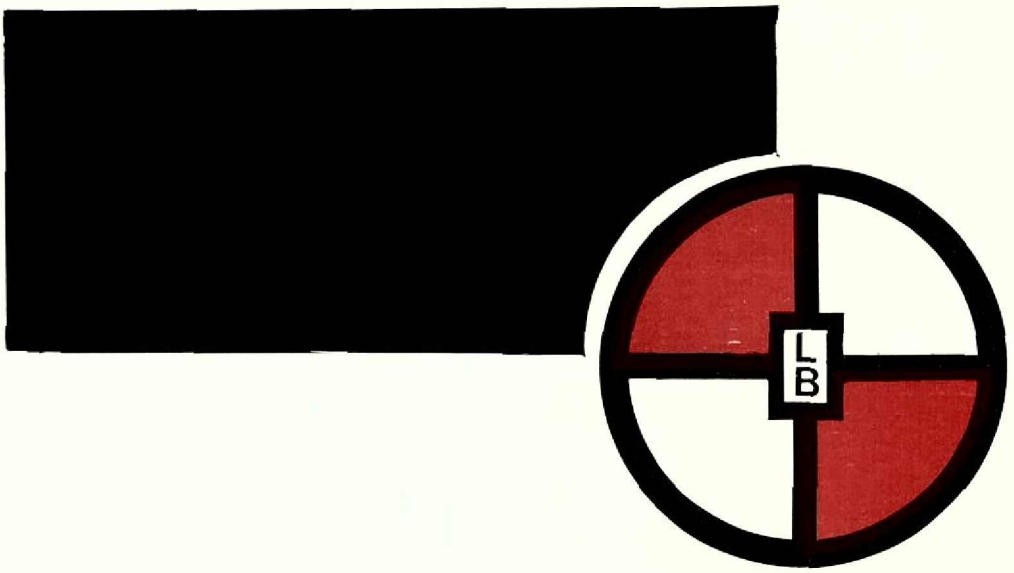

LOUIS BERGER & ASSOCIATES, INC.

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STAGE IB
CULTURAL RESOURCE INVESTIGATION
JUVENILE DETENTION FACILITIES
40th PRECINCT STATION HOUSE
THE BRONX, NEW YORK

1990

Prepared for:

NEW YORK CITY DEPARTMENT OF JUVENILE JUSTICE
NEW YORK, NEW YORK

Prepared by:

THE CULTURAL RESOURCE GROUP
LOUIS BERGER & ASSOCIATES, INC.
EAST ORANGE, NEW JERSEY

EDWARD M. MORIN, SOPA
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SEPTEMBER 1990

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I. INTRODUCTION

The following technical report details a Stage 1B archaeological survey undertaken for the New York City Department of Juvenile Justice by the Cultural Resource Group of Louis Berger & Associates, Inc. (LBA). This testing program was conducted in the planned site of the Juvenile Detention Facilities and 40th Precinct Station House in the Bronx, New York, (Figure 1) comprising an area of approximately 20,000 square feet.

An initial Stage 1A study completed by LBA in January 1989 indicated that some locations in the project area may have experienced little or no historic or modern development and may therefore contain intact cultural deposits (Louis Berger & Associates 1989a). The study determined that the project area had a potential to contain intact prehistoric archaeological remains. This assessment was based on (a) the occurrence of seven prehistoric sites within a two-mile radius of the project tract, and (b) the presence of a stream (no longer extant) to the west of the parcel. In addition, historical research indicated that the project area also had the potential to contain intact historic period archaeological remains associated with domestic occupation. As a result of these findings, LBA was requested by the New York City Landmarks Preservation Commission to perform additional historical research on those locations that may contain intact historic deposits.

This secondary study indicated that the highest potential for the discovery of historic deposits associated with domestic occupations lies within the rear lot lines of Lots 33, 34, 36, 39, and 41 in Area 1 (Figure 2). It was also determined that the potential for retrieving domestic deposits within the remainder of Area 1 and all of Area 2 was low because of construction activities. However, these two areas did have the potential to contain prehistoric cultural remains (Louis Berger & Associates 1989b). Based on the results of these research efforts, the two study areas (Areas 1 and 2) were recommended for subsurface testing. As a result of these findings, the New York City Landmarks Preservation Commission, in compliance with the City of New York Executive Order No. 91 of August 24, 1977 (City Environmental Quality Review), requested that a Stage 1B field testing program be carried out for those areas relevant to these resources.

The field work for the Stage IB investigation was performed on August 27 and September 3 and 4, 1990 with Edward Morin (Society of Professional Archaeologists) as Principal Investigator. Other LBA staff included Anthony Azizi, Jeff Laubach, Robert Jacoby, Byron Simmons, and Philip Waite. All work was conducted in compliance with Procedures for the Protection of Historic and

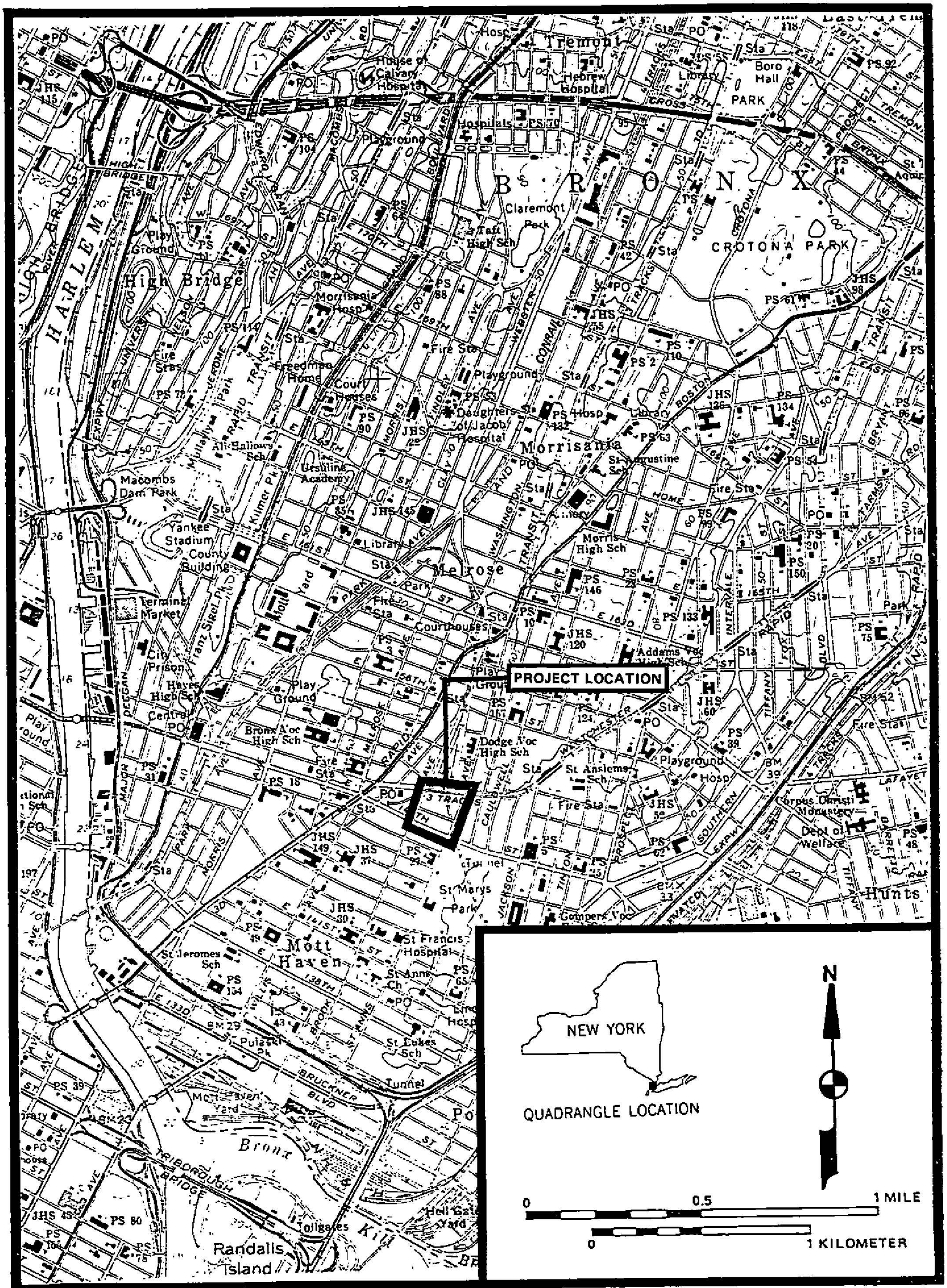


FIGURE 1 Location of Project Area

SOURCE USGS 7.5 Minute Series Central Park, NY, NJ Quadrangle, 1966 (Photo Revised 1979)

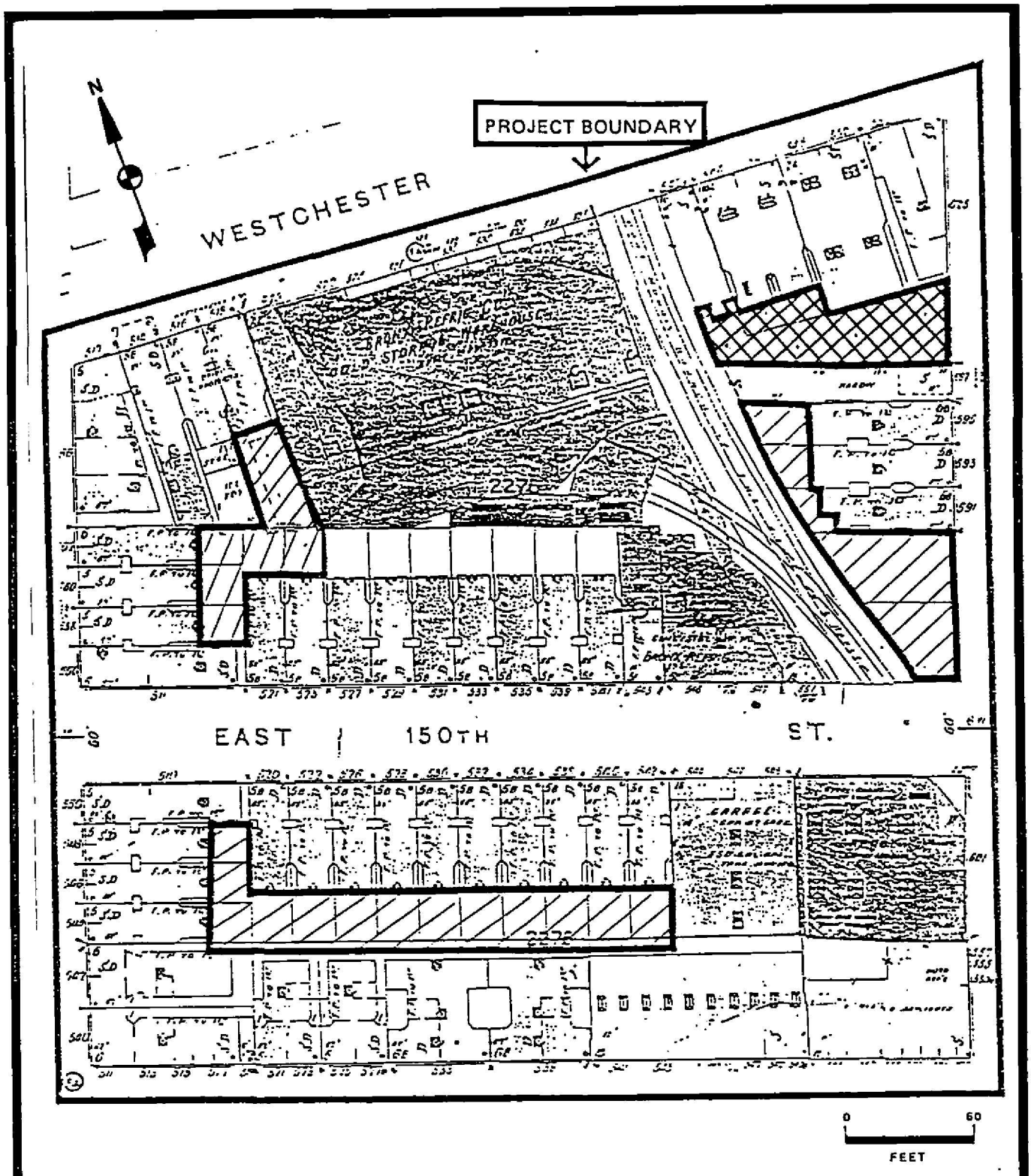


FIGURE 2 Locations of Shovel Tests within Areas that have Potential to Contain Archaeological Resources.

SOURCE Sanborn (1908, Revised in 1946)

Cultural Properties (36 CFR 800) and Procedures for Determining Site Eligibility for the National Register of Historic Places (36CFR 60 and 63), and conformed to the Secretary of the Interior's Standards for Archaeology and Historic Preservation (48FR44716). In addition, guidelines established by the New York City Landmarks Preservation Commission and City regulations governing the protection of the cultural environment (CEQRA) were followed for all aspects of the investigation.

II. BACKGROUND

A. ENVIRONMENTAL SETTING

Physiographically, the 6.2-acre project tract lies within the Manhattan Hills of the New England Upland, in close proximity to both the Northern Piedmont Lowland Section (New Jersey) and the Coastal Plain Province (Long Island) (Thompson 1977:Figure 9). This site is approximately one mile east of the Harlem River and one mile northwest of the East River. Up to the early part of this century, a stream, Mill Brook, also ran through the blocks just west of the site (adjacent to Brook Avenue) on a southward course to Bronx Kill (Bolton 1922:Map VII C).

Traces of the last North American glaciation (Wisconsin) in the New York City area are found in the form of a terminal moraine on Long Island. Glaciers began to retreat from the region some 17,000 to 15,000 years ago. Glacial scarring created a variety of habitats, including estuaries, salt and freshwater marshes, bogs, uplands and midslope zones. Glacial soils contained a diversity of particle sizes, allowing for good drainage and adequate water supplies for developing plant and animal communities.

After the retreat of the glaciers, the coastal region of New York was favored by a set of ecological factors that probably contributed to its attractiveness to early human populations. These factors included a relatively long frost-free period, a greater annual reception of sunlight, and the tempering effects of a coastal environment. Brennan (1979:34) suggests that during post-glacial recovery, deciduous forests penetrated the coastal region of New York and New England more rapidly than in the cooler and higher inland regions. Many of the cold-adapted animals probably followed the retreating glaciers northward and, in the case of mammoth and mastodon, into extinction. These creatures were replaced by deer, elk, moose, bear and smaller animals.

Pollen data show that the regional environment continued to change after glaciation. By 12,300 years BP the area's climate had achieved an initial equilibrium with a landscape consisting of a spruce-hardwood forest capable of supporting early prehistoric groups (Newman 1977:566).

B. CULTURAL SETTING

1. Prehistoric Cultural Resources

Humans first inhabited the New York City area about 12,000 BP, when sea levels may have been 300 feet lower than those of today, and

when the Atlantic shoreline had regressed approximately 60 to 90 miles from its present position (Kraft 1977). Contemporary ocean levels were probably reached at 6000 BP; however, minor fluctuations of 10 tO 20 feet may have occurred after this date (Bruun 1962; Fairbridge 1977). These geological data indicate that Paleoindians, the first inhabitants of coastal New York, could have settled along shore areas now covered by the transgressive Atlantic Ocean. A general discussion of the Paleoindian (12,000 to 10,000 BP), Archaic (10,000 to 3000 BP), and Woodland (3000 to 400 BP) periods is found in Historic Conservation and Interpretation, Inc., (1983) and Louis Berger & Associates, Inc., (1986).

In terms of prehistoric archaeological potential, the project area contains no previously recorded sites. Those sites documented near the area are adjacent to or near streams; the study area was formerly bounded by Mill Brook. An examination of files at the New York State Museum and the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRH) revealed seven prehistoric sites within a two-mile radius of the project area (Table 1). None are listed in the National Register of Historic Places or are found within the project tract itself. Most of the documented sites are generically prehistoric and cannot be further classified as to cultural period.

Site 4539, apparently the Ranachqua Site, is assigned by the NYSOPRH to the Late Woodland period. Reginald Bolton and William Calver investigated this locality in the early 1920s. Their excavations uncovered fire-pits, shell-pits, pottery and Native American interments (Bolton 1920:303; 1922:106). Traces of historic aboriginal artifacts were also in evidence. The nearby Quinnahung Site is an additional historic Native American settlement (Bolton 1922:222). Goddard (1978:214-215) indicates that the Munsee-speaking Rechgawawanks inhabited the Bronx in the early historical period.

Of the three remaining prehistoric sites, the New York State files record that Bruckner and Jefferson Park represent possible villages, while Conykeest is a shell midden yielding stone projectile points. As far as site location is concerned, both the Conykeest and Jefferson Park sites are adjacent to the present-day lower Harlem River. On the other hand, the Bruckner Site and the Late Woodland Ranachqua Site each are currently 500 feet from Bronx Kill and 2000 feet from the East River. Recent cultural resource management projects in the vicinity of the Facility have been strictly background studies, discovering no additional prehistoric sites (Boesch and Pickman 1986, DeLeuw, Cather/Parsons 1979, Johannemann and Schroeder 1981, 1982).

Slightly more than three miles to the east is the well-documented Clasons Point Site (Skinner 1919, Rouse 1947, Smith 1950, and Ritchie 1980:270-272). Seen as a "type-site" for a widely spread Late Woodland tradition, Clasons Point may represent a maritime

TABLE 1

DOCUMENTED PREHISTORIC SITES WITHIN
TWO MILES OF THE BRONX PROJECT AREA

NEW YORK STATE MUSEUM SITE NUMBER/NAME	SITE CLASS
2831	Shell midden
4063	Village
4064	Campsite
4065	Village
4539	Shell heaps
5474/Port Morris	--
5475/Bruckner	Village

oriented subsistence strategy in which agriculture played a very small role. Since recent archaeological sentiment views agriculture as the prime mover in the nucleation of Late Woodland settlements (Stewart, Hummer and Custer 1986), the occurrence of large villages not dependent on agriculture means that an alternative approach to sociocultural evolution must be evaluated. This debate is currently the focus of much study (Ceci 1977, 1980; Silver 1981). The presence of Clasons Point material at the project locale would add important data to this regional question.

2. Historic Cultural Resources

In 1639, the Dutch West India Company purchased from local Native Americans a large tract of land on the Hudson River north of Manhattan Island. The earliest record of European occupation dates from this period, when Jonas Bronck laid out a farm and erected a dwelling north of the Harlem River on part of this tract. Lands along the Harlem River and Spuyten Duyvil Creek were soon dotted with Dutch farms. By 1700, with the rapid population increase and proliferation of towns, there was intensified pressure on the local resource base. Salt marsh grasses proved ideal as hay feed for cows, while virgin stands of oak were cut and used in shipbuilding, house construction and raw material export (Kieran 1971, Barlow 1971, Booth 1859).

From 1700 to 1850, more townships were established and grew. The forest area diminished and all the local large game animals such as deer, elk, and bear were killed off, and their habitat was replaced by agricultural fields. In the mid-nineteenth century, a period of increasing industrialization, land use gradually shifted from agriculture to manufacturing and raw material processing. By the late nineteenth century commercial and residential purposes predominated.

The secondary study that was performed for the project area concluded that although land ownership in the project area and vicinity dates to the Colonial period, the pattern of land partitioning, expressed in both cartographic and deed sources, indicates that initial residential occupation of the study area dates to the mid-nineteenth century (Louis Berger & Associates 1989b). Intact rear yard deposits of Jarvis Archer's property at 788 Westchester Avenue (Study Area 1) were believed to have a potential to contain significant historic archaeological resources dating to the second half of the nineteenth century and assignable to the Archer household. The Beers (1860) map of the project vicinity indicated that Captain J. Archer occupied a house fronting on Westchester Avenue between St. Anns Avenue and the right-of-way of the Port Morris Branch Railroad (Figure 3). Deed research confirms this association. The property had been purchased in 1852 from Gouverneur Morris, whose prominent family had owned the land since the Colonial period.

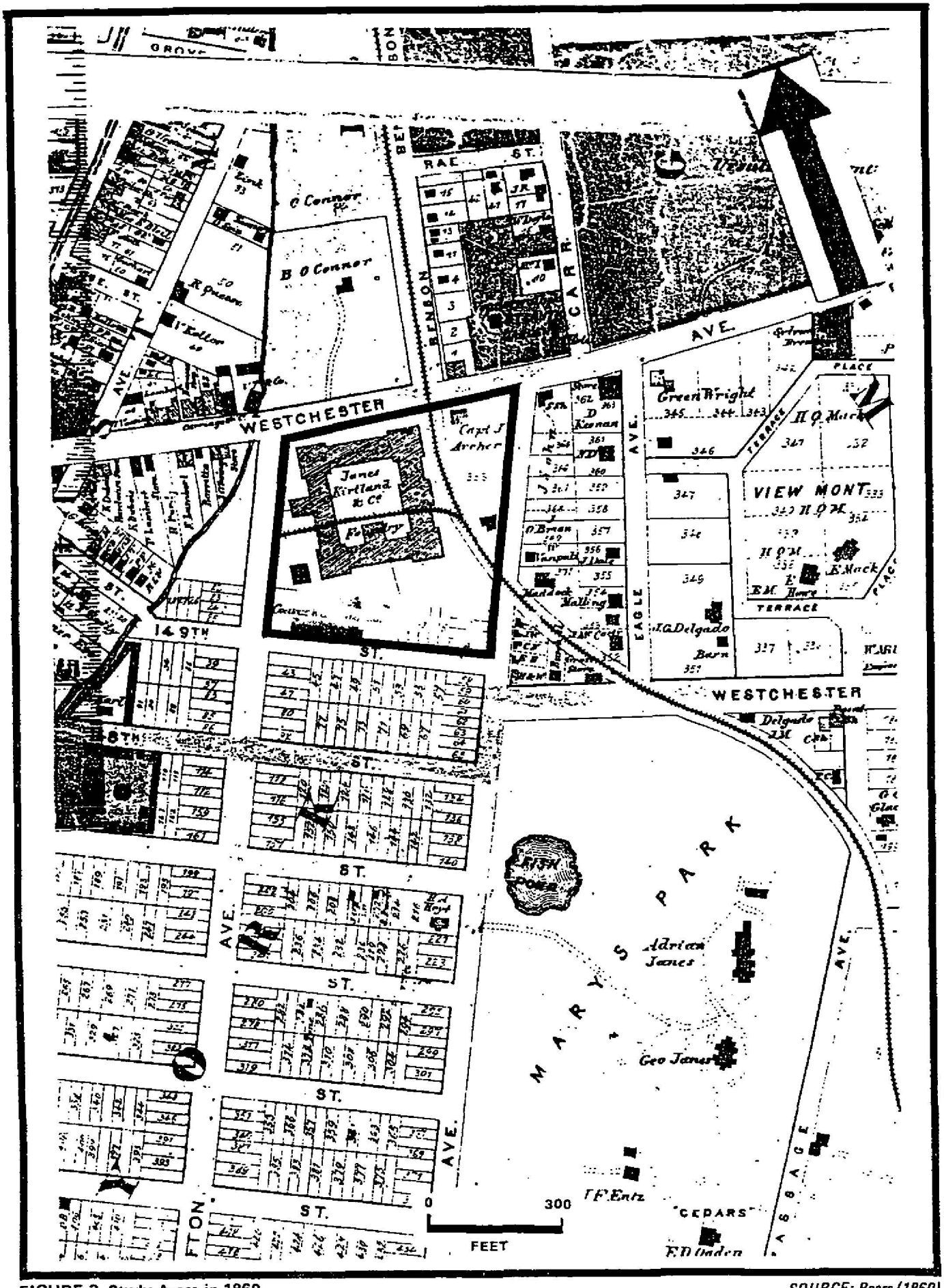


FIGURE 3 Study Areas in 1860

SOURCE: Beers (1860)

Based on the background research, the remainder of Study Area 2 and all of Study Area 1 appear to have a very low potential for intact and significant historic domestic-related archaeological deposits or features. This assessment was based on (1) the depth of disturbances within these locations, and (2) the failure to establish consistent assignable occupations, dating prior to 1891, by either individual households or groups defined by ethnic or socioeconomic criteria. The 1891 date is a milestone, as water and sewer systems were in place within the project area by that time (Johannemann and Schroeder 1982:27; Sanborn Map Company 1891:209, 1908:70). Therefore, artifact-bearing features such as wells, privies and cisterns, if they are extant within the project area, would most likely date prior to 1891.

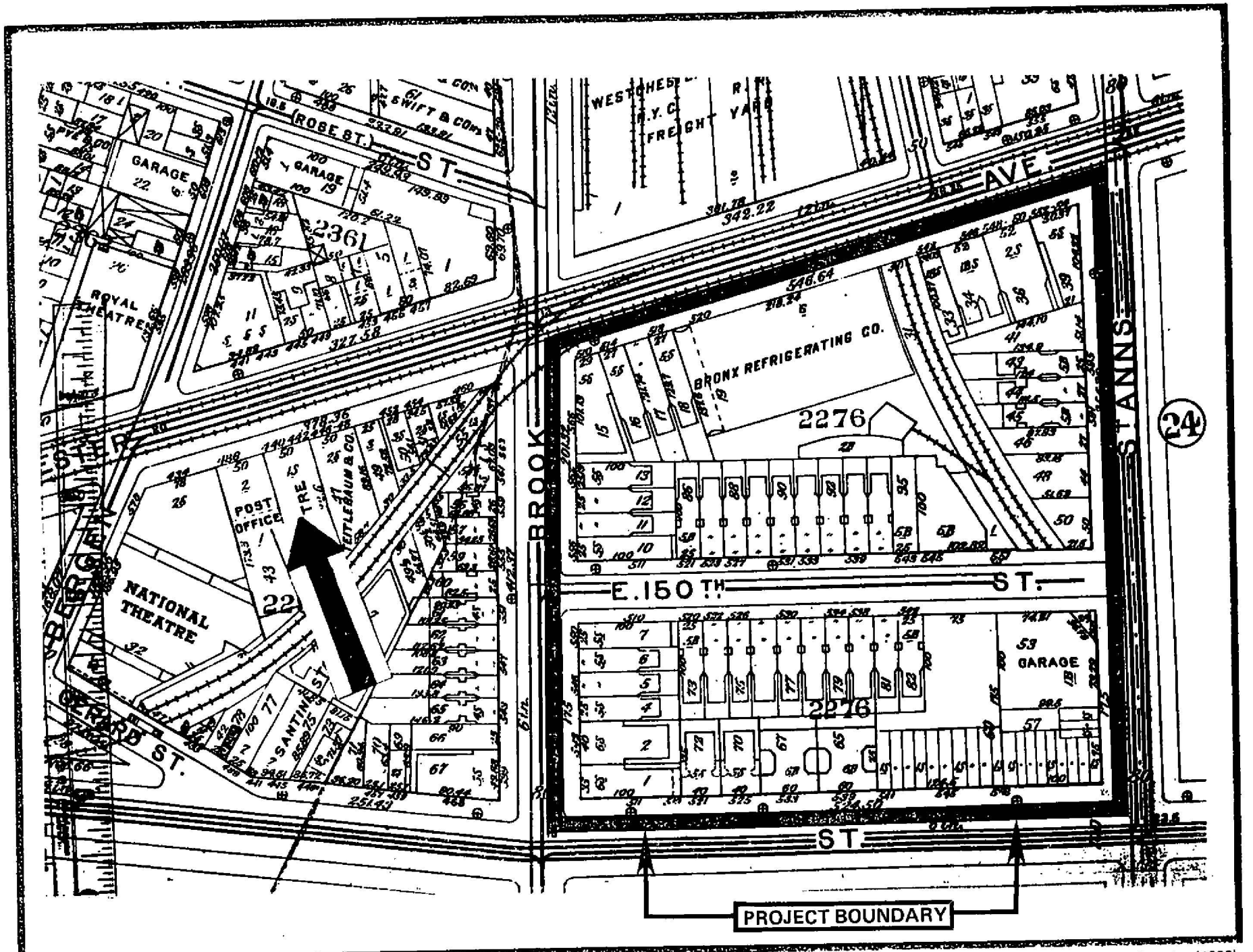
III. FIELD STRATEGY AND METHODS

The primary goals of the Stage 1B archaeological survey were to (1) locate and identify any prehistoric and historic archaeological deposits that were present within the two study areas, and (2) provide some preliminary assessment of the nature of any such deposits in terms of their density and integrity.

As stated above, the perceived potential for recovery of prehistoric artifacts and/or features was based on the proximity of several known sites and the recognition that the original landform of the project area was structurally similar to previously recorded sites in New York City. Therefore, it was considered that the project area may have been suitable for prehistoric occupation, and may contain prehistoric archaeological expressions. Any data collected from such a site could be applied to the refinement of regional site-location models, and the interpretation of landforms with similar characteristics. Within the New York City area, sites sharing these topographical characteristics usually contain archaeological deposits reaching no deeper than 3 feet below original ground surface. In an area such as the Bronx, with a century and a half of urban development, demolition and reconstruction, shallow intact soil horizons are scarce. Therefore subsurface testing had to be limited to those areas potentially undisturbed by construction activities, such as former backyards and openings between buildings (Figure 4).

Approximately 30 shovel test pits were proposed for the field investigation. Each shovel test was to be excavated to sterile soil or depths of at least 3 feet. Set at intervals of 30 feet (and up to 50 feet in Study Area 1), and screened by individual soil strata through 1/4-inch hardware cloth, these tests were planned to provide adequate coverage of the project tract.

Four shovel tests were excavated during the first day of fieldwork. Reaching target depths of 3.4 to 4.5 feet below ground surface, none of the shovel tests encountered natural soil horizons. Instead, 3.4 to 4.5 feet of demolition fill was present in each of the tests. The fill material, composed of bricks, concrete, rocks, modern trash, and a variety of metal structural items, was associated with the buildings which had occupied the block. It became apparent that shovel testing was not an adequate technique to penetrate the thick and compacted layers of demolition fill that appeared to cover all of the project tract, including the selected transect areas. Therefore, a backhoe was used in combination with hand excavation to complete the field investigation. Fourteen backhoe trenches, measuring approximately 5 by 12 feet were placed in the vicinity of the proposed shovel tests, nine in Study Area 1 and five in Study Area 2 (Figure 5).



SOURCE: Bromley (1923)

FIGURE 4 Project Vicinity, 1923

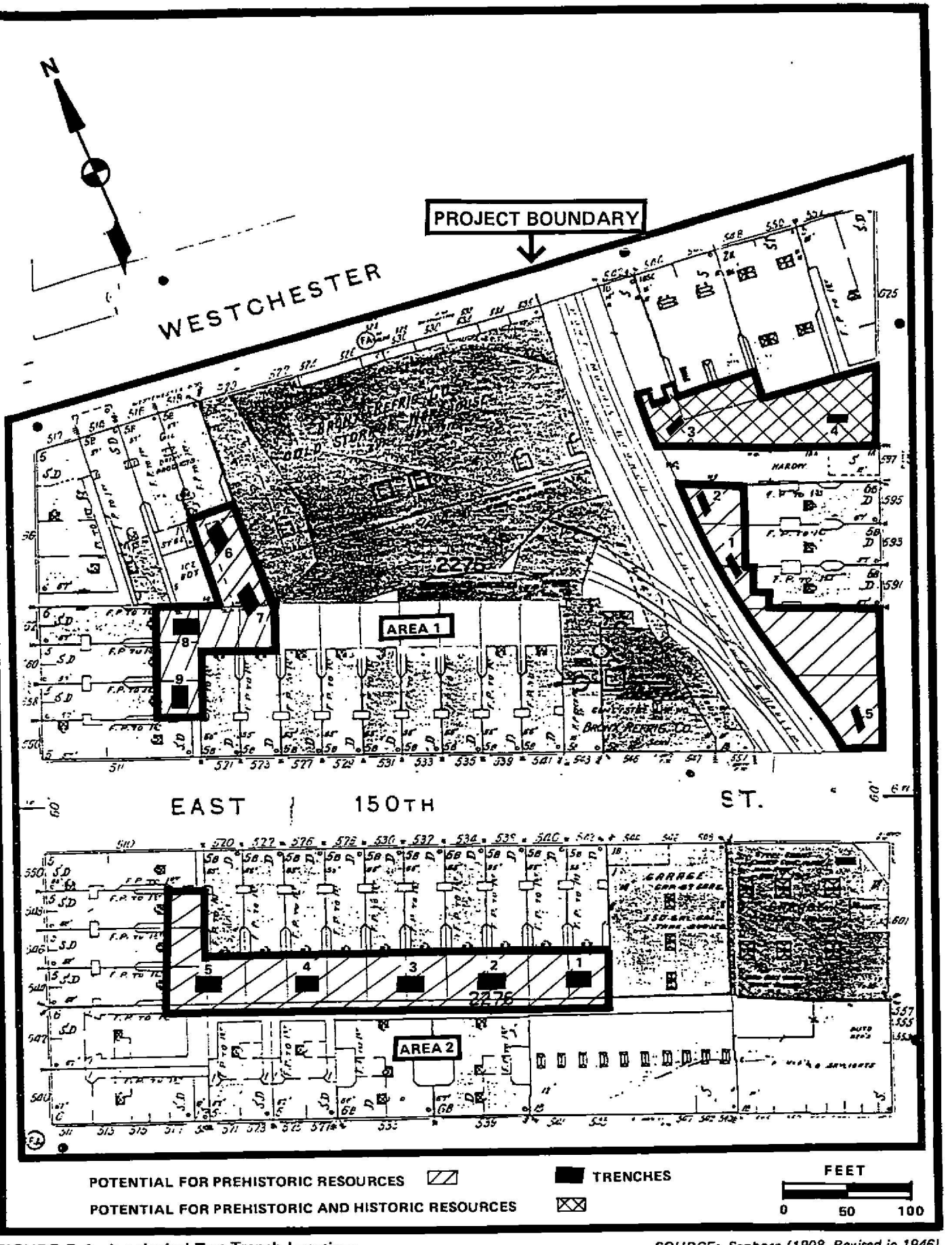


FIGURE 5 Archaeological Test Trench Locations

SOURCE: Sanborn (1908, Revised in 1946)

IV. RESULTS

A. STUDY AREA 1

Study Area 1 is composed of three discrete zones of potential archaeological sensitivity; two display potential for prehistoric cultural resources while the third exhibits potential for both prehistoric and historic cultural resources (this latter is the tract once occupied by Jarvis Archer). Currently, this area is a series of open lots, strewn with garbage and debris, with a thick covering of weeds and scrub trees (Plate 1). The project area is underlain by bedrock of the Manhattan Formation, Trenton Group, an Ordovician Period deposit of quartz and plagioclase schists (Fisher et al 1971). Overlying the bedrock are Upper Pleistocene deposits of unsorted sand, gravels, cobbles, and boulders, within a clayey and silty matrix. Surficial deposits are Holocene alluvium composed primarily of silty loams. The potential for prehistoric cultural resources within Study Area 1 was predicated on the presence of intact Holocene soils. It was during the formation of these strata that Native American peoples would have lived, leaving behind a patterned record of subsistence and work activities, social values and preferences, and the effects of change and continuity on cultural and biological systems. The search for, and the identification and examination of these alluvial deposits were the primary objectives of the testing program.

No intact natural soil horizons were discovered in any of the backhoe trenches excavated in Study Area 1. Only demolition fills and structural walls ranging in depth from 6 to 10 feet below ground surface were encountered in the trenches (Table 2). Clearly, based on the evidence from the subsurface testing program outlined above, these post-Pleistocene artifact-bearing deposits have been truncated and/or eliminated by the cyclical processes of historic construction, demolition and reconstruction. The expected depths of prehistoric archaeological deposits are well above the exposed architectural features found within the trench excavations. Indeed, no intact soil strata of any kind were encountered in Study Area 1.

The same processes of historic and modern building activities have truncated and obscured historic cultural resources, in particular, the Jarvis Archer property, which was the earliest, and potentially the most archaeologically significant residence in the study area. Stone foundation blocks, the most common building material of the mid-nineteenth century, were not observed in the trench excavations positioned to investigate the Archer residence, nor were nineteenth century artifacts recovered from the demolition fill covering the tract.

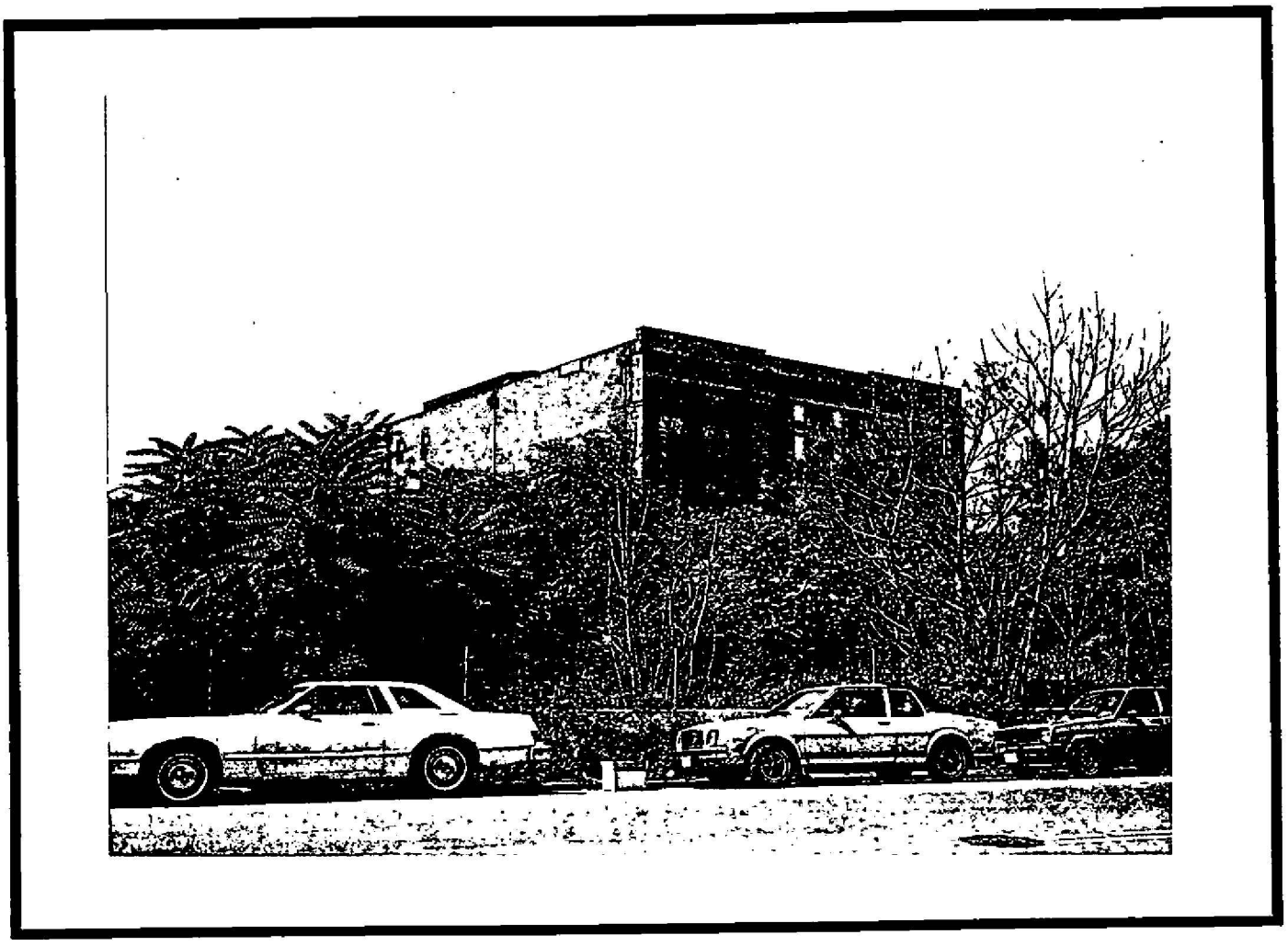


PLATE 1 Study Area 1, View to Northwest from St. Ann.s Avenue

TABLE 2

TRENCH NUMBER	CONTENT	DEPTH
1	Demolition Fill and Structural Wall	6'
2	Demolition Fill and Structural Wall	8'
3	Demolition Fill and Structural Wall	8'
4	Demolition Fill and Structural Wall	10'
5	Demolition Fill (end of excavation due to constraints of parked cars and metal cyclone fence)	6'
6	Demolition Fill and Structural Wall	6'
7	Demolition Fill and Structural Wall	9'
8	Demolition Fill above coarse sand and cobbles	8'
9	Demolition Fill and Structural Wall	6'

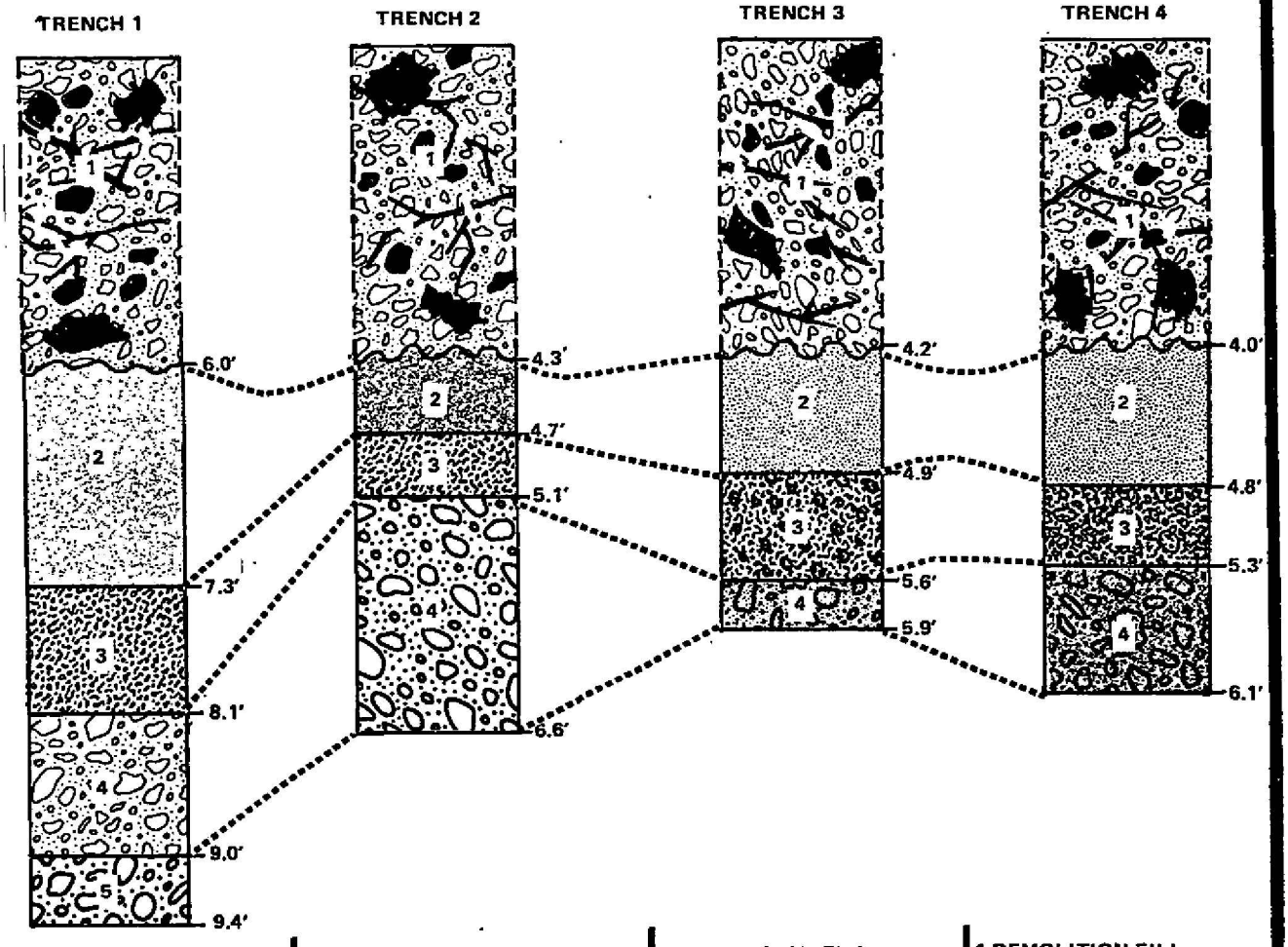
B. STUDY AREA 2

Study Area 2 is currently an open lot bounded by 149th and 150th streets, and Brook and St. Anns avenues, with a low covering of weeds (Plate 2). The bedrock and surficial structures for Study Area 1 apply also to Study Area 2, and supply part of the rationale for postulating a potential for cultural resources in the tract. Well drained Holocene terraces, overlooking a drainage (Mill Brook), would have been an attractive setting for prehistoric occupation by Native Americans. The recovery, identification, and analysis of prehistoric cultural resources within Study Area 2 was contingent on the presence of intact soil strata datable to post-Pleistocene depositional processes.

Four of the five trenches in Study Area 2 (Trenches 1 to 4, see Figure 5) contained intact soil strata beneath a fill layer. These intact strata vary between 4 and 6 feet below the present surface, with the variance being caused by the distance from Mill Brook. In order to examine these strata a shovel test was excavated in Trenches 1-4 sampling the intact strata. Based on an examination of the trench profiles and the shovel tests within the trenches, it has been determined that the intact soil strata are characteristic of (1) the poorly sorted deposits of silts and clayey silts with gravels, laid down by outwash during the glacial retreat, and (2) the unsorted mixture of sands, gravels, cobbles and boulders of glacial till (Figure 6). This means that the soils relevant to human occupation (Holocene soils) are missing from the present soil profile, having been truncated by historic building activities. The demolition fill which sits atop these layers at a depth of up to 6 feet, attests to the great displacement of sediments which has occurred historically in this locale. No artifacts were recovered from any of the intact strata examined by this testing procedure.

In contrast to Trenches 1 to 4, Trench 5 exposed a mortared brick foundation wall at 2.5 feet below the surface. The wall appears to be associated with one of the early twentieth-century tenements once located within the block. A review of the building records indicated that the depths of foundation walls were between 7 and 10 feet below the ground surface. Since Holocene soil deposits are known to extend only 3 to 4 feet below ground surface in similar terrains, the presence of a foundation wall in Trench 5 and the absence of intact soils indicate that the Holocene strata have been truncated by construction activities and are no longer present. As in the case of Trenches 1 to 4, no artifacts were recovered from Trench 5.

PLATE 2 Study Area 2, View to South



TRENCH 1	TRENCH 2	TRENCH 3	TRENCH 4
1-DEMOLITION FILL	1-DEMOLITION FILL	1-DEMOLITION FILL	1-DEMOLITION FILL
2-10YR 4/3 BROWN-DARK BROWN SILTY LOAM, GLACIAL WASH	2-10YR 4/3 BROWN-DARK BROWN CLAYEY LOAM , GLACIAL WASH	2-7.5YR 4/6 STRONG BROWN CLAYEY SILT , GLACIAL WASH	2-7.5 4/6 STRONG BROWN CLAYEY SILT, GLACIAL WASH
3-7.5YR 4/4 BROWN-DARK BROWN SANDY LOAM WITH GRAVELS AND COBBLES , GLACIAL TILL	3-7.5YR 4/4 BROWN-DARK BROWN SANDY LOAM WITH GRAVELS AND COBBLES, GLACIAL TILL	3-10YR 4/4 DARK YELLOW BROWN SANDY LOAM WITH GRAVELS , GLACIAL TILL	3-7.5YR 4/6 STRONG BROWN SANDY LOAM, GLACIAL WASH
4-7.5YR 4/6 STRONG BROWN WITH COARSE SAND AND GRAVELS, GLACIAL TILL	4-7.5 4/6 STRONG BROWN COARSE SAND WITH GRAVELS AND COBBLES, GLACIAL TILL	4-10YR 4/6 DARK YELLOW BROWN MEDIUM GRAINED SAND WITH COBBLES , GLACIAL TILL	4-10YR 4/6 DARK YELLOW BROWN SILTY SAND WITH GRAVELS, GLACIAL TILL
5-SAME AS ABOVE WITH COBBLES			

FIGURE 6 Test Trend Profiles, Study Area 2

V. SUMMARY AND RECOMMENDATIONS

The results of the records check and historical research (Stage IA investigation) indicated that the project area had the potential to contain significant subsurface cultural resources dating to both the prehistoric and historic periods (Louis Berger & Associates 1989a and 1989b). Numerous prehistoric sites with significant information potential have been identified in the Borough and across the Harlem and East rivers. The proximity of the project area to Mill Brook demonstrated that the prehistoric cultural potential was high.

Recent archaeological research has demonstrated that significant information can be retrieved if residential deposits from archaeological sites can be assigned to known historic households (cf. Louis Berger & Associates 1986). Based on an examination of historic maps, it appeared that some historic rear yards and alleyways within the project area may have been undisturbed. One area in particular (Study Area 1, Figure 5) represented the former rear lots of the Jarvis Archer family during the nineteenth century. Therefore, based on the background research, it was believed that potentially undisturbed and assignable archaeological deposits may be present in this portion of the project tract.

Given this potential for prehistoric and historic archaeological resources, LBA recommended that a Stage IB survey be conducted in those areas of planned development to identify the specific locations and configurations of these potential resources (Louis Berger & Associates 1989a). Additional site-specific historical research, involving a title search and review of other manuscript materials, also was completed (Louis Berger & Associates 1989b). This recommendation followed the procedures set forth in the NYCLPC guidelines for archaeology.

Field efforts during the Stage IB survey focused on testing the 6.2-acre area proposed for development. Fourteen machine trenches were excavated within two Study Areas. No prehistoric cultural resources were identified during the field investigation. In addition, no historic cultural resources dating to the mid-nineteenth century, or relating to the Jarvis Archer residence were identified. Late nineteenth- and twentieth-century modifications to the project area have truncated and dispersed prehistoric and historic artifact-bearing soil strata.

In conclusion, the Stage IB study has demonstrated that no sites potentially eligible to the National Register of Historic Places are present within the proposed development area of the Juvenile Detention Facilities/40th Precinct Station House project. It is therefore recommended that no additional archaeological or historical work be conducted for the proposed project.

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