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NEWTOWN CREEK WATER POLLUTION CONTROL PLANT UPGRADING

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ARCHAEOLOGICAL ASSESSMENT REPORT

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HISTORICAL
PERSPECTIVES INC.



PHASE 1A ARCHAEOLOGICAL ASSESSMENT REPORT
for the
NEWTOWN CREEK WATER POLLUTION CONTROL PLANT UPGRADING
GREENPOINT, NEW YORK
CEQR NO. 89 - 170K

Prepared

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I. INTRODUCTION

The New York City Department of Environmental Protection has proposed the expansion of its 1,392,142 square foot Newtown Creek Water Pollution Control Plant located near Newtown Creek in Greenpoint, Brooklyn. The plant receives sewage pumped under the East River from Manhattan, and is presently operating at approximately twenty-five million gallons per day over design and permit capacity. To meet the demands of this volume of sewage, a new digester and thickener building as well as part of a new secondary treatment center are planned for a site abutting the north side of the present plant (CEQR No. 89-170K). This area includes Block 2515, bordered by Provost, Green, and Freeman Streets and Whale Creek Canal, as well as that part of Green Street east of Provost, and the southeastern quarter of Freeman Street. A 4,640 square foot part of Whale Creek Canal is to be bulkheaded and filled. (See Figures 1 and 2)

In order to satisfy the requirements of the City Environmental Quality Review, the Department of Environmental Protection is required to submit an archaeological assessment on the proposed site. The purpose of such a documentary study is to determine the possibility that the site has ever contained prehistoric or historical cultural resources, their significance, and the likelihood that these resources have survived subsequent episodes of ground disturbance. The New York City Landmarks Preservation Commission (LPC) has reviewed the project and has determined that the study area may have a significant potential for containing prehistoric Native American remains. The following archaeological assessment report, prepared by Historical Perspectives, Inc. and based on an archival study of the site history and development, addresses the concerns for the preservation of cultural resources by evaluating the likelihood that potentially significant cultural resources ever existed on Block 2515 and that such resources might still exist.

II. METHODOLOGY

Historical Perspectives, Inc. has completed six tasks in order to satisfy LPC's requirements for assessing the archaeological potential of the project area. These tasks were necessary in order to answer the following central questions:

1. What is the probability that the Newtown Creek Water Pollution Control Plant Upgrading site has ever contained significant prehistoric or historical cultural resources?
2. What is the possibility that these resources have survived subsurface disturbances associated with urbanization?

Documentary Research

A review of primary and secondary literature was conducted in order to determine prehistoric and historical land use patterns as well as previous and contemporary topographical conditions both in the project area and the region. The collections of the New York Public Library and the Brooklyn Historical Society were utilized in the course of research. Particularly useful was William L. Felter's 1919 work, Historic Greenpoint, both for its historical narrative and its contemporary observations, Henry Stiles' History of the City of Brooklyn, New York, and the Brooklyn Historical Society's Newspaper Clippings File.

Long Island has had a long history of archaeological research. Since the 1920s amateur and professional archaeologists have conducted excavations and published reports on their findings. Available archaeological books, reports, and journals were consulted for previous archaeological investigations conducted in Brooklyn and the rest of Long Island. Works on the Indian exploitation of western Long Island by Robert Grumet and Reginald Bolton were also consulted.

Buildings Department Block and Lot files were consulted to assemble a building history for the project area. Building records were also used with soil boring data to determine the extent and types of subsurface disturbance.

Cartographic Research

Historical maps and atlases dating from the seventeenth through the twentieth centuries were examined in the New York Public Library and the Brooklyn Historical Society. This research was conducted to determine the study area's original topography and

environmental conditions, which is necessary in order to develop hypotheses of prehistoric occupations, as well as to chronicle subsequent changes to the landscape such as filling episodes and the erection of buildings in the historical period. Cartographic research also supports and augments building records in assessing the types and extent of disturbances.

Informant Interviews

In order to augment the data collected from the records research, current residents and former residents of Greenpoint were interviewed for insights into recent neighborhood history and life.

State File Review

Requests for information on inventoried archaeological sites were directed to the New York State Historic Preservation Office and the New York State Museum, to determine whether any prehistoric or historical resources have been documented in the vicinity of the project area. These institutions also provided their assessments of potential archaeological significance based on previously developed models. This correspondence may be found in Appendix A of this report.

Field Visit and Photographic Record

A field visit for photographic reconnaissance and examination of present landform, elevation, and other conditions was carried out in October 1989 (See 1989 Site Photographs A-G). No subsurface investigations were conducted.

III. ENVIRONMENTAL SETTING

The Wisconsin was the last great episode of the North American Pleistocene. It began tens of thousands of years ago and in the Northeast did not begin to melt until after 18,000 years ago. With the final retreat of the Wisconsinian Glaciation, Long Island, a section of the coastal plain [i.e., elevated sea bottom demonstrating low topographic relief and extensive marshy tracts (Eisenberg 1978:7)] was covered with a layer of glacial drift brought forward by the retreating ice. The terminal moraine forms the "backbone" of the island, two great ridges that form the north (Harbor Hill Moraine) and south (Ronkonkoma Moraine) forks of Long Island, and combine west of central Nassau County to form a single ridge marking the limit of advance and temporary stabilizations of the ice sheets. The moraine is almost two hundred feet high in some places in Brooklyn and Queens (Gratacap 1901:106-107; Schuberth 1968:181, 184). In Kings County the moraine lies approximately 4.9 miles south of the project area, along Eastern Parkway. North of the moraine the complex rising and subsidence of the coastal plain, relieved of its glacial burden, and the rising sea level, caused by the volume of melting ice, created the coastline of embayed rivers or estuaries, with extensive marsh tracts, which stabilized approximately 3,000 years ago (Schuberth 1968:195, 199). From available maps (e.g., the Sir Henry Clinton Map of 1781 and the 1849 Sidney Map), we know that until the second half of the nineteenth century, the study area was situated in such an inundated marsh or meadow near the shore of Newtown Creek and its tributary Whale Creek, which drained the study area environs. (See Figure 3)

The stream [Newtown Creek] and its tributaries had their rise in wooded swamps, flaggy pools, fed by flowing springs, all of which opened out in a broad expanse of lowlands, consisting of extensive marshes, muddy flats, and bogs. On every tide these marshy tracts and adjacent lowlands were flooded, a condition caused mainly by the backing up of the two tides from the west and east, which met at Hell Gate (Harper 1901:339-40).

Filling episodes since the nineteenth century, as well as the bulkheading of Whale Creek and its conversion to Whale Creek Canal, have greatly altered the site topography. The current site elevation is between 5 and 15 feet above sea level (U.S.G.S. Topographic Map, Brooklyn Quadrangle). The edge of Whale Creek Canal is approximately 5 feet above sea level and the Canal is 7.5 feet deep in the area to be filled (WPA Rock Line Map of Brooklyn, 1935; Record of Borings Newtown Creek PCP, 1962 and Sewage Treatment Works, 1942).

Presently, the site retains both newly constructed and functioning buildings on the northwest sector of Block 2515 and empty masonry

garages and warehouses on the eastern half of the block. The vacant areas are paved, with ailanthus, weeds and grasses growing through the cracks. The edge of the canal slopes sharply to the water on either side of a decayed wooden bulkhead. The slope, composed of large stones and gravel, has a thick cover of tall plants, common to disturbed wetland areas, on the southern end of the Canal frontage (See photograph B).

IV. PREHISTORIC PERIOD

The archaeological evidence of the Indian habitation of Long Island is generally divided into four periods, based on changing diet, tool kit, and the presence of ceramics and agriculture - in essence, the material remains of adapting Native American cultures. These periods are known as the Paleo-Indian (c. 13,000 to 10,000 years ago), the Archaic (c. 10,000 to 2,700 years ago), the Woodland (c. 2,700 to 500 years ago) and the European Contact Period (c. 500 to 300 years ago). Before it is possible to formulate hypotheses it is first necessary to review these different cultural periods in order to determine the attractiveness of the DEP project area to Indian settlement patterns.

Paleo-Indian Period (c. 13,000 to 10,000 years ago)

With the retreat of the ice at the end of the Wisconsin glaciation, beginning approximately 18,000 years ago, the Long Island environment was a forbidding Arctic landscape, which had little carrying capacity for early man until about 13,500 years Before Present (BP). Other paleo-environmental studies indicate a tundra environment of mosses, grasses and low-growing shrubs for the southern regions of New York until about 12,000 BP (Lavin 1988:01). As the warming trend (which caused the glacial retreat) continued, pollen analysis has shown that the tundra conditions retreated with the ice sheet and were replaced by a cold, wet climate (compared to modern conditions) with clumps of spruce and fir trees and scattered herbaceous growth such as grasses, sedges, and willows. Among the fauna inhabiting this environment were mastodon, mammoth, barren-ground caribou, giant beaver, elk, and deer as well as many smaller mammals, whose bones have been recovered in Pleistocene deposits in New York and New England (Ritchie 1980:13). During this period, such a great volume of water was still trapped in the glaciers that the sea level was much lower than at present. With the sea level "several hundred feet lower," the continental shelf, which underlies Long Island, was a broad fertile plain exposed "for a distance of about 100 kilometers," joining the island to the mainland. The number and distribution of the teeth of mammoths and mastodon recovered from the continental shelf suggest that they roamed there in large numbers, making the area attractive as well as accessible to Paleo-Indian hunters (Saxon 1973:251-252, 259-260). When the glaciers melted and sea levels rose, the shelf was inundated, and fresh water glacial Lake Flushing was flooded by the Atlantic Ocean, forming Long Island Sound. The "mega-fauna" continued to roam Long Island, followed by Paleo-Indian hunters. By the end of the period, approximately 10,000 years BP, deciduous trees such as oak and hickory had begun to dominate all along the eastern seaboard, and the Pleistocene "mega-fauna" were becoming extinct. Whether or not this was caused by prehistoric hunting, they were replaced by the "temperate climate fauna indigenous today (Gwynne 1982:190-191).

The tool kit of the Paleo-Indian indicates a reliance on hunting, particularly the hunting of mega-fauna. The diagnostic artifact of the Paleo-Indian period is the fluted point, a lanceolate point usually two to five inches in length, with parallel, slightly excurvate edges and channeled or fluted faces. Usually made from a high-grade silicious stone, such as flints and jaspers often exotic to the region, the wide-ranging quarry sources indicate a nomadic lifestyle (Ritchie 1980:3-6). At present no fluted points are known to have been recovered from Kings County, and only one in Queens. Although 14 have been recovered on Long Island as a whole, the paucity of finds in Kings and Queens Counties is probably due to the destruction of sites by the intensive development there (Saxon 1973:251, 259). Other tools include scrapers, knives, borers, and gravers, used for butchering meat and preparing and processing hides, bone, and wood.

Excavated campsites at Port Mobil on Staten Island and the Davis Site in Essex County near Lake Champlain suggest that Paleo-Indians were a highly mobile population which roamed vast uninhabited areas in bands of about twenty members, following the migratory herds of proboscidiens.

Their sites include temporary campsites and lithic reduction stations. Although in choosing campsites Paleo-Indians showed a predilection for well-elevated areas, 30 percent of Paleo-Indian campsites in the Northeast are found near the margins of low swampy ground formerly occupied by lakes. Access to main waterways and large fertile valleys were preferred, since these areas support the heaviest populations of food animals. Difficulties in locating these sites are due to their small size as well as the substantial rise in sea level occurring since that period which has submerged many Paleo-Indian sites, particularly those on the continental shelf.

Archaic Period (10,000 to 2,700 years ago)

The cultures of the Archaic Period are considered to be Indian adaptations to the changed environmental conditions during the warm and dry hypersithermal interval, during which temperatures are believed to have been considerably warmer than at present. The spruce and pine forest dwindled further, and mixed hardwoods - oak, hickory, chestnut, beech, and elm - became dominant. This essentially modern open oak woodlands pattern provided ample food for mast-eaters such as white-tailed deer, turkey, moose, beaver and even black bear, and thus the hardwood forest provided a greater carrying capacity for Archaic man (Ritchie 1980:32). During the Early and Middle Archaic, saltwater fish and shellfish apparently did not play an important dietary role. Although oysters were abundant on the South Atlantic Shelf by 12,000 years ago, they did not become a dietary staple until the Late Archaic. This is mainly because during the early and middle stages the

coastal areas were relatively barren environments, providing little aside from oysters. Artifacts recovered from Middle Archaic shell heaps indicate that these sites were temporary processing stations. Larger base camps, indicating a semi-sedentary lifestyle, were generally inland, near freshwater bogs and lakes, which were far more hospitable, providing freshwater, fish, waterfowl, and attracting deer and other game animals (Lavin 1988:103-104). Archaic man was still highly mobile, but within well-defined territorial limits, moving between seasonally exploitable lacustrine and riverine food resources. Although there was little storable surplus, meat and fish could be dried or smoked, and plant foods such as acorns, chestnuts, beech nuts, and various seeds were storable. Bark-lined and roofed storage pits for this purpose have been found in up-state New York.

The Archaic tool kit reflects the greater reliance upon seeds and nuts, with grinding tools such as mortars and pestles represented, bone fishhooks and notched pebble netsinkers for fishing, woodworking tools such as adzes, celts, axes, and scrapers and many general purpose tools as well.

The warmer and drier conditions during the thermal maximum, which occurred after 7,500 years BP and definitely by 5,000 to 2,000 years BP, caused the shrinkage of interior lakes and streams, resulting in the crowding of Archaic peoples at the larger and therefore more reliable food and water sources. The population pressure and resource competition thus caused is reflected in the increased incidence of burial ceremonialism during the Late and Terminal Archaic. At the end of this warm period, between 4,000 and 3,000 years ago, cooler temperatures slowed the melting of the polar ice cap, substantially reducing the rate of sea level rise. This enabled silt deposits to build up along coasts and at the mouths of rivers and streams like Newtown and Whale Creeks, which in turn developed into salt marshes. Established salt grasses such as *Spartina* trapped more silt, building up the marsh to the high tide level, providing ideal environments for clam beds and scallops (Lavin 1988:106). Such salt marshes are incredibly rich in plant and animal life, providing food and breeding grounds for numerous species of fish, shellfish, birds, amphibia and mammals. As elevations rise toward the uplands, and salinity decreases further inland, different econiches are represented, often presenting a year round selection of exploitable plant and animal resources within close proximity to one another (Lavin 1988:108). During the Late and Terminal Archaic, coastal sites and the exploitation of shellfish resources were more heavily represented. The earliest known pottery type made its appearance during the Terminal Archaic (2,750 years BP), which enabled Archaic people to cook longer and more evenly the grains and plants now being gathered from the marshes (Lavin 1988:110). Many Early and Middle Archaic coastal sites have been flooded due to the general stabilization of the sea level since that time. Many Late Archaic coastal sites have also met the same fate. For example, the Late Archaic Wading River

Complex, four archaeological sites on the north shore of Suffolk County, was found on the edge of a salt marsh, on dry ground that ranges from only two to seven feet above mean high water (Wyatt 1982:71). At Shelter Island, Suffolk County, a small Late Archaic special purpose camp, probably for tool making and food processing, lies near tidal wetlands, and at its highest elevation is only five feet above mean high water (although its lowest points indicate a rise in water level since its occupation) (Witek 1988:21, 28). Closer to the project area, the Grantville Site in College Point, Queens County, approximately 6.3 miles east of Whale Creek, is located on a narrow promontory bounded on the west by Flushing Bay and on the east by a salt marsh (Smith 1950:173) (See Plate 1).

Woodland Period (c. 2,700 to 500 years ago)

By the beginning of the Woodland period, the climate had stabilized, becoming much as it is today. The trend toward increased exploitation of coastal resources which had begun at the end of the Archaic intensified, with site size and frequency growing until large semi-sedentary settlements appear in the Late Woodland. There are also indications that inland sites declined in number (Lavin 1988:106, 108, 110). The number and size of sites and artifact diversity indicate longer occupations and the increased use of non-local lithic materials. The regionalization of ceramic styles suggests an increasing territoriality. By the late Middle Woodland the disappearance of mortuary ceremonialism points to an increasingly successful adaptation to the environment. The largest sites of the Late Woodland, generally located on the coast or the intertidal zone near estuary heads, often contain evidence of structures, and are recognized as villages by some archaeologists. People of Woodland times preferred the same sites as those of the Late Archaic in order to exploit both salt and fresh water marsh environments (Lavin 1988:106, 108, 110). The sites are described as well-drained locations on bays and tidal streams close to sources of marine shellfish, with shell heaps or middens covering areas of up to three acres or "situated on tidal streams or coves" (Ritchie 1980:266, 269). Nearly all of the permanent sites are situated on tidal streams and bays on the second rise of ground above the water (Smith 1950:101). The documented Woodland sites nearest the project area are in Queens; the North Beach site is on Flushing Bay near LaGuardia Airport, six miles east of Whale Creek, the Grantville Site, discussed previously, with a Woodland as well as Archaic component, and the Wilkins Site in Whitestone, at the head of a small tidal cove ten miles east of Greenpoint (See Plates 2 and 3).

The Woodland tool kit shows some important additions, notably the bow and arrow for hunting (which remained an important food source), dugout boats and barbed bone/antler harpoons for sea fishing and hunting of sea mammals, cups, bowls and spoons of wood and tortoise shell, and the more widespread use of pottery for cooking. In fact, pottery sherds become the most common artifact

found on Woodland sites (Ritchie 1980:267-268). Horticulture appeared in certain areas during Middle to Late Woodland times, but very little evidence of it has been found in coastal New York. Although coastal Indians were familiar with maize as early as 1150 A.D., it remained a minor part of their diet, probably since it was unnecessary to supplement their already rich and bountiful diet (Lavin 1988:113).

With the arrival of the first Europeans in the New York City area, descriptions of Native Americans and their settlements were recorded, providing another source of data to buttress archaeological inferences about Indian lifeways in the Post-Contact Period. Johannes de Laet described the Indians of New Netherland in his New World, or Description of West India in 1625:

The barbarians are divided into many nations and languages, but differ little in manners. They dress in the skins of animals. Their food is maize, crushed fine and baked in cakes, with fish, birds and wild game. Their weapons are bows and arrows, their boats are made from the trunks of trees hollowed out by fire.

Some lead a wandering life, others live in bark houses, their furniture mainly mats and wooden dishes, stone hatchets, and stone pipes for smoking tobacco (Bolton 1972:16).

The cultivation of maize (which previously was an unnecessary supplement to an already rich diet) and an increasingly sedentary lifestyle became more widespread on Long Island during the Post-Contact Period, probably due to trade relations with the Europeans. This is not to suggest that shellfish were no longer an important food source. Isaac Jogues (1862:29), who visited New Netherland in 1633-1634, observed the "great heaps" of oyster shells made by the "savages, who subsist in part by that fishery."

Apparently, the larger villages developed into permanent settlements whose populations expanded and contracted with the availability of various natural food resources, and agriculture provided a storable surplus to maintain a smaller population throughout the year. Part of the population still migrated between food sources, inhabiting smaller seasonal campsites. However, this period of growth was interrupted by epidemics of European diseases against which the Indians had no natural immunity, resulting in decimation of the population. By 1660, Daniel Denton reported that the number of Indian villages on Long Island had dropped from six to two. Anthropologists generally agree that the Whale Creek area was part of the lands inhabited by Munsee-speaking Upper Delaware Indians, whose territory stretched from central New Jersey to southern Connecticut. The Indians inhabiting the present Borough of Brooklyn are believed to be members of the Canarsee chieftancy,

which had its major village in Canarsie, southwestern Brooklyn (Bolton 1972:9, 11; Denton 1902:40, 45).

The Whale Creek Site has been considerably altered during the nineteenth and twentieth centuries. Before c. 1870, it was part of a large tidal marsh which lay along both sides of Newtown Creek. On the Brooklyn side these meadows stretched almost as far west as Oakland Street (See Figure 4 - 6). Whale Creek drained its section of the marsh and "had many small tributaries and devious courses" (Felter 1919:14). Beginning in the 1850s Nezhiah Bliss encouraged the development of Greenpoint by improving access by laying out streets and houselots (this will be discussed in more detail in the Historical Section). However, there was still "not a single pavement and hardly a well" in Greenpoint as late as 1859 (Brooklyn Eagle:2-12-1936), in spite of the fact that the 1855 Dripps Map of the area shows all the (proposed) streets laid out and Whale Creek tamed as Whale Creek Canal (See Figure 7). Early development was probably confined to the western section of Greenpoint which was nearer New York and Brooklyn Cities, and required less filling operations before construction. As land became scarce in western Greenpoint, the lands along Newtown Creek became more attractive, and the low-lying marshland was filled. The earliest Brooklyn Borough building records available for the DEP site specify foundations resting on fill (e.g. Lot 1, New Building (NB) 2646-1910; Lot 13, NB 2362-1918; Lot 25, Permit 9802-1920). Soil boring data was unavailable for Block 2515 but boring data from the blocks adjacent to the project area show a layer of fill between 14 and 22 feet thick (City of New York Department of Public Works; City of New York Department of Environmental Protection).

As discussed in the previous pages, the marsh that existed around Whale Creek was a food and raw materials source of incredible richness for the Indians. Historians and researchers have attempted to reconstruct the traces of Native American life on western Long Island, using ethnographic accounts, and archaeological reports and tales of "Indian relics." At the beginning of this century, Reginald Bolton utilized these sources and identified the Indian village of Maspetches/Maspeth as lying near the head of Newtown Creek on the Queens side, southwest of the project area (Bolton 1972:150). Bolton also suggests there was an old Indian road, corresponding to the Old Wood Point Road leading to southwestern Greenpoint from the Bushwick area to the south. His uncertainty of this is revealed in his next sentence: "If the natives were accustomed to visit Greenpoint, this old track doubtless followed their woodland trail" (Bolton 1922:146). Pursuing a similar line of inquiry, Grumet disagrees with this, stating that no Canarsie village can be documented as having occupied the present day Maspeth. However, the records do show that there was a "wigwam at Mashpath Kills" in 1669, and incidents were recorded between the Dutch and Indians in the area. In his maps of Brooklyn and Queens, Grumet also locates "Mespetches" adjacent to the project area on the Brooklyn side of Newtown Creek

(Grumet 1981:29, 71; See Figure 8). In addition, Dr. Ralph Solecki's intensive archaeological exploration of Queens and Brooklyn during the 1930s and 1940s has revealed many Indian sites, including three along the Queens shore of Newtown Creek, one of which appears to be on the opposite shore from Whale Creek (See Figure 9). The lack of sites on the Brooklyn side of Newtown Creek is perhaps a result of its early development, certainly before there was any widespread movement to document Indian sites.

There are no ethnographic or antiquarian accounts of shell middens, the refuse deposits of shellfish harvesting, along Whale Creek. There is also no conclusive evidence of middens from the five sets of soil borings analyzed during this research. However, the 1942 City of New York Department of Public Works boring logs report that "plant matter, soft silt, shells" were recovered in three borings (#33, #34, and #35) abutting the project boundary on Green Street. The 1962 borings (City of New York Department of Environmental Protection) from the same block (2525) also recorded two locations that yielded "trace of shells," although these borings were approximately 85 to 95 feet south of the earlier shell-bearing borings. The boring logs also noted that these shells were beneath 10 to 24 feet of landfill and the extremely high water table.

Inquiries to the New York State Historic Preservation Office/Field Services Bureau identified traces of Indian occupation at the mouth of Newtown Creek, approximately four blocks northwest of the project area. The New York State Museum also cites this area (NYSM Number 3613), noting that "a recorded site is indicated in or immediately adjacent to the location," and there is "reason to believe it could be impacted by construction." The State Museum also reports that the physiographic characteristics suggest a high possibility of prehistoric use (See Appendix). Site number 3613 corresponds to the high ground which stretched as far east as Union Street, four blocks from the project area, indicating an elevated, dry place for Indian use. Albany's sensitivity ranking is based on a predictive model based in part on proximity to water and mapped on a current USGS topographic map. The project Block 2515 does appear from a map review to possess perhaps more prehistoric sensitivity than is realistic considering the historical manipulation of the landscape.

V. HISTORICAL PERIOD

The neighborhood now known as Greenpoint supposedly received its name from its appearance to travelers viewing it from their ships on the East River:

Near where the foot of Freeman street now lies, a point of land jutted abruptly beyond the shore for a considerable distance. This point, covered with river ooze and green grass, naturally attracted the gaze of sailors on passing vessels, who gave this verdant projection the name of Green Point (Felter 1919:14-15).

Despite the charm of this story, it is based on a mistranslation, the original Dutch name for the area being Hout Hoek or Wood Point (Stiles 1869:321). Whatever the name, the area of present Greenpoint proved to be attractive to European settlers under the auspices of the Dutch West India Company. Director General Kieft purchased the land between Bushwick and Newtown Creeks from the Canarsee Indians in 1638. Apparently this section of northeastern Kings County was already (perhaps unofficially) settled by a group of mainly Scandinavian immigrants. The project area lay on the farm of Dirck Volkertse, who was called the Norman or Noorman, which means Norwegian in Dutch. (This has caused confusion among many local historians, who mistakenly assumed that it meant Norman French.) These farmers lived far from the nearest village. "Those were the wild days of smuggling, rum drinking, of hardy sailors free in the use of their dirks, of gambling, of risk and adventure" (Felter 1919:17). Volkertse's land lay between Mispit Kill (Newtown Creek) and Norman's Kill (Bushwick Creek) which was named after him (See Figure 4). He was officially granted the land in 1645 (Stiles 1869:321). His family lived in a stone house on the north side of Bushwick Creek, removed from the current project location (Armbruster 1912:18, 31).

The first village in the area was founded in 1655 on an island at the head of Newtown Creek, and named New Aernhem. Although the island afforded a good defensive position in case of Indian attack, it was a poor site for a town. More successful was Boswyck, which was founded in 1660, after fourteen Huguenots and their interpreter Peter Jan de Wit went to New Amsterdam, the seat of the colonial government, and requested land for settlement. Director General Peter Stuyvesant went with them and chose a site between the two creeks for the new village. The settlers laid out 22 houselots with garden plots to the rear, enclosed by a palisade and surrounded by large fields. The village was centered on Wood Point Road, approximately three miles south of the study area. Stuyvesant named it Boswyck - or forest district - in 1661, and the New Aernhem lands and settlers were incorporated into the new town, whose name was later anglicized to Bushwick (Armbruster 1912:12-15). Boswyck was the last of the "Five Dutch Towns" of Long Island

[Breuckelen, New Utrecht, Midwout (Flatbush) and Mersfoort (Flatlands)] to be founded.

Volkertse sold 62 acres (including 12 meadow acres) to Jacob Hey or Hay in 1653. The part of Greenpoint owned by Hey was passed to his daughter Maria Hayes, the wife of Captain Peter Praa of Newtown, in 1687. Praa is considered one of the most important figures in the history of Greenpoint. Active in the community, he commanded the local militia, served as magistrate and was said to be a superb horseman. Praa owned 40,000 acres in New Jersey and purchased much land on Long Island. His purchases included the rest of the Volkertse lands bought from Dirck's sons in 1719, at which time Praa's farm in Greenpoint encompassed 164 acres. Praa lived in a stone house on the meadow's edge, at the northeast corner of Freeman and Oakland Streets. This house, which burned in 1832, was less than a block west of the project area. From Praa's four daughters and their husbands were descended all the residents of Greenpoint until about 1840: the Meseroles, van Zandts, Provoosts, and Bennetts, after many of whom streets in the area were named. The Praa house went to daughter Christina, who married David Provoost (Schroeder 1852:7; Felter 1919:19-24; Stiles 1869:321-322, 407).

Life in Greenpoint, based as it was on the seasonal round of agriculture, was little affected by the capture of New Netherland by the English (1664) and only temporarily disrupted by the depredations of British forces during the American Revolution. Although nominally a part of Bushwick, Greenpoint was physically isolated because of its marshes and creeks. There was only one road to the outside world, the Wood Point Road, which lead from a dock on Newtown Creek past the Praa house (near the project area) and to Bushwick. Going east to Astoria was akin to "taking a journey to the moon" (Stiles 1869:407). Therefore, farmers depended mostly on large boats to carry their surpluses to the New York market (Armbruster 1912:28). Grain, fruits, and vegetables were raised with the assistance of black slaves, of which Peter Praa owned many. The meadows along Newtown Creek, including the study parcel, were used as common lands, producing salt hay for grazing livestock. The farmers conserved and improved this valuable resource. "The bulk of the meadowland was developed, and artificial grasses grown to make pastures for the cattle of Boswyck residents" (Brooklyn Daily Eagle:4-16-1916).

The nineteenth century expansion of the cities of New York and Brooklyn could not but affect the then outlying towns of Long Island. The village of Brooklyn became a city in its own right in 1834, and from 1830 to 1840 its population more than doubled to 36,000, growing faster even than that of New York City. Brooklyn expanded into the neighboring farmland, and eventually annexed Greenpoint, Bushwick, and Williamsburg in 1855. This growth was spurred by large scale European immigration, improvements in industry such as the spread of the factory system which lowered

costs and increased production, and improved transportation made possible by the railroads, steamboats, and the building of canals, which opened up the vast American hinterland as both a new market for goods and a source of raw materials. Expanding industries seeking dock space on convenient and cheap land began to move into the waterfront areas of Kings County, such as Williamsburg and Greenpoint; hence these neighboring sections of Bushwick began their expansion and industrialization at the same time (Ment 1979:37-41).

Instrumental in the growth of Greenpoint was Neziah Bliss, who has been called the "Father of Greenpoint" (although it seems that the title biologically belongs to Peter Praa). Bliss, born in Hebron, Connecticut, married the daughter of John Meserole and settled in Greenpoint in 1831. He and Eliphalet Nott purchased 30 acres of the John and Peter Meserole farm in 1833, and later the Griffin farm (of which the project area was a part) at auction. Bliss had these lands surveyed, and houselots laid out the following year. Realizing that better access to Greenpoint would promote business and residential development, by making the community a viable residence for people working in Manhattan and Brooklyn, Bliss launched into a series of ventures which improved Greenpoint's connections with New York City and the other towns of Long Island. Streets were surveyed and extended, connecting to those of Williamsburg, Bushwick, and Hunters Point in Queens in 1834 (Stiles 1869:407; Edwards 1937:17). In 1838 he built a foot bridge over Bushwick Creek to Williamsburg, and promoted the Ravenswood, Greenpoint, and Hallett's Cove Turnpike (present Franklin Avenue, three blocks west of the study area) which opened in 1839. In 1850 he leased a ferry operation from New York City which ran regularly from the foot of Greenpoint Avenue (about seven blocks west of the project area) to East 10th Street, and later East 23rd Street in Manhattan. When the City Railroad was completed in 1855, running horsecars through Williamsburg as far as the Bushwick Creek Bridge, Bliss convinced the company to extend the tracks as far as Green Street and Franklin Avenue (Felter 1919:36-38). Bliss even attempted to get the United States Navy Yard to move to Greenpoint, but his negotiations were frustrated and he overextended himself, losing all his land except thirteen acres, which, undaunted, he continued to develop. The first housebuilder was John Hillyer, who erected his house on I Street (later India - the streets were named alphabetically starting with Ash) in 1839. Many houses followed, usually built on stilts which were "rendered necessary by the extreme depth of the mud, as always the great drawback of the place" (Stiles 1869:413).

By 1840 the first shipyards appeared, occupying the "fine white sand" of Greenpoint's East River beaches, and the adjacent land along West Street. This attracted workers, especially English, Irish, German, and Scandinavian immigrants. Between 1840 and 1870, 35 percent of the population was engaged in shipbuilding. The most

famous ship to hail from a Greenpoint shipyard was the ironclad warship Monitor, completed by Continental Ironworks in 1862 (Felter 1919:28-34). Encouraged by the shipbuilding industry and the rising demand for housing, lumber and stoneyards became numerous in Greenpoint after 1850. Other industries followed soon after. By 1860 each of the "Five Black Arts," printing, pottery, gas, glass, and iron were established. Most notable were the pottery manufactories, such as Charles Cartlidge's which was established in 1848 on Pottery Hill, just east of the river. It began with "china door furnishings," buttons, and later tablewares, eventually becoming one of the earliest successful American porcelain makers (Felter 1919:47, 50-52). Another prestigious factory was Christian Dorflinger's glassworks, a modern large-capacity works built in 1860 on Commercial Street along Newtown Creek, about five blocks northwest of the study parcel. Dorflinger imported French glassblowers, whose skill was nationally recognized when Mary Todd Lincoln purchased a full table service for the White House (Ment 1979:42). The New York City demand for kerosene, the first large scale market for the flammable liquid, brought oil refineries such as that established by Charles Pratt and Company's refinery on Bushwick Creek (technically in Williamsburg) in 1867. Foundries made machinery castings, piano plates, architectural iron, boiler and gas tanks and other machine parts. Later, rope making became one of the most important industries in Greenpoint when two cordage plants, the American Manufacturing Company and Chelsea Fibre Mills, located there. They were among the largest in the world, and with the waning of the shipbuilding industry after 1870, came to employ over 15,000 workers, more than any other industry (Felter 1919:56-58). Greenpoint was transformed from the "garden spot of the world" and "little more than a wilderness" in 1859, to the "most thickly settled industrial community in the country with the exception of Fall River" forty years later (Brooklyn Daily Eagle:2-12-1936; Harding 1944:20). A newspaper article of December 1868 observed:

Within the last two or three years manufacturing interests of considerable magnitude have sprung up in this suburban locality, and several large and substantial buildings for manufacturing are now in the course of completion. Some of these employ several hundred hands, thus enabling many to avail themselves of their labor, their sole capital, in providing the comforts of home and means of contentment. . .from seventy-five to one hundred houses are now being constructed...it is not to be wondered at that so many seek this section. Its natural advantages and attractions account for it, its churches and public schools, commodious and convenient, with cheaper rents, better air, and plenty of Ridgewood water. It has two railroads and two ferries to facilitate travel; a discount and a savings bank, for the accommodation and security of all their money transactions (Felter 1919:48-50).

The Greenpoint Historic District, which includes the area between Java and Calyer Streets and Manhattan and Franklin Avenues, approximately five blocks southwest of the project site, encompasses an area of church buildings (including Ascension Episcopal, Greenpoint Reformed, St. John's Lutheran, St. Anthony of Padua Roman Catholic, and Union Baptist), banks, row houses, and tenement buildings dating between 1860 and 1900, the period of Greenpoint's first industrial and residential expansion.

After 1880 the ethnic character of Greenpoint began to change, as southern and eastern Europeans, Russians, Poles, Slovaks, and Hungarians supplanted the earlier immigrants, the Germans and Irish. In 1919 northern Greenpoint was "largely foreign," with 40 percent of the residents of foreign birth, and 80 percent having one foreign-born parent. Half the inhabitants were Polish or Russian, and the section had a literacy rate of 89.5 percent, the lowest in the city. 'American' Greenpointers made efforts to turn "these foreigners into liberty-loving intelligent citizens" through organizations such as the Americanization League of the Greenpoint Neighborhood Association and the YMCA, for "compulsory education for adults is as necessary for the safety of the republic as for their children" (Felter 1919:59). However, there was ample work for the new immigrants, as the number of industries expanded to include fat-reducing plants, sugar refining, paint and varnish, sheet steel products, chairs, paper boxes, knit goods, and shoes. By 1940, Greenpoint was termed the "industrial hub of Brooklyn," and Newtown Creek was "mile for mile the busiest waterway in the U.S." (Corby 1940).

It was during this period that the project area received its first structures. In 1853 the lands west of Oakland Street were just beginning to be divided into lots, but Provost Street had not yet been laid out, and the project area remained in meadow surrounded by creeks and small streams (See Figure 6). There was "not a single pavement and hardly a well" in Greenpoint as late as 1859 (Brooklyn Daily Eagle:2-12-1936). Although Whale Creek appears to be tamed into Whale Creek Canal in 1855 (See Figure 7), that this was a plan rather than reality is indicated by the shading showing the built-up area confined to the west side of the neighborhood (two blocks from the study area), as does the meandering course of Whale Creek shown in the 1869 map (See Figure 10), and the superimposition of the old on the new (or future) shore and creek lines in the 1873 depiction (See Figure 11). The Whale Creek marshes were probably filled in sometime after 1873, and certainly before 1886. The first buildings were erected on the DEP site between 1886 and 1893, during which time only Provost Street was open as far south as Green Street (the western boundary of the project area). In the southwest quadrant of Block 2515 were two frame buildings and one brick structure housing an ironworks (See Figure 12). While the blocks west of Provost appear to be mainly residential, those east of that street, along Newtown Creek and Whale Creek Canal, because of their better connections to the sea,

were industrial. This access would be further improved in 1907 when Whale Creek Canal and Newtown Creek on the opposite shore of the canal from the study area were to be bulkheaded with concrete, and two 1,000 foot piers erected for public use (Brooklyn Daily Eagle:2-5-1907).

After World War II, Greenpoint did not experience the same demographic and ethnic changes as did many other Brooklyn neighborhoods. This was probably due to the stability of the working class population, still mostly Polish and Irish, living between the factories and plants along the East River and Newtown Creek. A former resident (1936-1953) remembers a mix of "nice" streets, with trees, brownstones or other well-kept houses, mostly divided into apartments, interspersed with treeless streets of small, usually four-story apartment buildings. There were few gardens, and perhaps one unattached house. It was not a luxurious neighborhood, but rents were cheap, so people could save their money for something better. A railroad flat, a series of five rooms arranged in a straight line, windows in the end rooms, with no heat but the kitchen stove and a kerosene heater in the livingroom was about twenty dollars a month. A gas heater was only turned on to provide hot water for bathing. Although there were some people on relief, the streets were safe at night, and apparently there were worse places to live, as a friend of the informant always said she lived in Greenpoint, although she actually lived in Williamsburg (Flora Schaefer, personal communication, 11-13-89).

Twentieth Century Building History

The project area, Block 2515, is presently divided into three lots, numbers 1, 13, and 25 (See Figure 18). Each will be discussed individually, in order to determine the extent and location of ground disturbance from cellars, especially deep foundations and buried tanks.

LOT 1

Lot 1 was first built on by 1893, when an iron works occupied the south side along Green Street. There were one brick and two frame structures, however, the more easterly frame building appears to stand in Lot 13 (See Figure 12). There are no Queens Borough Buildings Department records for these buildings. In 1910 a two-story frame building was built to the rear of these other structures, along Provost Street (NB 8317-1921). This building burned to the ground and was replaced by a brick building on the same foundations (NB 8317-1921). Neither structure in what by then was a bronze foundry had a basement, and the foundation was four feet below the surface. [It is extremely difficult to predict the waste disposal system for late nineteenth and early twentieth century foundries and metal plating industries. However, the potential for hazardous waste materials on early industrial archaeological sites has been documented (Colten 1988:51-55).] This building was extended eastward to accommodate a modeling room, also with four foot foundations in 1922 (Permit 8873-1922). A one-story frame office was added facing Green Street in 1929. It rested on four foot deep piles at the four corners. Two 1,080 gallon tanks were set up on trestles in the northeast quadrant of the lot, at the old lot line. The tank supports were buried four feet below the surface, and work was completed in 1936 (Alt. 9755-1934; Permit 9755-1935). Their exact position is uncertain. Further disturbance occurred with the addition of a boiler 9 feet 6 inches south of the northernmost brick building. The twelve foot long boiler was buried six feet below grade (Permit 12474-1929). In 1951 the bronze foundry was defunct, with the frame buildings removed and the brick structures used for woodworking and by "MFG CHEMISTS" (See Figure 16). Several small auxiliary buildings were added. The northern 50 feet of the lot, bordering Freeman Street, with a frame shed in its northwest corner, also acquired three new auxiliary buildings for the chemical concern. There is no Buildings Department information about these structures, and no evidence of basements. Presently a small office building occupies the north side of the lot, fronting on Freeman, surrounded by an asphalt parking lot. It is the only building standing on Lot 1 (See Figure 17 and Photograph D). In two areas of Lot 1 there is no evidence of any structure ever being erected. These areas are shaded in the final Figure 18, "Present Lot Lines".

LOT 13

A frame structure was standing on Lot 13 by 1893, apparently an outbuilding of the iron foundry on Lot 1 to the west (See Figure 12). In 1912 the entire south side of the lot, along Green Street, was occupied by the W.H. Meserole Building Materials Yard. Frame sheds stand along the old west and present east and northeast (with Lot 25 and Whale Creek Canal) lot lines. There are no Buildings Department records for any of these structures, and they stood vacant by 1916 (See Figure 13; Hyde 1904/1912 III:14). The north side of the lot, fronting on Freeman, is the site of the sheds and office spaces of a granite works and a storage yard in 1916. The storage yard straddles the boundary with Lot 25. These two businesses are replaced by 1929 with four brick buildings, each of one-story, and no basements indicated (See Figure 14). They are identified as (from east to west) storage, garage, marble company, and factory/storage. The easternmost building was erected in 1918, with a 154 foot frontage on Freeman Street, and running 75 feet into the lot. Used as a factory and for storage, the foundations were 4.5 feet deep (NB 2362-1918). The second building from the east - the garage - had two gas tanks and a boiler room added in 1924. These were six feet below the ground surface (Permit 24214-1912). The third building, lying between the garage and the marble company, was apparently combined with the garage by 1942, when the garage appears enlarged in comparison with the other structures (See Figure 15). After 1951 these buildings were demolished and two vehicle repair centers were erected on the site, one approximately on the site of the old garage, and the other larger building, in the center of the southern half of the lot, which had been vacant since shortly after 1916 (See Figure 17). Areas of Lot 13 for which there has been no record of any structure have been shaded (See Figure 18).

LOT 25

The first building episode in Lot 25's history was the edge of a frame building which crossed Freeman Street from the New York Cedar Ware Company on the block to the north (See Figure 12). By 1916 this structure is gone, and the site perimeter is occupied by the buildings of the Craycroft Oil Company, and the eastern half of a storage yard which crosses the lot line with present Lot 13 (See Figure 13). A lot diagram from 1920 shows the same buildings, storage, loading platform, and the large tank structure near the northeastern corner of the lot, two 13,500 gallon oil tanks on a concrete foundation, but no depth of foundation is given (Permit 9802-1920). In 1925 a concrete building was erected on Freeman, 54 feet seven inches east of the lot line, adjacent to the two-story brick structure. A basement is mentioned as well as approximately 12 piers six feet below the floor level (Permit 3910-1925). Both of these buildings remain standing at present (See Photograph A). Then part of the Colonial Beacon Oil Company, which

owned most of the block north of Freeman, the frame structures on the eastern side of the lot were replaced in 1932 with a one and two-story brick and concrete building that occupies the rest of the site and remains standing at present (See Figures 15 and 17; NB 5809-1932). A loading platform was built north of this structure in 1925. Running the length of that building, its foundation extends five feet six inches below the surface (Permit 2729-1925). A fuel tank and boiler room was added in 1932, near the eastern lot line. The 1,080 gallon tank was 12 feet long and four feet wide, and its top was two feet below grade, and three feet north of the easternmost building (Permit 7433-1932).

GREEN STREET

Green Street, between Whale Creek and Provost, is also included in the site of the expanded sewage processing plant. (The spelling of Green is inconsistent, sometimes appearing as Greene in the records. This report uses Green in all places.) A water main and a gas main run the length of the street, installed after 1951 (See Figures 16 and 17, and Photographs F and G). Sidewalks were never built, and as late as 1929 only the eastern 200 feet were paved (See Figure 14).

VI. CONCLUSIONS AND RECOMMENDATIONS

Native Americans occupied Western Long Island during various cultural periods prior to European colonization. There are ethnographic and archaeological accounts that place Indian camps, villages, and/or processing sites in Brooklyn and Queens in the vicinity of Newtown Creek. Prior to the late 1800s the project site was a low-lying, inundated marshland that would have afforded Native Americans numerous and life-sustaining floral and faunal resources. However, it is highly unlikely that the topography of the project block would have induced Native Americans to situate a village or camp there. Resource extraction and processing may have taken place on the DEP site between c.3,000 years ago and c.300 years ago. However, the subsequent drainage of the marsh, the rechanneling of the myriad small streams in the marsh, and the dredging and bulkheading of Whale Creek-Canal very likely disturbed evidence of these past activities. The DEP site was further impacted by the extensive landfill, estimated to be between 10 to 20 feet, placed on the site during early development. The natural water table of the proposed site has, however, remained very high, between 2 to 5 feet below the current street elevation.

The DEP site was further impacted by construction episodes as the industrial development of Brooklyn's waterfront engulfed Whale Creek. As can be seen on Figure 18, there are only limited areas of the site block that have not experienced documented building disturbance. Also, it is very possible that construction on the site block did take place and there is no official record of the activity.

We do not know definitively the extent of the development-related disturbance experienced by the site. Nor, do we know precisely the depth of landfill and the depth of the current water table - both factors in the plausibility of data retrieval. Old borings records do hint at the possibility of a shell midden adjacent to the project site. Without soil borings taken directly from Block 2515 and the Green Street roadbed it is more difficult to confidently formulate an estimation of the potential sensitivity of the DEP site. It is estimated that the site possesses medium sensitivity for prehistoric potential. The advisability of considering further archaeological consideration must be tempered with the practicality of locating any such resources beneath what is anticipated as deep and inundated fill. Since soil borings are planned during the course of the design and engineering phase of the Water Pollution Control Plant Upgrading, it is recommended that archaeologists review the results of these texts to determine the (1) presence or absence of an extensive shell layer; (2) depth of fill; and, (3) depth of water table. Coordination between the archaeologists and the soil boring crew ill be necessary. It is anticipated that the results of this borings analysis will indicate the necessity for any further archaeological consideration.

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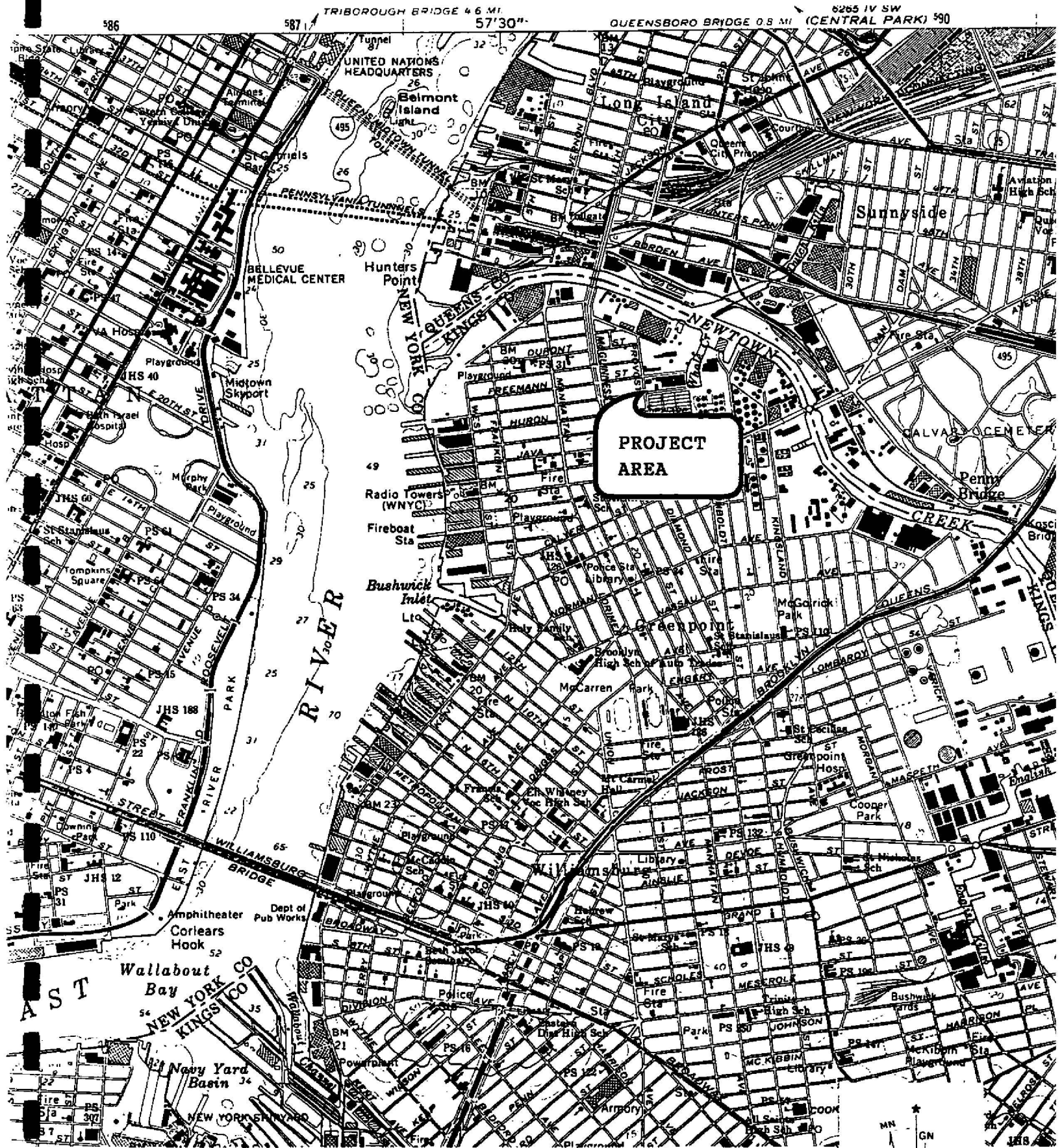
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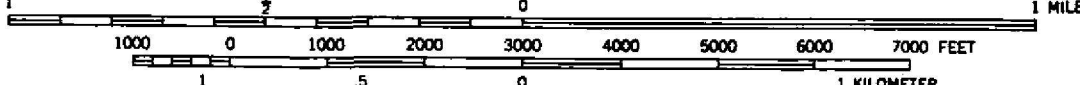
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Figure 1

U.S.G.S. Topographic Map, Brooklyn Quadrangle



SCALE 1:24 000



12° 213 MILS
0° 42' 12 MILS

FIGURE 2

Newtown Creek Water Pollution Control Plant Upgrading

Note the Project Area 

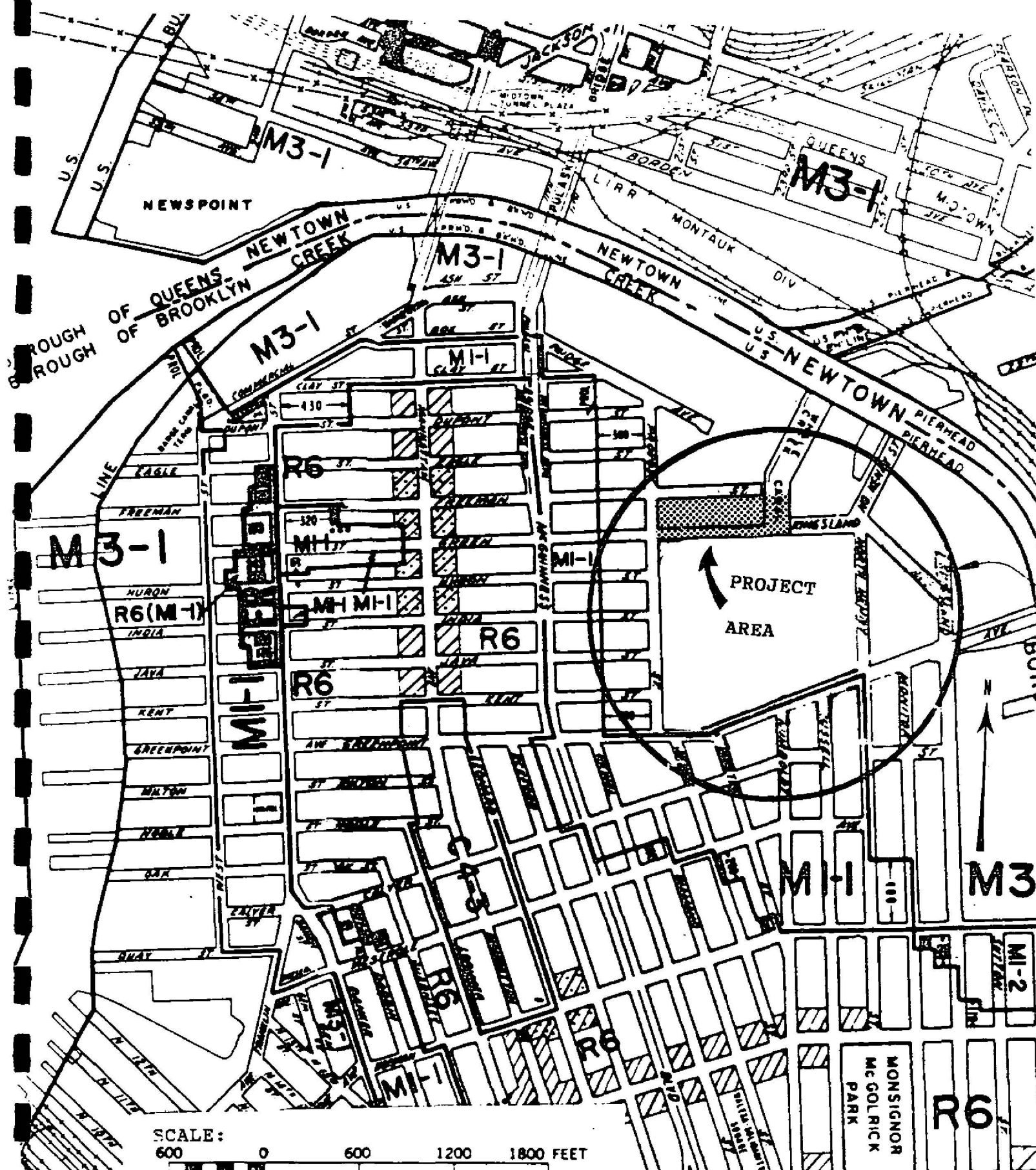
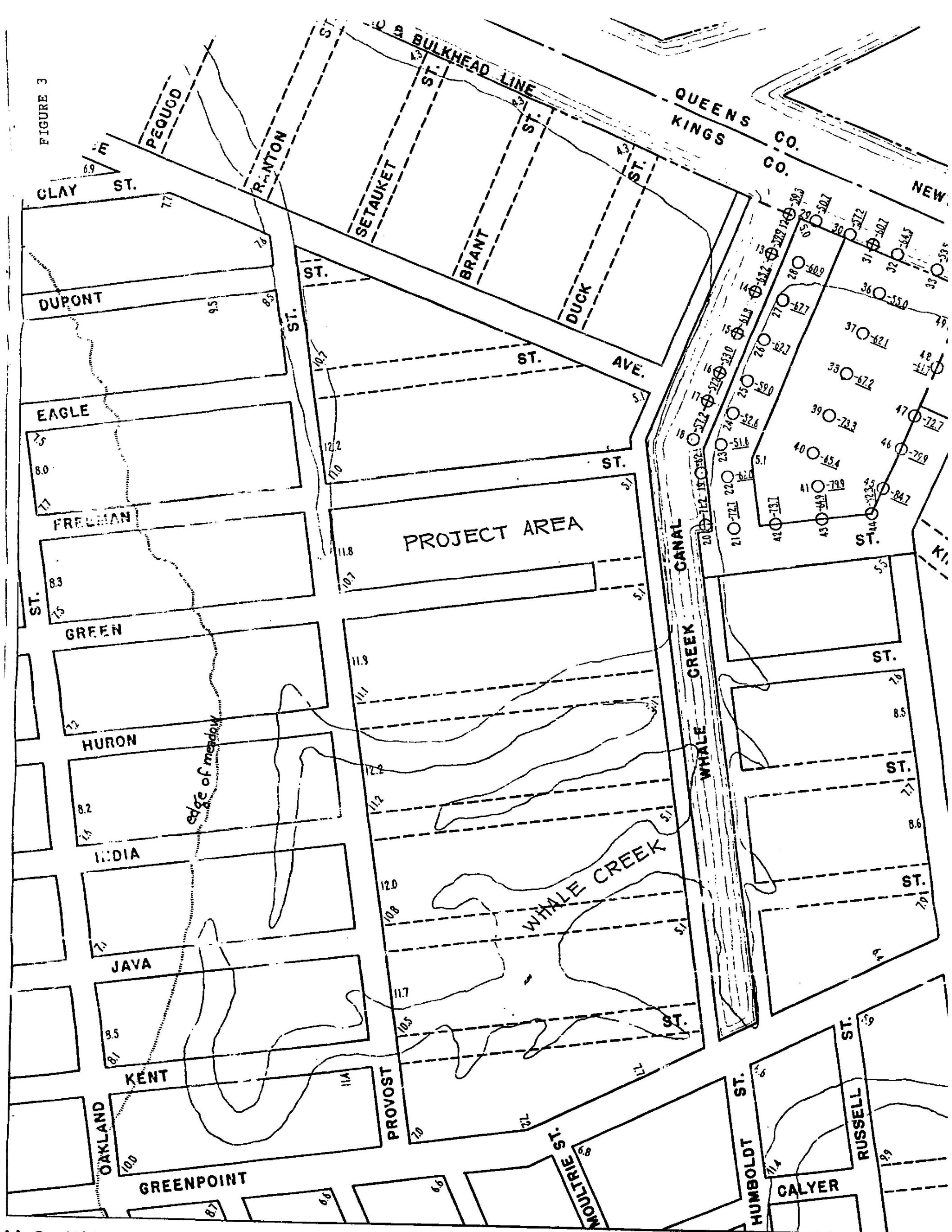


FIGURE 3



U.S. WORKS PROGRESS ADMINISTRATION
 CITY OF NEW YORK
 PROJECT 165-97-6999 (6036-1024)

4

DRAWN BY: W.T.M. & J.H.C. / Nov. 1935
 CHECKED BY: *A.D.N.* / NOV 1935
 COMPILED AS OF DATE:



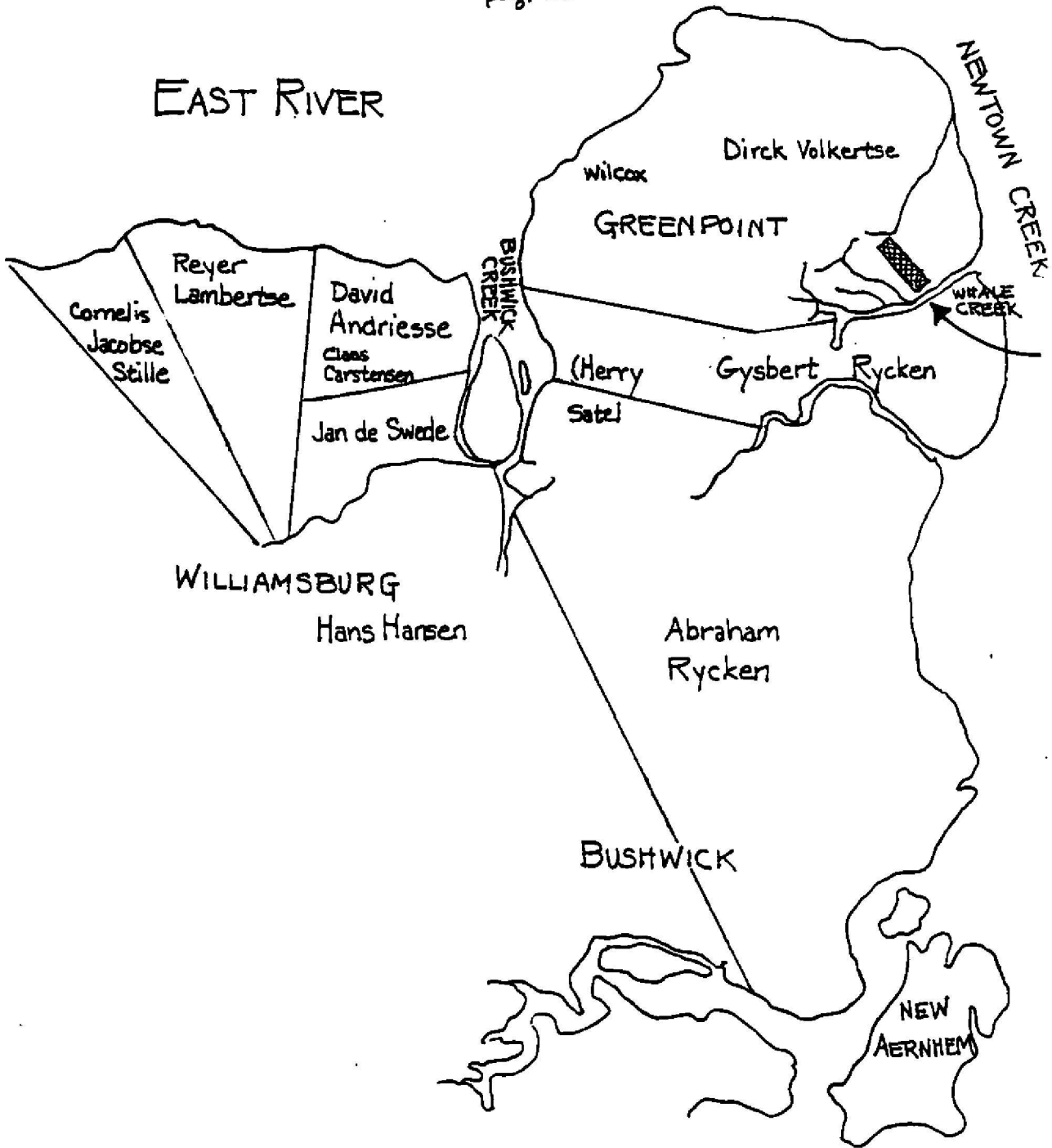
ROCK LINE MAP
 BOROUGH OF BROOKLYN
 SCALE 1" = 200'



SKETCH OF
MAP OF ORIGINAL
PLANTATIONS

FROM HAND DRAWING IN:
THE EASTERN DISTRICT
OF BROOKLYN

BY E. L. ARMEROSTER
page 120



EAST RIVER

NEWTOWN CREEK

Dirck Volkertse
Wilcox

GREENPOINT

Cornelis
Jacobse
Stille

Reyer
Lambertse

David
Andriessse
Claas
Carstensen

Jan de Swede

BUSHWICK
CREEK

(Herry
Sabel

Gysbert Rycken

WRAHE
CREEK

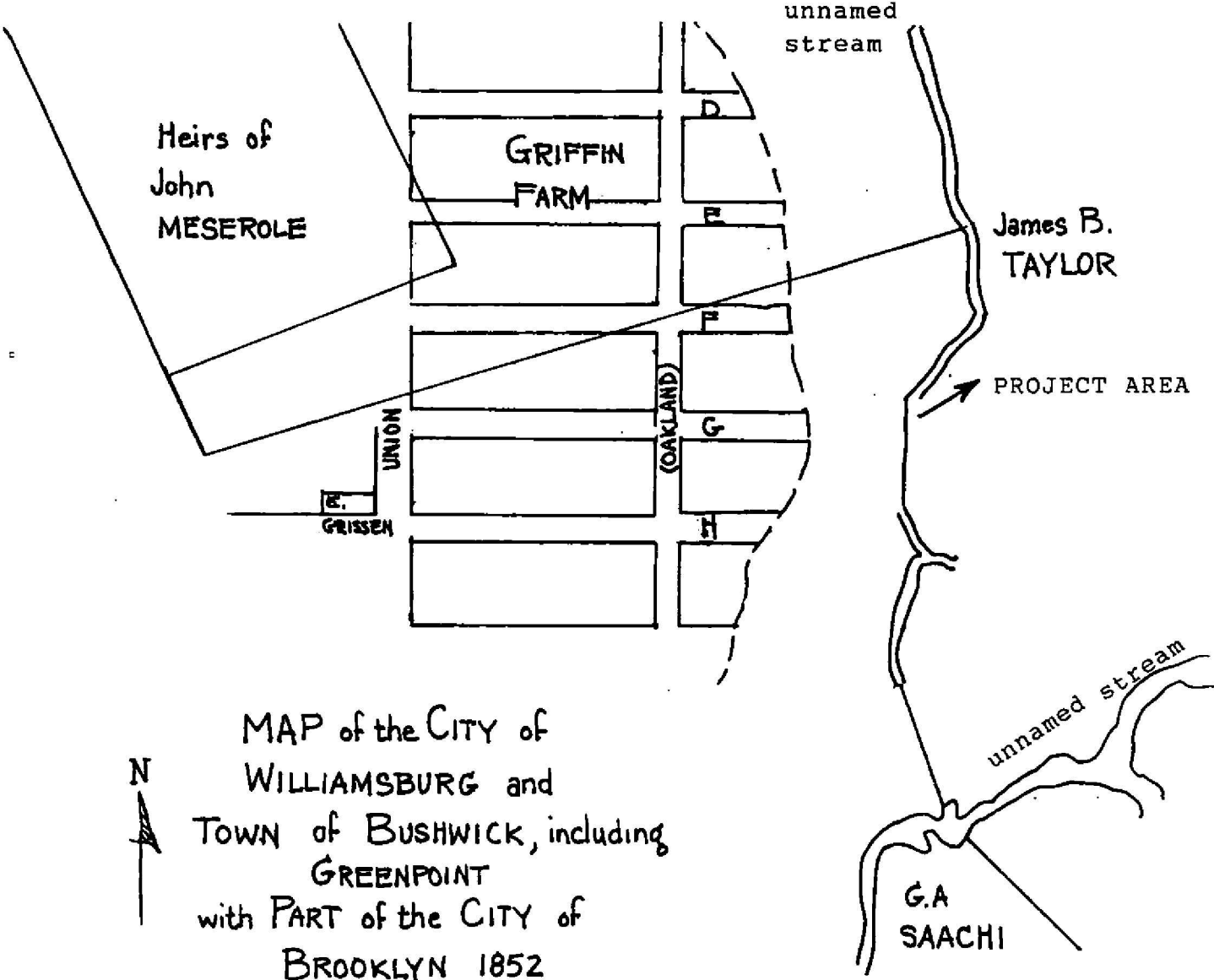
WILLIAMSBURG

Hans Hansen

Abraham
Rycken

BUSHWICK

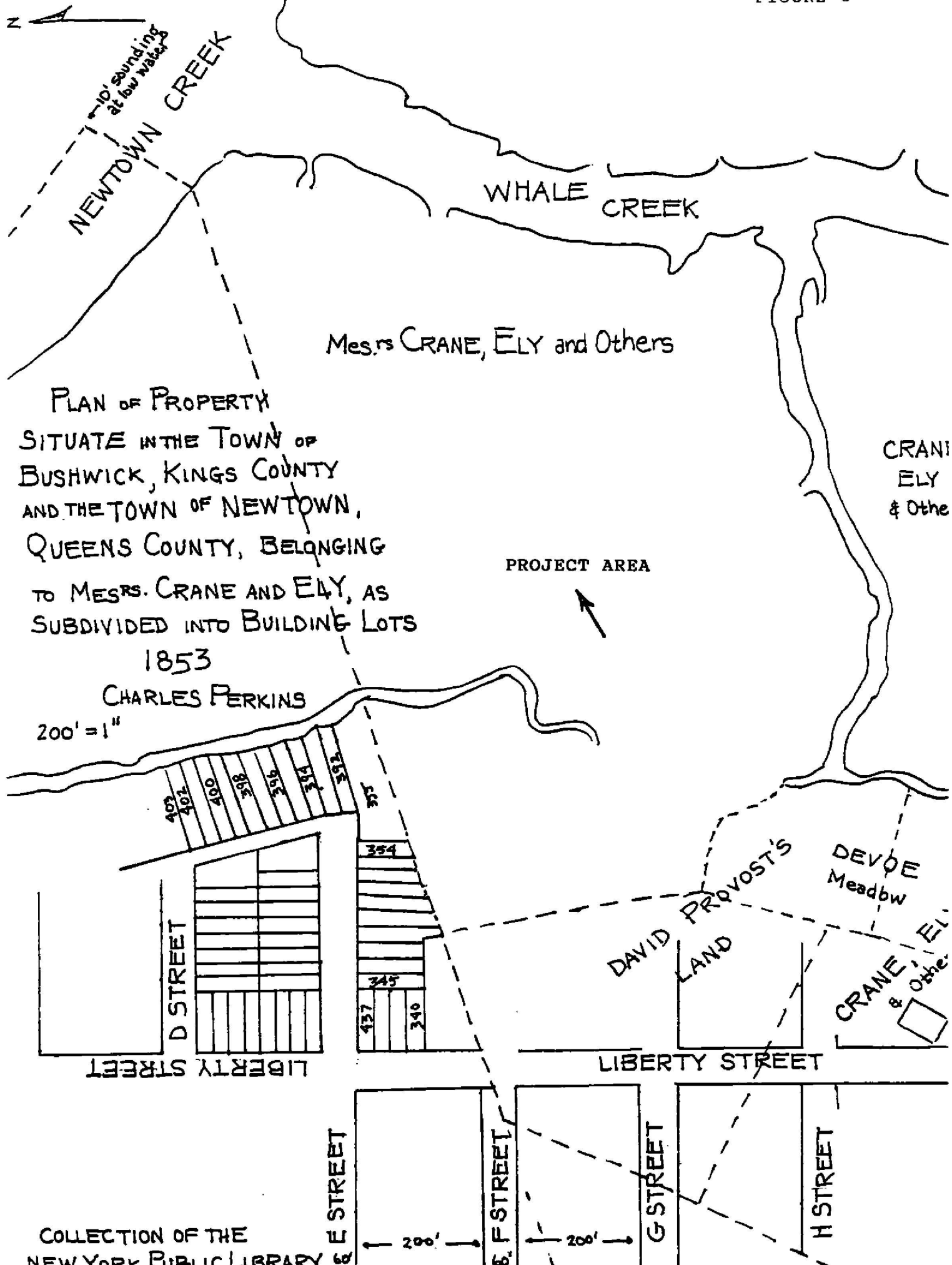
NEW
AERNHEM



MAP of the CITY of
 WILLIAMSBURG and
 TOWN of BUSHWICK, including
 GREENPOINT
 with PART of the CITY of
 BROOKLYN 1852

THOMAS W. FIELD
 (no scale)

collection of the New York Public
 Library, Map
 Division.



PLAN OF PROPERTY
 SITUATE IN THE TOWN OF
 BUSHWICK, KINGS COUNTY
 AND THE TOWN OF NEWTOWN,
 QUEENS COUNTY, BELONGING
 TO MESRS. CRANE AND ELY, AS
 SUBDIVIDED INTO BUILDING LOTS
 1853

CHARLES PERKINS
 200' = 1"

Mes. rs CRANE, ELY and Others

CRANE
 ELY
 & Othe

PROJECT AREA

DAVID PROVOST'S
 LAND
 DEVOE
 Meadow
 CRANE, ELY
 & Othe

D STREET
 LIBERTY STREET

LIBERTY STREET

E STREET

F STREET

G STREET

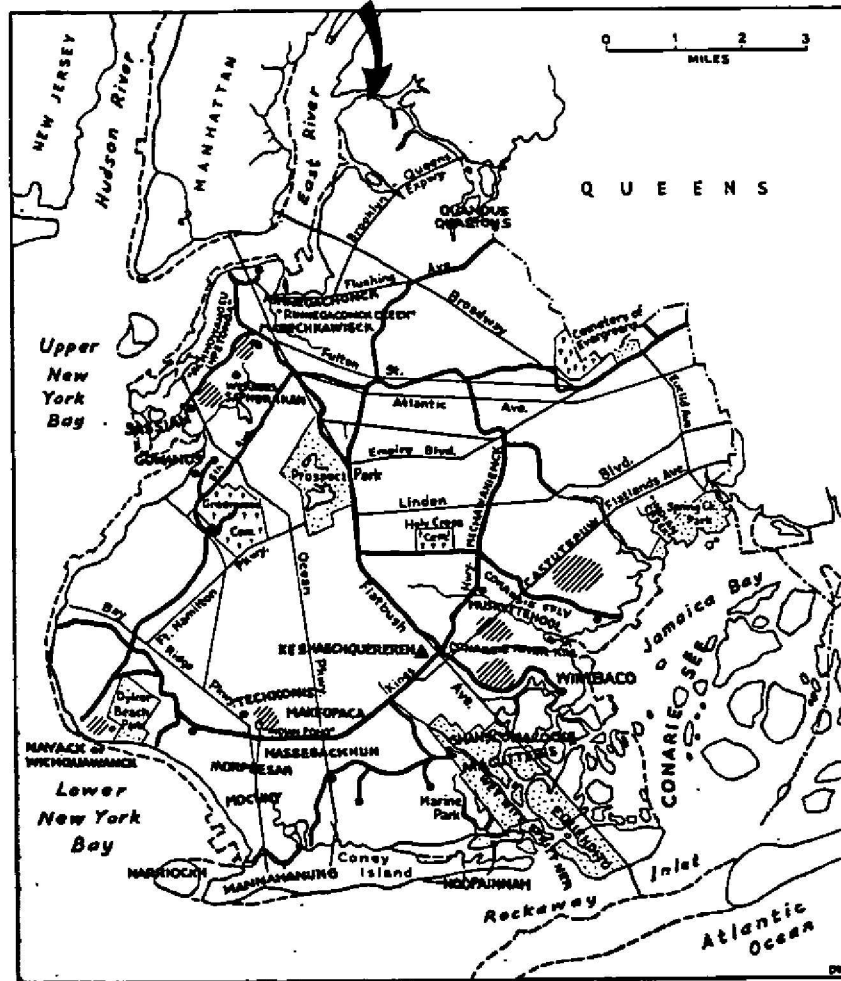
H STREET

Map of the City of Brooklyn, Matthew Dripps, 1855
no scale given
repository: Brooklyn Historical Society








Photocopied from Grumet, 1981:70

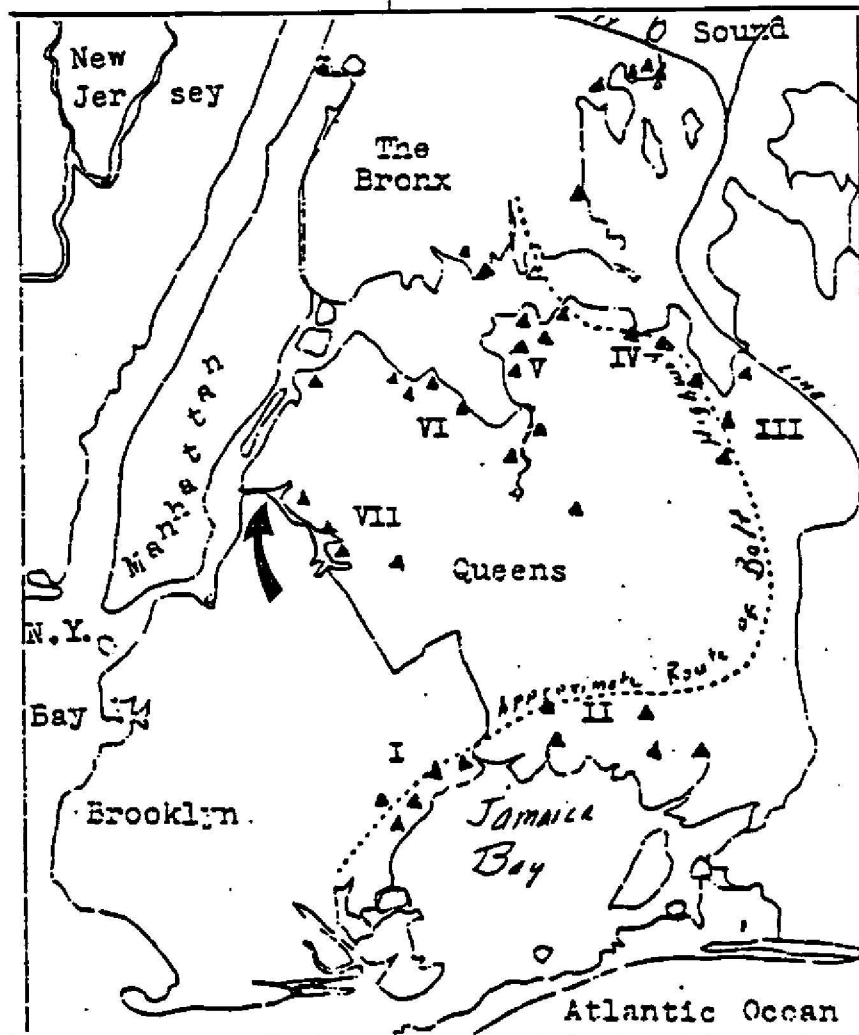
Upper Delawaran Trails and Settlements in New York City



LEGEND FOR FIVE BOROUGH MAPS

-  TRAIL (AFTER BOLTON 1922)
-  PLANTING AREAS AND OLD FIELDS
- M M M M M INDIAN NAMES OF LOCAL ORIGIN
- A A A A A NAMES NOT OF LOCAL ORIGIN
- HABITATION SITE
-  PRESENT-DAY CITY PARKS
-  MODERN SHORELINE
-  CEMETERY

Photocopied from
Solecki, 1941



INDIAN VILLAGE SITES: Triangles on diagram indicate sites explored by Committee on American Anthropology of the Flushing Historical Society. Important locations described in accompanying article are numbered.

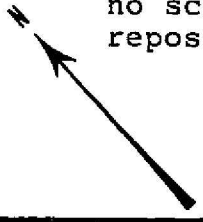
Map of Brooklyn and Vicinity, Matthew Dripps, 1869
scale: 1" = 1,920'
repository: Brooklyn Historical Society



Atlas of Long Island, New York: The City of Brooklyn, Beers, 1873

no scale given

repository: Brooklyn Historical Society



Atlas of Long Island, George W. Bromley, 1893, plate 12

Project Area XXXXXX

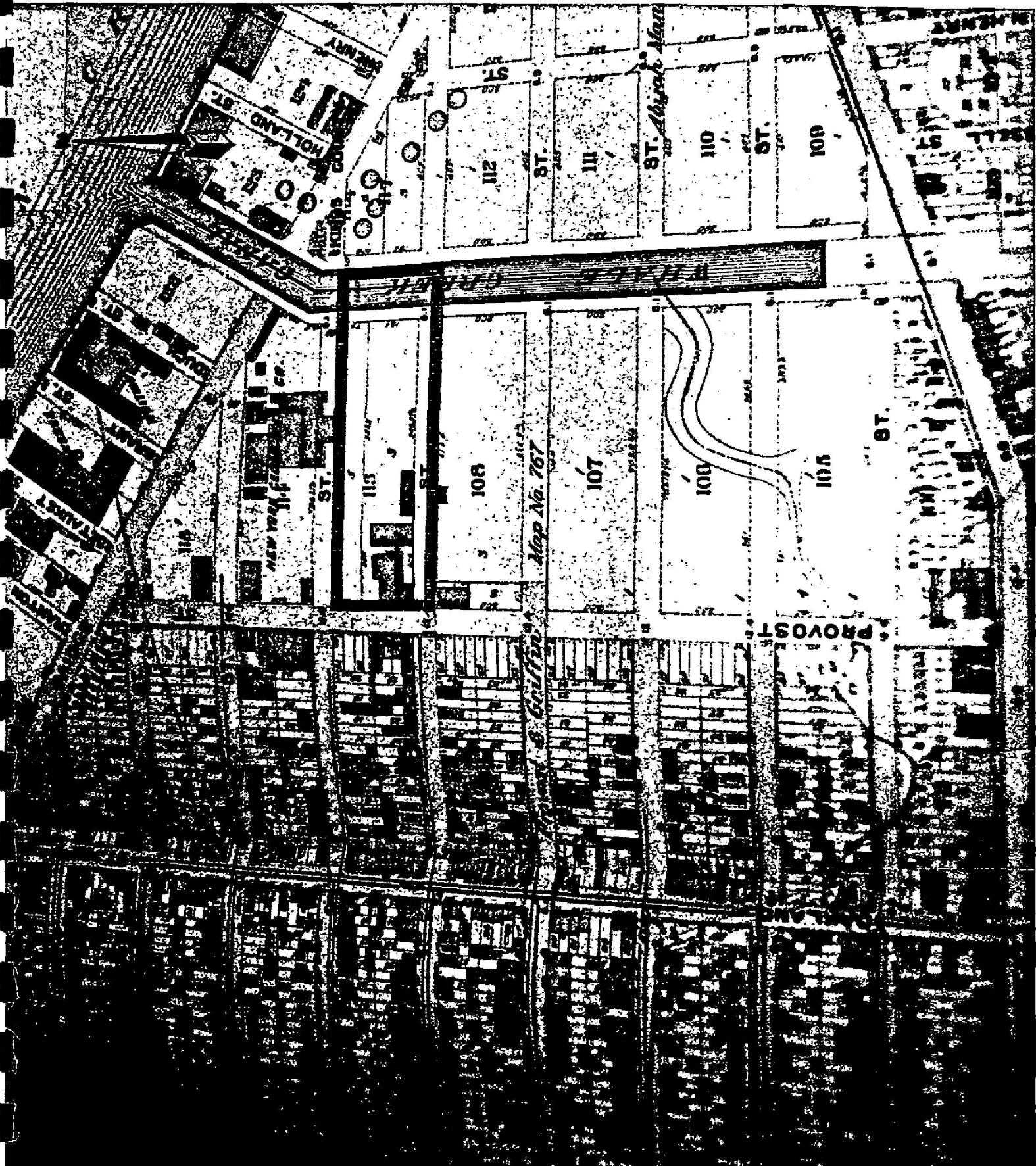
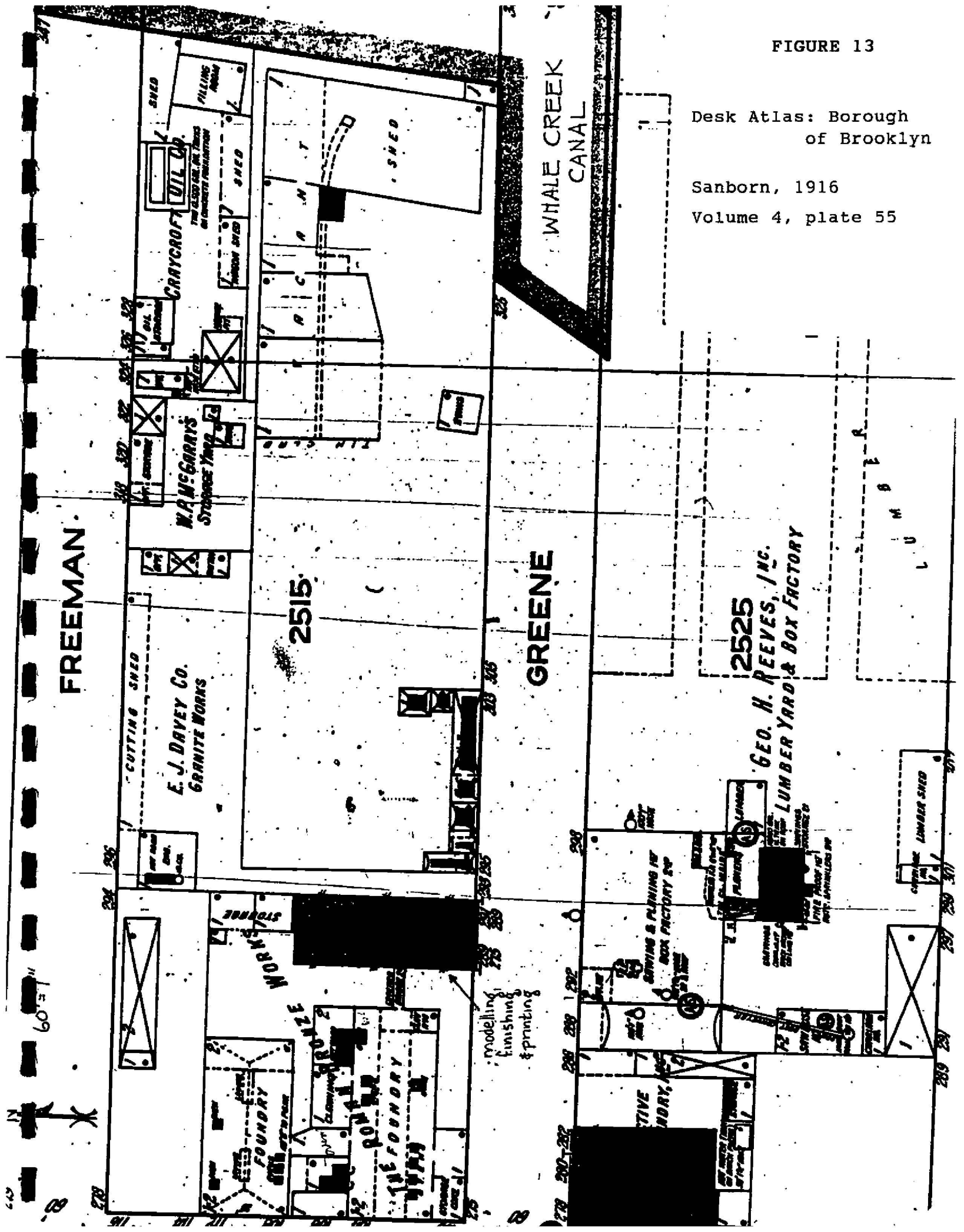


FIGURE 13

Desk Atlas: Borough
of Brooklyn

Sanborn, 1916

Volume 4, plate 55



Desk Atlas: Borough of Brooklyn, E. Belcher Hyde, 1929
Volume 2, plate 4

Project Area

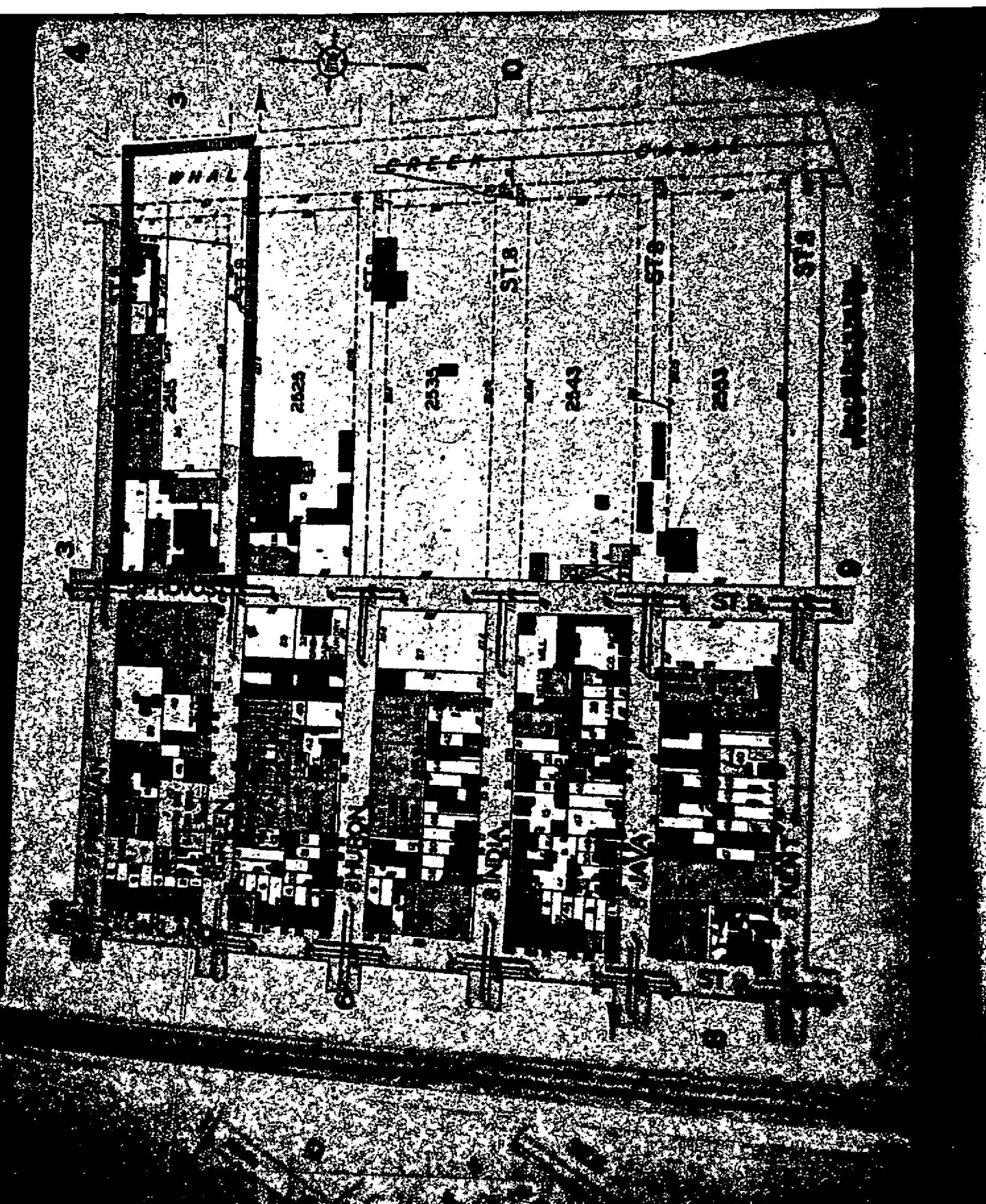
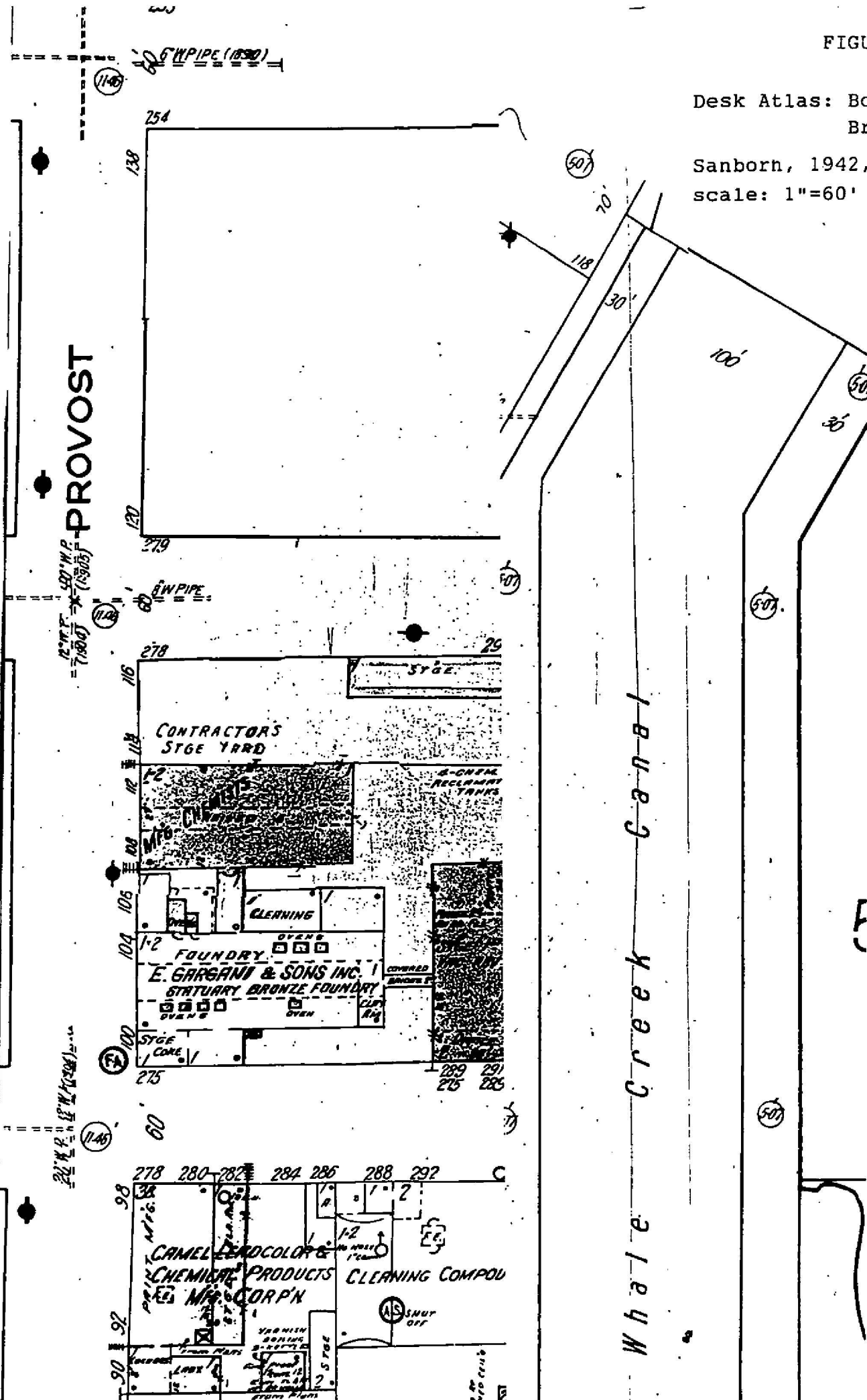
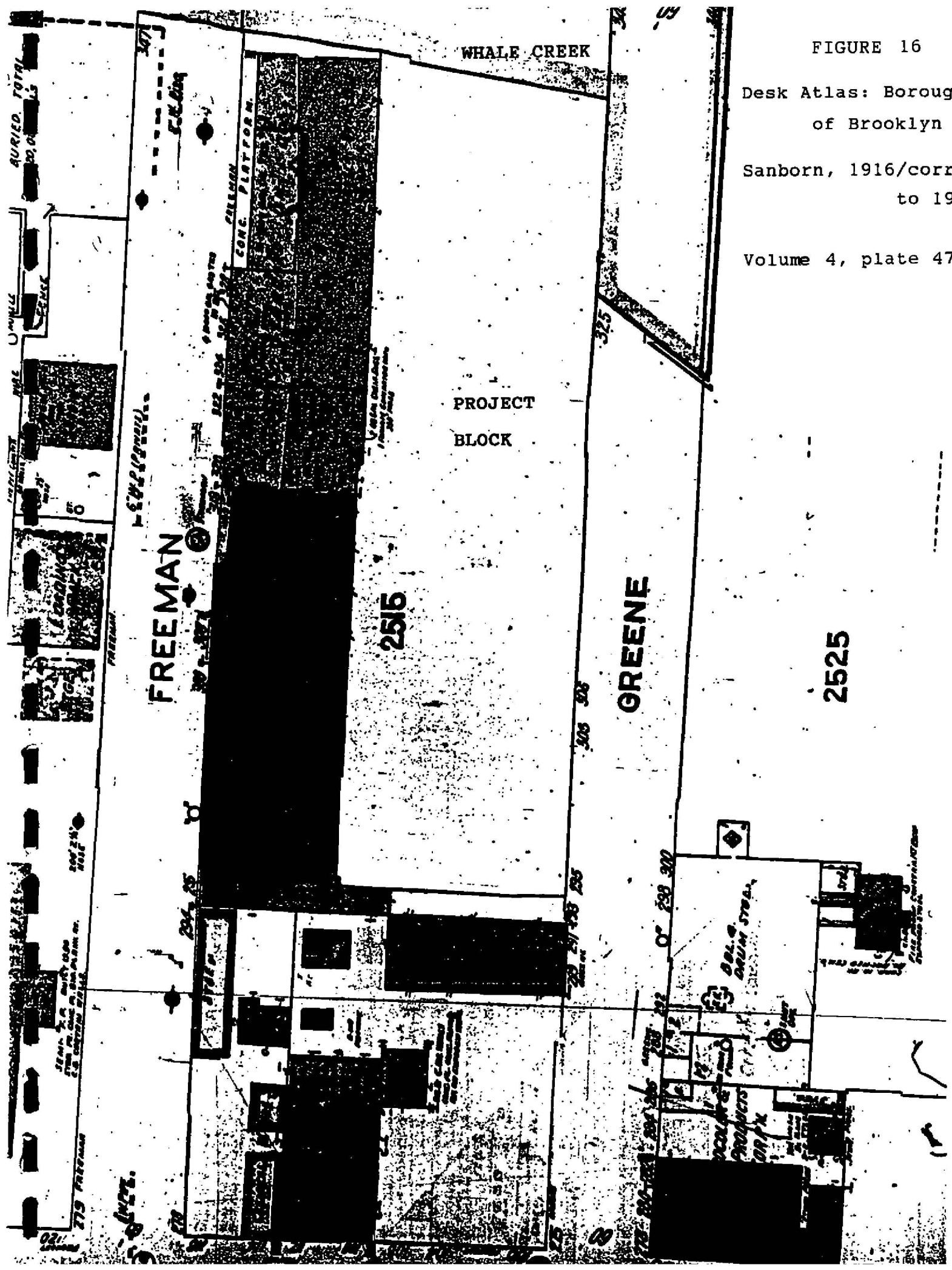


FIGURE 15

Desk Atlas: Borough of
Brooklyn
Sanborn, 1942, Vol. 4
scale: 1"=60'





WHALE CREEK

FREEMAN

GREENE

PROJECT
BLOCK

2515

2525

CONC. PLATFORM

SHELTER

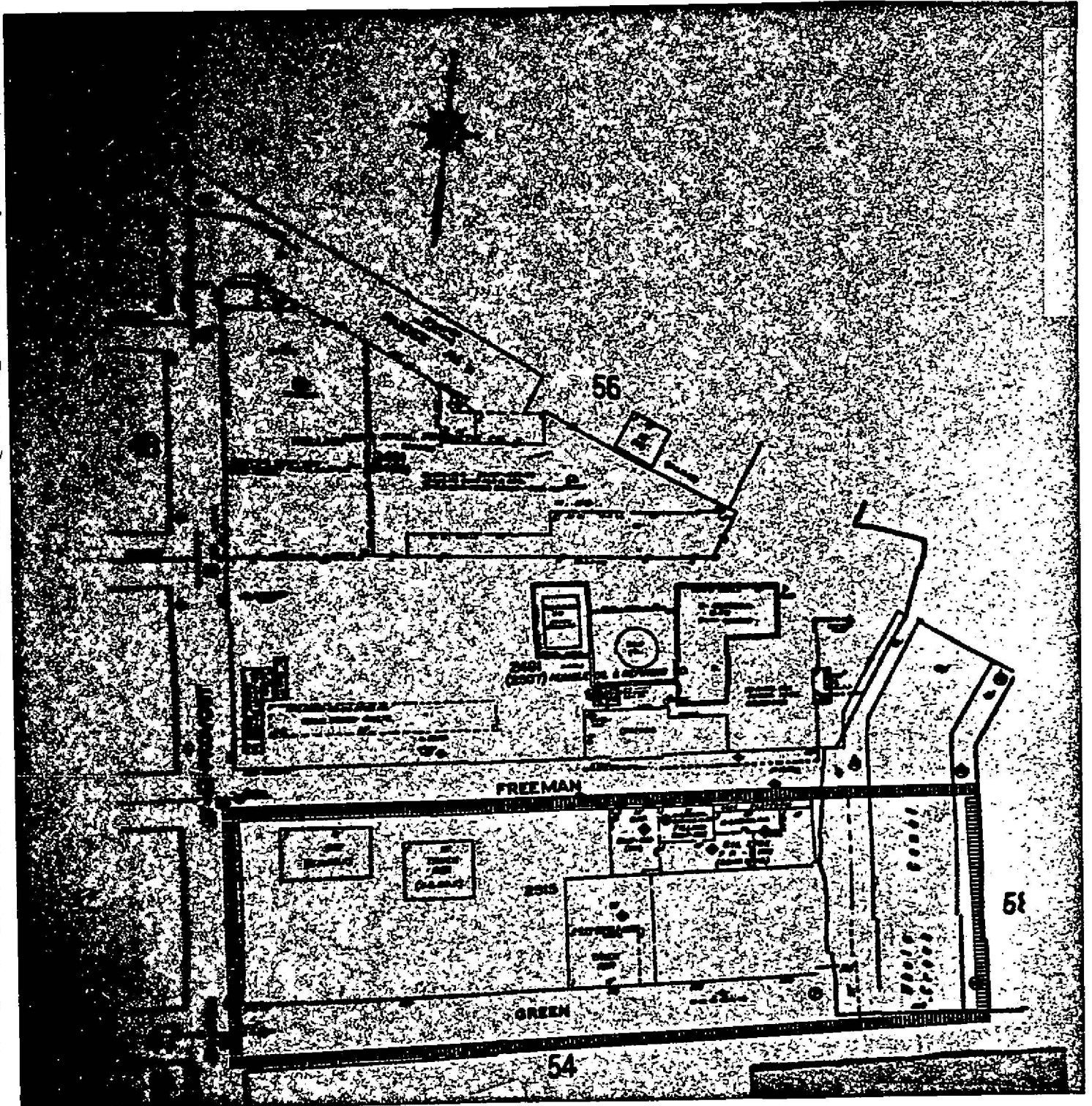
CURIED. TOTAL

FIGURE 16

Desk Atlas: Borough
of Brooklyn
Sanborn, 1916/corr.
to 1951

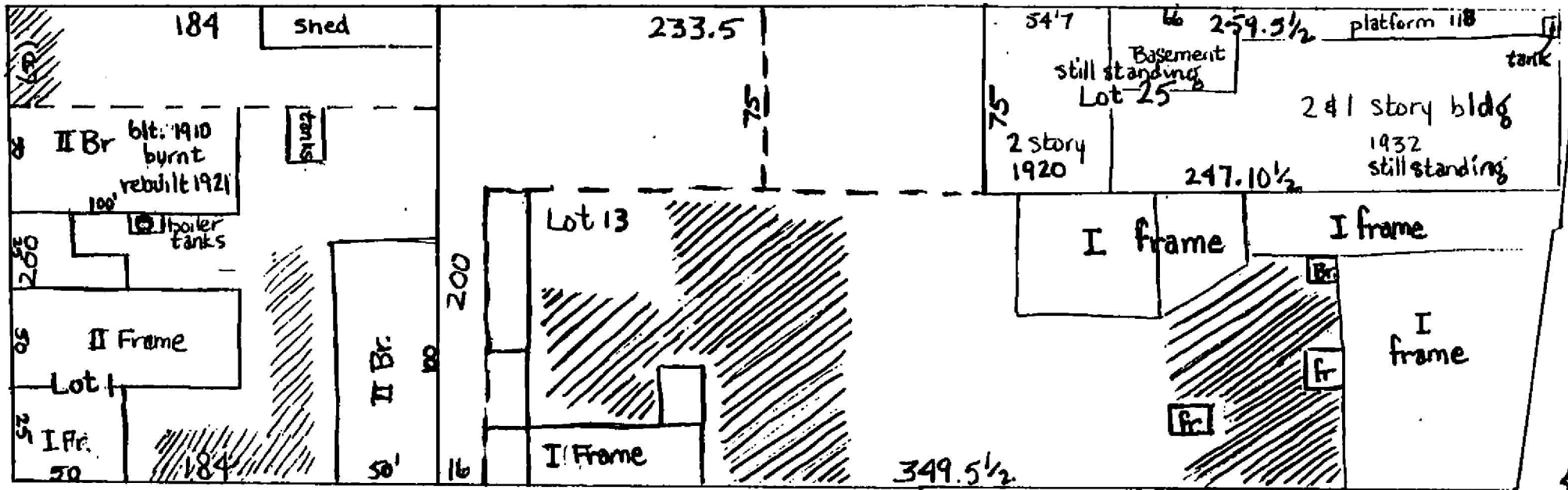
Volume 4, plate 47

Desk Atlas: Borough of Brooklyn, Sanborn, 1989
Volume 4, plate 55
scale: 1"=60'
Project Area





FREEMAN STREET



GREEN STREET

WHALE CREEK CANAL

PRESENT LOT LINES
BLOCK 2515

WITH MEASUREMENTS IN FEET
FROM SANBORN 1989 VOL. 4
PLATE 55

BUILDINGS COMPOSITE INFO.
FROM MAPS & BLDGS. DEPT. RECORDS.

(DOTTED LINES SHOW OLD LOT DIVISIONS)

SHADED AREAS SHOW SECTIONS WHICH HAVE HAD NO STRUCTURES

FIGURE 18

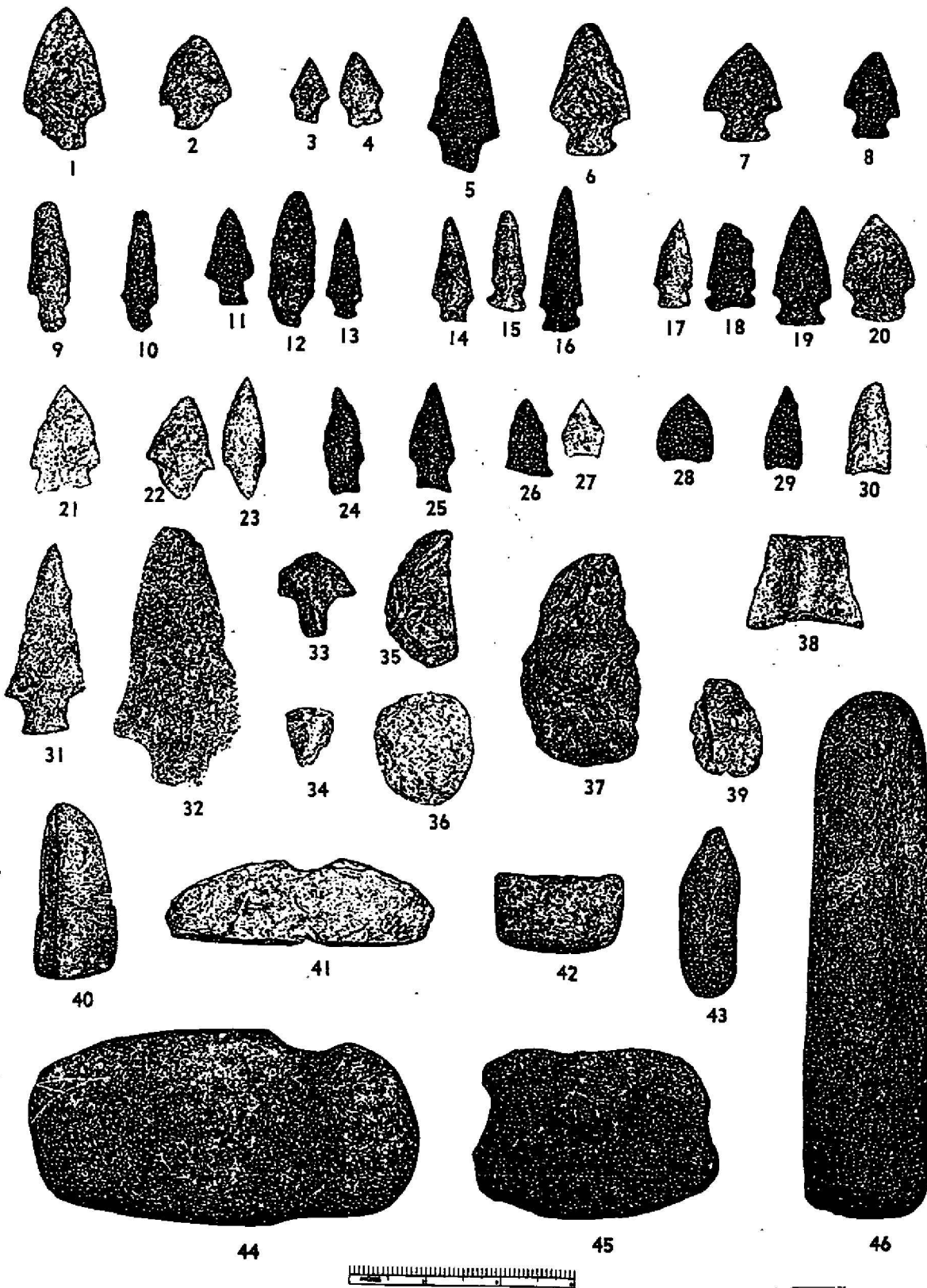


PLATE 15

ARTIFACTS OF STONE, ATTRIBUTED TO THE PRECERAMIC HORIZON AT THE GRANTVILLE SITE

1-5, Chipped stone projectile points of broad and narrow, stemmed forms; 6-20, broad and narrow, side-notched forms; 21, broad, corner-notched form; 22, broad and narrow, lozenge forms; 24, 25, fishtail and semi-lozenge forms; 26, narrow trianguloid form with eared base; 27, pentagonal form; 28-30, broad and narrow, trianguloid forms with concave base; 31, stemmed spearpoint; 32, stemmed knife, or spearpoint; 33, bunt, or stemmed scraper; 34, plano-convex scraper; 35, crescentic knife, or sidescraper; 36, ovoid scraper; 37, chopper; 38-40, fragments of winged and perforated bannerstones; 41, notched bannerstone; 42, fragment of the blade of an adze; 43, plummet (?); 44, grooved ax; 45, notched bannerstone; 46, large, rounded stone artifact.

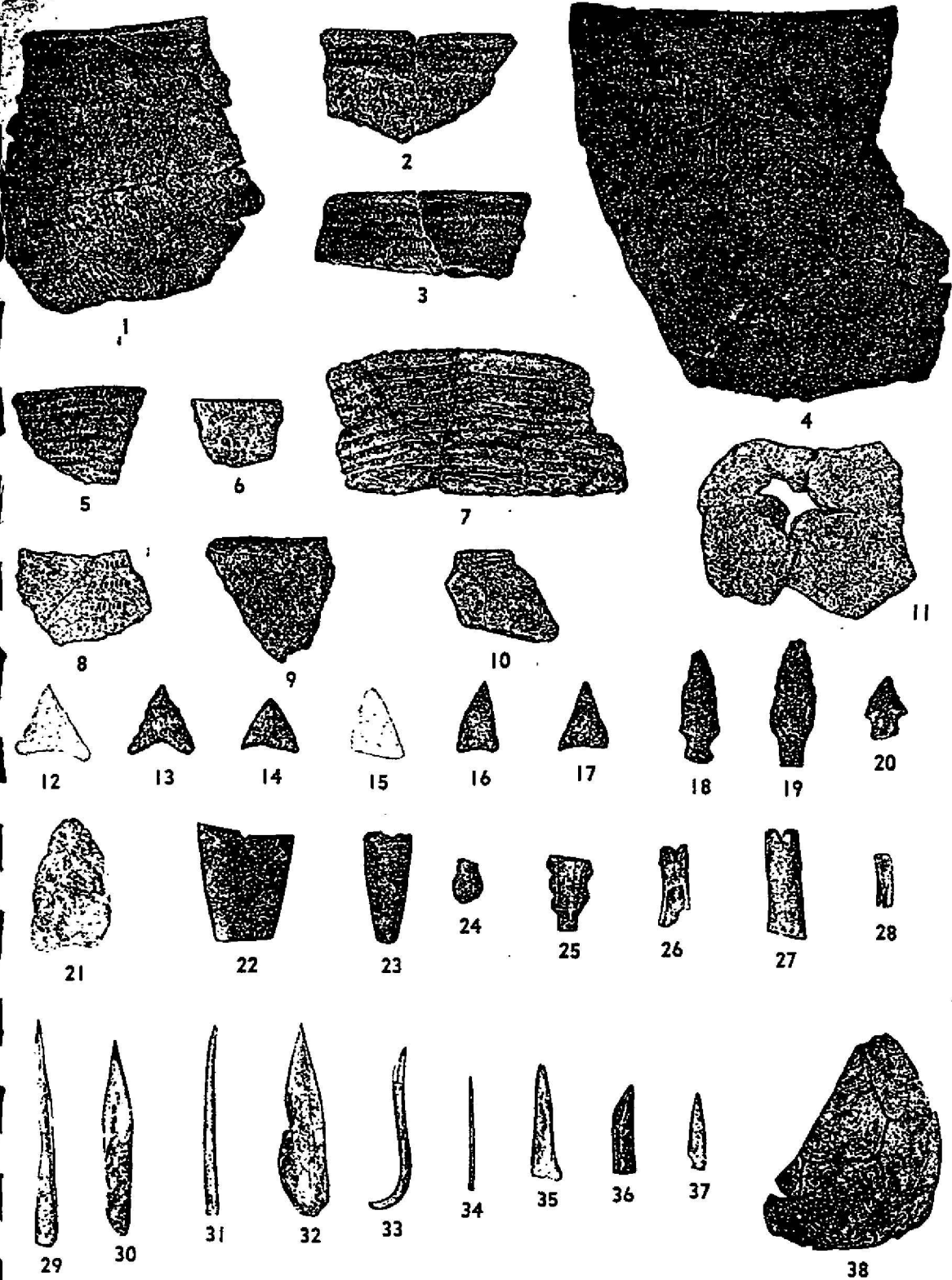


PLATE 12

ARTIFACTS OF POTTERY, STONE, BONE, AND ANTLER OF THE
BOWMANS BROOK FOCUS, EAST RIVER ASPECT

1, 11, East River cord-marked pottery; 2, 3, 5-8, Bowmans Brook stamped; 4, Bowmans Brook incised, bearing face formed by three punctates; 9, unclassified cord wrapped stick stamped; 10, unclassified sherd bearing faint incised lines; 12-17, broad and narrow, triangular projectile points with straight and concave bases; 18, narrow, side-notched form; 19, 20, narrow and broad, stemmed forms; 21, trianguloid knife; 22, fragment of a polished stone gorget; 23-25, fragments of pottery smoking pipes; 26, 27, worked deer phalanges, used in the cup-and-pin game; 28, beaver incisor; 29-34, bone awls; 35, 36, flakers of antler and bone; 37, conical antler projectile point; 38, fragment of a turtle shell dish.

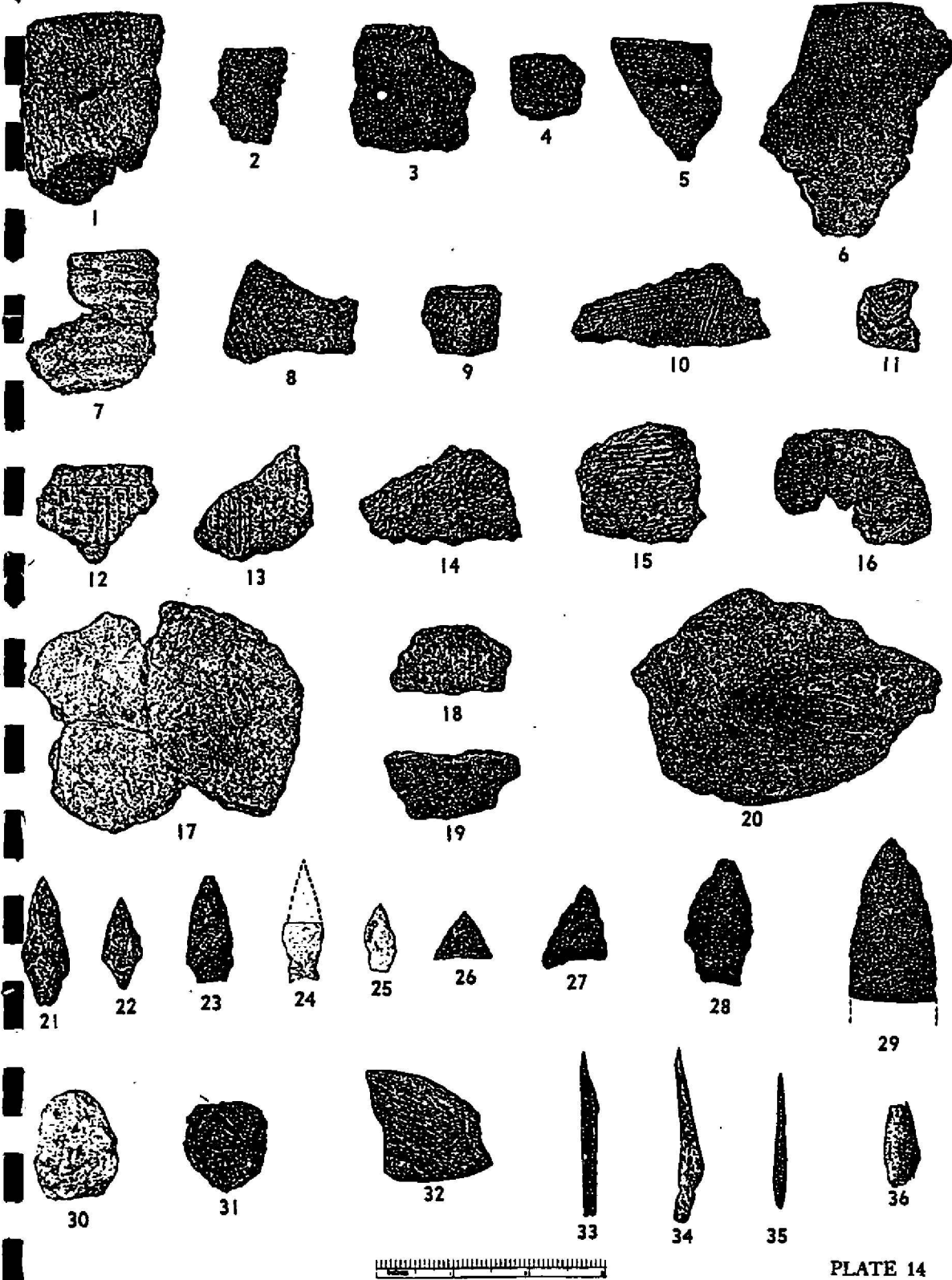


PLATE 14

ARTIFACTS OF POTTERY, STONE, AND BONE OF THE NORTH BEACH FOCUS, WINDSOR ASPECT

- 2. 20-1917
- 3. 20-1886b
- 5. 20-1898a
- 6. 20-6312
- 7. 20-6272
- 8. 20-6345b
- 9. 20-6345a
- 10. 20-1881
- 11. 20-6246
- 14. 20-1886a
- 15. 20-1898
- 17. 20-4785
- 18. 20-6347
- 19. 20-1886c
- 23. 20-1864
- 24. 20-1913
- 27. 20-1847
- 28. 20-1894
- 29. 20-1889
- 33. 20-1847
- 34. 20-6330
- 35. 20-1910

1-3, 5, 13, 15, 17, Vinette interior cord-marked pottery; 4, unclassified cord-marked sherd with notched lip; 6, unclassified scallop shell stamped; 7-10, Matinecock Point stamped; 11, Matinecock Point incised; 12, North Beach incised; 14, unclassified stippled; 16, 18, 19, North Beach brushed; 20, sherd from steatite vessel with horizontal lug; 21-23, chipped stone projectile points of lozenge form, one with broken stem; 24, fishtail form; 25, narrow, stemmed form; 26, 27, broad triangular forms with straight and concave bases; 28, broad-stemmed form, knife (?); 29, fragment of a knife; 30, ovoid scraper; 31, plano-convex scraper; 32, fragment of the wing of a bannerstone (?); 33, bone awl; 34, notched bone awl; 35, 36, bone projectile points (?).

1, 4, 12, 13, 16, 20-22, 25, 26, 30-32, 36, North Beach site; 2, 3, 5, 10, 14, 15, 19, 23, 24, 27-29, 33, 35, Pelham Boulder site; 6-9, 11, 18, 34, Matinecock Point site; 17, Throgs Neck I

PHOTOGRAPHS A and B

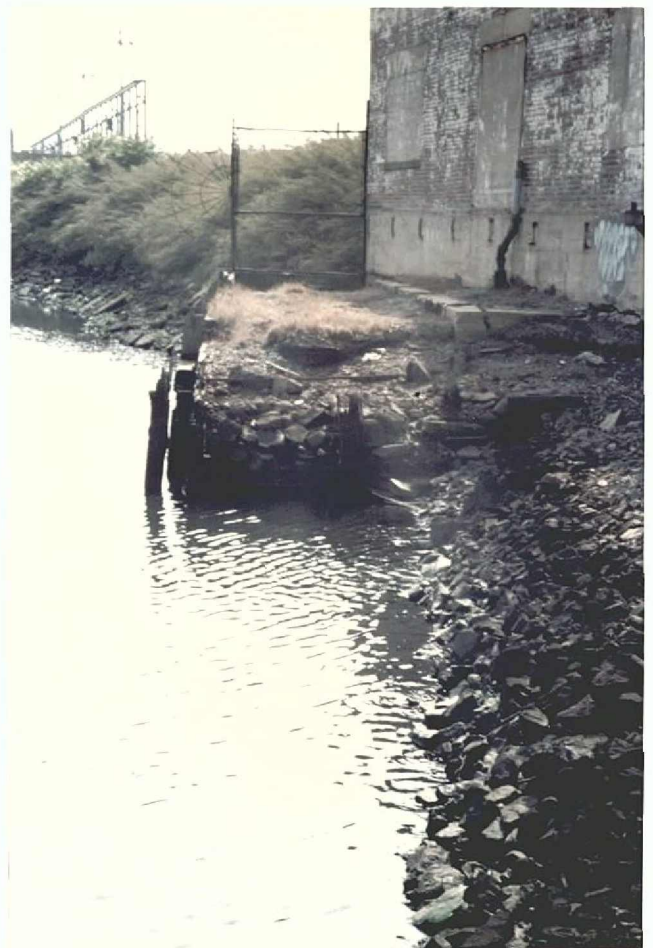
Newtown Creek Water Pollution Control Plant Upgrading Project
Site:

Block 2515, Lot 25. Freeman Street and existing warehouse
view: northeast to southwest from Whale Creek bulkhead



Site:

Project Area
Whale Creek Canal shoreline
view: north to south
from terminus of Freeman Street



PHOTOGRAPHS C and D

Newtown Creek Water Pollution Control Plant Upgrading Project

Site:

Whale Creek Canal, eastern bulkhead opposite the Project Area
view: west to east



Site:

Block 2515, Lot 1
view: west to east from Provost Street



PHOTOGRAPHS E and F

Newtown Creek Water Pollution Control Plant Upgrading Project
Site:

Green Street, terminus at Whale Creek Canal
view: west to east



Site:

Green Street

view: east to west, Newtown Creek Water Pollution Control
Plant on the left of photo



PHOTOGRAPH G

Newtown Creek Water Pollution Control Plant Upgrading Project
Site:

Block 2515, Lot 13, "repair garage"
view: west to east from Green Street

Note: No sidewalks have been constructed along Green Street.
Hydrants have been installed, see arrow.

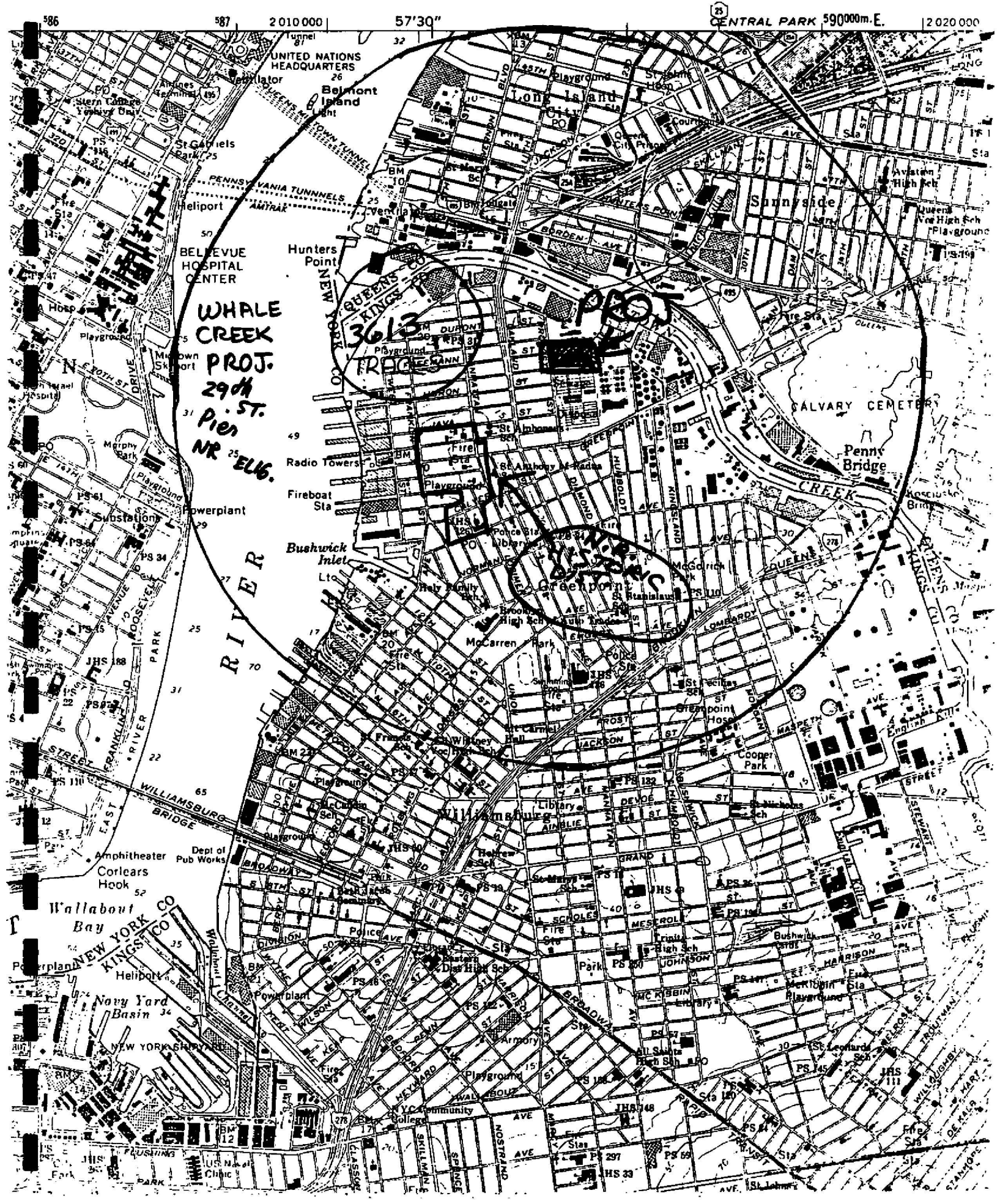


APPENDIX

CORRESPONDENCE WITH THE NEW YORK STATE MUSEUM
AND THE
STATE HISTORIC PRESERVATION OFFICE



DEFINITION



586 587 2010 000 57'30" CENTRAL PARK 590000m.E. 12 020 000

WHOLE CREEK PROJ.
29th St. Pier
NR ELIG.

3613 TRIGS

PROJ.

CREEK

United States Department of the Interior
National Park Service

For NPS use only

National Register of Historic Places Inventory—Nomination Form

received

date entered

See Instructions In *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic

and/or common Greenpoint Historic District

2. Location

street & number see continuation sheet ___ not for publication

city, town Brooklyn ___ vicinity of

state New York code county Kings code 047

3. Classification

Category	Ownership	Status	Present Use	
<input checked="" type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input checked="" type="checkbox"/> commercial	<input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input checked="" type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment	<input checked="" type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial	<input type="checkbox"/> transportation
	NA	<input type="checkbox"/> no	<input type="checkbox"/> military	<input type="checkbox"/> other:

4. Owner of Property

name various

street & number

city, town ___ vicinity of state

5. Location of Legal Description

courthouse, registry of deeds, etc. King's County Register's Office

street & number Brooklyn Municipal Bldg., Joralemon St.

city, town Brooklyn state New York

6. Representation in Existing Surveys

title Greenpoint Historic District Designation Report (LP-1248)
has this property been determined eligible? yes no

date September 14, 1982 ___ federal ___ state ___ county local

depository for survey records New York Landmarks Preservation Commission

city, town New York state New York

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

CONN.

NAME J. E. STANLEY-BROWN

ADDRESS 27 JORDAN ROAD, TROY, NEW YORK 12180

AC PHONE # 518 283-0534

AGENCY/COMPANY/INSTITUTION REPRESENTED _____

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)

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

REQUESTED APPOINTMENT:

1st Choice _____ 2nd Choice _____
date time (or any) 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)

BROOKLYN _____

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:

Please provide a sensitivity rating for the attached project area.

SITE #. 7.5' MAP
3613 BROOKLYN

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.

J. E. Stanley-Brown 18 Oct 1989
(Signature) (Date)

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 OR SWAMPS AND 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:



Whole
Creek
Site
for DEP

RIVER

EAST WALLABOUT BAY
NEW YORK CO
KINGS CO

Navy Yard Basin

NEW YORK CITY

PLUSHING

Cumberland Hospital

PS 67

Fort Greene

PS 157

PS 158

PS 159

PS 160

PS 161

PS 162