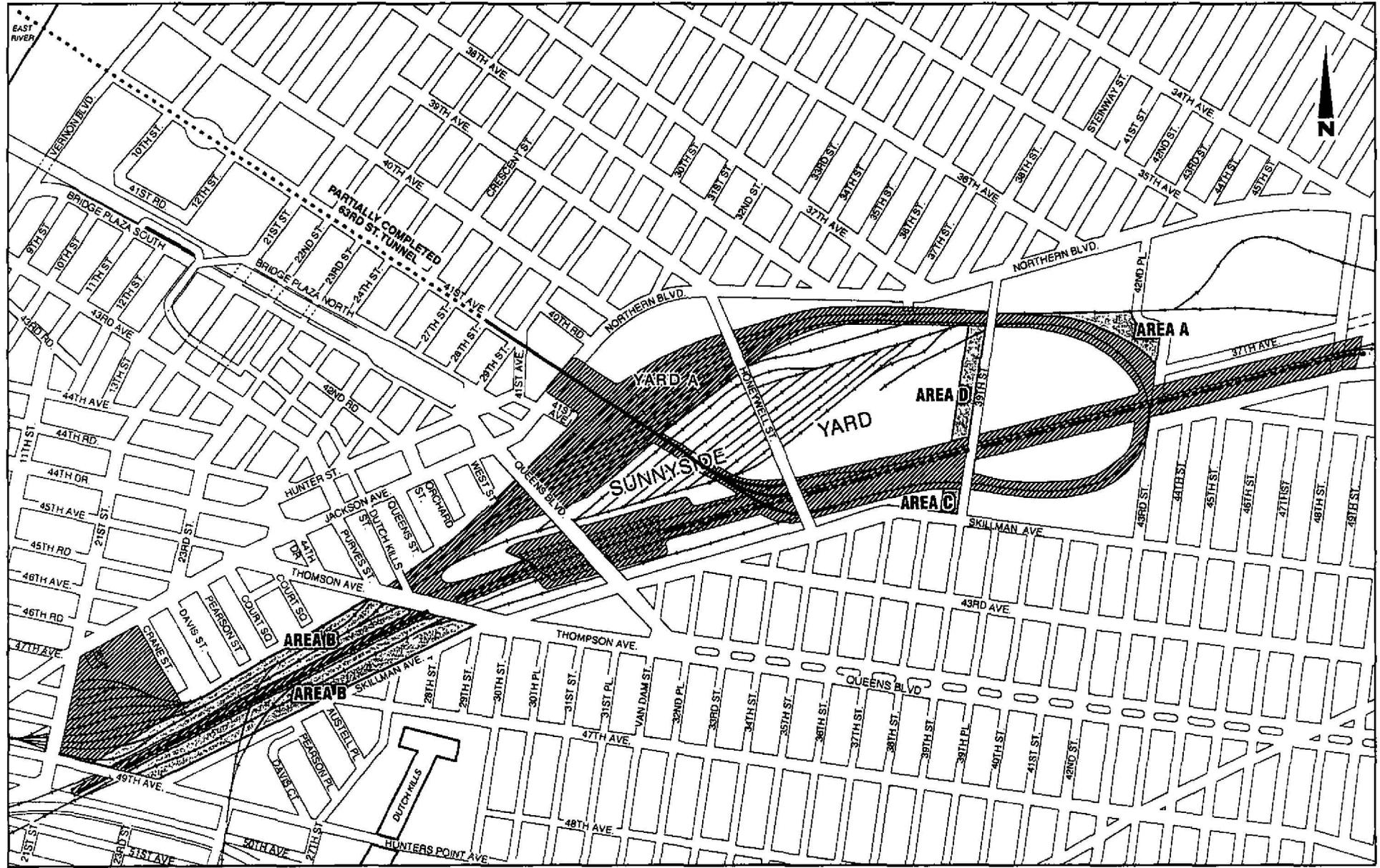
Former Block 116 (South of the Loop Track)

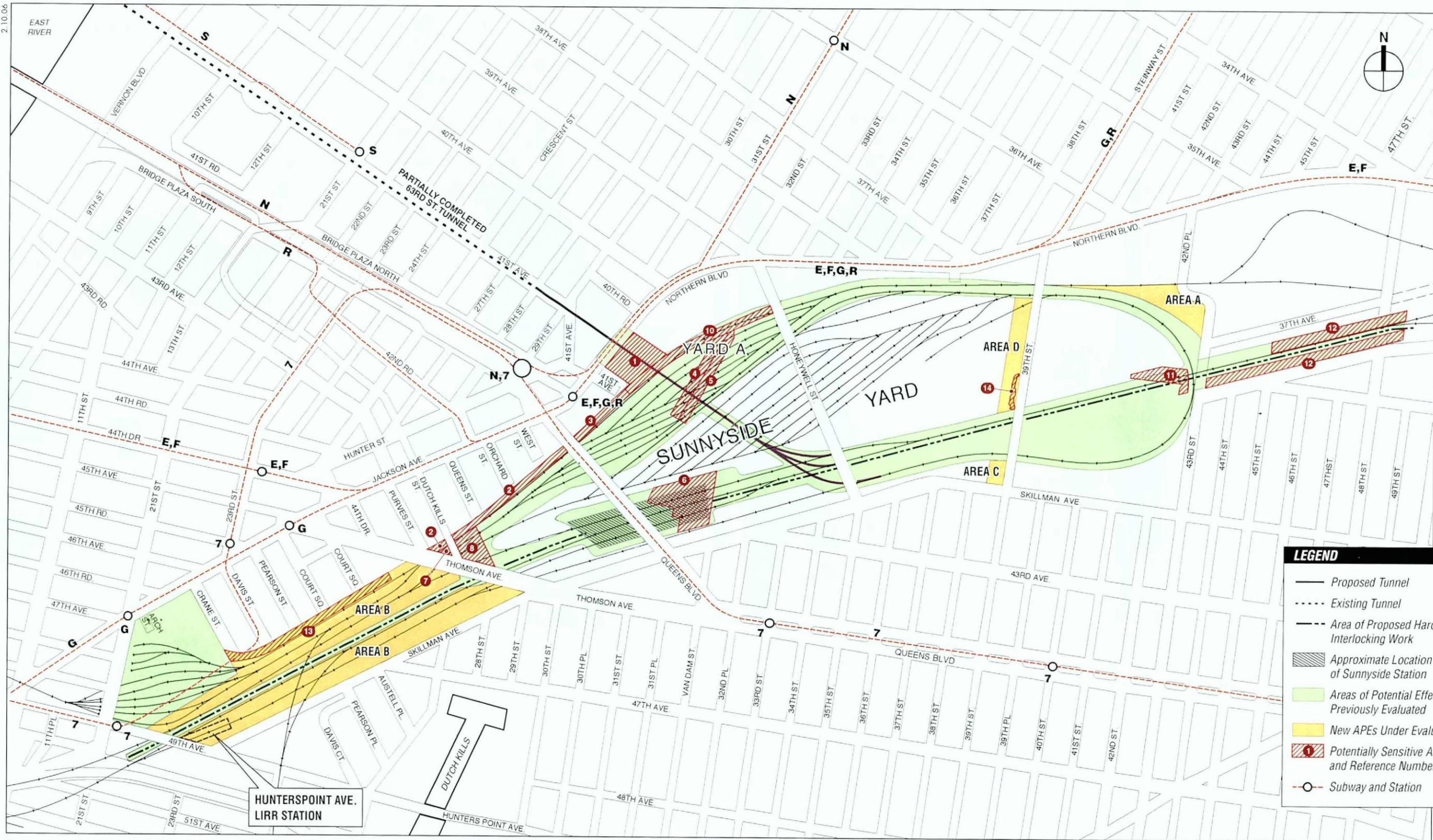
The section of former Block 116 comprises the southeastern section of the former block, with a 100-foot frontage on present Skillman Avenue extending west from former Harold Street. This part of the APE ranges 130 feet north of present Skillman Avenue along former Harold Street, and 120 feet north of Skillman along its western boundary.

During the 19th century the block was part of the much larger Bragaw farm, and the block was divided into lots by the 1890s, but no structures are recorded there (Dripps 1874; Figure 11).

9.0 Additional Bibliography

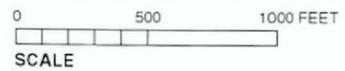
Parsons Brinckerhoff Quade & Douglas, Inc./STV Incorporated
2002 "Demolition of Superior Reed Building and Existing Rail Yard: Site Survey
Plan." 95 sheets. Contract No. CQ025, Drawing No. CQ025-CT-1011. August 9.





LEGEND

- Proposed Tunnel
- Existing Tunnel
- - - Area of Proposed Harold Interlocking Work
- [Hatched Box] Approximate Location of Sunnyside Station
- [Light Green Box] Areas of Potential Effect (APE) Previously Evaluated
- [Yellow Box] New APEs Under Evaluation
- [Red Hatched Box with 1] Potentially Sensitive Area and Reference Number
- Subway and Station



EAST SIDE ACCESS

Queens Alignment/Sunnyside Rail Complex: Areas of Potential Effect and Archaeologically Sensitive Areas

Figure B

STAGE 1A ARCHAEOLOGICAL ASSESSMENT
MTA/LIRR EAST SIDE ACCESS PROJECT

HISTORICAL PERSPECTIVES, INC.
DECEMBER 1999

3.0 SUNNYSIDE YARD AND YARD A
ARCHAEOLOGICAL RESOURCES EVALUATION

FIGURE 1-18

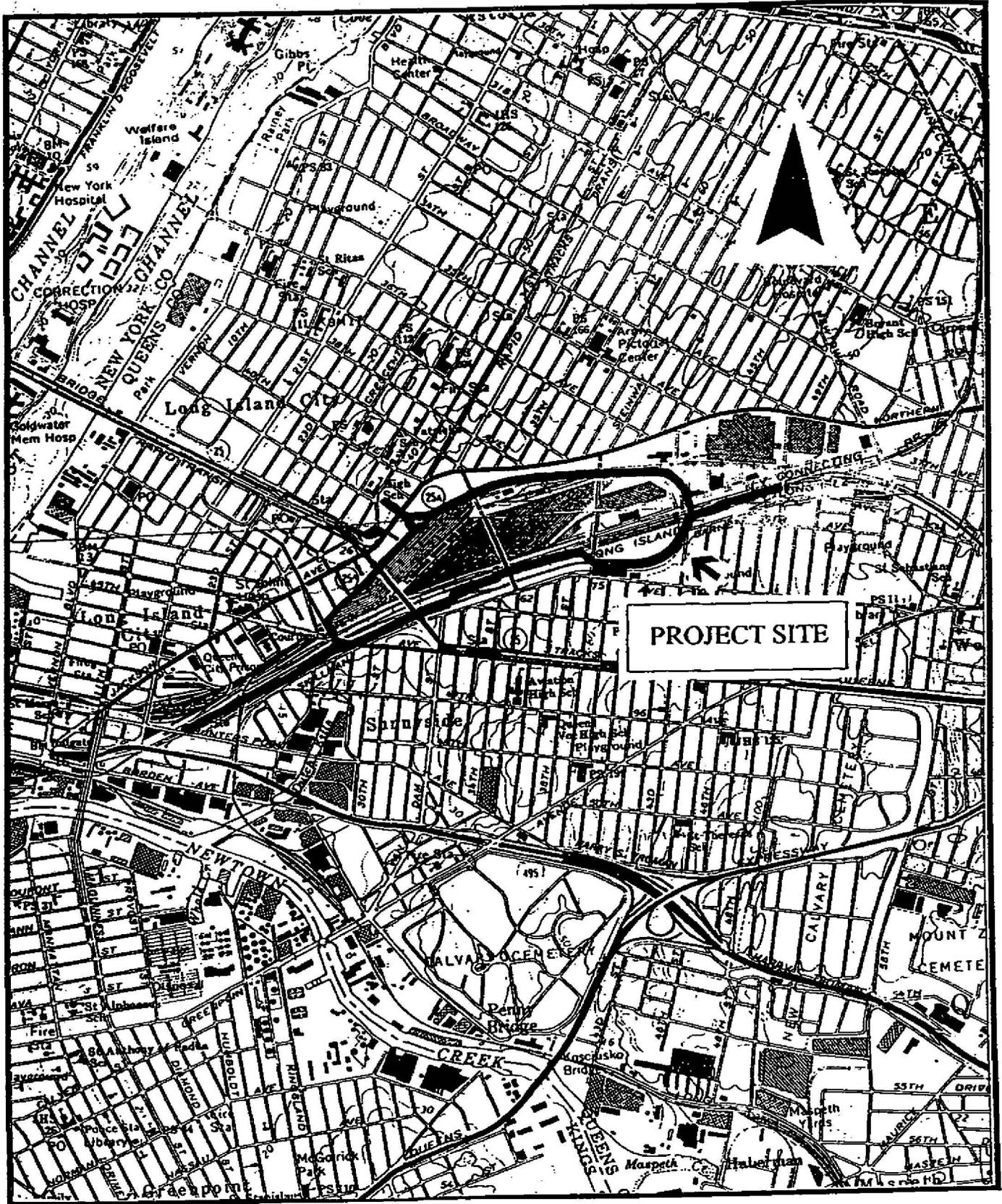


FIGURE 1

Project Site Location: U.S.G.S., Central Park and Brooklyn Quads, 1979

Scale 1:24,000

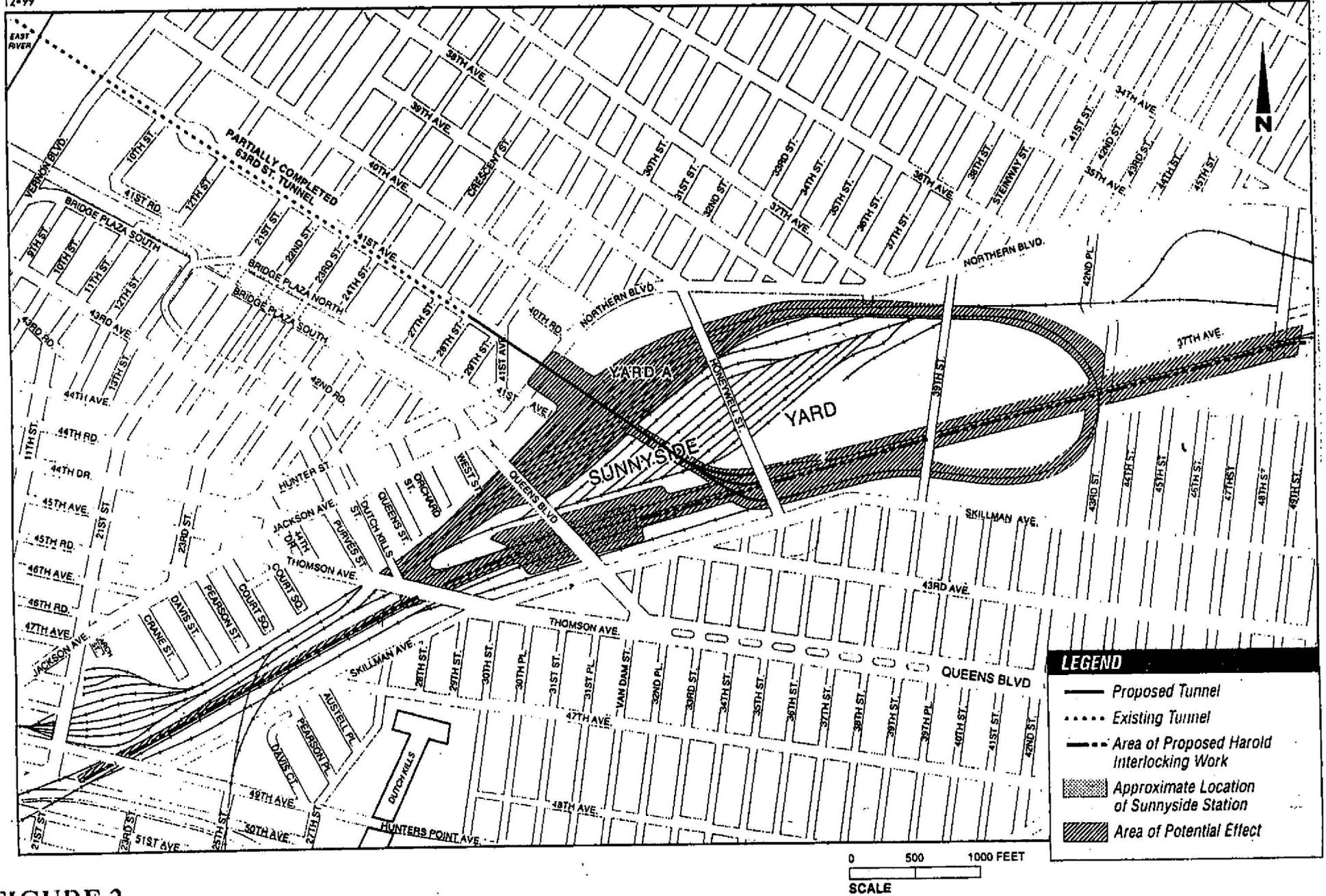


FIGURE 2
Project Site Boundaries.



FIGURE 3

Coast Survey, U.S.C. & G.S., 1844-1845

Original scale: 1/30,000

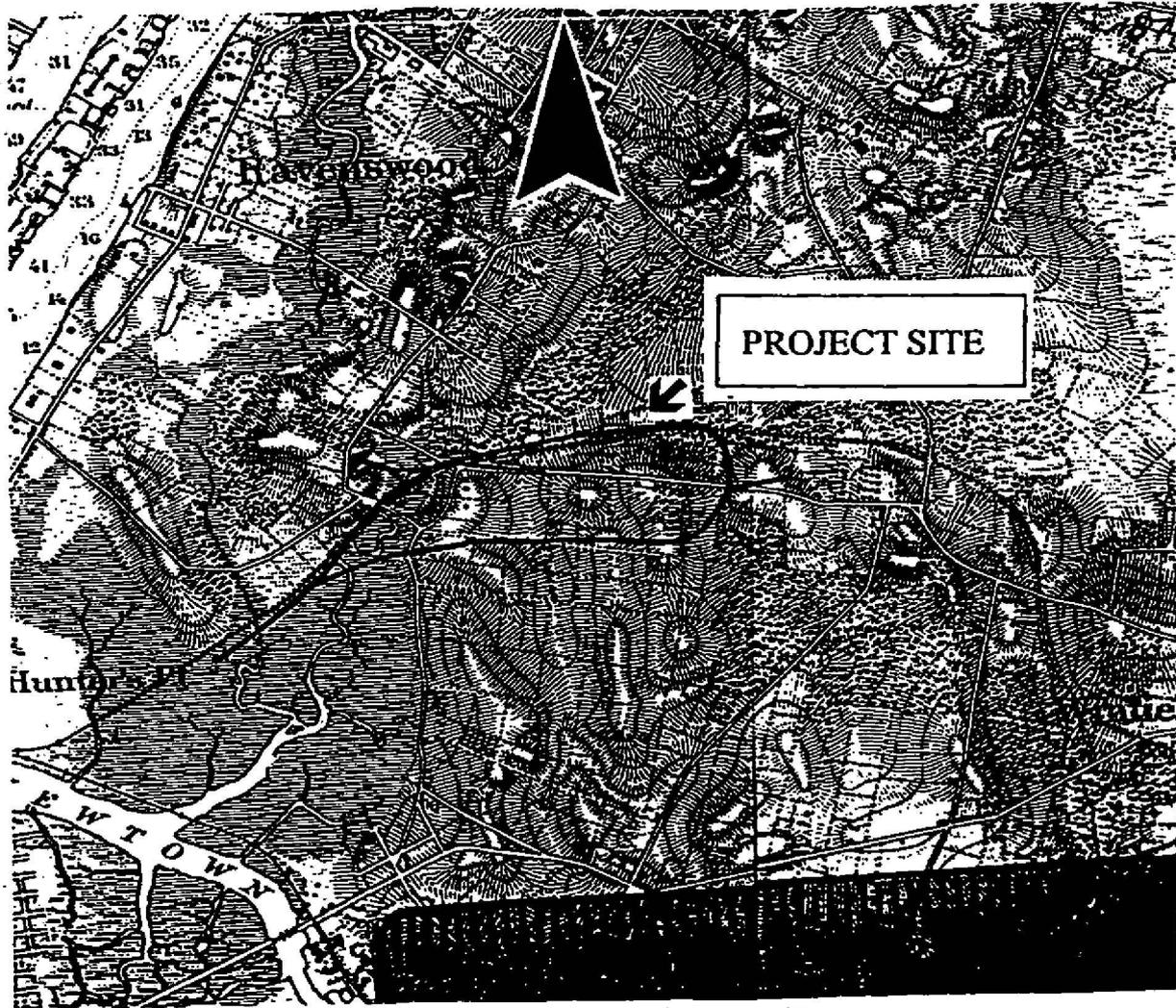


FIGURE 4
Coast Survey, U.S.G.S., 1874
Original scale: 1/40,000

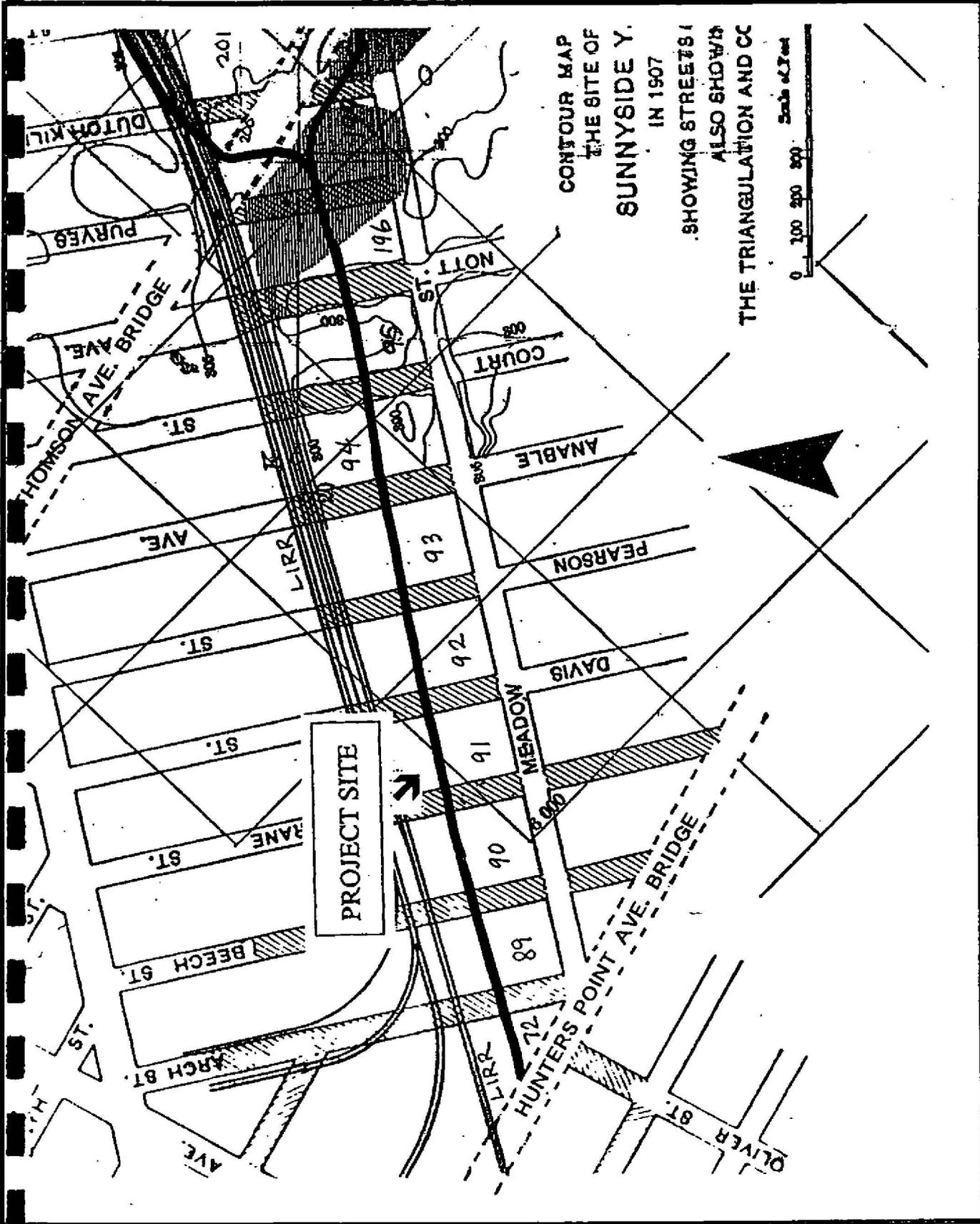


FIGURE 5

Contour Map of Sunnyside Yard, 1907

Scale: 1cm = c. 107.1 feet; Penn. RR el. - 300 + 2.75 = USGS el. (in feet)

Current Street

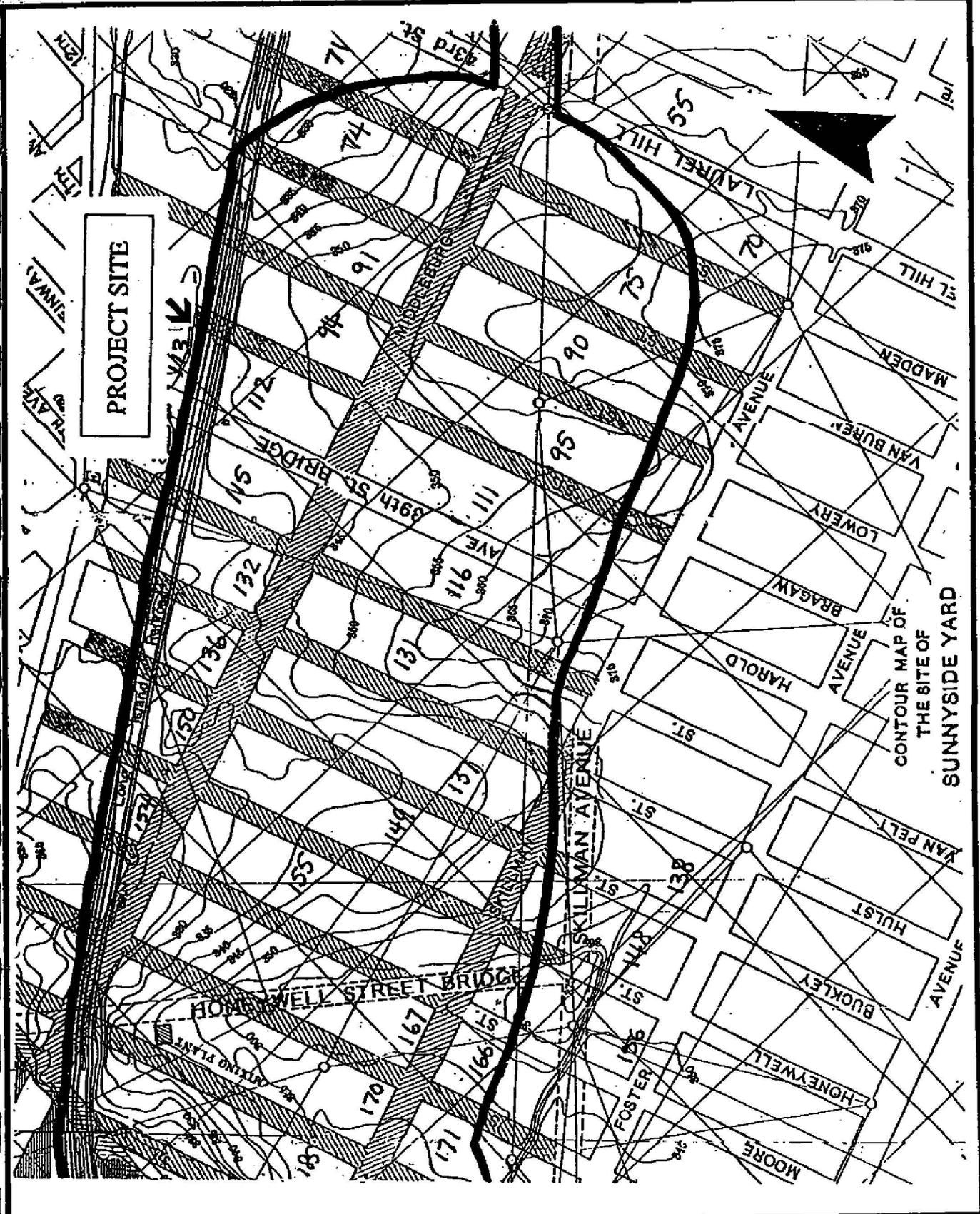


FIGURE 7

Contour Map of Sunnyside Yard, 1907

Scale: 1cm = c. 166.7 feet; Penn. RR el. - 300 + 2.75 = USGS el. (in feet)

- - - - -
 - - - - -
 Current Street

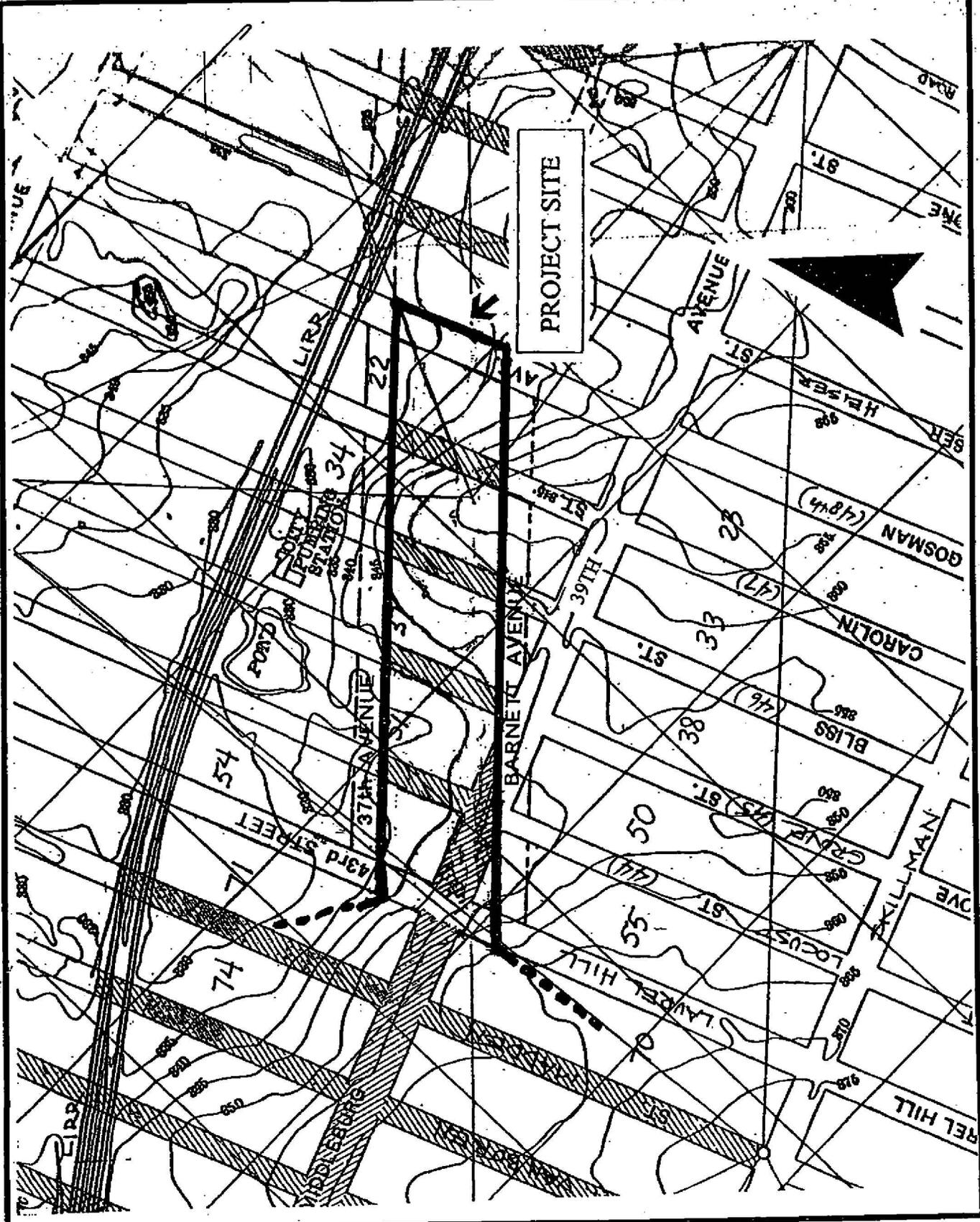


FIGURE 8

Contour Map of Sunnyside Yard, 1907

Scale: 1cm = c. 136.8 feet; Penn. RR el. - 300 + 2.75 = USGS el. (in feet)

Current Street

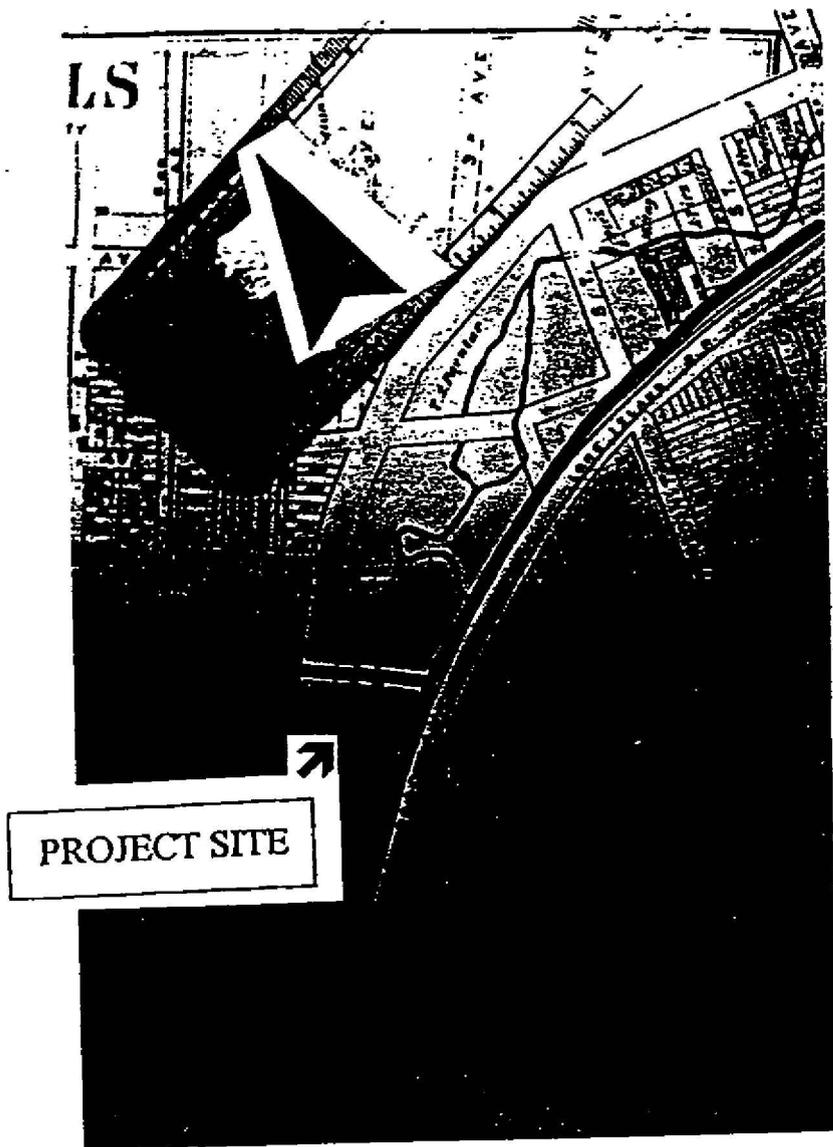


FIGURE 9
Atlas of Long Island, Beers, 1873
No Scale

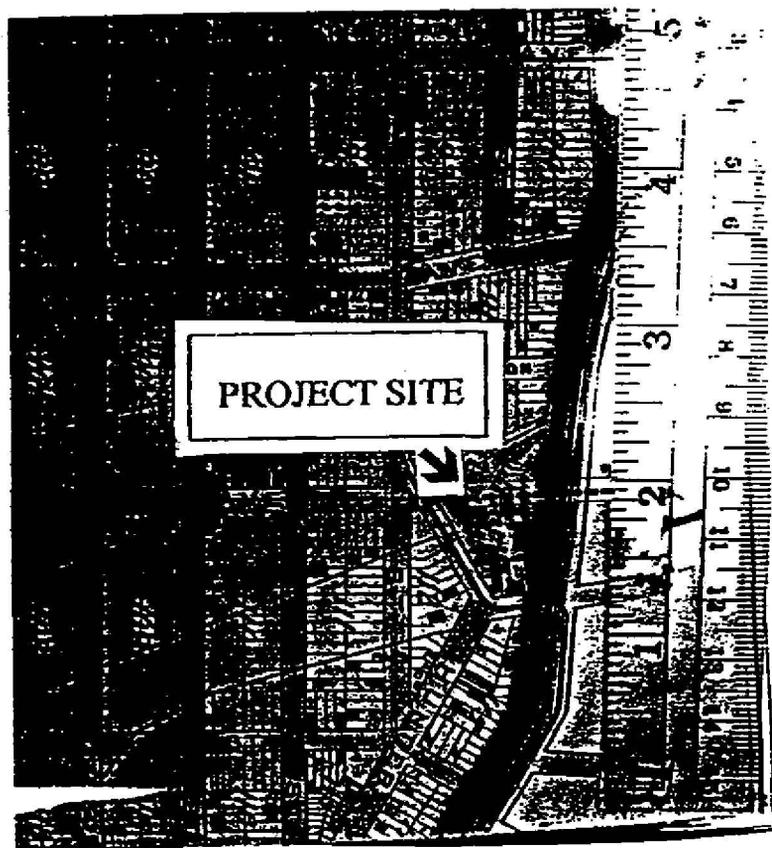


FIGURE 10

Atlas of Queens County, Wolverton, 1891

Scale: 1cm = c. 193 feet

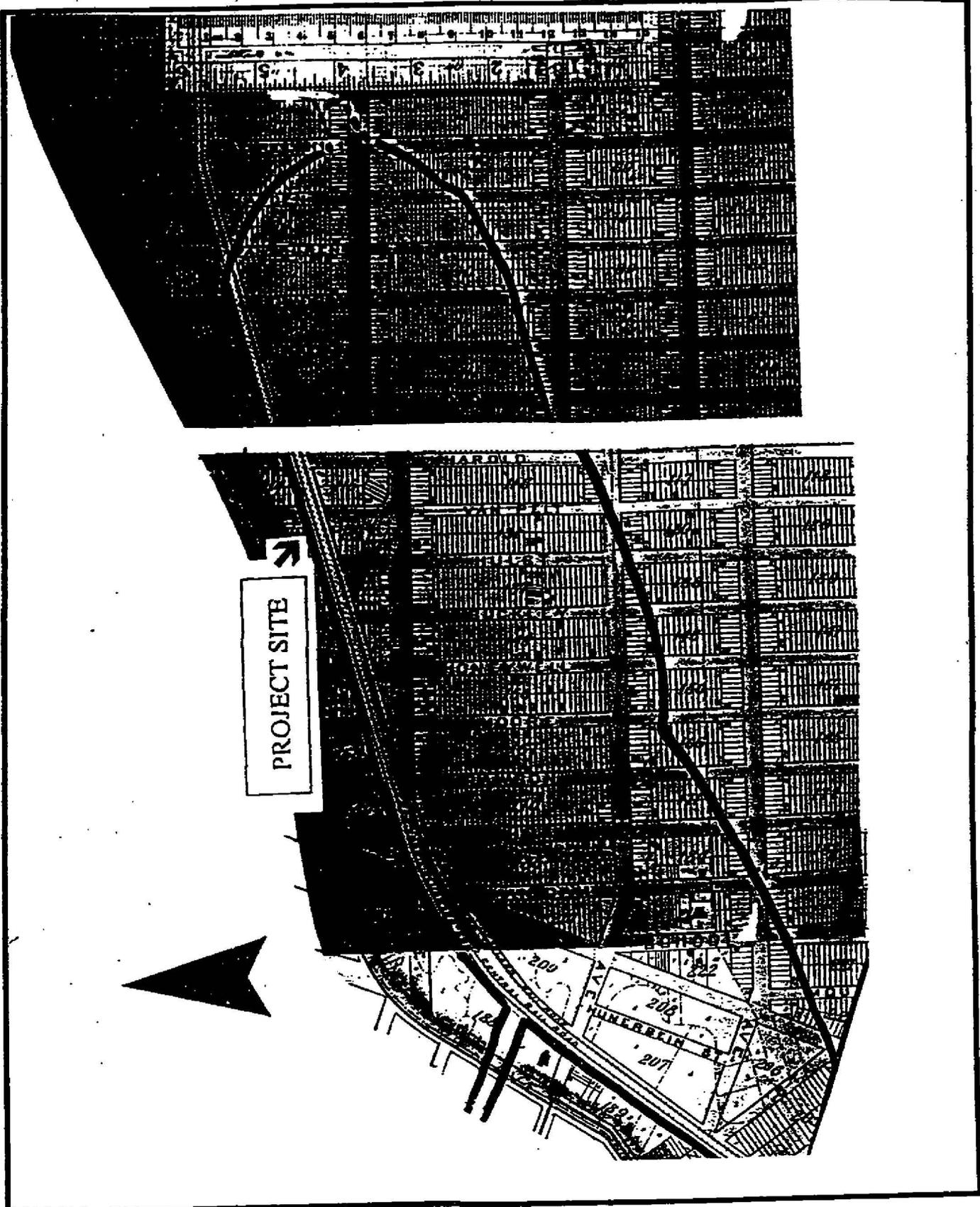


FIGURE 11

Atlas of Queens County, Wolverton, 1891

Scale: 1cm = c. 216 feet

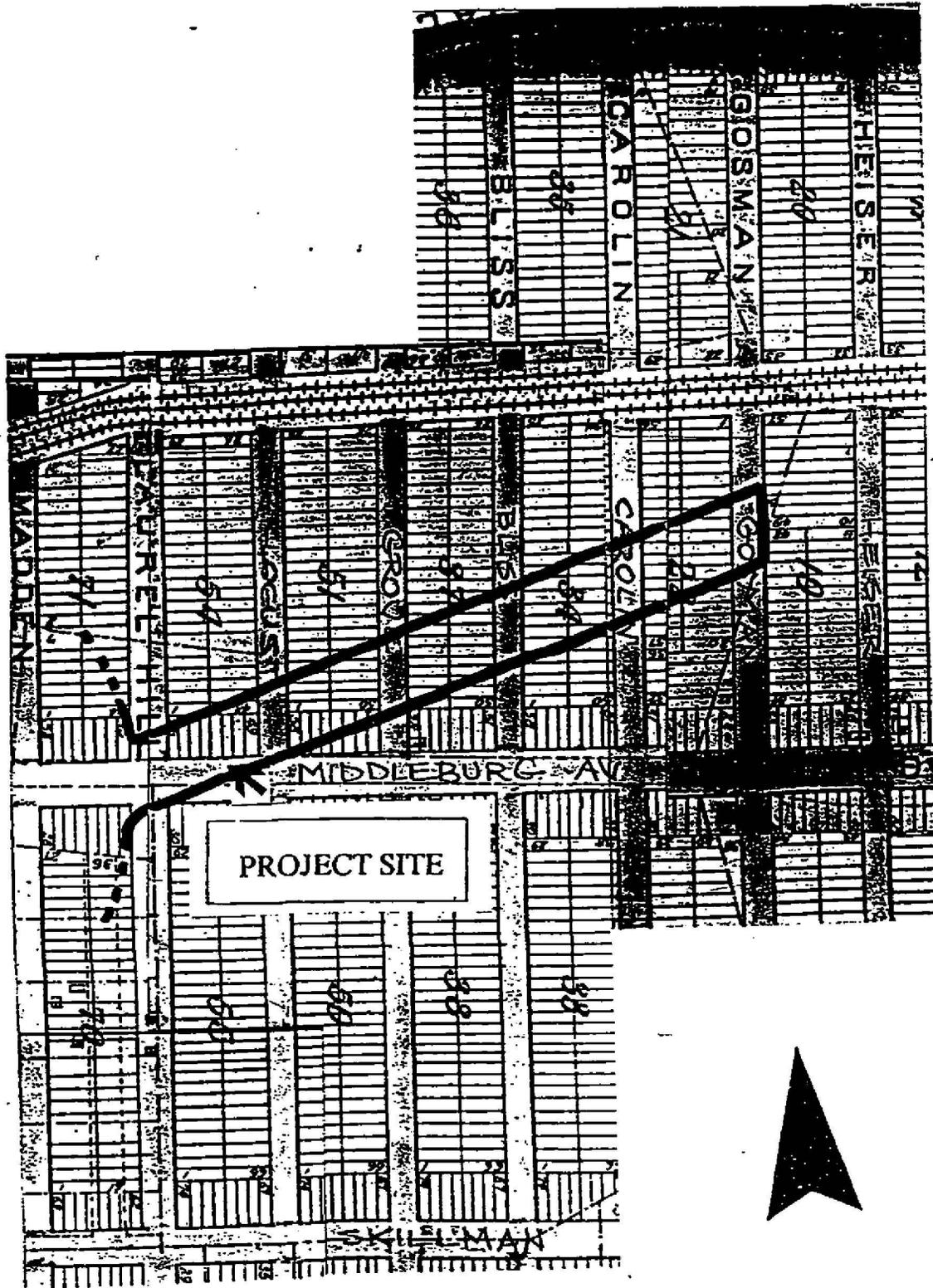


FIGURE 12

Atlas of Queens County, Wolverson, 1891

Scale: 1cm = c. 143 feet

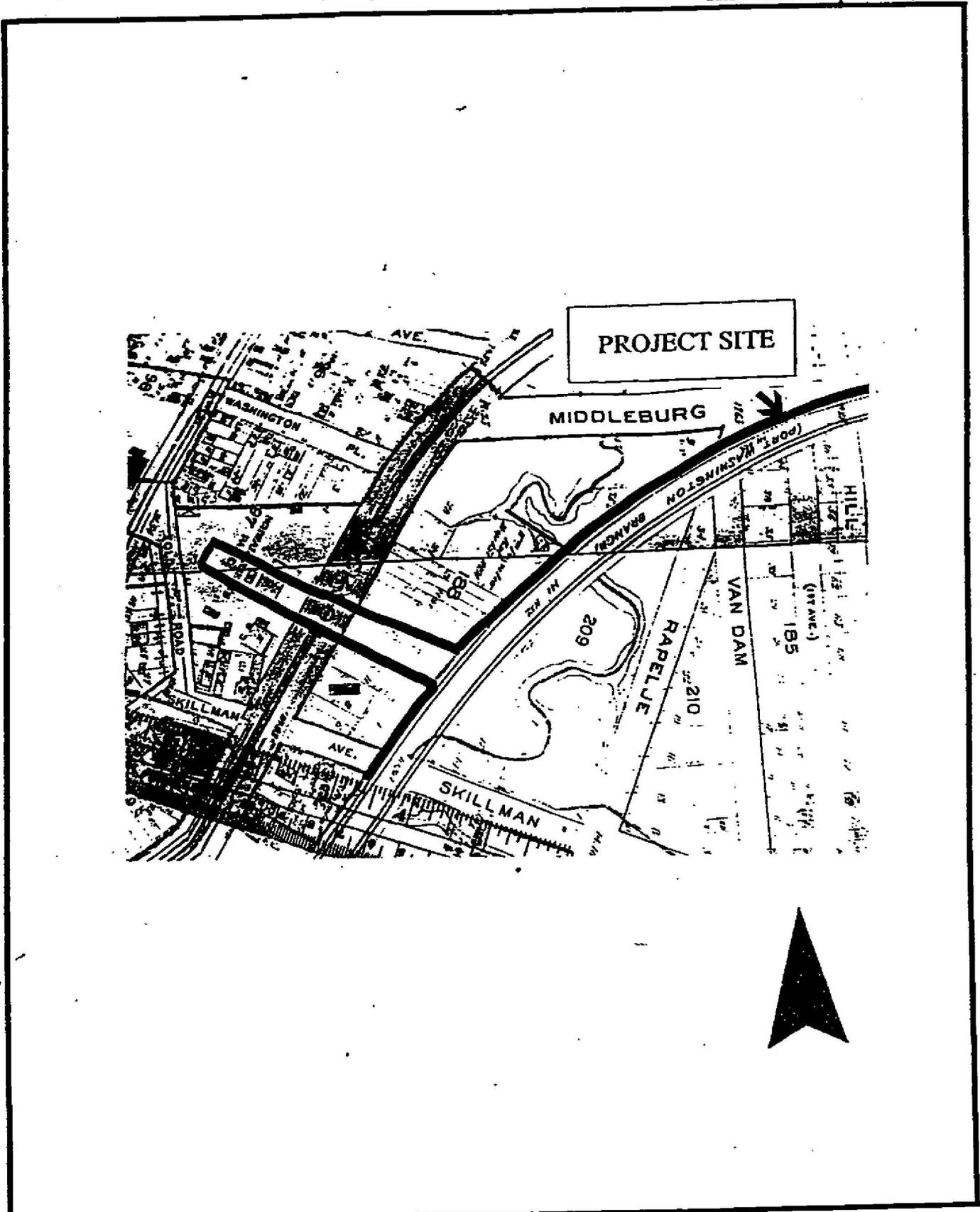


FIGURE 13

Atlas of the Borough of Queens, Hyde, 1903

Scale: 1cm = c. 110.3 feet

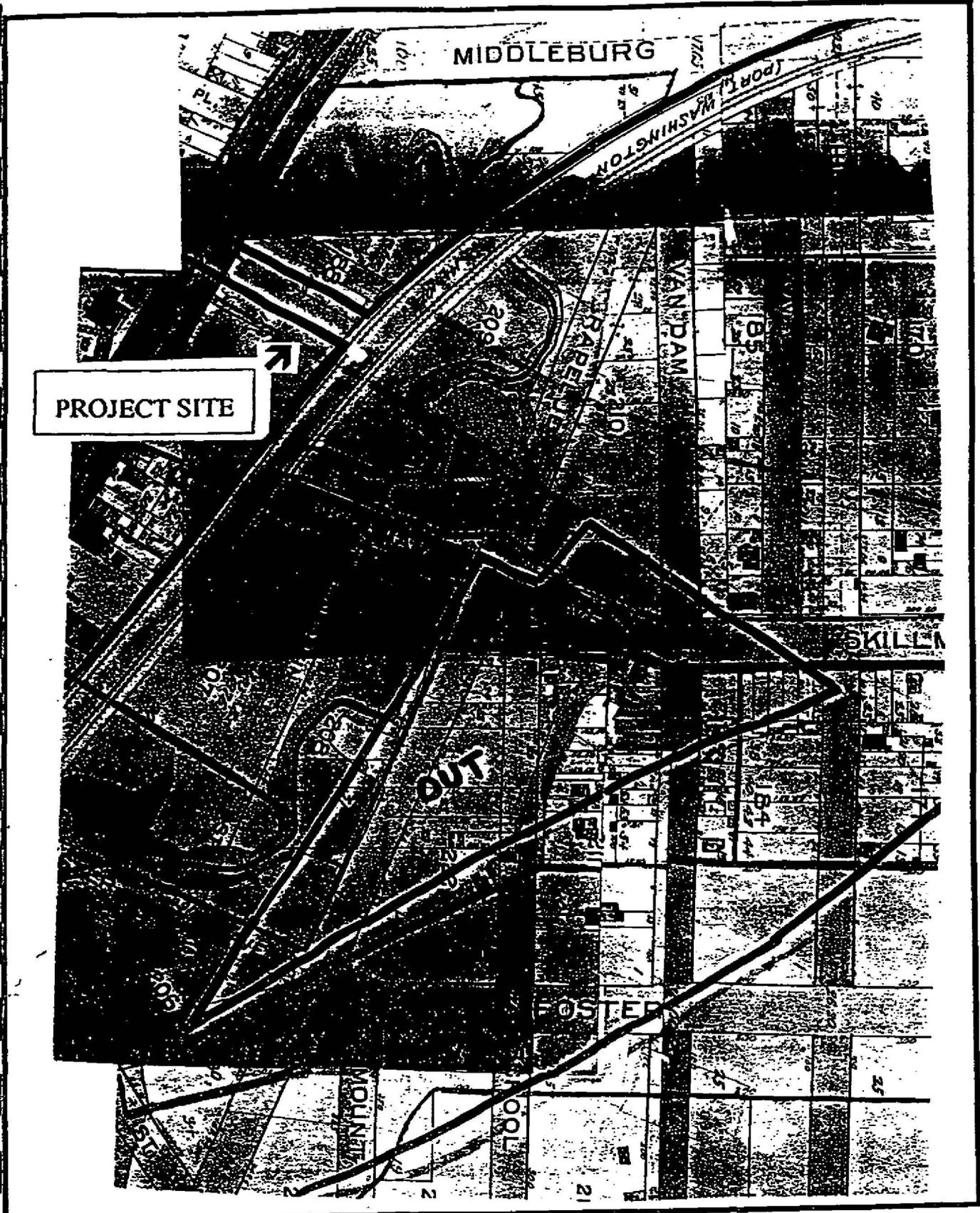


FIGURE 14

Atlas of the Borough of Queens, Hyde, 1903

Scale: 1cm = c. 94 feet

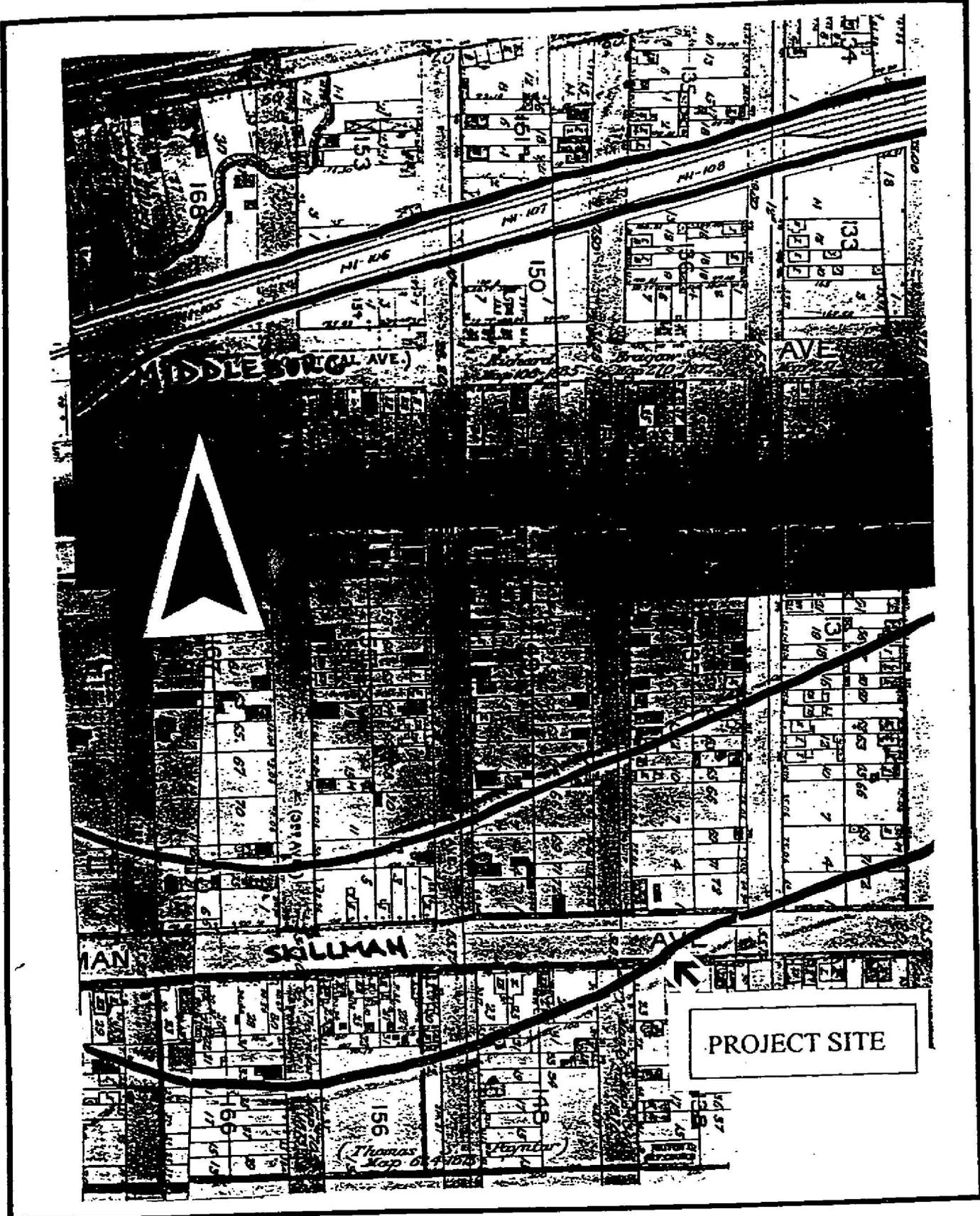


FIGURE 15
Atlas of the Borough of Queens, Hyde, 1903
Scale: 1cm = c. 94 feet

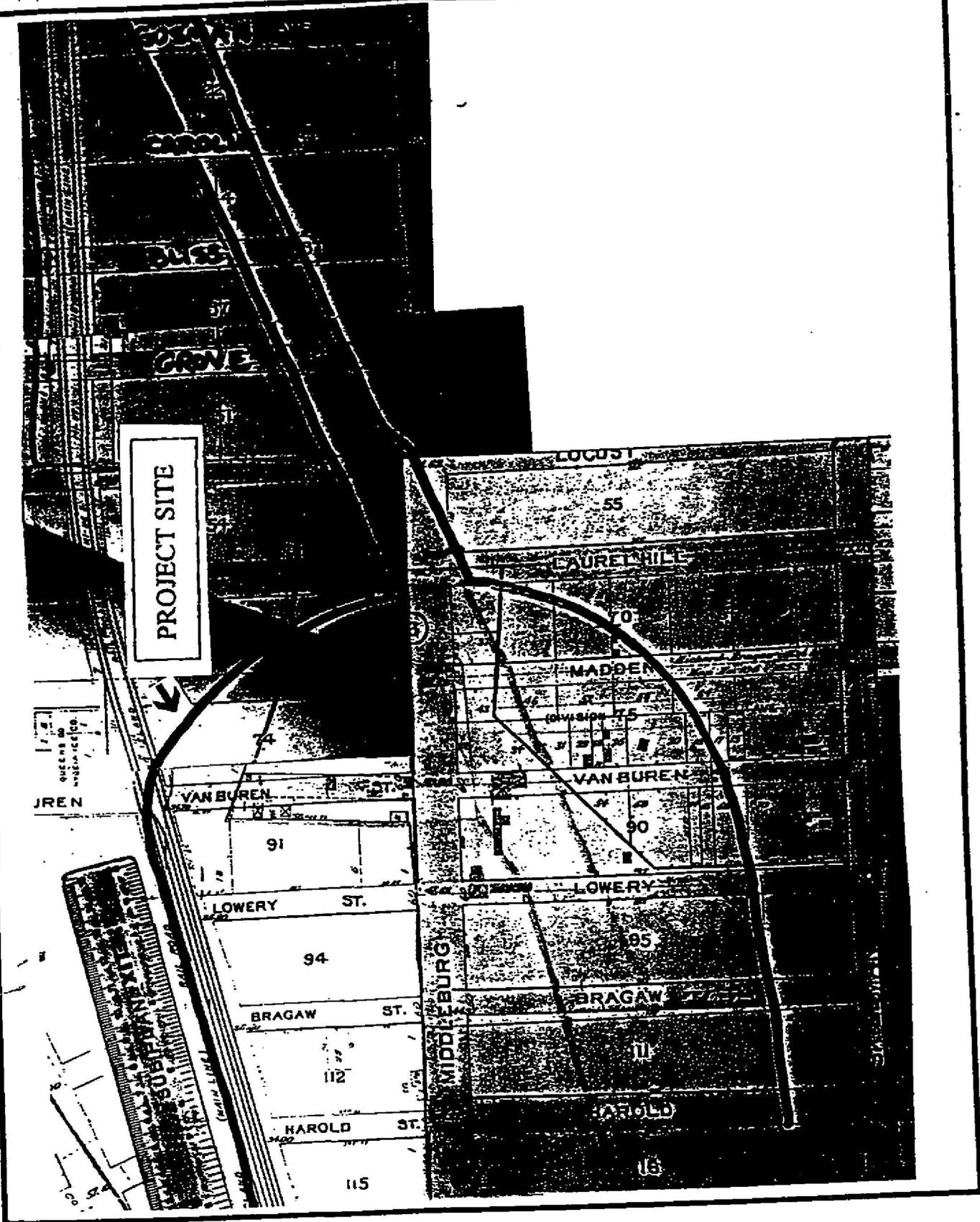


FIGURE 16
Atlas of the Borough of Queens, Hyde, 1903
 Scale: 1cm = c. 129 feet

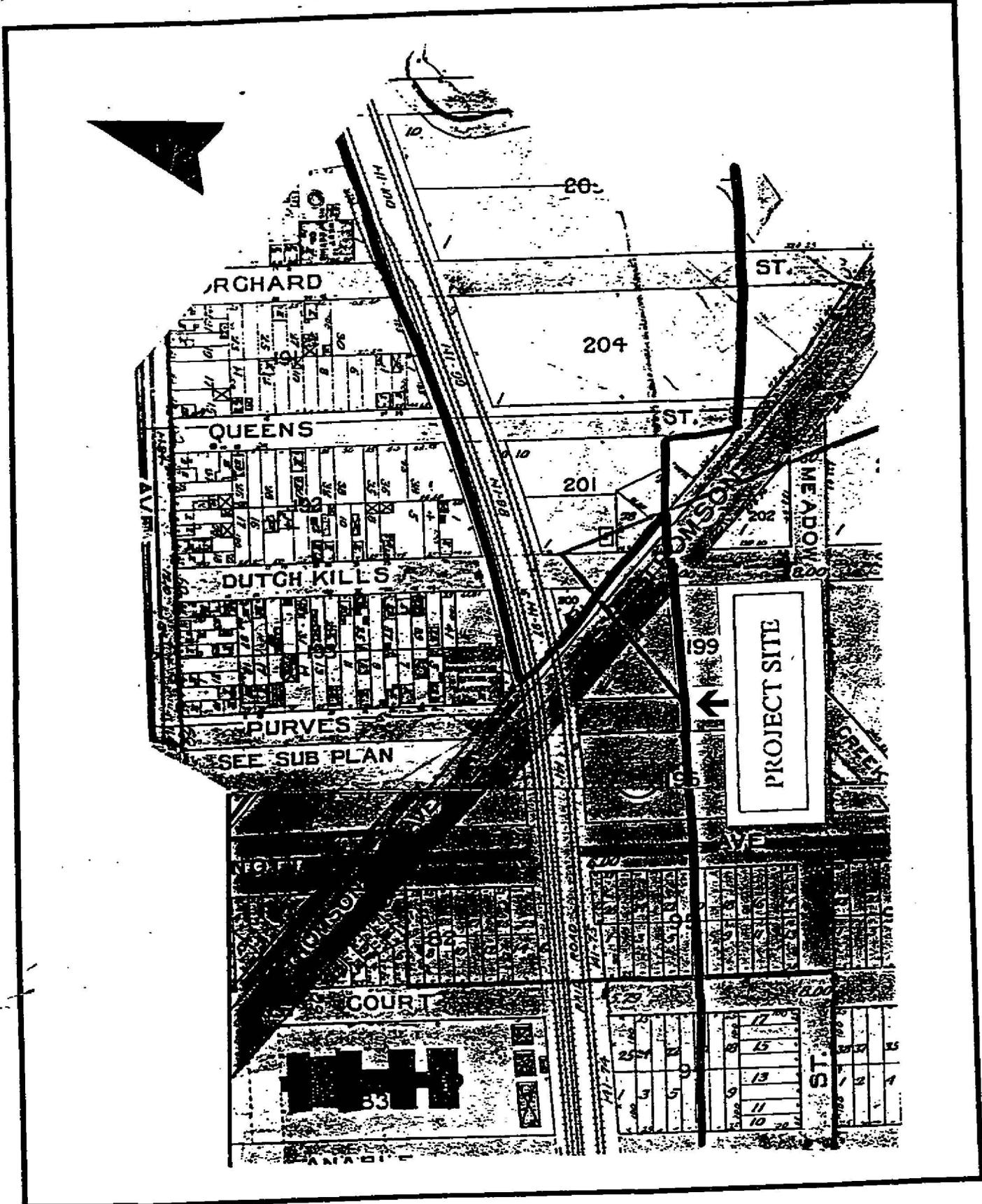


FIGURE 17
Atlas of the Borough of Queens, Hyde, 1903
Scale: 1cm = c. 91.4 feet

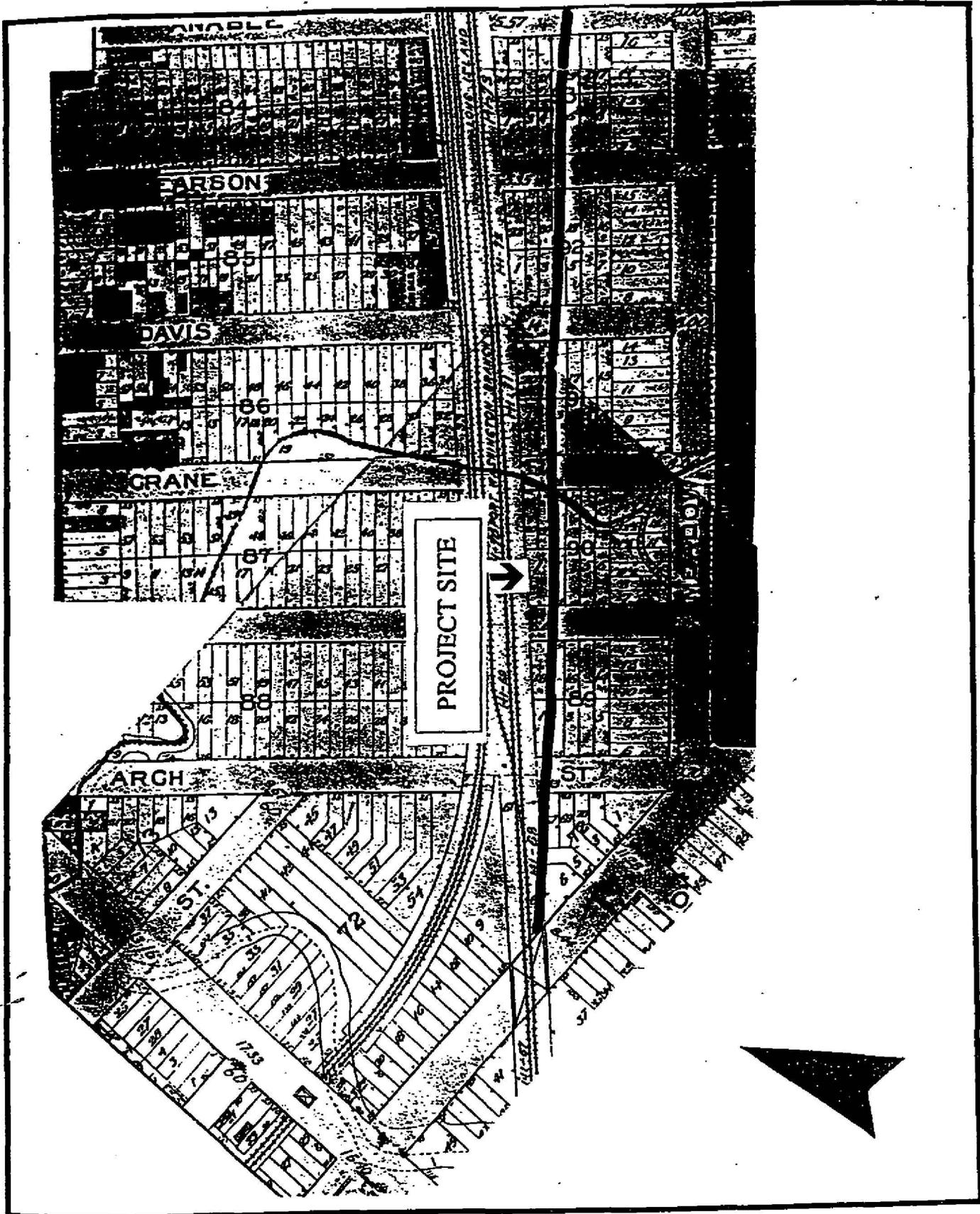


FIGURE 18

Atlas of the Borough of Queens, Hyde, 1903

Scale: 1cm = c. 91.4 feet