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NEW YORK CITY  
SCHOOL CONSTRUCTION AUTHORITY

P. S. 721K  
GRAVESEND, BROOKLYN

PHASE 1A  
ARCHAEOLOGICAL  
ASSESSMENT

1069

HISTORICAL  
PERSPECTIVES INC.



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PHASE 1A ARCHAEOLOGICAL ASSESSMENT

Prepared For The  
NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

P. S. 721K, GRAVESEND, BROOKLYN

Prepared

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## I. INTRODUCTION

The New York City School Construction Authority proposes to construct P.S. 721K, a new two- to four-story school, on a site beneath an elevated train trestle in the Gravesend section of Brooklyn. (See Fig. 1) The L-shaped site, in Lot 20 of Block 7185, has an area of 2.7 acres (116,000 square feet). It is bordered on the north by Avenue X, and on the South by John Dewey High School, on the west by a parking lot at the corner of Avenue X and Stillwell Avenue and on the east by two ball fields, those of the James R. Franco Sr. and Ty Cobb leagues. If West 12th and 9th Streets had been extended south of Avenue X, they would have been the project site's western and eastern boundaries, respectively. (See Figs. 2 and 17)

The purpose of this "Phase 1A Archaeological Assessment Report," is to determine the presence, type, extent and significance of any cultural resources which may be present on the site. It is based on archival research which documents the probability that the proposed P.S. 721K site hosted any prehistoric or historical resources, and their likely survival of post-depositional disturbances, which may have accompanied any subsequent development.

In order to address these concerns, various sources of data were researched. Primary source material on the project site was collected to determine the study lot's original topography, and to compile a building history and disturbance record. Historical maps and descriptions of the study area were collected in the Local History and Map Divisions of the New York Public Library. No New York City building department records were available for the project site. Additional information concerning subsurface disturbance, and pre-fill topography was gathered from a boring log provided by the New York City Board of Education Bureau of Construction. (See Appendix B)

To place the P.S. 721K site within an historical context, local and regional histories were examined for pertinent material. Particularly useful was the article on Gravesend in Henry Stiles' History of Kings County. William Ritchie's The Archaeology of New York State provided a valuable overview of Native American culture and lifeways during the prehistoric period. Other archaeological literature, available site reports and journal publications, were researched for data specific to the project area. Inquiries on inventoried prehistoric and historical sites were sent to the New York State Museum and the New York State Historic Preservation Office.

Although no subsurface investigations were conducted, a site visit (3-3-91) and photographic record of current conditions was made. (See Photos 1-4)

## II. ENVIRONMENTAL SETTING

Long Island is the top of a Coastal Plain ridge formation that is covered with glacial drift, in reality an elevated sea bottom demonstrating low topographic relief and extensive marshy tracts. In the last million years, as glaciers advanced and receded three times, the surficial geology of the island, including the P.S. 721K site was profoundly altered. "The glacier was an effective agent of erosion, altering the landscape wherever it passed. Tons of soil and stone were carried forward, carving and planing the land surface. At the margins of the ice sheet massive accumulations of glacial debris were deposited, forming a series of low hills or terminal moraines" (Eisenberg 1978:19). Circa 18,000 years ago, the last ice sheet reached its southern limit, creating the Harbor Hill moraine that traverses the length of Long Island. Before extensive alteration of the landscape during the nineteenth and twentieth centuries, a gently sloping plain extended south of the moraine to the ridge of sand hills forming the Brooklyn mainland. Separating this ridge and the barrier beach known as Coney Island was a wide expanse of tidal marsh drained by Coney Island Creek and its tributaries. (See Fig. 6)

One of these tributaries, Hubbard Creek, wound a meandering course through the project lot, crossing it twice. The marsh around it was regularly inundated by high tides, rendering it temporarily impassable (Stockman 1884:171). During the twentieth century, the study parcel marsh was filled in, probably in preparation for residential development, which never occurred. All surface traces of the creek and wetland were erased. Presently, according to the Borough of Brooklyn Rock Line Map and borings, the surface elevation ranges from eight to ten feet, with a layer of fill that is between four and 21 feet thick. The water table lies between eleven and fourteen feet below the surface. (See Fig. 2 and Appendix B)

The P.S.721K site is a grassy area, surrounded and subdivided by a high chain link fence. Except for the piers of an elevated train trestle that crosses the property, the site contains no structures. (See Photos 1-4)

## PREHISTORIC ERA

The prehistoric era on the south shore of western Long Island can be divided into three time periods, based on prehistoric man's adaptations to changing environmental conditions. These are generally known as the Paleo-Indian (c.12,000 to 10,000 years ago), the Archaic (c.10,000 to 2,700 years ago) and the Woodland (c.2,700 to 300 years ago). In order to be able to assess the project site's potential for prehistoric exploitation, it is first necessary to review these time periods and their associated settlement patterns.

### Paleo-Indian Period (c.12,000 y.a. - 10,000 y.a.)

Toward the end of the Wisconsin Glaciation, during the Late Pleistocene Epoch, the first humans wandered across the exposed land bridge which connected Siberia and Alaska. These small groups of hunters were probably following the roaming herds of megafauna which were their chief prey. The distinctive weapon in their chipped stone tool kit was the fluted point, which has been found in association with mammoth, mastodon, bison and horse remains at various sites in the southwestern United States. Although none of these "kill sites" is located east of the Mississippi, the discovery of campsites such as that at Port Mobil, Staten Island, suggest a scattered, highly mobile population in bands of approximately 20 individuals, who ranged across a vast area necessary to support lifeways organized around the hunting of migratory game (Ritchie 1980:1-3, 13). In the Northeast, the glacially lowered sea level exposed a broad coastal plain of which Long Island was a part. "This large area apparently contained abundant big game resources and provided access along the entire length of the south shore to the area that is present day Long Island" (Saxon 1978:251).

The fluted, lanceolate points, two to five inches in length with a concave base and channelled or fluted faces, presumably to facilitate hafting, exhibit a considerable range in shape and size. They were usually made from a high-grade silicious stone, often exotic to the region in which they are recovered, a function of their makers' seasonal migrations. Other artifacts in the Paleo-Indian tool kit include scrapers, knives, borers and graters, tools which indicate extensive handiwork in wood, bone and leather (Ritchie 1980:3,6).

From the locations of recorded sites in the Northeast, Paleo-Indians exhibited a marked preference for well-elevated situations. However, 30% of sites were found on or near the margins of swampy ground. Environmental characteristics which appear to have been attractive to Paleo-Indians include the proximity of major waterways, large fertile valleys and the coastal plain, where the densest population of desired food animals was supported (Ritchie 1980:7). However, since 10,000 years ago, the rise in sea level

estimated to be from 75 to 80 feet, has submerged large numbers of these sites.

The retreat of ice from Long Island approximately 18,000 years ago and a global warming trend circa 14,000 years before present, encouraged Paleo-Indian settlement in the Northeast. The post-glacial environment of spruce and pine underwent a gradual modification in favor of deciduous hardwoods such as oak and hickory, which have greater importance in terms of nutritional value to both animals and humans than do conifers. By 8,000 B.C., these deciduous species dominated forests along the eastern seaboard. In addition, the megafauna on which Paleo-Indian diet was based "were rapidly becoming extinct, and were being replaced by the temperate-climate fauna that are indigenous today" (Gwynne 1982:190-191).

#### Archaic Period (c.10,000 y.a. - 2,700 y.a.)

The warming trend at the end of the last glaciation completely transformed the northeastern coastal environment from tundra and conifer-dominated forests, to the present deciduous woodlands with generally modern distributions of fauna. Due to the dwindling contribution of meltwater from disappearing glaciers, the reduced flow of streams and rivers promoted the formation of swamps and mudflats. These wetlands created a congenial environment for migratory waterfowl, and a host of edible plant species and shellfish. The new mixed hardwood forests of oak, hickory, chestnut, beech and elm attracted such mast-eating fauna as white-tailed deer, wild turkey, moose and beaver.

Although the Archaic diet was still based on hunting and gathering, due to the greater variety of plants available and exploited, excavated Archaic sites yield a wide array of plant processing tools, including grinding stones, mortars and pestles. The diagnostic tool was the grooved axe. In the coastal areas of New York, have been found numerous, small "nearly always multi-component sites variously situated on tidal inlets, coves and bays, particularly at the heads of the latter, and on fresh-water ponds on Long Island" (Ritchie 1980:143). By the Late Archaic, these areas provided shellfish, small game, fish, salt hay and tuberous grasses making larger more permanent settlements possible. Semi-nomadic life is still indicated, but wandering occurred within well-defined territorial limits, with seasonal movements between camps near exploitable resources. A dietary shift to shellfish in coastal New York near the end of the Archaic suggests a scarcity of large game, and a change from the early Archaic inland adaptation of forest hunting. Coastal sites show a principal reliance upon shellfish, especially oysters, hard and soft shell clams and bay scallops, which were easily gathered all around Long Island. Characteristic of the Late Archaic were "fish-tailed" projectile

points and soapstone bowls (Ritchie 1980:142,166, 167, 171). In contrast to conditions during the Paleo-Indian, Early and Middle Archaic, "by Late Archaic times sea level was so close to present levels that its subsequent small rise has failed to obliterate much of what remains on Long Island from that period" (Gwynne 1982:192). Hence the Late Archaic Wading River complex, four sites on the north shore of Suffolk County, was found at the edge of a salt marsh, on dry ground ranging only two to seven feet above mean high water (Wyatt 1982:71).

#### Woodland Period (c.2,700 y.a. - 300 y.a.)

Pottery use became widespread following the use of soapstone vessels in the Late Archaic, and although copper tools were utilized during that period, the earliest copper ornaments, tubular beads, made their appearance during the Woodland. Stone or clay smoking pipes were also an Early Woodland innovation (Ritchie 1980:179-180)

Settlement patterns were substantially altered with the introduction of agriculture, the systematic cultivation of maize, beans and squash possibly beginning as early as 1000 A.D. During this time large villages within palisaded enclosures developed for the use of a semi-sedentary people, with groups moving seasonally, depending on exploitable food resources, between villages and camps of varying population concentrations. Preferred village/camp sites were in protected, elevated locations at the confluence of two water systems. "Nearly all the permanent sites are situated on tidal streams and bays on the second rise of ground above water." Despite the advent of agriculture, shellfish and small game remained an important component of the Woodland diet. Shellfish refuse heaps, termed "middens," reached immense proportions, covering from one to over three acres. Deer, turkey, raccoon, muskrat, ducks and other game were stalked with bow and arrows, replacing the spear and javelin, while dug-out boats, bone hooks, harpoons and nets with pebble sinkers were employed in fishing (Smith 1950:101; Ritchie 1980:180,267).

The earliest visit to the study area by a European was by Giovanni da Verrazano who visited Coney Island in 1527 and 1529. Coney Island, south of the project site, was also one of the places where Henry Hudson landed to meet the "savages" in 1609 (Stiles 1883:189). He wrote in his journal, "they brought with them green tobacco to exchange for knives and other implements. They were clad in deerskins and expressed a wish to obtain a supply of European clothing." Hudson also mentions the natives wearing feathers and furs, as well as offering maize and hemp. The visit ended on a sour note, with one of Hudson's men, Colman, shot and killed with a "stone-pointed" arrow while on a fishing expedition (Ostrander 1894:20-21; Brooklyn Daily Eagle 1946:6).



Contact with Europeans had far-reaching effects on Native American cultures. European goods such as metal and glass began to replace traditional materials, while European-introduced diseases decimated the population. At this time the western end of Long Island is generally believed to have been inhabited by Munsee-speaking Canarsee Indians, members of the Delaware culture group. Twentieth century research by Robert S. Grumet and Reginald Bolton, does not indicate the presence of an Indian village in the vicinity of the project area, and the nearest trail, which goes to Coney Island, comes no closer than a half a mile to the east. (See Fig. 4) Grumet does identify the Indian toponyms *Mocuny* and *Morpeesah* as swampy areas in southern Gravesend, probably in the general vicinity of the project site. His research suggests that they might be synonyms, probably meaning "black or miry" place (Grumet 1981:35,36). The project site lay in the midst of such a miry place until twentieth century landfilling activities removed all traces of the salt meadow which had existed. Crossing the site at least once, and probably twice was Hubbard Creek. (See Figs. 2 and 6) The stream's tidal estuary and marsh provided a resource-rich environment for Native American exploitation, with an abundance of fish, small mammals, waterfowl and also edible and useful reeds and shrubs. The presence of shellfish would have provided a year-round dietary resource.

A file search and sensitivity rating from the New York State Museum, which attempted to give site locations within a half mile radius of the study lot, has identified no prehistoric sites in that area. The sensitivity rating, based on the comparison between the geographical and topographical features of known site locations with undocumented, threatened locations, suggests a "mixed probability of producing prehistoric archaeological data," due to its proximity to a stream and swamp. However, this assessment is based on the project lot's present topography, and not its swampy pre-fill condition. In addition, the State Historic Preservation Office records no recently inventoried sites within a one-mile radius of the P.S. 721 site. (See Appendix A) The nearest New York State Museum Inventories Site is #3608, a prehistoric burial site and shell midden (Parker 1920, Kings County #4) on Sheepshead Bay, more than two miles southeast of the project parcel.

A series of borings made for the New York City Board of Education Bureau of Construction on the site of the present John Dewey High School and the adjacent study site, dated January 9, 1965, indicate that between 17 and 21 feet of fill were deposited over much of the marshland within the project lot. Measurements of the water table show that the water level extends at least three feet into the fill, beneath which lies a completely inundated layer of peat. Therefore, the low-lying marsh would have been constantly wet, or at the very least regularly flooded by the tide. Historically, the meadow was passable only at low tide. A causeway had to be built to cross it, and even this was occasionally inundated (Stockman 1884:160,171). As outlined above, Indian

settlement patterns show a marked preference for sheltered, elevated sites close to wetland features, and not for the wet, low-lying swamps of the proposed P.S. 721K site. High well-drained ground at the edge of the swamp was within 700 feet to the east and west, and would have been far more attractive for a camp or village site.

Two of the borings, exhibit only four feet of fill, over silt (#62) and peat mixed with silt (#63). They represent isolated, raised areas within the swamp, appearing as hummocks before the historical filling episodes. This topography is a result of Pleistocene Era "contact-stratified drift," deposited during the retreat of glacial ice. The sediment was laid down as the ice remained stationary for short periods, or when a large chunk of the retreating ice broke off and remained in that spot. The hillocks were formed as the ice-covered sediment melted, and the sediment collapsed around it (Personal Communication 8-8-87: Dennis Weiss<sup>1</sup>)

Such hillocks would have afforded Indians a well-drained area for a temporary campsite or processing area within the swamp, however, as noted above, its position so near the edges of the wetland would have rendered them relatively superfluous. Although the rest of the study lot offers resources that certainly would have attracted Native American hunting, fishing and gathering expeditions, these activities would result in only the stray lost or discarded artifact, which provide little or no useful information regarding Indian cultural lifeways or settlement patterns.

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## HISTORICAL PERIOD

Driven from Massachusetts by angry Puritans, Lady Deborah Moody and her followers, "infected with Anabaptism," fled to New Netherland and the more tolerant rule of the Dutch West India Company in 1642. Here they were joined by Nicholas Stillwell, a tobacco planter, and his fellows, who had already been driven from their settlement in eastern Manhattan by Indian attacks. The West India Company was desperate to secure settlers to occupy its lands and hold off the encroachments of expansionist New England, and accordingly, in June 1643, Director General Willem Kieft gave Moody permission to settle at a site he named 's-Gravensande, after the ancient residence of the Counts of Holland. The English settlers corrupted this word, literally meaning "the Count's Sand," to Gravesend, probably thinking of the port of the same name on the Thames (Brodhead 1854:367; Stillwell 1892:5-6)

However, Moody and her compatriots were not the first European settlers in the project area. A month previously, in May 1643 Kieft had issued a ground brief for 100 morgen (200 acres) of property to the southwest and west of the original Gravesend settlement to Antonie Jansen van Salee. He had evidently settled in the area much earlier, since the patent was made retroactive to August 1639. One section of the property was named "Old Bowery" (later the site of the village of Unionville, approximately three quarters of a mile to the west of the study lot). The other section was known as "Twelve Morgen." It was situated a half mile to the northwest of the project site on Hubbards Creek. (See Figs. 5 and 7) The project lot lay in a swampy area between the Gravesend settlement and Salee's property. This meadow property became a bone of contention between the town and Salee's successors, each of which claimed the land as part of its original grant. The dispute was not settled until the mid-nineteenth century, when Gravesend finally relinquished any interest in the property (Stockman 1883:158-160).

Gravesend is unique in many ways, as the only English town founded in present Kings County, with a town patent (1645) that may be the only one in which a woman, Lady Moody, heads the list of patentees, as well as guaranteeing freedom of worship "without magisterial or ministerial interference." Religion was up to the individual, and therefore no provision for a church was made, neither for a burial ground, town hall nor a school. The town plan, comparable to the sophisticated layout of New Haven and later Philadelphia, was based on a central square of 16 acres, divided into four smaller squares, each surrounded by a street. The perimeters of the four squares were divided into ten equal lots, one for each of the forty original patentees. The lots surrounded common yards, where cattle were to be kept when brought in from pasture. The town core was surrounded by a palisade, from which triangular "planters' lots" radiated like the spokes of a wheel.

(See Fig. 8) Among other things, this arrangement meant that all the farm lots were the same distance from the settlement, and each patentee could reach his own farm without trespassing (Stockman 1884:160-162).

In the first year of settlement, Gravesend was almost destroyed by constant Indian attacks, during a colony-wide war which was a result of Kieft's inept Indian policy. The village survived, and organized itself, choosing town court justices, a constable and town clerk. Laws were enacted against conducting business on Sundays, selling alcohol to the Indians and even selling more than one pint at a time to whites. In 1647 the town effected a further division of common lands among the patentees, allotting the meadowland used as a cow pasture between the settlement and Coney Island (which includes the P.S. 721K site), "so that every man might know his own" (Stockman 1884:163-165). Although no church had been included in the original town plan, the village became known as a "mecca of Quakerism." When Richard Hodgson and eleven other Quaker preachers arrived in New Netherland in 1657, he and two colleagues visited Gravesend, where according to Hodgson's journal, they held the first recorded Quaker meeting in America. Lady Moody may have been a convert, since meetings were held in her house the following year (Stillwell 1892:9). Although some sources claim the founding of a Dutch Reformed Church by 1655, when village residents first petitioned for "a good clergyman," there is no evidence of more than occasional visits by a circuit preacher, who had to serve all the churches of Kings County (Anniversary 1905:7; Stockman 1884:177-178). With the English conquest of New Netherland in 1664, the town patent was confirmed. Between 1668 and 1685 the English designated Gravesend as a "shire" town, and a structure for the court of sessions was built in the northwestern village square. During and after this period, when the court was returned to Flatbush, the sessions house was used as meeting house for the Quakers, and later served as Gravesend's Dutch Reformed Church (Stillwell 1892:9-10; Brooklyn 1946:11).

Given the unstable political climate in the last quarter of the seventeenth century, the town attempted to strengthen its titles to the surrounding lands with real estate purchases from local Indians Crackewasco, Arrenopeah, Mamekto and Annenges (1684), including beach and meadow and valley land to the south and east of the town. To the local farmers, the salt hay that the marshes produced was an important and nutritious source of cattle fodder, its high value evidenced by the constant wrangling over title to land that modern, urban eyes would consider worthless. The area around the P.S. 721K site remained a meadow throughout the colonial period and the nineteenth century. Portions of the meadow must have been extremely muddy, since the list of officials appointed at the town's founding included men to extricate trapped cattle from the marshes. These wetlands, aside from their use as a pasture, were also obstacles to travellers journeying to the resorts and

beaches along Gravesend Bay (about four miles to the northwest) and to Coney Island (approximately two miles south), both of which assumed increasing importance as a places of leisure as the century progressed (Brooklyn 1946:10,11; Stockman 1884:162).

The village of Gravesend and its near surroundings changed little during the eighteenth and nineteenth centuries. Because of its commodious harbor, the early settlers had hoped to develop Gravesend into a major port, but despite its size, the shallowness of Gravesend Bay was unsuitable for large ships. Therefore, there was little development and the town grew slowly, maintaining its rural character, "conservative in its habits of life." During the American Revolution, British forces landed within a mile of the village and General Cornwallis passed through in 1776. Some soldiers were billeted in local houses, and after the war several Hessians remained behind and settled within the township. The population in 1810 was 520 (Stockman 1884:176,177; Ostrander II 1894:33).

During the first decades of the 1800s, the only way to cross the marshes from Gravesend to Coney Island was by fording Coney Island Creek and its tributaries, but this was possible only when the tide was out. In 1823 the Coney Island Bridge and Railroad Company was formed, which began the erection of a causeway over the meadow from Gravesend to the seashore, continuing Gravesend's center street. (See Fig. 8) This causeway, passing within 2,000 feet of the study lot, was still present in 1884, although sometimes covered by high tides (Stockman 1884:160,171; Ostrander 1894:33). Although the first hotel, the Coney Island House, was opened in 1829, and several others followed, Coney Island's importance as a resort is said to date from the establishment of Messrs. Eddy and Hart's Pavilion and bathhouses in 1844, at Norton's Point, the far eastern end of the island. White paddle boats from Manhattan brought picnickers to the resort, and elegant hotels and restaurants were erected along the shore and patronized by New York's wealthy (WPA 1939:472; Stillwell 1884:194). These developments caused new roads and later railroads to be built connecting the resorts with the rest of the county and beyond. The causeway was superseded by the Coney Island Plank Road, now Coney Island Avenue, more than two miles to the east of the project site. It was built in 1849, bypassing Gravesend completely, and became the main thoroughfare to Coney Island, later widened to 100 feet (Stockman 1884:171). (See Fig. 8).

Coney Island's range of amusements expanded during the 1870s, with sports spectacles including prizefighting and horseracing being conducted. Several railroads to the island were built to handle the increasing traffic (WPA 1939:472). Their routes took them through the meadows around the project area. The Brooklyn, Bath and Coney Island Railway was apparently the first to be completed, and ran about 800 feet west of the project area, near the Gravesend Bay shore. (See Fig. 9) The New York and Coney

Island Railroad ran through the center of Gravesend, approximately along the route of the old causeway, east of the study lot. The third line ran generally south between present West 7th and West 10th Streets, and passed within 250 feet to the east of the study lot. (See Fig. 10) Although Gravesend was not annexed by Brooklyn until 1894, because of Brooklyn's phenomenal growth the state directed the Town Survey Commission to survey and map most of Kings County, a task completed by 1874. The commission extended Brooklyn's grid system throughout the county, including the marshy areas around Jamaica Bay (Ment 1979:62). Accordingly, as shown in the 1877 Dripps Map, a grid of paper streets was laid out despite the presence of sinuous Hubbard Creek, which was to be widened to form Gravesend Basin. The basin would have been linked with a series of basins by the proposed Gravesend Ship Canal running about three blocks to the south. At this time the study lot was owned by Stephen Stillwell, undoubtedly a descendant of Nicholas Stillwell, one of Gravesend's original settlers. If the plan had been carried out, his property and that of his appropriately named neighbor, John L. Lake, would have been under water. (See Figs. 11 and 12).

By the turn of the century, residential development began to encroach on the study area. The 1906 Sanborn and 1899 Belcher Hyde maps show small houses as close as 900 feet to the southwest and within 600 feet in the northeast. (See Figs. 12 and 13) In 1922, with the Gravesend Basin still "proposed," and Hubbard Creek still depicted on the maps, the blocks directly north of the project lot have been divided into lots, generally 30, 40 or 50 by 100 feet, with some already containing dwellings - a few even within the projected basin. The new elevated transit line, opened in 1920, appears with its station on Stillwell Avenue at Avenue X, less than 500 feet directly west of the proposed P.S. 721K site. This extension of the rapid transit system had a profound effect on Coney Island, making the beach and amusements accessible to millions of low-income New Yorkers (WPA 1939:473). (See Fig. 14)

By 1930 the New York Rapid Transit System's Coney Island Shops had been built about 700 feet directly east of the project lot, at the corner of Shell Road and Avenue X. An elevated track spur, built to service the repair yards, is the only documented historical building episode on the study site. Hubbard Creek is no longer shown on the map, and it is likely that the creek and the low-lying areas in and around the proposed school lot were filled and thus brought up to their present elevations during the 1920s, as shown in the borings data. (See Fig. 15 and Appendix B) Few changes are evident in the study area between 1930 and 1950, and the proposed streets which would have cut through the P.S. 721K site were never built. (See Figs. 16 and 17)

Presently, the project site stands vacant. The completion of John Dewey High School in 1968, adjacent to the project site on the south, necessitated the demolition of a block of homes on Stillwell Avenue, which first appeared during the 1920s. A series of Little

League baseball fields lies to the east, and empty lots on its west at the intersection of Avenue X and West 13th Street. At present, the immediate neighborhood is generally a mixture of small homes and light industry.

## V. CONCLUSIONS AND RECOMMENDATIONS

Overwhelming evidence exists that Native Americans exploited the natural resources of western Long Island for thousands of years before the arrival of Europeans. It is also clear that the tidal marshland of which the proposed P.S. 721K site is a part offered an extremely rich source of food and raw materials for prehistoric man.

Settlement pattern data of the prehistoric culture periods reveal a strong correlation between habitation and processing sites and the confluence of two water courses, proximity to a major waterway, a marsh resource and/or well-drained, elevated land. A review of the cartographic and historical evidence confirms that some of these criteria are met in the project lot, namely, the presence of a marshland and of Hubbard Creek. However, despite these assets which would have proven attractive to Native Americans, most of the site, itself a tidal wetland, can not be, and historically has never been, described as elevated or well-drained land. Borings indicate a 17 to 21 foot layer of modern fill over much of the lot, with the water table seeping several feet into the fill layer. Although it is likely that the estuarine resources of the site were tapped, these numbers suggest that most of the project site provided too wet and soggy a setting for an Indian campsite or processing station.

The boring log does identify two points within the study parcel, at borings 63 and 65, which beneath a thin layer of fill (four feet), exhibit a pre-twentieth century elevation that was above the water table. As discussed in Section III, these hillocks, a result of glacial "contact-stratified drift" may have provided Native Americans with a sufficiently dry surface upon which to camp or carry out certain activities related to their hunting and gathering expeditions within the swamp. However, this appears to be an unlikely prospect, given their location quite close to the edges of the wetland (within 700 feet on both sides). Far more extensive and drier elevated areas were nearby, rendering the extended use of any small scattered raised areas within the project parcel unlikely.

Furthermore, in order to locate the random, scattered hillocks an extensive program of subsurface testing would have to be undertaken, the expense and time of which is not warranted by the questionable value of the anticipated limited data to be recovered. Information provided by the school's architects, the firm of Castro-Blanco Piscioneri and Associates, shows that the new structure will be based on one of three pre-designed construction schemes, all of which have pile cluster foundations. The piles, driven from the surface level would have a limited impact on any prehistoric resources present, especially considering the general depth of the protective fill layer. In addition, due to the high water table, the basement area, containing the boiler and support



system, will be kept to a minimum. This would also restrict subsurface disturbance (Personal Communication 3-7-91:Vito Mutolo).

Although it is always possible that a stray artifact may be recovered during any deep excavation, the evidence for prehistoric potential is not sufficient to warrant further research, field investigation or monitoring.

Cartographic and other historical data provide no evidence that the P.S. 721K site hosted any structures or was occupied for any purpose during the historical period. Therefore, the evidence for historical potential is insufficient to warrant further research, field investigations or monitoring.

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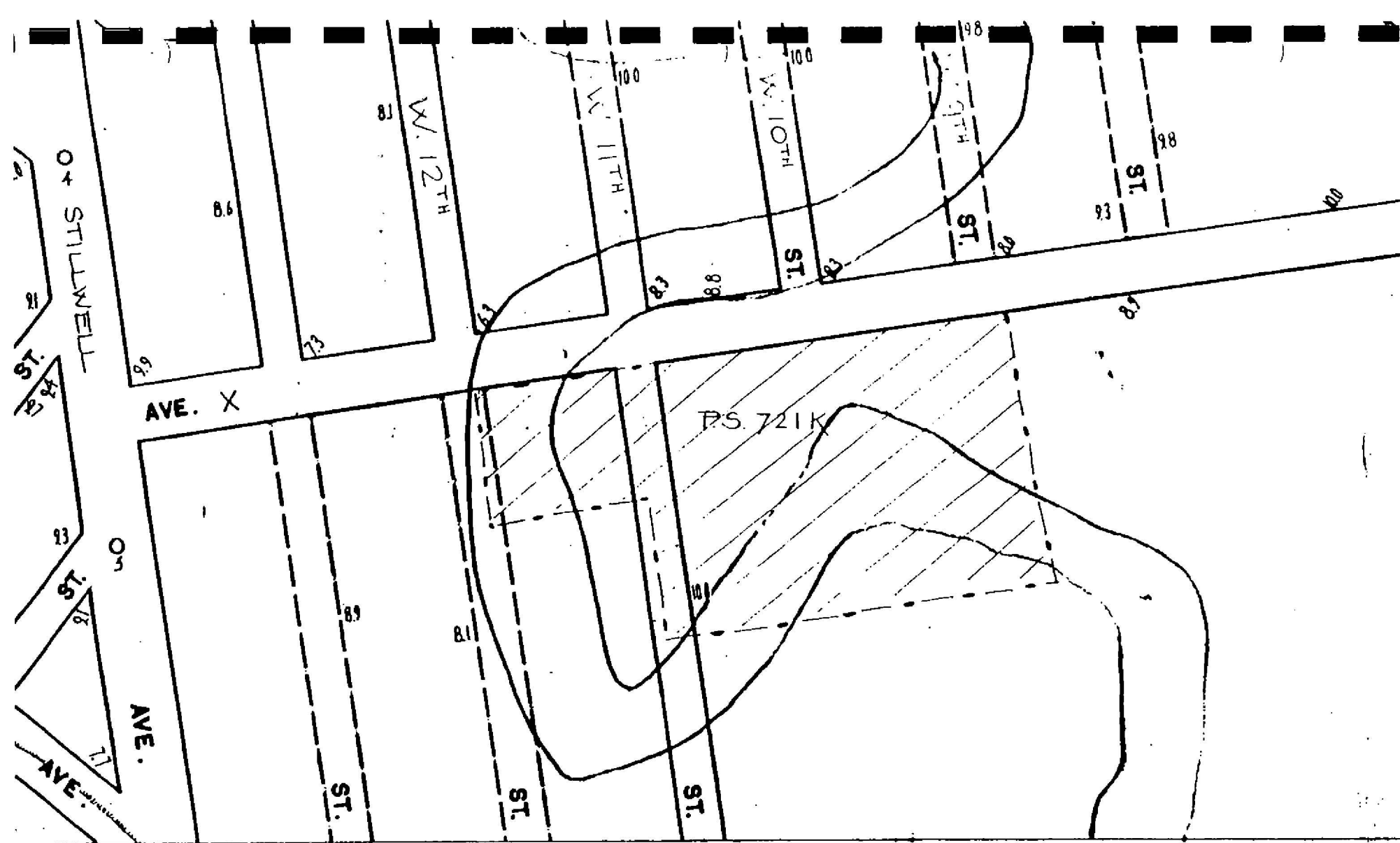
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Figure 1

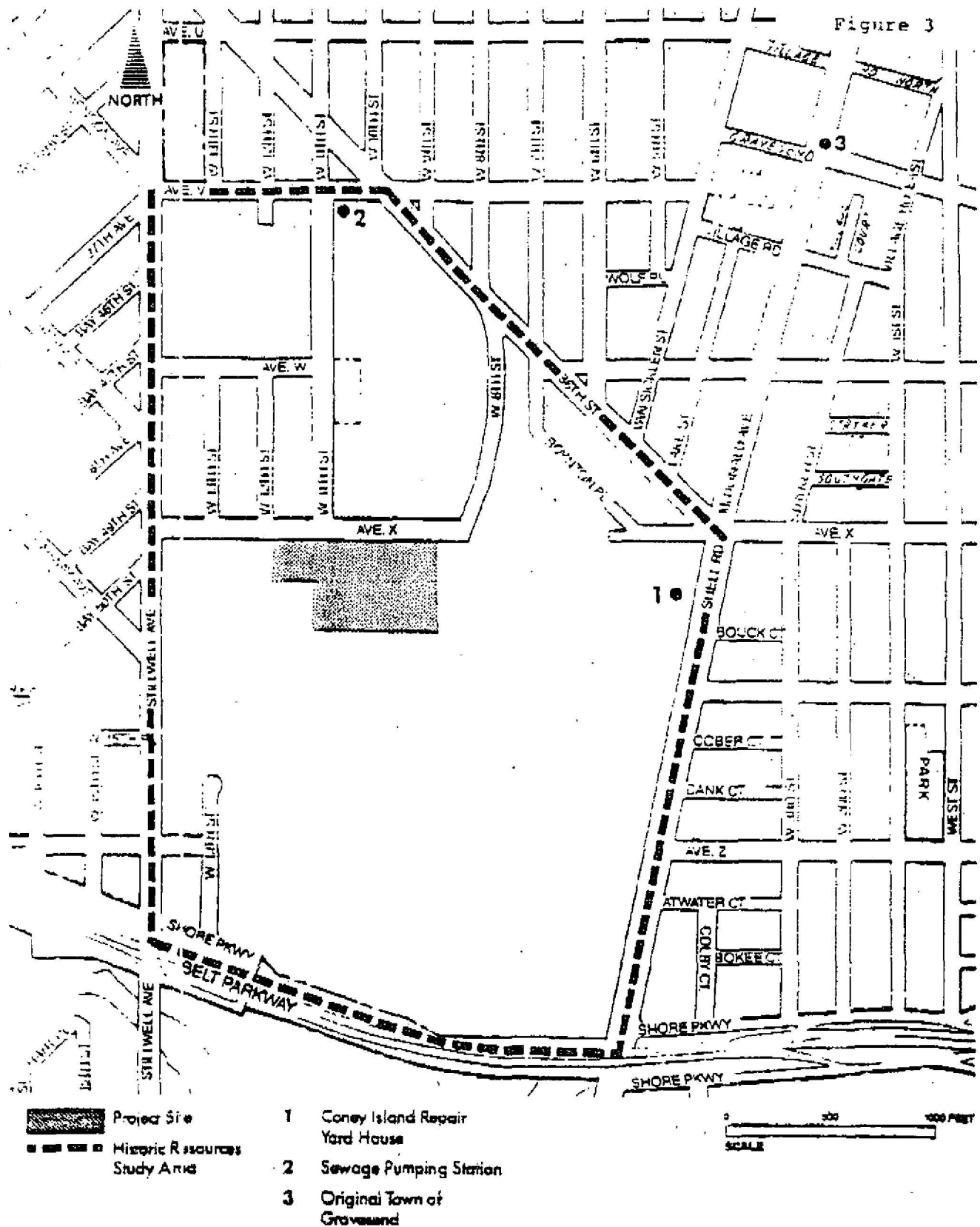
WINGS CO.



109

ROCK LINE MAP  
BOROUGH OF BROOKLYN  
SCALE 1"=200'

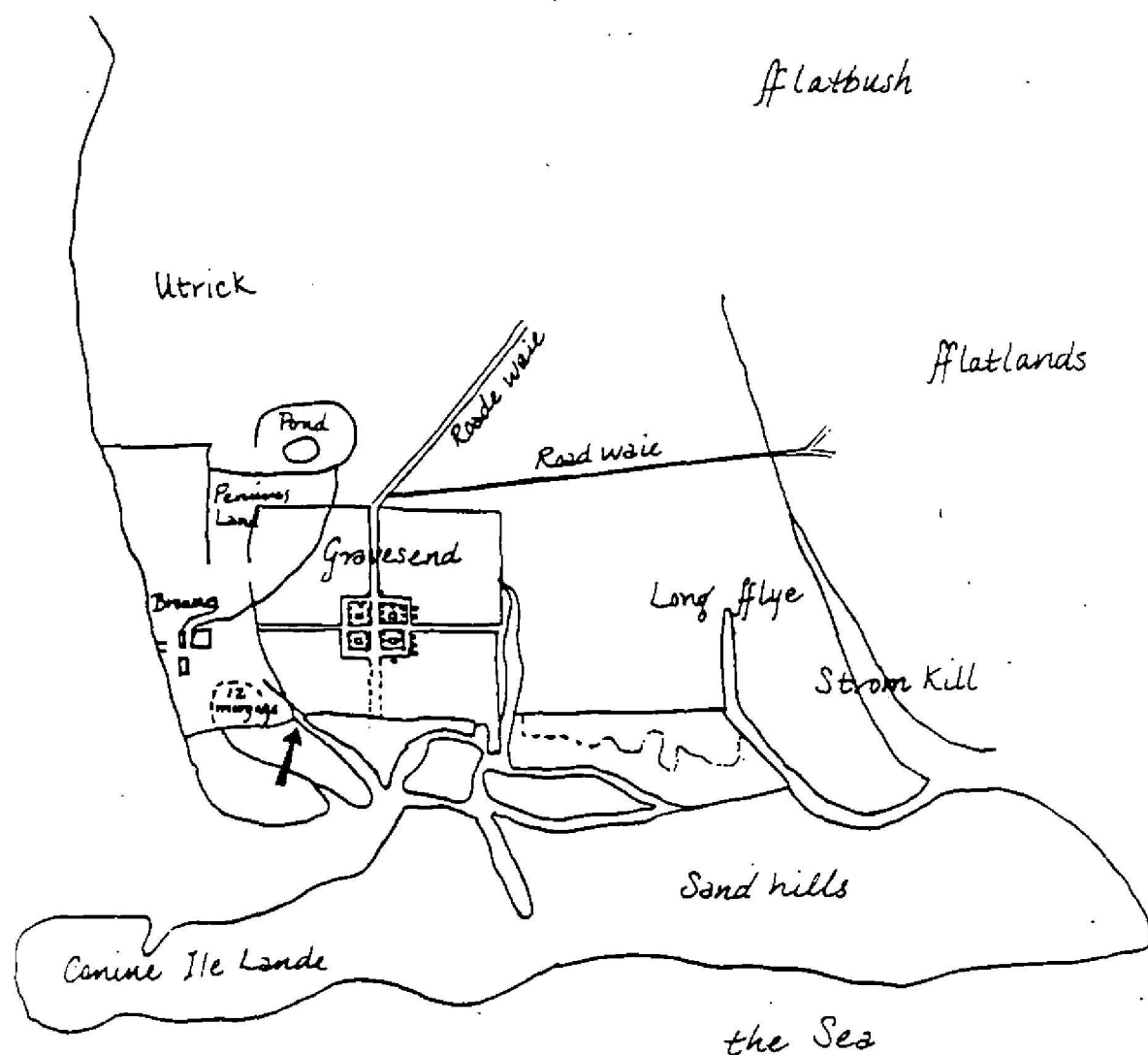
W.P.A. 1936



The map illustrates the Rockaway Peninsula, a significant geographical feature in Queens, New York. It is bounded by the Hudson River to the west, the East River to the north, and the Atlantic Ocean to the east. The peninsula is divided into several distinct areas, including Upper New York Bay and Lower New York Bay. Key locations marked on the map include the Rockaway Peninsula, the Rockaway Inlet, and the Rockaway Beach. Major roads and highways are shown, such as the FDR Expressway, the Cross Island Parkway, and the Rockaway Parkway. The map also depicts various parks, schools, and public facilities. A scale bar at the top right indicates distances in miles (0 to 3). A north arrow is located at the bottom left.

Map of Native American Trails, Planting Areas and  
Habitation Sites, with Indian Names of Local Origin.  
(Grumet 1981:70)

Figure 5



FACSIMILE COPY OF A PORTION OF  
 "A PLOTTE OFF YE SITUATION OF YE.  
 TOWNS AND PLACES ON YE WEST END OF  
 LONG ISLAND TO HEMPSTEAD BOUNDS. LAID  
 DOWN BY ME, HUBBARDE, JULY 30, 1666."

FROM: STILES 1883:190. R9S



Figure 6





Figure 7

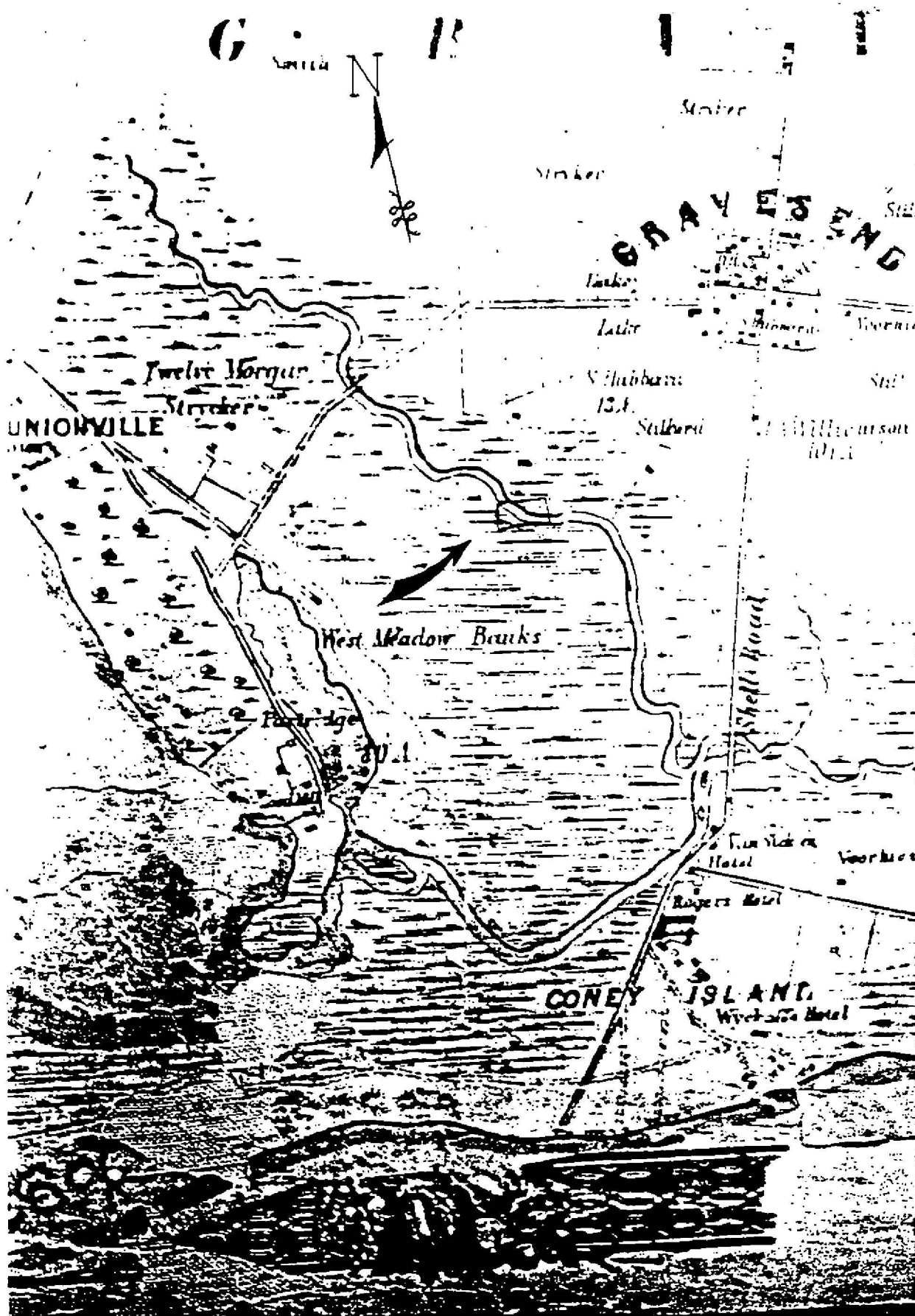




Figure 8

Figure 9

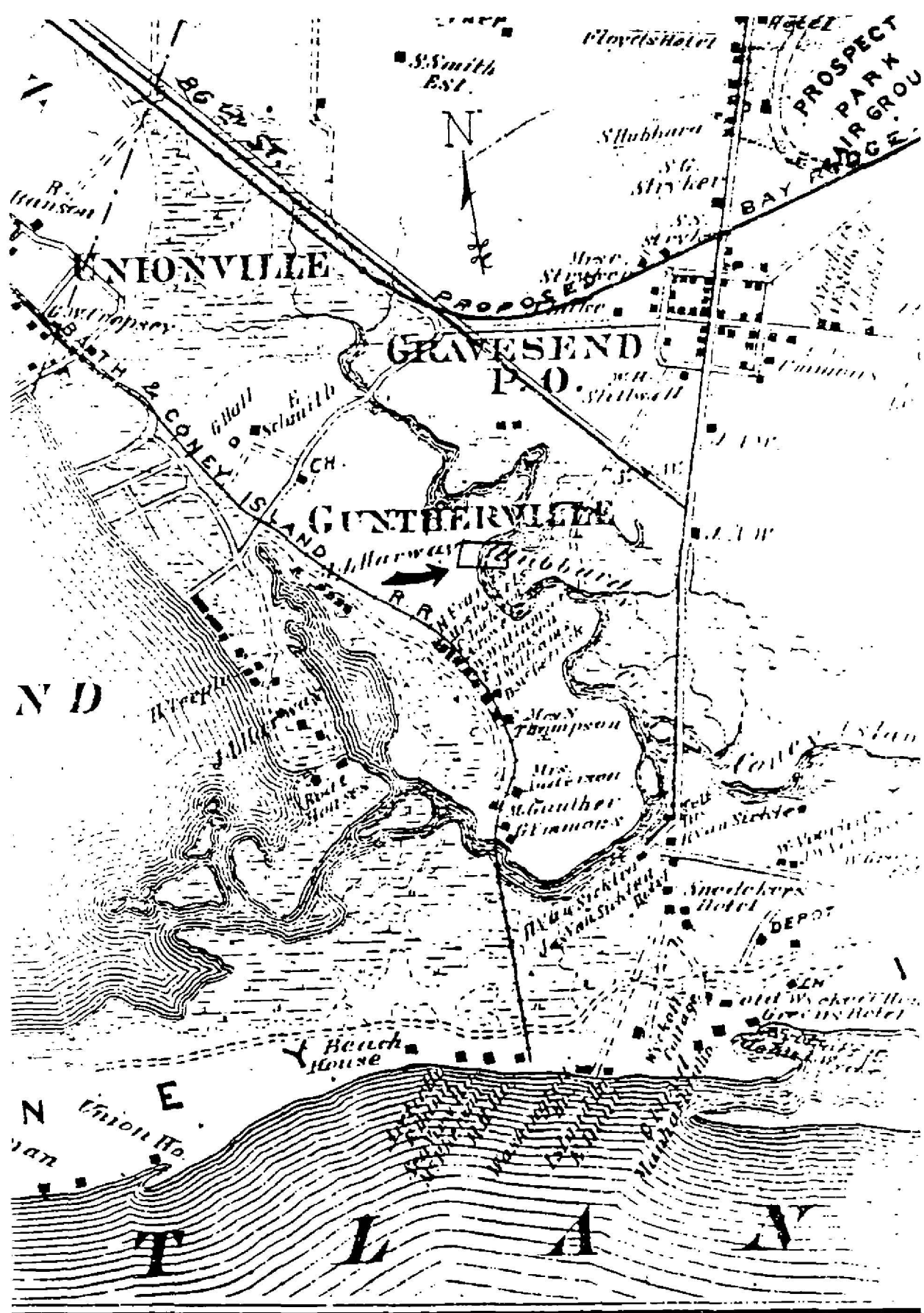
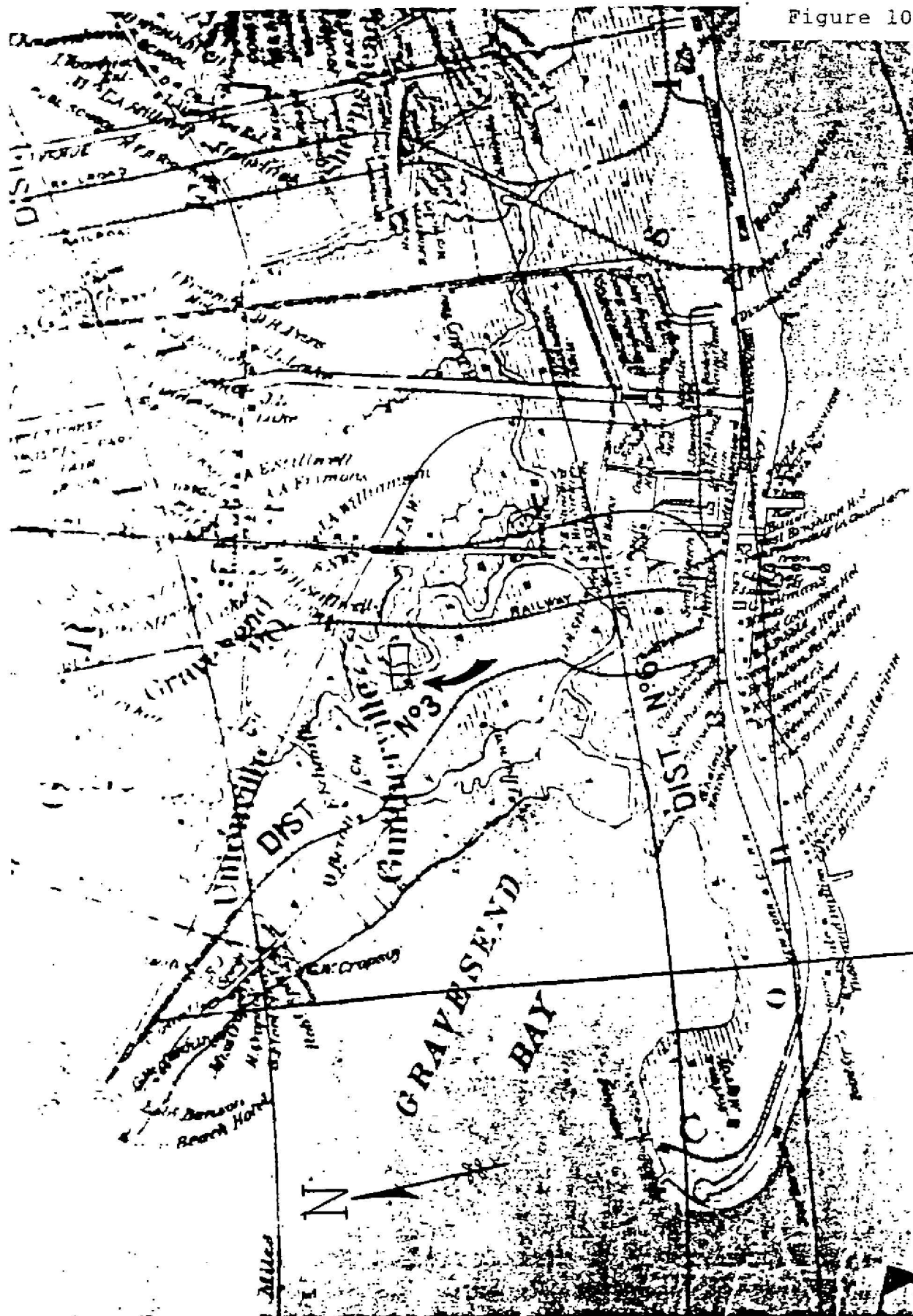
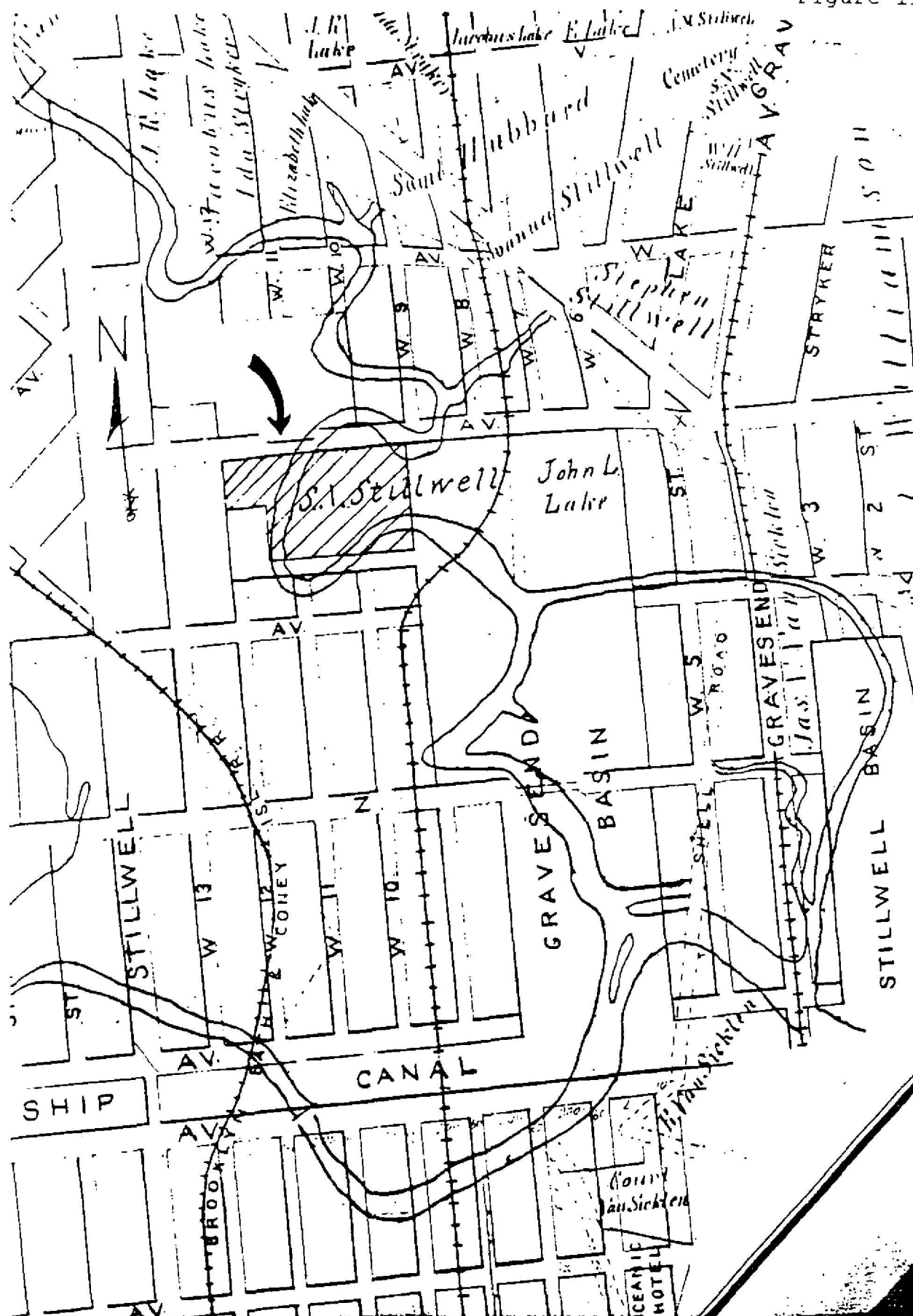


Figure 10





M. Dripps Atlas of the Townships of  
 New Utrecht, Gravesend, Flatbush, Flatlands  
 and New Lots, Kings County, NY, 1877

Figure 12

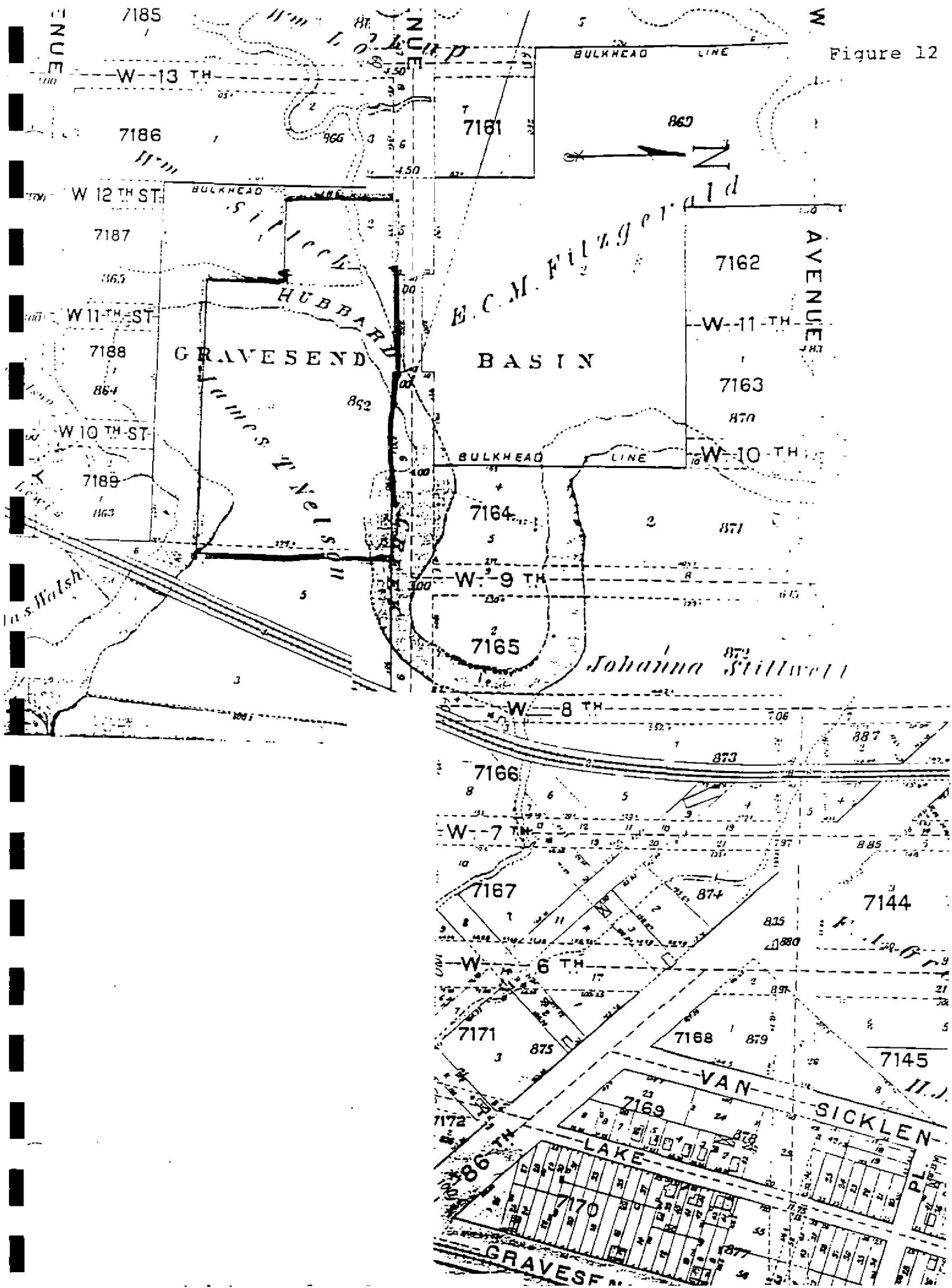


Figure 13





Figure 14

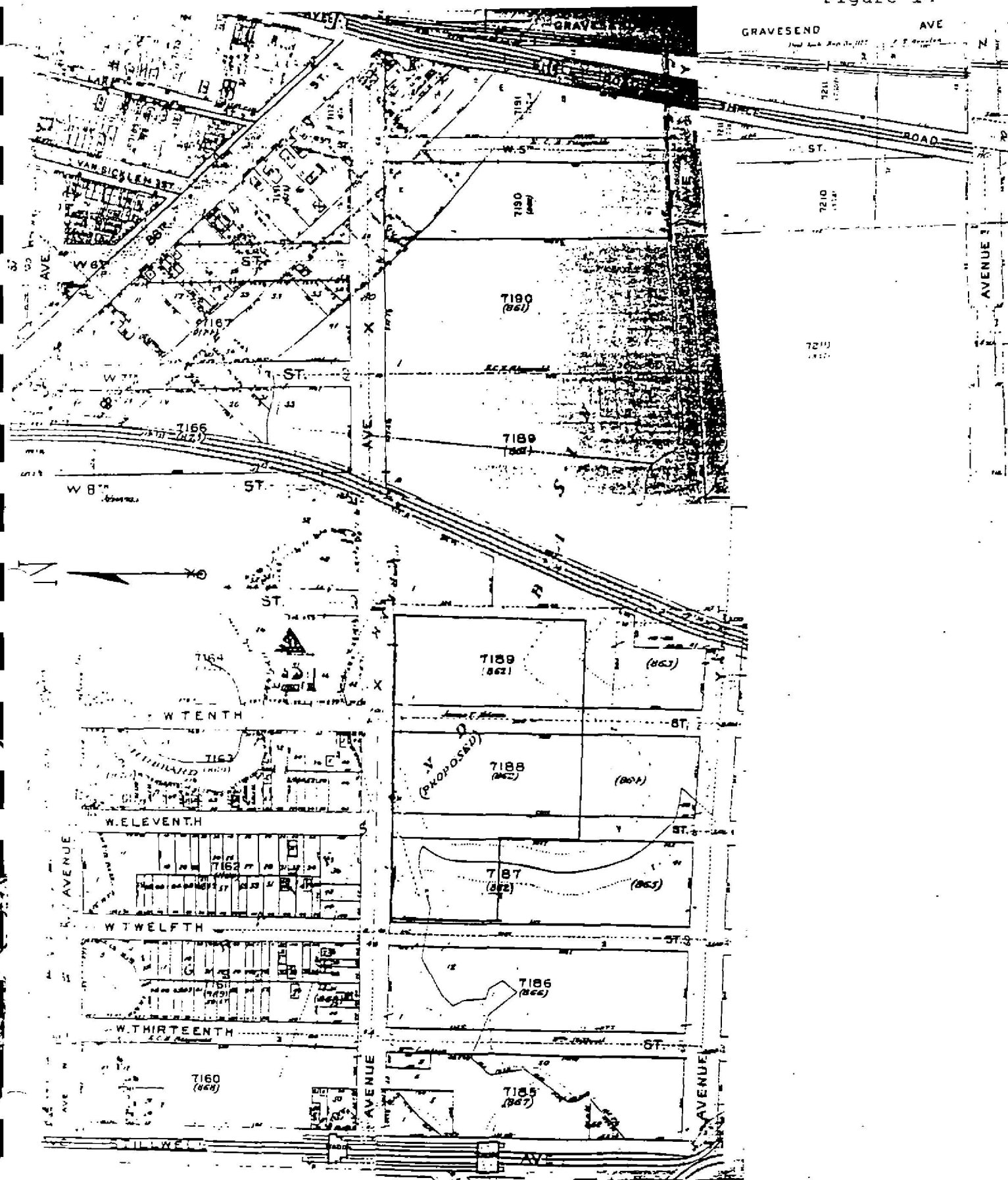
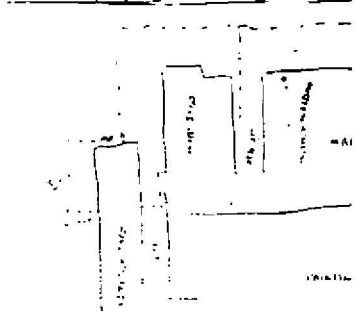
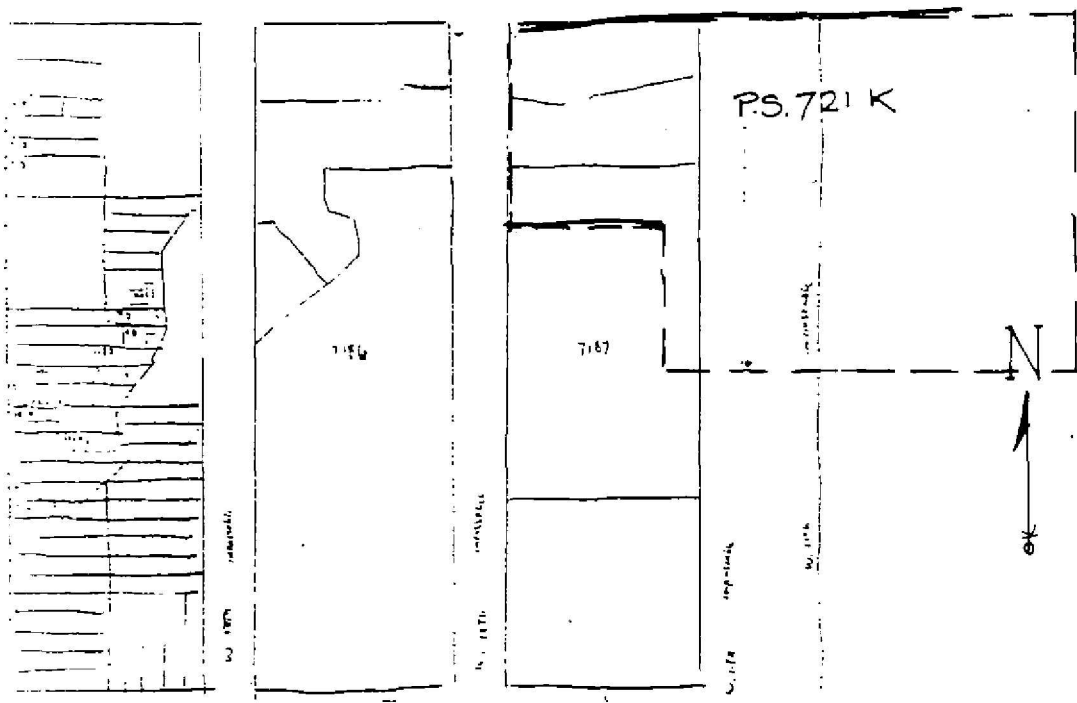
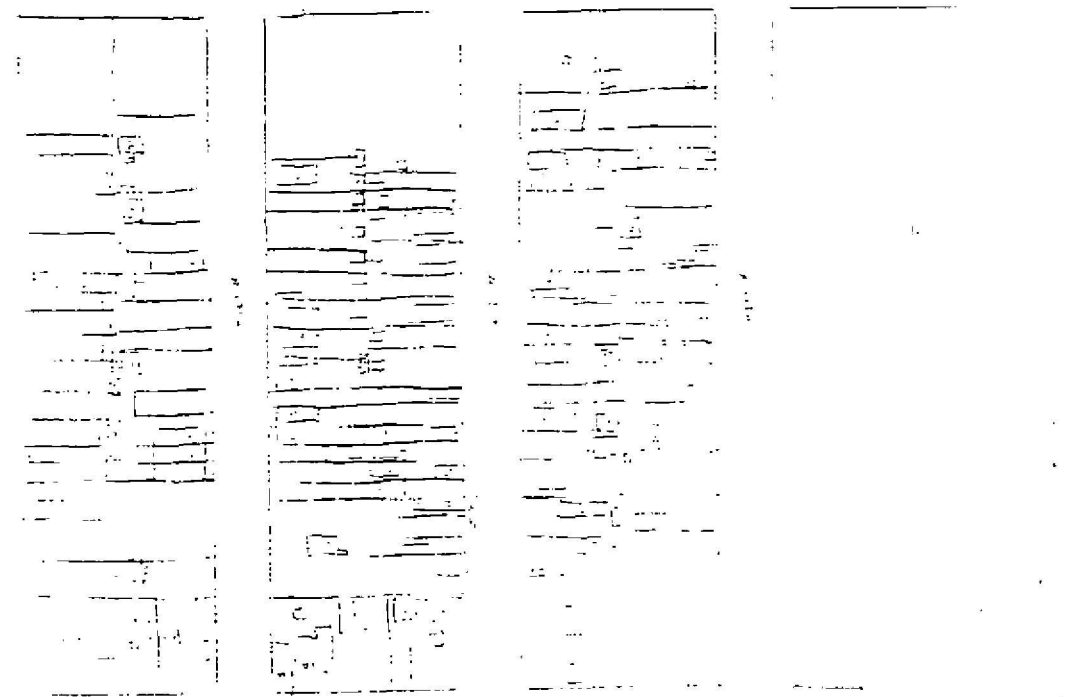


Figure 15



NY Rapid Transit Corp. Coney Island Shops

car storage yard  
(full of tracks)

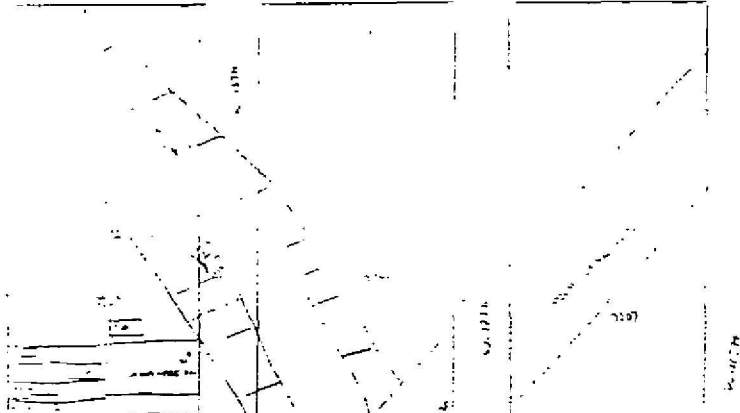
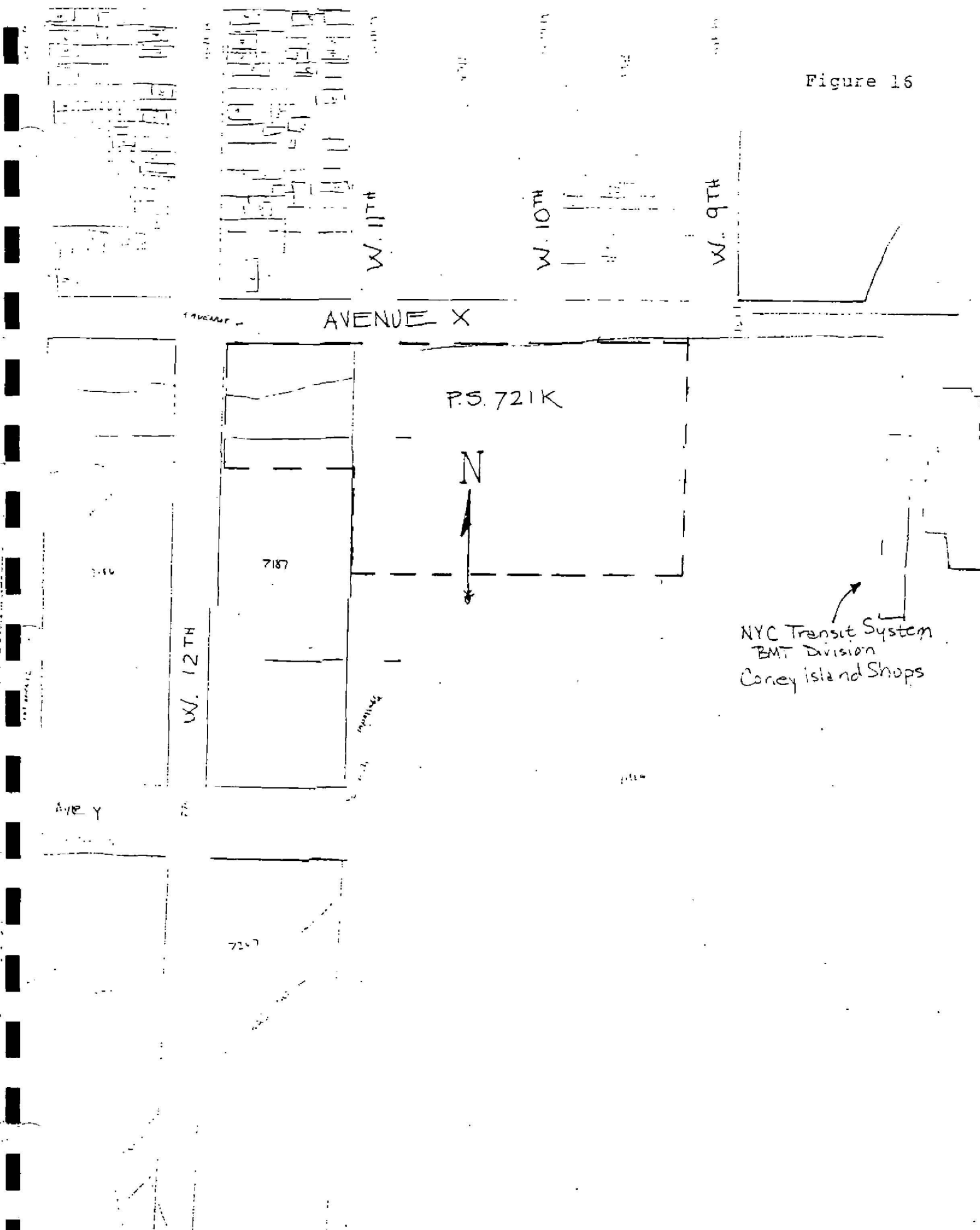




Figure 16



1990 SANDORN - Please not that this map  
seems to have a lot of problem, with scale.

See Volume Fourteen, Borough of B

49

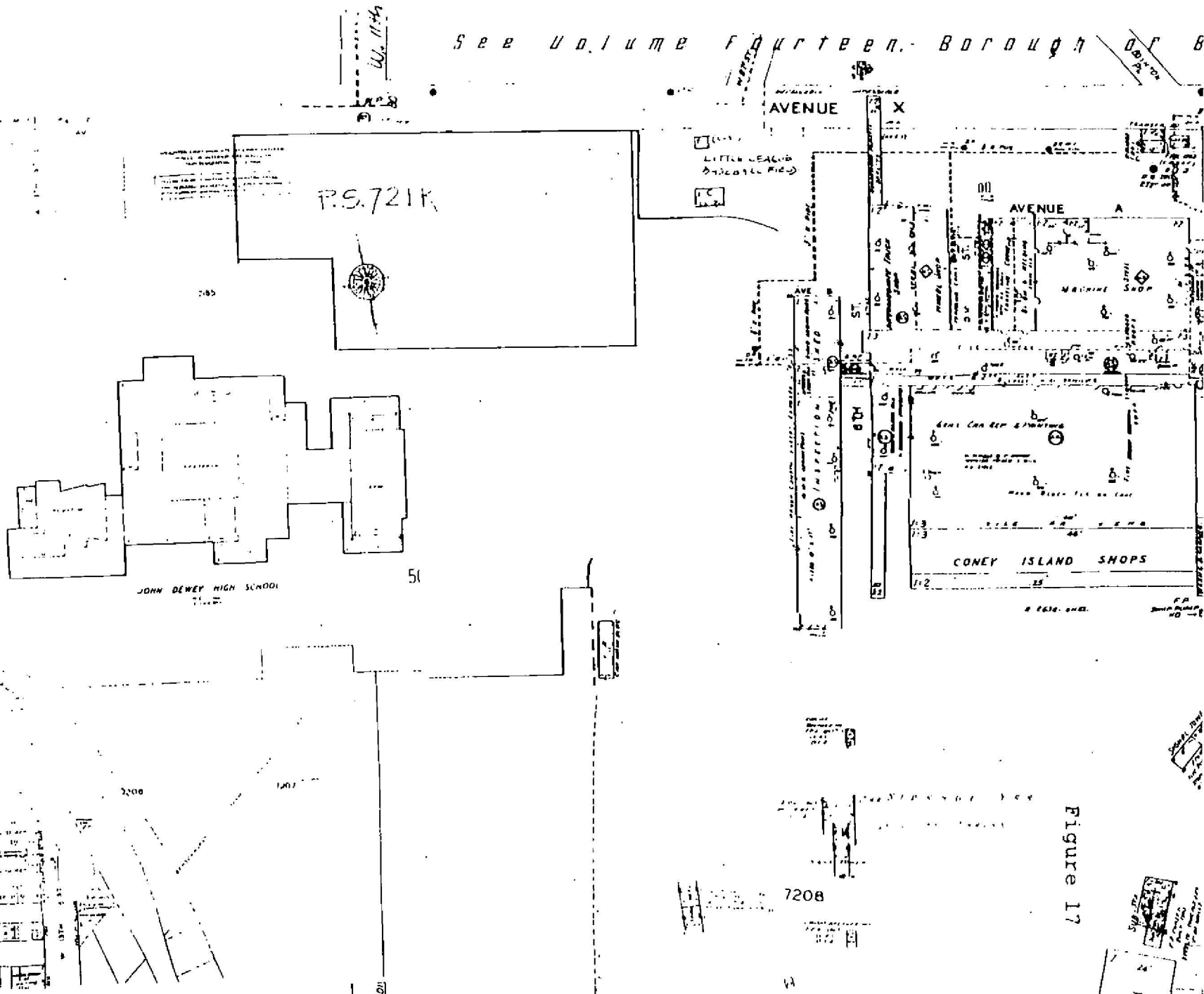


Figure 17

Photo 1: Project site,  
west to east, taken  
from unregulated,  
unofficial W. 12th St.  
roadbed, connecting  
Ave. X and High School  
campus.

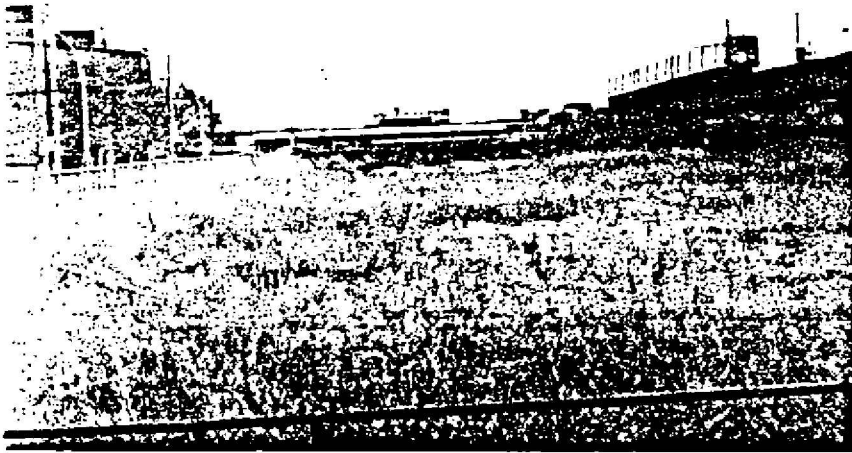
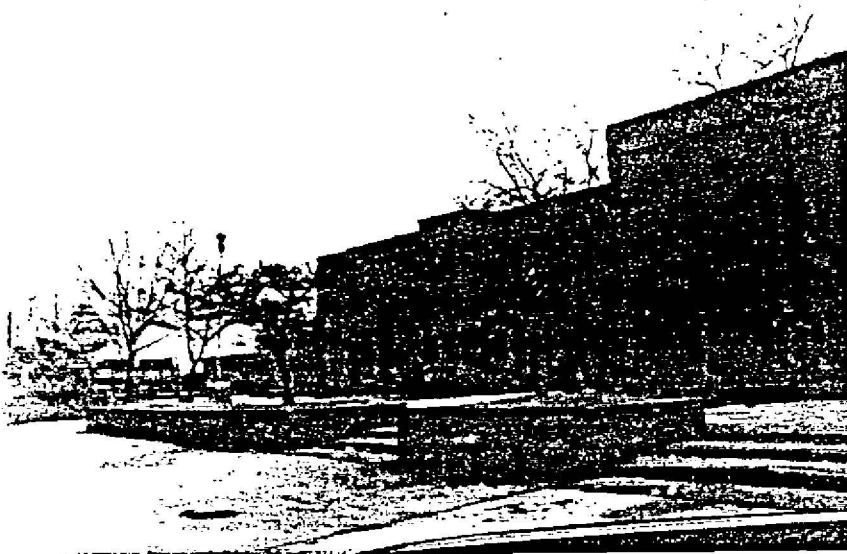


Photo 2: High School  
facility abutting the  
south, southeastern  
portion of the pro-  
ject site. Taken  
from west to east.



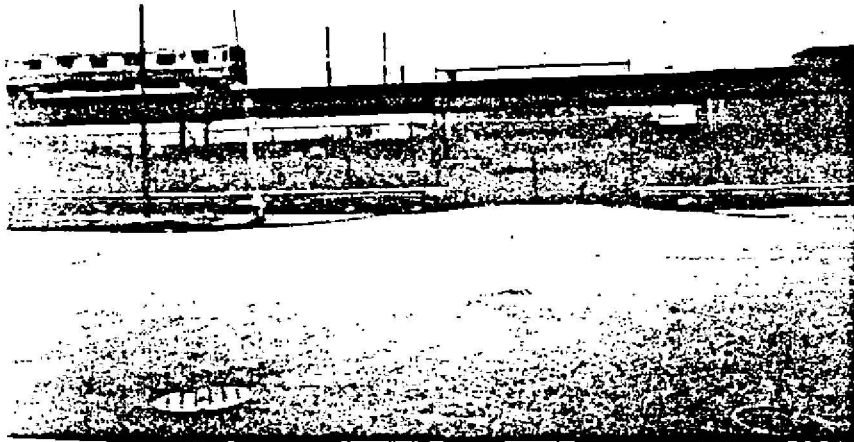


Photo 3: North to south, project site from intersection of W. 11th St. and Ave. X. Note: cars on elevated spur track, used in conjunction with the Coney Island Repair Barn Yard.



Photo 4: Northeast to southwest, across baseball fields to project site.

APPENDIX A

CORRESPONDENCE WITH THE NEW YORK STATE MUSEUM

PROJECT: 145 721 K

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

NAME

Bill Kunka

ADDRESS

P.O. Box 331, Buffalo, CT 06011

AC PHONE

203 408-1447

AGENCY/COMPANY/INSTITUTION REPRESENTED

Historical Preservation Inc.

The screening file gives site locations within generalized .5 mile circles.

PURPOSE OF REQUEST: (Identify the proposed project and contractor, indicate the nature of the work, depth and extent of ground disturbance)

145 721 K

EVENTUAL DISTRIBUTION OF DATA: (Specify range of data use and distribution, publication, reproduction, etc.).

Grant, manuscript & reproduction

REQUESTED APPOINTMENT:

1st Choice

date

time (or any)

2nd Choice

date

time (or any)

(Appointments are on the hour between 9 a.m. and 12 noon on Wednesday of each week. Mail this request at least two weeks in advance of the appointment date. You will be notified by mail of your appointment date and time).

U.S.G.S. 7.5' MAPS REQUESTED: (indicate 15' maps)

by Walter

FOR THE FOLLOWING attach the project map, site data list and self-addressed envelope to this request. Responses will be mailed or provided on the following day.

The following site(s) may be within or adjacent to the project area. If so, please provide the location of:

SITE #. 7.5' MAP

none

X Please provide a sensitivity rating for the attached project area.

I understand that the information provided is to be used solely for the preparation of an environmental impact statement as required by State or Federal law.

(Signature)

(Date)

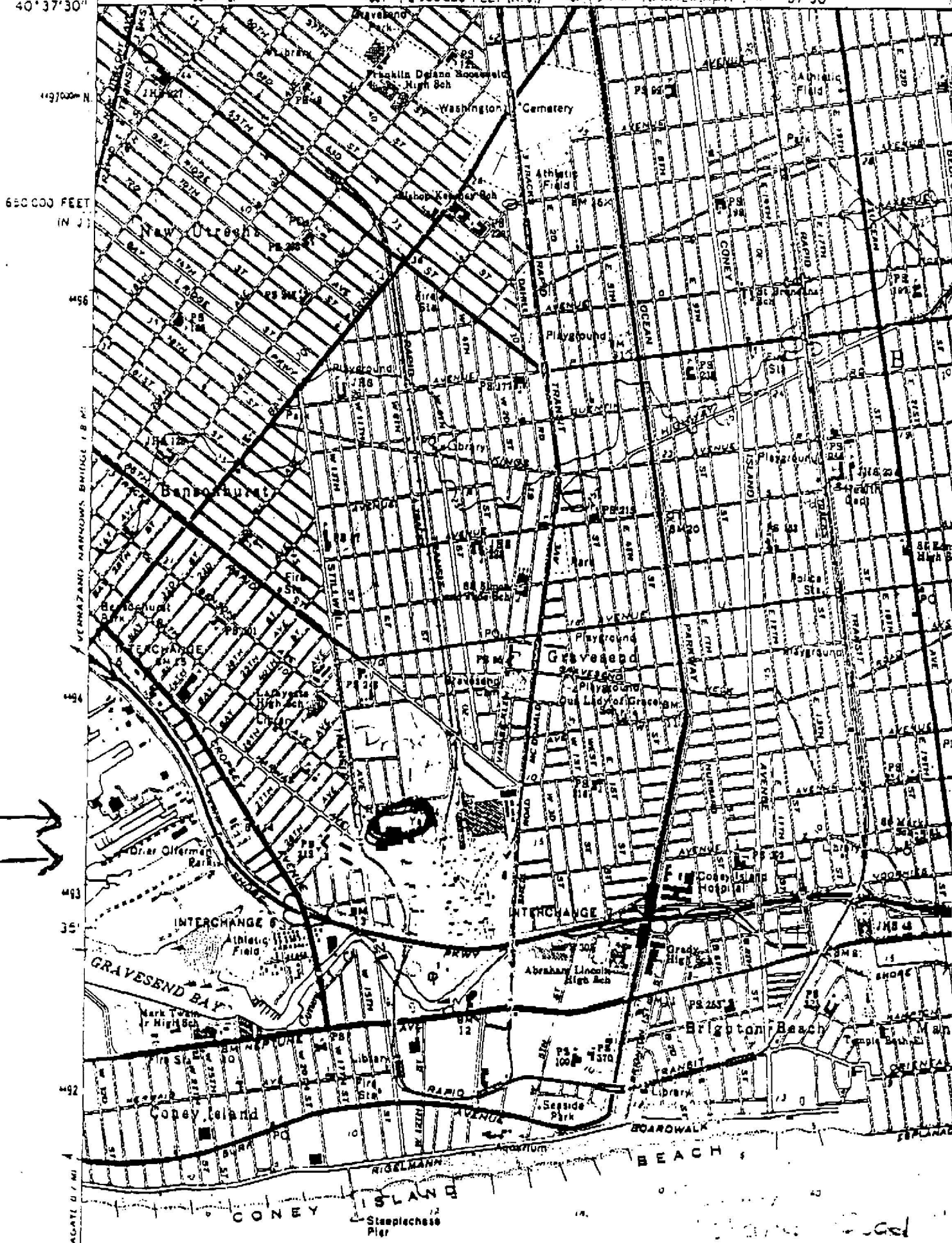
40° 37' 30" 74° 00'

£ 500000

5861 2 190 000 FEET (N. J.)

387 3 4 MI TO INTERSTATE

57'30"





APPENDIX B

SOIL BORINGS DATA

NEW YORK STATE MUSEUM PREHISTORIC ARCHAEOLOGICAL SITE FILES

EVALUATION OF ARCHAEOLOGICAL SENSITIVITY FOR PREHISTORIC (INDIAN) SITES

Examination of the data suggests that the location indicated has the following sensitivity rating:

- ☐ HIGHER THAN AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- ☐ AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- ☐ LOWER THAN AVERAGE PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.
- ☒ MIXED PROBABILITY OF PRODUCING PREHISTORIC ARCHAEOLOGICAL DATA.

The reasons for this finding are given below:

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

COMMENTS:

## APPENDIX B

### Boring Log

Borings on the Site of Shorefront High School (now John Dewey High School) at Avenue X and Stillwell Avenue, Brooklyn. Made for the Board of Education Bureau of Construction, City of New York by Archer Drilling Co., Inc., 1-9-65. Elevations refer to Brooklyn Topographical Bureau Datum.

Boring #	1	4	35	39	42
Surface	12.4'	11.8'	12.6'	12.2'	12.2'
Elev., 1st Layer	Misc. fill	Misc. fill	Misc. fill	Misc. fill	Misc. fill
Elev. Top 2nd Layer	-4.6'	-7.7'	-13.4'	-1.8'	-8.8'
	Gray fine to med. sand	Brown peat, trace silt	Brown peat	Brown peat	Brown peat
Elev., Bot. 2nd Layer	not reached -37.6'	-14.2'	-15.9'	-7.8'	-14.8'
Boring #	42	44	56	57	59
Surf. Elev., 1st Layer	12.7'	12.4'	14.2'	13.6'	14.4'
	Misc. fill	Misc. fill	Misc. fill	Misc. fill	Misc. fill
Elev. Top 2nd Layer	-7.8'	-5.6'	-2.8'	-5.4'	-3.6'
	Brown peat	Dk. gray silt & brwn. peat	Gray silt trace decayed vegetation		Brown peat
Elev., Bot. 2nd Layer	-13.3'	-11.6'	-12.8'	-15.4'	-9.6'

# APPENDIX B

## Boring Log (CONTINUED)

Boring #	60	62	63	64	65	66
Surf.	12.1'	12.7'	11.4'	12.3'	10.7'	12.0'
Elev., 1st Layer	Misc. fill	Misc. fill	Misc. fill	Misc. fill	Misc. fill	Misc. fill
Elev., Top 2nd Layer	-4.9'	-10.3'	-6.6'	-4.7'	-4.3'	0.0'
	Brown peat	Dk. gray org. silt tr. dec. veg.	Peat with some dark gray silt		---	Brown fine sand some silt
Elev., Bot. 2nd Layer	-10.9'	-10.3'	-6.6'	-8.7'	-17.3'	-11.0'

## Water Table

(Water depth listed measured from ground surface)

Range:     Boring #1    12' 2" to 13' 8"  
              Boring #4    11' 1" to 13' 6"

# BORING MAP

