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City Scape 2001

***RESPONSE TO BOARD OF  
STANDARDS AND APPEALS***

**BLOCK 595, LOT 66 & 68**

**328 Spring Street & 489 Washington Street**

**Borough of Manhattan**

**New York County, New York**

Prepared For:

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# **REPORT ON SUBSURFACE CONDITIONS**

## **(Block 595. Lot 66 & 68)**

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## **EXECUTIVE SUMMARY**

**CITY/SCAPE:** Cultural Resource Consultants has been asked to evaluate the subsurface conditions at 328 Spring Street and 489 Washington Street. These properties are located within Block 595 on lots currently identified as Lot 68 and Lot 66. The proposed project area is located adjacent to the James Brown House and the Manhattan Land Ventilator for the Holland Tunnel, both of which are National Register landmarks. The materials employed consisted primarily of historic maps that included the project area, but historic literature, boring records, and research reports prepared for the Route 9A reconstruction project were also examined.

With respect to the potential for prehistoric cultural deposits on the site, it was determined that, prior to the early 19<sup>th</sup> century, the project area was located either on the beach or within the high water line of the Hudson River at a level at least 12 feet below the current street level. The early 19<sup>th</sup> century filling of the site effectively sealed any prehistoric deposits; however, the location of the project area at the shoreline of the Hudson River reduces the potential for intact prehistoric archaeological sites.

### **18<sup>th</sup> Century Revolutionary War Fortifications**

Map research indicates that the project area may have the potential to contain the remains of an 18<sup>th</sup> century fortification located west of the intersection of Greenwich Street and Spring Street. This fortification is seen on two maps dating to 1782 (See Map 6 & 7 and Fig. 9). It was part of a line of fortifications built in 1776 that protected the west side of Manhattan and, more specifically, the Canal Street Valley from enemy attack. It appears that the fortification may have extended into the northern portion of Block 595. These remains, should they exist within the project area, would have been sealed by the fill used to level the area in preparation for the construction of streets and buildings, thereby protecting them from disturbance during subsequent buildings episodes. The results of the test borings, which reported the presence of wooden piers, may provide evidence of these fortifications.

### **19<sup>th</sup> Century Archaeological Potential**

In the early 19<sup>th</sup> century, before the advent of water and sewer in Manhattan, the buildings within the project area would have had privies and/or cisterns. In 1827-30, with the exception of the building on the northwest corner of the project area, all of the structures in the project area had open rear yards where privies and cisterns would have been located. Boring records indicate that there is a floor or other significant obstruction between 3 and 8 feet below the building on Lot 68. The presence of this debris raises the possibility that subsurface features may be sealed beneath this level.

The potential for both 18<sup>th</sup> century and 19<sup>th</sup> century cultural resources within the project area represents a significant hardship to the project sponsor in that mitigation of these resources, should they prove to be present, will be time consuming and expensive.

# **REPORT ON SUBSURFACE CONDITIONS**

**(for Board of Standards and Appeals)**

**328 Spring Street  
Block 595, Lots 66 & 68 (Tentative Tax Lot 68)  
Borough of Manhattan. New York County, New York.**

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**Date:** July 18, 2001

## **Project Information**

### **Location of Proposed Action:**

The proposed project area, identified as 328 Spring Street (Block 595, Lot 66 & 68) is located on the south side of Spring Street at the intersection with Washington Street in the Borough of Manhattan. (Map 1 & 2 and Fig. 1) Block 595 is bounded by Spring Street on the north, Washington Street on the west, Canal Street on the south (which runs at an angle to the northwest), and Greenwich Street on the east. At the present time Lot 66 (489 Washington Street) is occupied by a 1-story frame garage/automobile repair shop. Lot 68 (328 Spring Street) is occupied by a 2-story food distribution and warehouse building. Materials provided by Spring Street Development Corporation (SSDC) indicate that it proposes to combine Lot 66 and Lot 68 to create a new tax parcel (tentatively identified as Lot 68) and to transfer the development rights of Lot 71 (326 Spring Street), Lot 72 (324 Spring Street), Lot 73 (514 Greenwich Street) and Lot 71 (508 Greenwich Street) to the new tax parcel. The proposed project area is located adjacent to the historic James Brown House, a landmark property at 326 Spring Street, one of the parcels contributing air rights to the proposed project.

### **Description of the Application**

The applicant seeks a variance that will permit construction of a mixed-use residential structure, containing a community facility use. It is anticipated that this community facility use will serve as a satellite to a major museum or cultural institution and will feature an

exhibition/gallery space. The structure will contain parking, an accessory non-commercial health club facility and children's room, as well as a commercial use in the form of a restaurant.

As part of the proposed project SSDS will demolish the 1-story automobile repair building located at 489 Washington Street (Lot 66) and the vacant 2-story building located at 328 Spring Street (Lot 68). As noted above, the proposed structure will utilize development rights from various contiguous zoning lots, specifically, Lot 71 (326 Spring Street), Lot 72 (324 Spring Street), Lot 73 (514 Greenwich Street) and Lot 76 (508 Greenwich Street). The proposed method of assemblage is to enable the developer to earn a reasonable rate of return while simultaneously insuring that the heights of the surrounding buildings will not be increased.

### **Purpose of Report**

The purpose of this particular report is to describe the subsurface conditions on Lot 66 and Lot 68 so far as they are known. A report prepared by one of the project consultants indicates that there are subsurface features, interpreted as pier footings, located on the site (See below).

### **Conditions On and Adjacent to the Site**

Materials provided by SSDC indicate that on March 4, 2000 a number of test borings were taken at 328 Spring Street (Lot 68) and 489 Washington Street (Lot 66). The first of these borings (B-1) was located in the interior of Lot 66 (489 Washington Street). The second through the fourth boring (B-2 to B-4) were located on Lot 68 (328 Spring Street). The final boring (B-5) was located just outside the northwest corner of the building at 328 Spring Street. The results of these borings are outlined in Appendix B. Test pit B-1 indicated that the lot had been filled to a depth of 12 feet. Test pit B-5 provided similar results, indicating fill to a depth of 12 feet. The borings taken in the interior of Lot 68 terminated at between 3 to 8 feet when further penetration by the hollow auger was refused. The reason for the inability of the auger to extend below the depths reported is not identified in the boring report, but it was reported that test pits revealed what were interpreted as abandoned pier footings (Statement of Findings, 2001:5). In a conversation with one of SSDC's consultants these pier footings were variously described as wood and concrete. As reported in the Statement of Findings, the pier footings were not considered inconsistent with the history of the area, since, until the shoreline was filled in the early 19<sup>th</sup> century the Hudson River extended into Block 595. Engineers for the project have suggested that additional subsurface footings were likely scattered throughout the site. Records examined at the New York City Landmarks Preservation Commission indicate that in this area the historic shoreline was located approximately 250 feet west of the "Road to Greenwich." (See Map 4) This road corresponds with Greenwich Street.

While the subsurface conditions were not further described in the materials received from SSDC, it is clear that there is the potential to encounter subsurface features associated with earlier structures on the site. Material examined at the Landmarks Preservation Commission

suggests, among other things, the potential for remnants of Revolutionary War fortifications, evidence of commercial activity, or rear yard features (i.e., privies and/or cisterns) within the project area. The potential for Lot 66 and Lot 68 to contain such features is supported by map and historical research undertaken by the consultant at the Topographical Bureau at the Manhattan Borough President's Office, the Municipal Archives and the Map Room at the New York City Public Library. The results of this research will be discussed below.

### **The James Brown House**

The James Brown House is located adjacent to the project area at 326 Spring Street. The Statement of Findings reports that James Brown built this "Classic Federal Townhouse in 1817 on what was then Hudson River shoreline" (Statement of Findings, 2001:6). The Statement of Findings continues that "James Brown, an African-American aide to George Washington, had been granted his freedom after the Revolution and went on to become a successful tobacco merchant and entrepreneur." The James Brown House is reported to be the only remaining example of post and beam construction in New York City. It appears that the information included in the Statement of Findings was derived from a documentary video about the Ear Inn that includes references to James Brown and the date of the building's construction.

The James Brown House was declared a New York City landmark in November 1969. At that time designation reports were more cursory than at the present time; however, the report describes the James Brown House as a heavy timber braced-frame wooden structure - an example of a building technique that was typical of 17<sup>th</sup> and 18<sup>th</sup> century New York City, but that continued to be built into the early years of the 19<sup>th</sup> century. The original landmark designation report described the house as the only surviving example of such construction in New York City, but, based on a review of other buildings dating to the same time period that are still standing in the area, it appears that this may be an inaccurate statement. By 1830 concerns about fire, a constant threat in a city of wood frame buildings, led to the abandonment of this type of construction. The building is 3-bays wide and 2½-stories tall, with a high gambrel roof (originally covered with wooden shingles) and a Flemish bond brick veneer façade. Unlike many buildings from this period, 326 Spring Street was reported to have originally been built as a shop with living quarters over the commercial space. Portions of the interior are considered to be in their original condition with wide floorboards of virgin growth spruce in the upper residence.

Research undertaken for this report indicate that at least one structure existed in the immediate vicinity of the project area by 1800, when "a market house was erected on Brannon (Spring) Street, a bit beyond the settled portion of the town" (De Voe's *The Market Book*, quoted in Pomerantz, 1965:175). This structure stood in the center of Spring Street. Spring Street was then called Brannon [Brannan] Street after a tavern called Brannan's Gardens that was located at the southwest corner of Spring and Hudson Streets. This tavern, said to have been established in about 1765, had a long history, though its name changed over time. At the end of the 18<sup>th</sup> century it was the New York Gardens, in the 1830's it was called Washington Gardens or Tyler's Gardens. According to Stokes, the building was still standing in 1862 (Stokes, 1918; Janvier, 1894:214-15).



The earliest structure reported on Block 595 was a house that was built in 1818 following the division of the Lispenard Estate among the heirs. That house was located on the west side of Greenwich Street near Canal (Rutsch et al., 1983:203). The information gathered for this report does not confirm or deny the construction date of the James Brown House. The land on which it stands was granted to Lewis Lorton on February 20, 1804. This parcel was separate from the land to the south, which was owned by the Lispenard family. Perhaps Lorton initiated development on his portion of Block 595 prior to the time that the Lispenard family heirs began development on theirs. It is certainly possible, therefore, that the James Brown House dates to 1817, but, whatever the case, we know that it was among the first buildings constructed on Block 595.

The Environmental Assessment Statement prepared by EPDS Company of Great Neck, New York for the project area was examined at the Landmarks Preservation Commission. From this document it appears that the former rear yard area of the James Brown House may be impacted by the proposed development. Potential impacts to the rear yard area of the James Brown House must be taken into consideration when assessing the potential for the project area to contain prehistoric or historic archaeological resources. As noted above, the historic archaeological resources might include the remains of Revolutionary War fortifications, a privy and/or cistern or possible evidence of the commercial activity said to have been associated with the James Brown House.

### Changes in Block, Lot and House Numbers

In Manhattan, as elsewhere in New York City, there have often been changes in block and lot numbers as well as house numbers. This is the case on Block 595 as well. Before the current renumbering of blocks in Manhattan, Block 595 was identified as Block 52. The configuration of lots on the block was established by 1827-30, but over the years the numbers of the lots have changed, and certain lots have been consolidated. For example, present-day Lot 68 was formerly made up of five lots – four on Spring Street and one on Washington Street. The numbers of these lots changed between 1827-30 and the 1920's. The house numbers on Washington Street have remained the same from the early 19<sup>th</sup> century, but those on Spring Street have changed. The following table outlines these changes:

Table 1: Changes in Lot and House Numbers within Project Area				
Old Lot	1922 Lot	Current	Old Address	New Address
2618	70	68	294 Spring	328 Spring
2619	69	68	296 Spring	330 Spring
2620	68	68	298 Spring	332 Spring
2621	68	68	300 Spring	334 Spring
2622	67	68	491 Washington	491 Washington
2623	66	66	489 Washington	489 Washington

## Material Examined

As part of the initial investigation of the subsurface conditions on Lot 66 and Lot 68 historic Sanborn Insurance maps were consulted. In the case of Block 595, the earliest Sanborn map dates to 1894. To investigate the earlier history of land use within the project area, a series of historic maps dating from the mid-18<sup>th</sup> through the late 19<sup>th</sup> century were examined. Historic research was undertaken and the documentary studies prepared for the proposed *Route 9A Reconstruction Project* were examined at the New York City Landmarks Preservation Commission. A list of maps and reports consulted is included in the bibliography.

## Discussion of the History of Block 595 (Lot 66 & 68)

As noted above, the purpose of this report is to identify subsurface conditions that might be impacted by the proposed project. To prepare this report a series of maps were consulted that identify landscape features and structures formerly located within or adjacent to the project area. Maps dating from 1766-67 to the present were consulted, as well as materials held by the New York City Landmark Preservation Commission. For purposes of this discussion below, it should be noted Lot 68 is a combined lot, incorporating four lots on Spring Street (328-330 Spring Street) and one lot on Washington Street (491 Washington Street). 489 Washington Street, also part of the project area, is a separate lot that is identified as Lot 66. The sensitivity of the project area is related to the episodes of construction, including significant land fill, and destruction that have taken place during the last 200 years.

## Environmental Information

### Topography:

The project area is located within the New England Upland, which includes the Manhattan Prong. In terms of the present-day topography, the site is a level area located in an urban setting consisting of commercial and residential structures. According to information provided by the Manhattan Topographical Bureau, Block 595 is 7 feet in elevation above mean high tide. An examination of Viele's *Topographical Atlas of the City of New York showing original water courses and made land* (dated 1874) indicates that the original shore line at Canal Street was located immediately west of Greenwich Street and that the western portion of Block 595, including the project area, was originally at or near the water's edge. (Map 3A) On this map the 18<sup>th</sup> century shoreline has been indicated. In addition, the location of Collect Pond and Lispenard's Meadow are shown, as is the line of Canal Street.

A second iteration of the Viele map, prepared to accompany testimony before the Sanitary Committee of the Senate, shows the position of Canal Street in relationship to Lispenard's Meadow. Lispenard's Meadow will be discussed in more detail below, but, briefly, it was an extensive marsh area that stretched westward from Collect Pond (near the intersection of Center and Worth Streets) to the Hudson River. Arms of this marsh extended northeastward and southward from the main part of the meadow. The outlet from Lispenard's Meadow

entered the Hudson River south of the project area, near the intersection of Canal Street and Desbrosses or Vestry Street. (Map 3B) Historically, then, the project area existed in a completely different topographical setting than it does today. Greenwich Street, which began at Murray Street and ran north to the hamlet of Greenwich (now Greenwich Village), was a road that ran along the substantial bluff overlooking the Hudson River. Based on several 18<sup>th</sup> century maps of Manhattan it appears that the road was approximately 250 feet from the edge of the bluff. At the foot of the bluff there was a narrow beach. Prehistorically this beach would have been wider, since 13,000 years ago the water level in the Hudson River was significantly lower than it is today (varying, according to some, as much as 300 feet below the present sea level). The present sea level in the Hudson River was not achieved until approximately 2000 years ago. The relative levels of the water in the Hudson River, as well as changes in the topography on Block 595, affects the potential of the project area to contain prehistoric cultural resources.

### **Geology:**

In geological terms, the project area is located in the New England Upland (Manhattan Prong) (Schuberth, 1968). The precise underlying geology of the project area has not been identified, but would be consistent with the types of materials associated with the Manhattan Prong, including schists and gneisses. Information obtained from the boring records (See Appendix B) indicates that beneath the fill the soils on the site consist of medium to coarse sand intermixed with fine gravel and silt. No organic material (i.e., peat) was noted, suggesting that the project area was not associated with the former Lispenard's Meadow.

### **Soils:**

As with the geology, the underlying soils would be consistent with the types of materials associated with the Manhattan Prong. These included reddish brown coarse to medium sand with traces of fine gravel and reddish brown silt. Today, at street level, the soils would be classified as urban soils, in the sense that both Lot 68 and Lot 66 have been disturbed, first by the filling of the area in the late 18<sup>th</sup> and early 19<sup>th</sup> century to construct the Canal Street Basin and Washington Street, by the construction of buildings in the early 19<sup>th</sup> century, by the destruction of the early 19<sup>th</sup> century buildings and the construction of others in the second half of the 19<sup>th</sup> century, and the subsequent demolition of the buildings on Lot 68 in the early 1930's to allow the construction of the present building. On Lot 66 the structure occupying this lot appears to date from the second half of the 19<sup>th</sup> century.

### **Drainage:**

Examination of historic maps and atlases indicates that the marsh associated with Lispenard's Meadow was located directly south and east of the project area. The water flowing from the marsh entered the Hudson River at a low point referred to as the Canal Street Valley. The project area itself lay at the edge of the Hudson River shoreline. Today, as well as historically, drainage from the site would be into the Hudson River. In the 19<sup>th</sup> century waters from Lispenard's Meadow and the surrounding area was collected, first in an open

ditch, then in a covered sewer, that ran in the center of Canal Street. This sewer emptied into the Hudson River at Hoboken Street.

### Man-Made Features and Alterations:

The site has experienced a variety of significant disturbances:

- 1) those associated with the extensive landfill required to permit the construction of Washington Street;
- 2) disturbances associated with the construction of the early 19<sup>th</sup> century buildings on Lot 66 and Lot 68 (see Table 1 for historic old lot and house numbers);
- 3) disturbances associated with demolition of the 19<sup>th</sup> century buildings on Spring Street (now part of combined Lot 68) and the construction of new buildings in the second half of the 19<sup>th</sup> century, and the alterations to the building on Washington Street (Lot 66);
- 4) and, the demolition of the buildings on Spring Street in the early 1930's and the construction of the freight terminal/warehouse complex that currently occupies Lot 68.

The project area is located within New York City. Information was, therefore, not obtained from the New York State Office of Parks, Recreation and Historic Preservation (OPRHP). However, copies of the OPRHP Site Maps (USGS Brooklyn Quad, 7.5 Minute Series) examined at the New York City Landmarks Preservation Commission (LPC) show no reported prehistoric or historic archaeological sites associated with the project area. Likewise, information was not obtained directly from the New York State Museum Archaeological Site Files, which are now held at OPRHP. However, the environmental conditions that would have existed in prehistoric times suggest that use by prehistoric peoples would have been possible, at least during the period of time before 2000 BP when the water levels in the Hudson River were lower and more land would have been exposed for exploitation; however, while not out of the question, the likelihood of intact prehistoric resources existing on the site cannot be considered high. This will be discussed in more detail below.

As discussed above, the New York City Landmarks Preservation Commission considers that the project area may be archaeologically significant, having the potential to yield remains of early 19<sup>th</sup> century occupations in the form of privies, cisterns and other subsurface features. Reports prepared by the consultants for the *Route 9A Reconstruction Project* were examined at the Landmarks Commission, along with reports for several other sites in the general vicinity of the project area. These reports suggest the possibility that Block 595 may contain remains of Revolutionary War fortifications (See Map 6 & 7 and Fig. 9).

The presence of a New York City landmark immediately adjacent to the project area has been previously noted. The James Brown House is reported to date from 1817. It is an example of a Federal style townhouse with commercial space on the ground floor. The post and beam



construction was popular in the 19<sup>th</sup> and early 19<sup>th</sup> century, but by 1830 the threat of fire led to new construction techniques. The James Brown House, located at 326 Spring Street, was listed on the National Register of Historic Places on August 11, 1983. Four other buildings listed on the National Register are within a short distance of the project area. These are:

Table 2: National Register Buildings in Vicinity of Project Area		
Name of Building	Address	Designated
Bell Telephone Laboratories	463 West Street	5-15-1975
Fleming Smith Warehouse	451-453 Washington Street	5-26-1983
U.S. Post Office – Canal Street Station	350 Canal Street	5-11-1989
Holland Tunnel New York Land Ventilation Building		In 1993

No structure eligible for National Register listing nor proposed for listing on the State or National Register of Historic Places were noted in the immediate vicinity of the project area.

## Documentary and Map Research

In the preparation of this report, numerous maps in several repositories were consulted. The New York Public Library Map Room houses a large collection of New York City maps dating from the 17<sup>th</sup> through the 20<sup>th</sup> century. In addition, maps housed at the Manhattan Topographical Bureau in the Borough President's Office, and at the New York City Municipal Archives were consulted. These maps provide the basis for the following discussion.

The earliest maps of Manhattan focus on the developed portion of the island, south of Wall Street. We know, however, from historic documents that in the early 17<sup>th</sup> century the land within the project area was part of a grant of 62 acres to Roelof Jans (or Jansen). This land passed to his widow and her heirs, who sold it to Colonel Francis Lovelace, one of the English governors of New York. The area owned by Lovelace was referred to as the King's or Queen's Farm. By 1703 it had come under the ownership of Trinity Church, being then referred to as the Trinity Church Farm (Rutsch et al., 1983:169). The land included a large portion of the Lisenard's Meadow, a marsh that extended west and north from Collect Pond to the Hudson River. This area was referred to at a later date as the West Ward. (See Fig. 3) In 1730 Anthony Rutgers, who some years earlier had leased a portion of the Trinity Church Farm, proposed to clear and drain Lisenard's Meadow, declaring that Lisenard's Meadow was constantly filled with standing waters for which

*... there was no natural vent and being covered with bushes and small tress [was] by the stagnation and rottemness of it. . . become extremely dangerous and of fatal consequences to all the inhabitants of the north part of this City. . .*  
(Stokes, 1918:560).

This description suggests the possibility that the meadow did not have an outlet to the Hudson River, or that the outlet was inadequate to properly drain the marsh. If that was the case, one of Rutger's first actions would have been to cut a channel from the meadow to the river. This would have necessitated a bridge to carry the road to Greenwich over the meadow. It is reported by Stokes that Rutger constructed a bridge, most probably of wood, in 1741; that bridge was replaced in 1786 by a stone bridge (Stokes, 1915:926; 1922:530).

One of the difficulties in determining the location of certain features on historic maps is that it is often hard to relate former landmarks with the current streetscape. This is certainly true when attempting to relate the project area's location on Block 595 to the topography of 18<sup>th</sup> century Manhattan, particularly its relationship to the shoreline of the Hudson River and that of Lispenard's Meadow. A portion of a Sectional Map for Manhattan examined at the Topographical Bureau in the Manhattan Borough President's Office was extremely helpful in the placement of the project area in relationship to these two features. (Fig. 2) This map, undated, but probably drawn in the 1930's, notes, among other things, the date that streets were opened, including Greenwich Street (opened in 1797), and Spring Street, originally called Brannon (or Brannan) Street, opened on August 23, 1802. Canal Street was laid out to the Hudson River shoreline in 1809, but research indicates that it was not constructed and officially opened until some years later.

At the time that the streets in the vicinity of the project area were opened the shoreline of the Hudson River extended north-south through Block 595. Different maps locate this line in slightly different places on the block, but it is clear that in the early years of the 19<sup>th</sup> century the west portion of Block 595 was either on the beach or inside the high water mark of the Hudson River. This map shows the northern edge of Lispenard's Meadow extending east from the Hudson River shoreline through the north end of Block 595. Here again the location does not correspond precisely with the location seen on several other maps, but clearly some part of Block 595 (most probably the southernmost portion) fell within the marsh area. It seems likely that the extreme northeast corner of Block 595 was fast land, but even this is open to interpretation. What we see, however, is that the subsurface conditions within the project area can best be described as complex.

The earliest map that details the Canal Street area is the *Montessor Plan of the City of New-York and its Environs to Greenwich* published in 1766. (Map 4) At the time the project area was located in the West Ward, which extended north from an area south of Battery Place to the intersection of Spring Street and Varick Street (Map of Ward Boundaries in 1730 from *City Register, New York County*). (Fig. 3) The map of the ward boundaries included several details of the shoreline that help to relate various early maps to the Montessor Plan, including the bulge in the shoreline south of the Lispenard Estate that was the site of the Harrison foundry and brewery, as well as the "Old Shore Line," which was in 1730 a short distance east of the present-day intersection of Washington and Spring Streets. At the time Washington Street would have been literally waterfront property. The intersection of Washington and Spring Streets has been pencilled in on the Ward Boundaries map. This map also included the shoreline as it appeared in the early 20<sup>th</sup> century.

Returning to the Montessor plan, we can see that the lower part of Manhattan was developed with the "Road to Greenwich" which began at Murray Street (below Murray Street it was identified as Greenwich Street) and extending northward to the southern edge of Oliver Delancy's farm in Greenwich Village (at present-day 14<sup>th</sup> Street). The road paralleled the shore of the Hudson River, crossing the Canal Street Valley and the mouth of the stream flowing from Collect Pond through Lispenard's Meadow somewhere between Vestry and Watts Street. As noted above, a bridge had been built by 1741 to carry the road across this stream. The topography on the map indicates that north and south of the stream the land rose sharply. To the south, on a hill that overlooked the meadow and the river, was the estate of the Lispenard family. The description of the house and the grounds surrounding it provide a vignette of the Canal Street area in the mid-18<sup>th</sup> century. According to an article by the American Scenic and Historic Preservation Society (ASHP), the house

*... stood amid extensive cultivated ground on a hill which sloped on the west to [the] Hudson River and on the north to the Canal Street Valley and on the east to the Meadows. . . the grounds were a rectangular tract of about eight acres lying in the approximate area bounded by the present Canal, Varick, Laight and Hudson Street. . . (ACHP, 1914:258-59).*

On the north side of the stream was a series of hills extending eastward toward the Bowery. On the west side of the road to Greenwich, standing on a small promontory that was approximately 250 feet wide, it appears there was a small house and garden. South of the Greenwich road was a roadway leading east to the substantial farmstead of S. Bayard. The northern end of this road corresponds approximately with present-day Spring Street. A small structure stood on the north side of the road at its intersection with the road to Greenwich. This map clearly indicates the ditches constructed by Rutgers to drain Lispenard's Meadow. These ditches, which must have been significant constructions, are shown on all subsequent 18<sup>th</sup> century maps. On this map the project area is located just to the west of the promontory on which the small farm was located, most probably on the beach at the water's edge.

Bernard Ratzer's *Plan of the City of New York in North America* was published in 1776, but depicts Manhattan in 1766, the same year as the Montessor *Plan of the City of New-York and its Environs to Greenwich*. (Map 5) Here the "Road to Greenwich" is identified, along with the property of G. Harrison (location of the brewery and foundry on the Montessor map) and that of Leonard Lispenard. There was a formal garden at the rear of the house. The brewery is probably the small building east of the drive leading to the house from Broadway. As on the Montessor plan, the ditches draining Lispenard's Meadow are shown. On the north side of the meadow the structure west of the road to Greenwich is not seen. The beach area at the foot of the promontory is more substantial on the Ratzer map, with the project area on the beach or at the high water mark of the river. East of the road to Greenwich was a small structure and garden plot. The orientation of the garden plot is to the northwest – an angle similar to that taken at a later time by Canal Street. A road leads northeast to a property owned by Abraham Mortier. Three buildings are shown on the hilltop owned by him. Although this hill is called Mercers Hill on the British Headquarters Map (dated c. 1782), this is an eminence commonly referred to as Richmond Hill. The roadway connecting the road to Greenwich with the Bayard farm is not shown on this map, but there

is a road from the Bayard farm crossing the north lobe of the marsh to a structure that overlooks it. There is a building on the hill immediately west of the lobe of the marsh. This may be the tavern referred to as Brannan's Garden's, which is said to have been located at the southwest corner of Spring and Hudson Streets. According to Janvier, Brannan's Garden was established about the year 1765, on the north side of Lispenard's Meadow, and the Greenwich Road ran "close in front of it" (Janvier, 1894:214). Northeast of this building is a garden, perhaps the garden for which the tavern was named.

Two maps from 1782 were examined, one, like the Ratzer map, prepared for the British Army, the other prepared for Governor George Clinton of New York. The British Headquarters map is untitled, but presents the topography of Manhattan prior to significant development north of Chambers Street. (Map 6) Importantly, for our purposes, the map locates the various military fortifications that were thrown up by the "Rebels" – as the British referred to the Americans – as well as those repaired and built by the British. Looking at the area in the vicinity of Canal Street, we see a number of features and structures shown on the earlier maps. It appears that the number of drainage ditches in Lispenard's Meadow had been increased. South of the meadow was the elaborate estate of Leonard Lispenard. This map suggests that the house was a Georgian-style structure with an entrance portico (probably similar to the Jumel Mansion in northern Manhattan). There was a formal garden behind the house, and several small structures at the front. The brewery is probably the building on the right overlooking the marsh. There are several structures, probably stables and the like, northwest of the house. South of these buildings was a pond. Immediately west of the Greenwich road, opposite the pond, was a military fortification. Other fortifications extend southward along the river to the area of Cortlandt Street. There was a substantial fortification on the river west of Trinity Church and another south of the Lispenard estate a little to the east of area where the G. Harrison foundry was located. Extending from this fort were substantial fortifications overlooking Lispenard's Meadow.

North of the marsh, on the west side of the road to Greenwich, on the small promontory at the edge of the river was a structure and a slightly curved fortification. (See also Fig. 9) On the east side of the road was a small pond (not seen on earlier maps) and four structures on the south side of the roadway corresponding to present-day Spring Street. North of this roadway is a small C-shaped fortification (probably a redoubt). Another C-shaped fortification was located on the east side of the road that led to the property that in 1766 was owned by Abraham Mortier. On this map the hill is identified as Mercers Hill. To the east there are several small buildings. Around the hill were substantial fortifications. This map shows the roadway running east to Broadway and the Bayard estate that was seen on the Montessor map. To the east, overlooking the meadow, was a building that may be the tavern known as Brannan's Gardens. The project area would be located just west of the road to Greenwich at the foot of the fortification that protected the promontory. This fortification is not named in the Revolutionary war histories, but Henry P. Johnston reported that batteries were erected "... at various points along the west side where it rose to a ridge, and the powers of the ships to injure the town very considerably diminished" (Johnston, 1878:56). It is possible that some portion of this fortification extended into Block 595 and possibly into the project area.



John Hill drew the second map, entitled *Plan of the City of New York*, in 1782. (Map 7) The version of the map examined at the New York Public Library Map Room was in black and white, but Johnston states that the original map was colored to show those fortifications built by the Americans in 1776 (yellow), those built by the Americans and repaired by the British (orange), and those built by the British during the war (green). In the vicinity of the project area is the same fortification seen on the British Headquarters Map that protected the small promontory on or immediately adjacent to Block 595, and a line of fortifications west of Harrison's foundry (referred to as Foundry Redoubt). The roadway from the north side of the marsh to Broadway (formerly extended to Bayard's farm) is shown. As noted, the western end of this roadway corresponds approximately with Spring Street. Three structures are shown south of this roadway. One structure is shown west of the road to Greenwich. Mercers Hill, as it is referred to on the British Headquarters Map, does not appear as heavily occupied by buildings, but the fortifications are shown. The map shows a small pond near the top of Mercers (Richmond) Hill and two more on the Lispenard Estate. The difficulty of obtaining safe drinking water on Manhattan made the location of all fresh water bodies of great military importance.

B. Taylor and J. Roberts produced *A New & Accurate Plan of the City of New York* in 1797. (Map 8). The northern boundary of this map is Desbrosses Street, which is located a block and a half south of the project area. It does, however, indicate that by the end of the 18<sup>th</sup> century the Hudson River shoreline was being filled. According to the Minutes of the Common Council, by 1796 there were plans for an outer street along the west side that was to be called West Street. The following year the City began to condemn water lots, ordering the proprietors of the adjoining lots to fill up spaces between the water lots and the proposed new street line (Pomerantz, 1965:253-4; Burrows & Wallace, 1999). It appears from this map that Washington Street had been opened at least as far as Desbrosses Street. It also shows that piers were expanding northward with a wide pier between Laight and Desbrosses. The streets had been plated in this area, though in 1797 they terminated at the edge of Lispenard's Meadow, which had not yet been filled. There was a movement to fill Lispenard's Meadow, which was described in 1796 as "a swampy, wooded area [that] was noted for its small game. . ." (Pomerantz, 1965:497). Hudson Square appears south of the Lispenard Estate as a rectangular open area with an interior oval surrounded by trees. This was later the location of the St. John's Park, and later still the St. John's Freight Terminal. Collect Pond was still open water. This map includes the smaller pond that was located south and west of Collect Pond. This smaller pond is frequently omitted from maps.

In 1802 an agreement between Trinity Church and the City of New York concerning land surrounding the Canal and Spring Street intersection was recorded in the Cession Book (Topographical Bureau, Manhattan Borough President's Office). The agreement, dated August 23, 1802, included a map of the west side and the original Hudson River shoreline between Hubert Street and Spring Street. On this map existing streets or portions of street that were already opened are shown as solid lines, those that are proposed as dotted lines. (Fig. 4) Canal Street, which was not laid out until 1803, is not shown on this map, and it appears that, although there were plans to establish Canal Street, the street was not actually opened until sometime after 1811. However, it appears that Spring Street (then called

Brannon Street) had been opened as far as the eastern edge of Washington Street, which is shown as a dotted line from Hubert Street to north of Spring Street. There is a notation in the center of the proposed roadbed reading "Intended line of Washington Street." In the center of Spring Street, aligned with the eastern edge of the proposed Washington Street, is a rectangular structure identified as the "Market." As already noted, the Spring Street Market was opened in 1800, at a time when it was "... a bit beyond the settled portion of the town (Pomerantz, 1965:175).

The original shoreline, as shown on this map, ran along the western end of the Market building, entering Block 595 at the northwestern edge (within the project area), curving eastward to the center of the block, then curving westward as it crossed Watts Street. In 1802 it appears that Watts Street was a pier extending westward from the road to Greenwich. East of the project area, on either side of Hudson Street, two small structures are shown on a hill overlooking Lispenard's Meadow. These may structures seen on the 18<sup>th</sup> century maps; Stokes identifies this as the location of Brannan's Gardens, which by the early 19<sup>th</sup> century was called New York Gardens. The northern, but not the southern, shoreline of Lispenard's Meadow is included on this map. At the intersection of Desbrosses and Hudson Street is building that may be one of the structures associated with the Lispenard Estate.

In 1803 Joseph Francois Mangin and Casimir Goerck began work on a map that was intended to be a real estate map of New York City that would include institutions, dwellings and owners names for the entire city. (Map 9) In its final form the map contained inaccuracies (or perhaps it was optimism), including a number of streets that had not been either plated or opened. For our purposes the map is of interest because it shows a portion of Canal Street and the proposed canal that was to run in the middle of it. According to this map the canal ran northwest until it reached Varick Street, where it bent sharply west along Hoboken Street to the Hudson River. This map shows Washington Street extending as far north as West Houston Street, its terminus today. It also shows at least a portion of West Street; however, based on the 1802 map discussed above, it unlikely that any part of West Street had yet been constructed. Spring Street, then called Brannon Street, is included on this map, but it does not extend west of Greenwich Street. The "Market is not included on this map. At the southwest corner of Spring and Hudson there is a square structure. This is most probably Brannan's Gardens, which by this date was called New York Gardens (Stokes, 1918; Janvier, 1894:214-15). No structures are shown in the area that would become Block 595.

Research undertaken for the *Route 9A Reconstruction Project* indicates that following the War of 1812 the development of the Hudson River waterfront as the marine terminus for New York City took place. The steamboat, which was gradually to replace sailing slopes, required deeper water and more substantial dockage than the smaller ships that had used the East River piers. These larger ships not only required larger and longer piers, but the streets to serve them. As development moved northward, land owners of waterfront property were required to construct bulkheads between existing piers, like those at the Canal Street Basin, and filled in behind them. It is reported that the filling of land and the opening of streets led to a rise in land values, but as is often the case in speculative time, proper bulkheads were often not constructed. From the Sectional Map (See Fig. 2) it appears that a portion of

Block 595 may have been filled by 1800, but it was in October 1818 that the Commission on Wharves and Piers of the Common Council passed a resolution approving the extension of West Street from Charlton Street to the north side of the Spring Street slip, along with the filling of the land adjacent to it as far as Canal Street. This work was to be completed by July 1, 1819 (Hartgen, 1990).

Block 595 had been partially filled by 1817 and should have been entirely filled by 1819 (Hartgen, 1990:VI-37). At least one house had been built on Block 595 by 1818. Tax records show that in 1815, following the partition of the Lispenard estate among the heirs, Block 595 was in the hands of Alexander L. Stewart. In 1818, it is reported, Stewart built a house on the west side of Greenwich Street near the corner of Canal Street (Rutsch et al., 1983:203). A deed dated October 20, 1820 indicates that Stewart and his wife leased two houses (one the 1818 house) near Canal Street to John Rohr (Rutsch et al., 1983:203). In 1824 Alexander and Sarah Stewart sold a property fronting on Canal Street to Samuel Browner, a "Bandbox maker" (Rutsch et al., 1983:207). This building, located at the intersection of Canal and Washington Streets, was described as a 2-story brick structure. It is likely that all of the early 19<sup>th</sup> century buildings on Block 595 resembled this building or the James Brown House (326 Spring Street), which is a brick frame structure with a brick facade that is 2½-stories high.

In 1827 Ewen prepared a survey that included the waterfront in the vicinity of the Canal Street-Spring Street intersection. That map will be discussed in more detail below, but the volume delineating this portion of the waterfront also included a diagram of the grants made on the waterfront in the early years of the 19<sup>th</sup> century. (Fig. 5) According to the information included on this diagram, the parcel of land extending 50' south of Spring Street was granted to a Lewis Lorton on February 20, 1804. This parcel extended westward 210 feet from the high water line of the Hudson River. East of Washington Avenue (not then in existence) Lewis Lorton's parcel extended 55.6 feet into what would become Block 595, covering a significant portion of present-day Lot 68. South of Lorton's parcel was a large parcel granted on November 23, 1807 to the "Devises of Anthony Lispenard." This grant covered the balance of Block 595.

There is no indication that the Canal Street Basin had been built in 1804, since no structures are shown west of the old shoreline on Ewen's diagram. The history of development on the Lispenard portion of Block 595, which began in 1818, has been mentioned above. It should be noted, however, that it is possible that the northern portion of Block 595, which was owned by Lewis Lorton, may have undergone development prior to the time that the Stewarts, Lispenard's heirs, began development on their lots. The presence of the Spring Street Market on very early maps suggests that some portion of the northern end of Block 595 may have been available for development before the balance of the block was filled. The presence of the market suggests, but does not require, that other businesses may have already have located in the area. Tax records for blocks in the vicinity of Block 595 have a similar history, with lots near Canal Street being occupied beginning in about 1818. Construction continued through the 1820's. As we shall see below, by 1827 the entire neighborhood had been completed built.

The Commissioners' Plan (alternatively known as the Randel Survey) of 1811 is considered to be "the most important document in New York City's development. . . marking the end of Old New York and the beginning of the Modern City" (Cohen & Augustyn, 1997:102). In 1811 the area around Canal Street was characterized as a "grassy waysides" with the area north of Canal Street a "rugged wilderness broken only by an occasional farm or small community, such as the village of Greenwich (now Greenwich Village)" (Cohen & Augustyn, 1997:102). The plan, following the lead of a number of other cities in American, including Philadelphia, was to impose a grid pattern across the entire island, regardless of natural terrain or other hindrances, with regularized street width and rectangular blocks. Hills were to be leveled, water bodies filled, and streams buried. Clement Charles Moore, who owned real estate in the city, complained that "[t]he natural inequities of the ground are destroyed, and the existing water courses disregarded. . . ." As for the Commissioners, they, according to Moore, "are men. . . who would have cut down the seven hills of Rome" (quoted in Cohen & Augustyn, 1997:103).

The grid plan that came to characterize Manhattan north of Greenwich Village could not be imposed so completely on areas that had already seen development, as for example in the Canal Street area, where the 1811 map shows Canal Street (or the canal for which it was named) running at an angle to the northwest across the grid. The map prepared by Randel does not include as much detail as the adaptation of his map published by William Bridges, Surveyor for the City of New York. (Map 10) That map shows Canal Street which terminated at the Canal Street Basin, a U-shaped pier that provided protection to ships from the tides that affected the Hudson River. The Canal Street Basin, as seen above, extended into the line of West Street until the construction of the bulkhead in 1848. This area, then, had been used for many years as a boat anchorage, since the mouth of Lispenard's Meadow provided a safe harbor for small boats. The presence of this anchorage was a reason for the fortification of the area. A redoubt or a battery could, not only harass ships on the river, but also prevent the landing by enemy forces at a point that gave easy access to the interior of the island. Following the Revolution this area was gradually developed into the more formalized Canal Street Basin. The Canal Street Basin is shown on maps until sometime after 1827-30, when it was filled and replaced by Pier 42 and 43. (See Map 13B & 14) Washington Street is shown on this map extending north to the area of Gansevoort Street. Block 595 is shown on this map with the Spring Street Market in the center of Spring Street between Washington and Greenwich Street. No structures are shown within Block 595.

In 1814 John Randel published a new version of his 1811 map entitled *The City of New York as laid out by the Commissioners with the surrounding country*. This map was at a much smaller scale, but showed the Canal Street Basin at the west end of Canal Street. In 1814 the eight foot wide ditch (or canal) that ran down the center of Canal Street was an open stream of water that emptied into the river in the vicinity of the Canal Street Basin. This was an unsanitary condition that required some mitigation, leading to the ditch being converted to a covered sewer in 1819 (Stokes, 1918:562). It was only two years earlier, in 1817, that the Common Council passed an ordinance to fill Lispenard's Meadow (Stokes, 1926:592). While it is clear that some structures had been built in areas adjacent to Block 595 prior to the time that Lispenard's Meadow was filled – most notably the Spring Street Market and the



Canal Street Basin - it is unlikely that extensive development took place in the area (including on Block 595) until Lispenard's Meadow was filled.

It is clear, however, that the entire area had been developed by 1827. On June 29, 1827 George B. Smith, City Surveyor, surveyed the area of the Clinton Market (also identified on the present tax map as part of Block 595) for a "Jury in Valuation of Clinton Market Ground." (Topographical Bureau, Manhattan Borough President's Office: Accession #740) It is probable that this was preparatory to taking the land for a new, larger market that would replace the Spring Street Market. The catalogue cards at the Topographical Bureau identify several other maps, including maps for Washington Street and Canal Street, as part of this same survey. The only part of Smith's survey that could be located was that covering the Clinton Market portion. However, beginning in the same year Daniel Ewen prepared a detailed survey of the area, including present-day Block 595. His work continued through 1830. The Ewen survey is also located at the Topographical Bureau at the Manhattan Borough President's Office, where the portion of the survey that covers the project area is entitled *North River Shoreline: Battery to 75<sup>th</sup> Street*. According to the diagram that accompanied the Ewen survey, in 1804 Lewis Lorton owned the north portion of Block 595, then as now located in the 8th Ward. (See Fig. 5) The width of the property owned by him extended 55.6 feet south of Spring Street. As noted elsewhere, the Stewart family, heirs of Leonard Lispenard, owned the balance of the block.

According to Ewen's survey, the lots on Block 595 had been laid out and completely built. (Map 11A) As noted above, in many parts of New York City block numbers and street numbers changed over time. (See Table 1) The project area is shown at a date between 1827 and 1830, at which time it contained six lots. The specific configuration of the buildings on the lots cannot be determined, since the colors used to indicate construction materials cover the entire lot. The different color paints are as follows: red denoted brick or a brick façade; yellow indicates a frame structure; gray is usually an indication of a stone building. Green has also been used on the Ewen map; the significance of this color choice has not been determined. Ewen's survey, which presents important early 19<sup>th</sup> century information concerning lots, the buildings located on them, and the ownership of each of the lots, has not been published. (Map 11B) The lots and their owners are identified as follows on the Ewen survey:

Table 3: 1827-30 Owners of Lots within the Project Area				
Old Lot	Present Lot	Owner	Old Address	New Address
2618	68	John Zabrister	294 Spring	328 Spring
2619	68	Nathaniel Jarvis	296 Spring	330 Spring
2620	68	A. Westervelt	298 Spring	332 Spring
2621	68	Nathaniel Holmes	300 Spring	334 Spring
2622	68	William Shotwell	491 Washington	491 Washington
2623	66	William Shotwell	489 Washington	489 Washington

As a point of information, James Brown owned the building at 326 Spring Street (then 292 Spring Street). The buildings located on Block 595 were at this time a combination of brick, frame with a brick façade, and frame structures. As noted, the maps from this period do not indicate the precise configuration of each building, but it is probable that the houses located on the Spring Street portion of present-day Lot 68 resembled the James Brown House. It is not entirely clear what type of structure was located on Lot 66, but a map dating to 1853 shows a dwelling with an open rear yard. (See Map 15) At this time neither water nor sewer were available in New York City, and it must be assumed that when they were built all of the houses within the project area were supplied with cisterns to collect water from the roofs for household use, as well as with privies, usually located at the rear of the lots, but sometimes located in attached structures at the rear of the building. Wells in the rear yard or public wells supplied drinking water.

One of Ewen's diagrams, which must date from after 1848, shows that in 1804 the eastern edge of the Canal Street Basin extended to the western line of Washington Street. (Fig. 6) West Street did not exist at this time. We know from the Ewen survey that the construction of the bulkhead that permitted the construction of West Street was completed on July 1, 1828. This diagram also gives the dimensions of Block 595 as 160.1 feet along Spring Street, 234.3 feet along Washington Street, 349.2 feet along Greenwich Street. No dimension was given for the block between Greenwich and Washington along Canal Street. These dimensions are essentially the current dimensions of Block 595.

In 1827 *Andrew T. Goodrich published A Map of the City of New York*. (Map 12) The Canal Street Basin had not yet been filled and the east end of the basin extended into the roadbed of West Street. As noted above, a bulkhead was built in 1828 that allowed West Street to run across the east side of the basin. At this time the Spring Street Market was still located in the center of Spring Street between Washington and Greenwich Street. This market would later be located on the site of the Holland Tunnel Land Ventilator on the portion of Block 595 that is west of Washington Street.

In 1842 water came to Manhattan. From the earliest European settlement of Manhattan residents relied on springs, streams, ponds, and, later, wells for fresh water. Various attempts during the 18<sup>th</sup> and early 19<sup>th</sup> centuries to provide a clean, safe source of fresh water failed, and by the 1830's New York was prey to disease and devastating fires because of the lack of sufficient water. The City turned to Major David B. Douglass, an innovative engineer who, among other things, proposed a tunnel under the East River to provide year-round transportation between Long Island and the City, to locate a source of adequate water outside the City and provide designs for the placement and construction of an aqueduct. John B. Jervis, who had been Chief Engineer for the Delaware and Hudson Canal and had supervised the construction of the Mohawk and Hudson Railroad in 1830, subsequently replaced Major Douglass.

Construction of the aqueduct began in May 1837. The following year the report to the New York City Water Commissioners outlined the progress of the work and described in detail the construction of the masonry tunnel through which the water was to flow from the Croton River to the reservoirs located in New York City:

*[The] foundation of the Aqueduct is stone, upon which is laid a bed of concrete, composed of broken granite and hydraulic cement; the sides of the walls are of hammered stone, laid up with cement; the floor is composed of an inverted arch of hard brick, eight inches thick; the lining of the sidewalls and upper roof arch are of the same thickness and materials, all laid with hydraulic lime mortar. . .*

The method of constructing the route of the aqueduct varied with the terrain. In general, the aqueduct was laid in a hand-dug trench which was then back-filled, or, where the topography was steep, an excavation was made into the side of the hill and protecting walls were built on the lower side to support the covering of earth over the masonry, or, if rock was encountered, a tunnel was blasted through the rock, while viaducts were constructed to carry the aqueduct across low areas.

The first water entered the system on June 22, 1842. Twenty-two hours later it arrived at High Bridge on the Harlem River. Within a few days, the water was let into the receiving reservoirs, one of which was located on the site of the Great Lawn in Central Park and a second on the site of the New York Public Library. Although the original planners believed that the aqueduct would serve New York City for generations, by the 1880's the city needed more water. With the construction of the New Croton Aqueduct, the Old Croton Aqueduct decreased in importance, although it continued to carry some water until 1965.

By the time that water had entered the Croton Aqueduct miles of pipe had been laid throughout Manhattan to deliver the water to the growing city. The New-York Historical Society has a map entitled *Map of the Croton Water Pipes With the Stop Cocks* that is dated c. 1842. The map indicates that water pipes had been laid in Washington and Greenwich Street. These pipes would have provided water to the residents of Block 595.

In 1845 a Scottish geologist visiting New York marveled at the Croton water works, remarking that "[t]he water can be carried to the attics of every house, and many are introducing baths and indulging in ornamental fountains in private gardens" (quoted in Cohen & Augustyn, 1997:118). George Templeton Strong reported in 1843 that he spent every evening "paddling in the bathing tub . . . and constantly making discoveries in the art and mystery of ablution" (quoted in Cohen & Augustyn, 1997:118).

In 1848 Block 595 was identified in the Tax Assessment Records as Block 52. (Fig. 7) The Spring Street Market, which in 1827 was in the center of Spring Street, had been replaced by an L-shaped building on the corner of Washington and Spring Streets. This market was identified as the "Clinton Market." The market was an important component of the neighborhood, providing a place for businesses to retail goods brought to the Hudson River piers by ship and for families in the vicinity of the market to conveniently purchase meat, produce and other goods.

In 1848 the lot numbers on Block 595 were the same as those found on the Ewen survey of 1827. The house numbers were also the same. However, a number of the property owners had changed. Within the project area the owners of the six lots were as follows:

Table 4: 1848 Owners of Lots within the Project Area

Old Lot	Present Lot	Owner	Old Address	New Address
2618	68	Estate of John Zabrister	294 Spring	328 Spring
2619	68	John Duncan	296 Spring	330 Spring
2620	68	N. B. Holmes	298 Spring	332 Spring
2621	68	N. B. Holmes	300 Spring	334 Spring
2622	68	Lispenard Stewart	491 Washington	491 Washington
2623	66	Lispenard Stewart	489 Washington	489 Washington

The Estate of Philo Lewis now owned the house that had been owned by James Brown in 1827.

In 1850 Matthew Dripps produced a map entitled *Map of New York City Extending Northward to Fiftieth Street*. (Map 13A & B) This was the first of a series of insurance maps for the city that described in detail all the individual lots and buildings. Over the years various companies have produced these maps – most recently the Sanborn Insurance Map Company. The buildings on Block 595 are shown in some detail, but it is insufficient to identify construction materials. The buildings at 489 and 491 Washington Street appear to be dwellings that covered the front of the lot with open rear yards. The four lots on Spring Street vary somewhat, with 328 Spring having an open rear yard that connects with the rear yards at 489 and 491 Washington Street. 330 Spring Street had an open rear yard that spanned the lot, while 332 had a narrow yard along the eastern lot line. The building at 334 Spring Street seems to have covered the entire lot. To the west of Block 595 was the Clinton Market (also part of Block 595). The Canal Street Basin had been reconfigured. On the Canal Street side is was an L-shaped pier (identified as Pier 42), while the north side (Pier 43) was identified as the Empire Pier. Rail lines ran on Canal Street and north along West Street. The railroad allowed the materials shipped to the Hudson River waterfront to be moved through the city to connect with railroads that carried them up the Hudson River and out onto Long Island.

A map dated 1856 shows the piers along the lower West Side, including those at Canal Street. (Map 14) The Bacon's 1856 *Baritz Pier Map of the City of New York* does not contain information not found on earlier maps, but it does include the old shoreline and its relationship to the current street pattern. The location of the shoreline may be somewhat inaccurate, since it appears to run along the eastern edge of Greenwich Street, which had appeared on maps from the mid-18<sup>th</sup> century – long before the filling along the river began. The map does, however, give us a sense of the relative relationship between the created land and land that had historically existed along the Hudson River.

William Perris began producing insurance maps for New York City in the early 1850s, by which date the house numbers on Spring Street had been changed to those presently in use. (Map 15) These maps are the earliest to show the configuration and construction materials of the buildings. The house at 328 Spring Street was a frame building with an extension at the rear that spanned the lot. The rear yard was open. 330 Spring Street was also a frame building with an extension and an open rear yard. The building at 332 Spring Street was a frame structure with a brick extension. This lot had a narrow rear yard along the eastern lot line. 334 Spring Street was also a frame building with a brick extension that covered the entire rear lot. 491 Washington Street was a frame dwelling with a small extension. It had an open rear yard. 489 Spring Street was also a frame building with a narrow extension along the northern lot line. There was a larger structure at the rear of the yard along the northern lot line, but the balance of the lot was open. The number of small circles within each structure shows the fire hazard represented by these buildings: one circle for wooden construction, two for brick. The height of these buildings is not given, but it is probable that they were structures similar to the James Brown House.

The same structures appear on the 1857-62 insurance maps. By 1867, however, several changes appear on the map. The buildings at 489 and 491 Washington Street have been replaced by structures that, with a small yard in the northeast corner, cover the entire lot. 489 Washington was a frame structure that was identified as a shed or stable. 491 Washington was a frame structure with a brick façade. The house at 328 Spring Street was the same as on earlier Perris maps, but the buildings at 330-334 Spring Street had been replaced by brick structures that covered the entire lot. The same configuration is seen on Bromley's 1879 *Atlas of New York City* and on Robinson & Pidgeon's 1884 *Atlas of New York City*. By 1893, while the lots on Spring Street remained the same, the two on Washington Street were vacant. The following year (1894) the Sanborn Insurance Map indicates two 1-story structures on these lots, both of them situated at the rear of the lot. (Map 16) On Spring Street 332 and 334 have been opened up to create one space. Two skylights are shown – one at the rear of the building and on the east wall of 332 Spring Street. The building at 330 Spring Street now extended to cover the entire lot. There was a skylight at the rear of the building. It appears that the 2-story building at 328 Spring Street remained unchanged. The same configuration of buildings is seen on the 1902 Bromley *Atlas of the City of New York*. The Clinton Market and the small triangular park located south of Canal Street, both then considered part of Block 595, are included on this map.

The Sanborn Insurance Map for 1905 shows that changes continued to be made within the project area. (Map 17) 489 Washington Street was a stable or wooden shed situated at the rear of the lot with an open front yard. 491 Washington Street was a frame building (not a stable or shed) that covered all of the lot except for a narrow rear yard. 332 and 334 Spring Street had been combined to form one lot by 1894; this map indicates that the property was a business selling wines. 328 and 330 Spring Street had also been combined to form a single lot. Two 5-story brick buildings with basements now occupied the lots that had formerly been occupied by four structures. The wine merchant used 328 and 330 Spring Street for storage. Other businesses located on Block 595 included a mineral water factory with apartments on the upper floors, a brass foundry, a wagon yard, and a paper box factory.



Several of the buildings are shown as "Storage" with stores on the ground floor. One building, at 481-483 Washington Street, was used to store wines. Thus we can see that in 1905 the block already combined residential and commercial uses. By 1905 the Clinton Market had been disbanded, and the area was identified as the Department of Street Cleaning Incumbrance Yard. The park south of Canal Street was still in existence. Both these areas were still considered part of Block 595.

The Sanborn Insurance Map for 1922 indicates that the buildings on Washington Street had been enlarged to cover the entire lot. (Map 18) 489 Washington Street was a 1-story frame building occupied by a "Wagon Builder" and "Farrier." The building at 491 Washington Street seen on the 1894 map had been replaced by a 5-story brick building with a shop on the ground floor. There was a narrow rear yard. On Spring Street 332 and 334 had been combined into one building that was built of brick. This building was a 5-story structure with a basement. Earlier maps indicate that a wine merchant operated a business from this location. 330 Spring Street was also a 5-story brick structure with a business on the ground floor. By 1922 the building that had been located at 328 Spring Street had been replaced by a 5-story brick building with a shop on the ground floor.

The Manhattan Land Book for 1934 includes the project area. (Map 19) The block is identified as Block 595 (as is the land formerly occupied by the Clinton Market and then occupied by the Department of Sanitation and the Holland Tunnel Land Ventilation Building) and the lots included within the present project area are identified as follows:

<b>Table 5: Current and Former Lot Numbers on Block 595</b>			
<b>Historic Lot</b>	<b>1934 Lot</b>	<b>2001 Lot</b>	<b>New Address</b>
2618	70	68	328 Spring
2619	69	68	330 Spring
2620	68	68	332 Spring (Combined with 334 Spring)
2621	68	68	334 Spring
2622	67	68	491 Washington
2623	66	66	489 Washington

In 1936 a demolition permit was issued for 491-495 Washington Street and 328-334 Spring Street. These were identified as Lot 68 and Lot 69 on Block 595. At the time the buildings were classified as "brick warehouses." (Appendix C) The 5-stories high buildings, with dimensions of 80 feet along the façade, 80 feet along the rear and 76 feet deep, were demolished by the Everett Construction Company, which was identified as the owner of the property. Following the demolition of these structures the current building was constructed. It was and is identified on the Sanborn Insurance Maps as a freight terminal. At the time of construction a permit was obtained from the Department of Buildings for the installation of a

fuel oil tank at 328-334 Spring Street. (Appendix C) The premises was described as "Beginning at a point on the S[outh] side of Spring Street distant 0' E[ast] feet from the corner formed by the intersection of Spring Street and Washington Street running thence E. 80'-1" feet; thence S 76'-6" feet; thence W. 80'-1" feet; thence N. 76'-6" feet to the point or place of beginning, being designated on Tax Map as – Ward No. [not shown, but it is in the 8<sup>th</sup> Ward] Block No. 595 Lot No. 68. (Appendix C) On the fuel oil installation permit the owner of the property was identified as Mrs. Jessie Moffat, who resided at 145 West 58<sup>th</sup> Street in New York City.

From the time that the buildings were erected in 1936 until the present the structures on Lot 68 have remained virtually unchanged. The building on Lot 66 (489 Washington Street) is consistent with the structure that appears on the 1922 map. (See Map 18) To provide continuity a copy of the 1994 Sanborn Insurance Map is included in the report. (Map 20) Lot 68 is seen to encompass the four lots on appear on 19<sup>th</sup> century maps of Spring Street (historically Lots 2618-2621) and the one lot that was identified as 491 Washington Street (historically Lot 2622). This building is identified as a freight station. Lot 66 (489 Washington Street) is shown as a 1-story building with wood posts. It is identified as a Motor Freight Station on the 1994 map, but is currently used as an auto repair shop.

## **Sensitivity Assessment/Site Prediction**

### **Prehistoric Sensitivity**

Regional prehistory dates to the first human entry into the area approximately 12,000 years ago. This coincides with the retreat of the Wisconsin glacial advance. At this same time sea levels began to rise along the Atlantic coast inundating the continental shelf off Long Island and the Lower New York Bay. The precise timing of the retreat of the glacial ice and the rise in sea level is a matter of debate.

The earliest occupants of the northeastern United States, called Paleo-Indians by archaeologists, are identified by their distinctive lithic tradition of fluted projectile points. Later cultures occupying the area are broadly termed Archaic (9,000 to 3,000 BP) and Woodland (3,000 BP to 1600 AD). Reliance on cultigens became an increasingly important part of cultural adaptations during the Woodland Period. A Transitional Phase between the Late Archaic and Woodland has been treated by some scholars as a separate cultural period. The Transitional Phase has been characterized by the use of soapstone utensils, though at the present time there is some debate whether soapstone vessels should be placed in the preceramic era, but it is generally accepted that the Woodland Period may be characterized by the use of pottery. Various Native American peoples populated the New York City area at the time of Contact. It seems clear that those living on Manhattan were related to the Delawares, but the precise tribal affiliation of these peoples is open to interpretation. Recently, Grumet (1989) has suggested that at the time of Contact the people living in what is now lower Manhattan were Canarsies, making them culturally related to Long Island peoples and those of Connecticut, rather than those of the mainland (lower Hudson Valley north of Manhattan).

Although prehistoric peoples would have ranged over all of Manhattan Island, archaeological investigations in the New York City area indicate that habitation sites were situated in proximity to water sources such as tidal creeks, substantial streams, and wetland areas, such as Lispenard's Meadow. Upland areas, away from water, would have been used for hunting (Smith 1950: 101).

An examination of early maps indicates that prehistorically the project area would have been located in an area that was either beach or, perhaps, within the boundaries of the high water line of the Hudson River. Immediately to the south and east was Lispenard's Meadow, a substantial marsh or wetland area. In terms of its location, the project area, had it been fast land, would be extremely sensitive for prehistoric cultural material. A map showing the 17<sup>th</sup> century Native American trails and place names on Manhattan indicates that while there were habitation sites and Indian fields in lower Manhattan, none are associated with the Canal Street area. (Fig. 8) A Prehistoric Sites Map prepared by the New York City Landmarks Commission of sites on Manhattan indicates that the entire length of Minetta's Water (located north of Spring Street and running northeast across Washington Square Park) is considered archaeologically sensitive, but that the area at Canal Street, including the project area, is not included in this area of sensitivity.

Based on the predictive model developed by the LPC (Baugher-Perlin et al., 1982), the relationship of the site to the Hudson River and the presence of the marsh adjacent to the site suggests that, while prehistoric peoples may have utilized the areas around the site, it is unlikely that the project area itself would have been attractive as a habitation site. It is probable, however, that the Hudson River and the marsh would have been important resources, providing fish and shellfish, as well as vegetable material, such as reeds, and faunal matter, including a wealth of waterfowl and amphibians. The entire surface of Block 595 was filled by 1819, by which time the entire area was undergoing development. The depth of this fill in Lot 66 is 12 feet; the fill immediately outside the foundation of the building on Lot 68 is also 12 feet (See Appendix B). This fill has effectively sealed the prehistoric land surface. Taking into consideration the fact that until approximately 2,000 years ago the level of the Hudson River was lower than it is today, it is possible that some prehistoric cultural material, perhaps a shell midden or similar feature, might be preserved beneath the fill. However, the probability that such a feature would be intact is unlikely.

Based on the foregoing, it is not anticipated that the project area would yield prehistoric cultural resources. However, should an investigation be undertaken to examine the project area for historic cultural resources, the field archaeologist would, of course, seek to determine whether or not prehistoric remains were present.

### Historic Sensitivity

The New York City Landmarks Preservation Commission indicates that the site has the potential to yield historic resources associated with the 19<sup>th</sup> century occupation of the site. Research for this report indicates that:

- 1) the project area has the potential to contain wooden remains associated with Revolutionary War fortifications located west of the road to Greenwich at the foot of a roadway that corresponds closely with present-day Spring Street (See map 6 & 7 and Fig. 9);
- 2) as early as 1819 the land containing Lot 66 and 68 had been filled and by 1827-30 all of the lots within the project area (then identified as Lot 2618-2622), as well as the rest of Block 595, were occupied by structures (See Map 11A & B);
- 3) at various times during the course of the 19<sup>th</sup> century, all of the buildings within the project area were demolished and new structures built;
- 4) while some changes were made to the structures on Lot 68, they remained standing until the 1930's when they were demolished to make way for the construction of a freight depot; changes also took place on Lot 66, but they were less invasive than those associated with Lot 68;
- 5) borings made as part of the preparation for the proposed project indicate that between 3 and 8 feet below the concrete floor of the current building there may be another floor that may be associated with one of the 19<sup>th</sup> century structures; the borings also revealed wood and concrete pilings that were interpreted by the consultant overseeing the drilling as wooden and concrete pier footings. (See Appendix B)

For the purposes of this report, a brief recapitulation of the information concerning the subsurface conditions for each of the historic lots included within the project area is presented below.

### **328 Spring Street – Formerly Lot 2618 (Part of Lot 68)**

Based on 18<sup>th</sup> century maps that include the project area it appears possible that remains of wooden fortifications associated with the Revolutionary War may be present within the project area. (See Map 6 & 7 and Fig. 9) If these remains are present they have been buried beneath approximately 12 feet of fill. According to a resolution passed by the Commission on Wharves and Piers of the Common Council, the area that included Block 595 was to be filled between October 1818 and July 1819. Prior to the filling of the northwestern portion of Block 595, Lot 2618 would have either been at the edge of the Hudson River, where it would, most probably, have been affected by tides in the river. Research indicates that the "Spring Street Market" had been established by 1800, when it stood in the center of Spring Street.

The first construction reported within Block 595 took place on the southern part of the block near Canal Street in 1818. It is possible that Lewis Lorton, who owned the north end of Block 595, began development of his lots at the same time. The first indication we have that Lot 2618 contained a structure dates to 1827-30, when Daniel Ewen surveyed the waterfront. By that date all of the lots on Block 595 were occupied. At that time the owner of the lot was John Zabrister. The address of the lot in 1827-30 was 294 Spring Street. In

1848 the Tax Assessment Records indicate that the owner of Lot 2618 was the Estate of John Zabrister.

It is not until 1853 that we can get a clear picture of the configuration of the house that stood on Lot 2618. That year the Perris map for Block 595 (then Block 52) indicated that the lot was occupied by a frame structure with an extension at the rear that spanned the lot. (See Map 15) The configuration of the house is consistent with those dating to the early years of the 19<sup>th</sup> century. This house would have been built before water or sewer were available in the area. The presence of an open rear yard suggests that both a cistern and a privy may have existed on this lot.

The building on Lot 2618 remained the same until the turn of the century, when it was replaced by a 5-story brick building with a basement. This building was connected to the structure on Lot 2619 to form a stock room for the wine merchant who operated a business at 332-334 Spring Street. In 1936 a demolition permit was issued that included the building on Lot 2618. The same year the building that currently occupied former Lot 2618 was constructed. Today this building is part of a consolidated lot identified as Lot 68.

### **330 Spring Street – Formerly Lot 2619 (Part of Lot 68)**

Based on 18<sup>th</sup> century maps that include the project area it appears possible that remains of wooden fortifications associated with the Revolutionary War may be present within the project area. (See Map 6 & 7 and Fig. 9) If these remains are present they have been buried beneath approximately 12 feet of fill. According to a resolution passed by the Commission on Wharves and Piers of the Common Council, the area that included Block 595 was to be filled between October 1818 and July 1819. Prior to the filling of the northwestern portion of Block 595, Lot 2618 would have either been at the edge of the Hudson River, where it would, most probably, have been affected by tides in the river. Research indicates that the "Spring Street Market" had been established by 1800, when it stood in the center of Spring Street.

The first construction reported within Block 595 took place on the southern part of the block near Canal Street in 1818. It is possible that Lewis Lorton, who owned the north end of Block 595, began development of his lots at the same time. The first indication we have that Lot 2619 contained a structure dates to 1827-30, when Daniel Ewen surveyed the waterfront. (See Map 11 A & B) By that date all of the lots on Block 595 were occupied. At that time the owner of the lot was Nathaniel Jarvis. The address of the lot in 1827-30 was 296 Spring Street. In 1848 the Tax Assessment Records indicate that the owner of Lot 2618 was the John Duncan. It is not until 1853 that we can get a clear picture of the configuration of the house that stood on Lot 2619. (See Map 15) That year the Perris map for Block 595 (then Block 52) indicated that the lot was occupied by a frame structure with an extension at the rear that spanned the lot. The configuration of the house is consistent with those dating to the early years of the 19<sup>th</sup> century. This house would have been built before water or sewer was available in the area. The presence of an open rear yard suggests that both a cistern and a privy may have existed on this lot.



By 1867 the frame building at 330 Spring Street had been replaced by a 5-story brick structure that covered the entire lot. In 1905 the building was identified as a warehouse that was separate from 332-334 Spring Street. In 1922 it appears that 330 Spring Street had been severed from 328 Spring Street and that it was vacant. In 1936 a demolition permit was issued that included the building on Lot 69 (formerly Lot 2618). The same year the building that currently occupies former Lot 69/2618 was constructed. Today this building is part of a consolidated lot identified as Lot 68.

### **332-334 Spring Street – Formerly Lot 2620 & 2621 (Part of Lot 68)**

Based on 18<sup>th</sup> century maps that include the project area it appears possible that remains of wooden fortifications associated with the Revolutionary War may be present within the project area. (See Map 6 & 7 and Fig. 9) If these remains are present they have been buried beneath approximately 12 feet of fill. According to a resolution passed by the Commission on Wharves and Piers of the Common Council, the area that included Block 595 was to be filled between October 1818 and July 1819. Prior to the filling of the northwestern portion of Block 595, Lot 2618 would have either been at the edge of the Hudson River, where it would, most probably, have been affected by tides in the river. Research indicates that the "Spring Street Market" had been established by 1800, when it stood in the center of Spring Street.

The first construction reported within Block 595 took place on the southern part of the block near Canal Street in 1818. It is possible that Lewis Lorton, who owned the north end of Block 595, began development of his lots at the same time. The first indication we have that Lot 2619 contained a structure dates to 1827-30, when Daniel Ewen surveyed the waterfront. (See map 11 A & B) By that date all of the lots on Block 595 were occupied. At that time the owners of the two lots was A. Westervelt (Lot 2620) and Nathaniel Holmes (Lot 2621). The addresses of the lots in 1827-30 were 290 and 300 Spring Street. In 1848 the Tax Assessment Records indicate that N. B. Holmes owned both Lot 2620 and Lot 2621. It is not until 1853 that we can get a clear picture of the configuration of the house that stood on Lot 2620 and 2621. (See Map 15) That year the Perris map for Block 595 (then Block 52) indicated that 332 Spring Street was occupied by a frame building on the front of the lot that had a brick extension at the rear. The building covered all of the lot except for a narrow yard along the southeastern lot line. 334 Spring Street was also occupied by a frame structure with a brick extension at the rear. The building covered at 334 Spring Street covered the entire lot. The configuration of the house is consistent with those dating to the early years of the 19<sup>th</sup> century. This house would have been built before water or sewer was available in the area. Although there was almost no open space at the rear of the buildings at 332 and 334 Spring Street, both must have been provided with some type of sanitation systems in the form of a privy and water that may have been obtained from a cistern or, perhaps, a public well. In 1894 the buildings at 332 and 334 Spring Street had been combined to form one space. In 1905 this building is identified as the location of a wine merchant. The Sanborn map indicates that the buildings were 5-story structures with a basement and a store on the ground floor. In this case, it was a wine merchant who occupied the shop. In 1932 a demolition permit was issued for 332-334 Spring Street. The same year the building that currently occupies the site was built. By 1950, the corner structure seen on

blk595

the 1922 maps had been replaced by a brick structure with a second floor office over a portion of the building. The floor was of concrete. There was no basement, indicating that any subsurface features preserved on the site would not have been subsequently impacted. This configuration continues to this day.

#### **491 Washington Street – Formerly Lot 2622 (Part of Lot 68)**

Based on 18<sup>th</sup> century maps that include the project area it appears possible that remains of wooden fortifications associated with the Revolutionary War may be present within the project area. (See Map 6 & 7 and Fig. 9) If these remains are present they have been buried beneath approximately 12 feet of fill. According to a resolution passed by the Commission on Wharves and Piers of the Common Council, the area that included Block 595 was to be filled between October 1818 and July 1819. Prior to the filling of the northwestern portion of Block 595, Lot 2618 would have either been at the edge of the Hudson River, where it would, most probably, have been affected by tides in the river. Research indicates that the "Spring Street Market" had been established by 1800, when it stood in the center of Spring Street.

The first construction reported within Block 595 took place on the southern part of the block near Canal Street in 1818. The first indication we have that Lot 2622 contained a structure dates to 1827-30, when Daniel Ewen surveyed the waterfront. (See map 11A & B) By that date all of the lots on Block 595 were occupied. At that time the owner of the lot was William Shotwell. The address of the lot was then, as it is now, 491 Washington Street. In 1848 the Tax Assessment Records indicate that Lisenard Stewart owned the lot. It is not until 1853 that we can get a clear picture of the configuration of the house that stood on Lot 2622. (See Map 15) That year the Perris map for Block 595 (then Block 52) indicated that 491 Washington Street was occupied by a frame dwelling with a small rear extension. The balance of the lot was open. The configuration of the house is consistent with those dating to the early years of the 19<sup>th</sup> century. This house would have been built before water or sewer was available in the area, and it is probable that the rear yard contained both a cistern and a privy. In 1894 the lot was vacant. In 1905 the lot was occupied by a 1-story building that covered the entire lot. In 1922 this structure had been replaced by a 5-story brick building with a shop on the ground floor. There was a narrow rear yard. The configuration of the building is consistent with an Old Law tenement. By the time that the 5-story building was constructed, both sewer and water would have been provided. At some point Lot 2622 was consolidated with present-day Lot 68. In 1932 a demolition permit was issued that included 491 Washington Street. The same year the building that currently occupies the site was built. By 1950, the corner structure seen on the 1922 maps had been replaced by a brick structure with a second floor office over a portion of the building. The floor was of concrete. There was no basement, indicating that any subsurface features preserved on the site would not have been subsequently impacted. This configuration continues to this day.

#### **489 Washington Street – Formerly Lot 2623 (Now Lot 66)**

Based on 18<sup>th</sup> century maps that include the project area it appears possible that remains of wooden fortifications associated with the Revolutionary War may be present within the

project area. (See Map 6 & 7 and Fig. 9) If these remains are present they have been buried beneath approximately 12 feet of fill. According to a resolution passed by the Commission on Wharves and Piers of the Common Council, the area that included Block 595 was to be filled between October 1818 and July 1819. Prior to the filling of the northwestern portion of Block 595, Lot 2618 would have either been at the edge of the Hudson River, where it would, most probably, have been affected by tides in the river. Research indicates that the "Spring Street Market" had been established by 1800, when it stood in the center of Spring Street.

The first construction reported within Block 595 took place on the southern part of the block near Canal Street in 1818. The first indication we have that Lot 2623 contained a structure dates to 1827-30, when Daniel Ewen surveyed the waterfront. (See Map 11A & B) By that date all of the lots on Block 595 were occupied. At that time the owner of the lot was William Shotwell. The address of the lot was then, as it is now, 489 Washington Street. In 1848 the Tax Assessment Records indicate that Lisenard Stewart owned the lot. It is not until 1853 that we can get a clear picture of the configuration of the house that stood on Lot 2623. (See map 15) That year the Perris map for Block 595 (then Block 52) indicated that 489 Washington Street was occupied by a frame dwelling with a narrow extension along the northern lot line. At the rear of the yard there was a larger structure – most likely a second dwelling unit. The balance of the lot was open. The configuration of the house is consistent with those dating to the early years of the 19<sup>th</sup> century. This house would have been built before water or sewer was available in the area, and it is probable that the rear yard contained both a cistern and a privy.

By 1894 these structures had been replaced by a brick structure that was set back approximately 40 feet from the street. It appears that the front of the lot was open. In 1905 it appears that the structure located on Lot 66 was occupied by a farrier. It was a 2-story structure that was set back from the street. It is not indicated whether the building was of brick, but it is approximately the same size as the building seen on the 1894 map. In 1922 the building located at 489 Washington Street was a 1-story wooden building identified as a "Wagon Builder – Farrier". The structure covered the entire lot. It seems unlikely that this building would have impacted any subsurface features. However, the destruction and removal of the former building may have impacted resources on this lot. An examination of the boring indicates that this lot is covered by 12 feet of fill. The next map available in the Sanborn series is from 1950. In the intervening 30 years, the structure on Lot 66 remained unchanged in configuration, but was now occupied by an "Express Depot." The floor of the building was concrete. There was no basement. Any subsurface features that had been unaffected by previous construction and destruction episodes would be intact. From 1950 to the present the building on Lot 66 remained virtually unchanged.

## **Summary of Findings concerning Subsurface Conditions**

### **18<sup>th</sup> Century Potential (Revolutionary War Fortifications)**

Maps dating to the years of the American Revolution indicate that a fortification was located west of the road to Greenwich in the vicinity of present-day Spring Street. (See Map 6 & 7

and Fig. 9) It is possible that some part of these fortifications were located within the boundaries of Block 595, and, indeed, that they extended into the project area. The report of wooden footing within the project area is tantalizing. These footings may represent posts that were driven into the soil to stabilize it prior to the time that this portion of Block 595 was filled, but it is possible that these footing are earlier in date, relating to the Revolutionary fortifications. In terms of cultural resources, the potential for the project area to contain evidence of Revolutionary War fortifications cannot be dismissed. With respect to historic cultural resources, this represents the most difficult subsurface condition on the property. If such fortifications are present they will be buried beneath approximately 12 feet of fill. This fill will have served to preserve the evidence, including artifacts of wood, metal, leather, and other materials, making this a potentially important archaeological site eligible for nomination to the National Register of Historic Places.

### **19<sup>th</sup> Century Potential (Privies and Cisterns)**

The original structures built on the lots within the project area all date to a time when neither water nor sewer were available on Manhattan. This fact indicates that, if these lots were undisturbed by demolition and construction episodes, all of the lots within the project area have the potential to contain both privies and cisterns. While subsequent construction on the site may have impacted these resources, the fact that the hollow auger was unable to extend below 8 feet on Lot 68 suggests the possibility that truncated historic features may be present below the 19<sup>th</sup> century floors of the buildings formerly located on the site. Lot 66 would appear to be the most sensitive with respect to the potential for historic cultural resources (based on the building history on the lot), but, with the exception of former Lot 2621, all the lots within the project area had open rear yards that could contain subsurface features such as privies and/or cisterns. These features, if present, would be sealed below the floors of the later 19<sup>th</sup> century structures, requiring the careful removal of the upper levels of debris to expose the early 19<sup>th</sup> century land surface.

## **Recommendations**

### **Prehistoric Sensitivity**

Based on the environmental models promulgated by the New York City Landmarks Preservation Commission and the New York State Museum Archaeological Site Files, the project area, which was prehistorically located on the edge of the Hudson River and Lispenard's Meadow, would be considered to have a high potential to yield prehistoric cultural material. The marshes referred to above extended across the southern end of Block 595, while the northwestern edge (location of the project area) was at least 12 feet below the present land surface.

The Hudson River and Lispenard's Meadow would have provided important faunal and floral resources for prehistoric peoples, but the activities associated with gathering such resources, with the exception of shell middens, are unlikely to result in the deposition of substantial prehistoric cultural material. In addition, prehistoric cultural material, should it exist within the project area, would be deeply buried beneath the fill. Given the likelihood that, if present,

such material would remain intact after the filling episode, the prehistoric archaeological potential of the project area is relatively low. No archaeological investigation of prehistoric archaeological potential for Block 595 is recommended.

### **Historic Sensitivity**

#### **18<sup>th</sup> Century Potential (Revolutionary War Fortifications)**

As discussed above, maps dating to the years of the American Revolution indicate that a fortification was located west of the road to Greenwich in the vicinity of present-day Spring Street. (See Map 6 & 7) It is possible that some part of these fortifications were located within the boundaries of Block 595, and, indeed, that they extended into the project area. The report of wooden footing within the project area is tantalizing. These footings may represent posts that were driven into the soil to stabilize it prior to the time that this portion of Block 595 was filled, but it is possible that these footing are earlier in date, relating to the Revolutionary fortifications. In terms of cultural resources, the potential for the project area to contain evidence of Revolutionary War fortifications cannot be dismissed. With respect to historic cultural resources, this represents the most difficult subsurface condition on the property. If such fortifications are present they will be buried beneath approximately 12 feet of fill. This fill will have served to preserve the evidence, including artifacts of wood, metal, leather, and other materials, making this a potentially important archaeological site eligible for nomination to the National Register of Historic Places.

#### **19<sup>th</sup> Century Potential (Privies and Cisterns)**

As also noted above, the original structures built on the lots within the project area all date to a time when neither water nor sewer were available on Manhattan. This fact indicates that, if these lots were undisturbed by demolition and construction episodes, all of the lots within the project area have the potential to contain both privies and cisterns. While subsequent construction on the site may have impacted these resources, the fact that the hollow auger was unable to extend below 8 feet on Lot 68 suggests the possibility that truncated historic features may be present below the 19<sup>th</sup> century floors of the buildings formerly located on the site. Lot 66 would appear to be the most sensitive with respect to the potential for historic cultural resources (based on the building history on the lot), but, with the exception of former Lot 2621, all the lots within the project area had open rear yards that could contain subsurface features such as privies and/or cisterns. These features, if present, would be sealed below the floors of the later 19<sup>th</sup> century structures, requiring the careful removal of the upper levels of debris to expose the early 19<sup>th</sup> century land surface.

It is, therefore, recommended that, at the time that the buildings currently occupying the project area are demolished, an archaeological field reconnaissance investigation of the project area be undertaken to rule out the presence of 18<sup>th</sup> century Revolutionary War fortifications and 19<sup>th</sup> century subsurface features, including privies and/or cisterns.



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## **APPENDICES**

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- Appendix A: Maps & Figures
- Appendix B: Review of Test Borings (Block 595. Lot 66 & 68)
- Appendix C: Additional Information



**APPENDIX A**

**MAPS & FIGURES**

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- Map 2      Location Map. (Taken from Hagstrom's *New York City 5 Borough Atlas*) Scale: 1" = 1500'
- Map 3A:    Egbert Viele's 1874 *Topographical Atlas of the City of New York* showing original water course and made land in lower Manhattan. Egbert Viele, New York. Original scale: 1" = 1000'
- Map 3B:    Egbert Viele's 1859 *Map of the City of New York from the Battery to 80<sup>th</sup> Street, Showing the Original Topography of Manhattan*. Prepared to accompany testimony before the Sanitary Committee of the Senate showing original water course and made land in lower Manhattan. Egbert Viele, New York. Scale: Enlarged, not shown.
- Map 4:      John Montrossor's 1766 *Plan of the City of New-York and Its Environs to Greenwich*. Published in 1775 by A. Dury, England. Scale: Enlarged, not shown.
- Map 5:      Bernard Ratzer's *Plan of the City of New York in North American - 1766-67*. Stuthers and Co., New York. Scale: Enlarged, not shown.
- Map 6      Detail from c. 1782 British Headquarters Map showing the original topography of New York City and American and British fortifications. Scale: Enlarged, not shown.
- Map 7:      John Hill's 1782 *Plan of the City of New York*, including Revolutionary War fortifications. G. Hayward, New York. Scale: Not included on map.
- Map 8:      J. Taylor & B. Robert's 1797 *A New & Accurate Plan of the City of New York* showing Manhattan south of Canal Street. S. Haywood, New York. Scale: Enlarged, not shown.
- Map 9:      Mangin & Goerck's 1803 *Plan of the city of New York*. Original scale: 100' to the Inch.
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- Map 11A:    Daniel Ewen's 1827-30 *Maps and Surveys of the City of New York* including the Project Area. Scale: Not shown.
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- Map 13A: Matthew Dripps' 1850 *Map of the City of New York Extending Northward to Fiftieth Street*. Surveyed and drawn by John F. Harrison, New York. Scale: Enlarged, not shown.
- Map 13B: Enlargement of Dripps' 1850 *Map of the City of New York Extending Northward to Fiftieth Street* to show Block 595 and the open rear yards. Scale: Enlarged, not shown.
- Map 14: Bacon's 1856 *Barnitz Pier Map of New York City* showing Pier 42 & 43 at foot of Canal and Spring Streets. Surveyed and drawn for the New York Corn Exchange, New York. Scale: Enlarged, not shown.
- Map 15: William Perris's 1853 *Maps of the City of New York* showing Block 595. Scale: Enlarged, not shown.
- Map 16: Sanborn 1894 *Insurance Map for the 8<sup>th</sup> Ward*. Plate 18. Enlarged 25%. Original scale: 1 1/8" = 100'.
- Map 17: Sanborn 1905 *Insurance Map for the 8<sup>th</sup> Ward*. Plate 63. Scale: 1 1/2" = 100'.
- Map 18: Sanborn 1922 *Insurance Map for the 8<sup>th</sup> Ward*. Plate 63. Enlarged 25%. Original scale: 1 1/4" = 100'.
- Map 19: Manhattan Land Book. 1934 Map of Canal Street Area. Plate 21. Enlarged 25%. Original scale: 1" = 100'.
- Map 20: Sanborn 1994 *Insurance Map for the 8<sup>th</sup> Ward*. Plate 63. Original scale: 1 1/4" = 100'.

### **Figures**

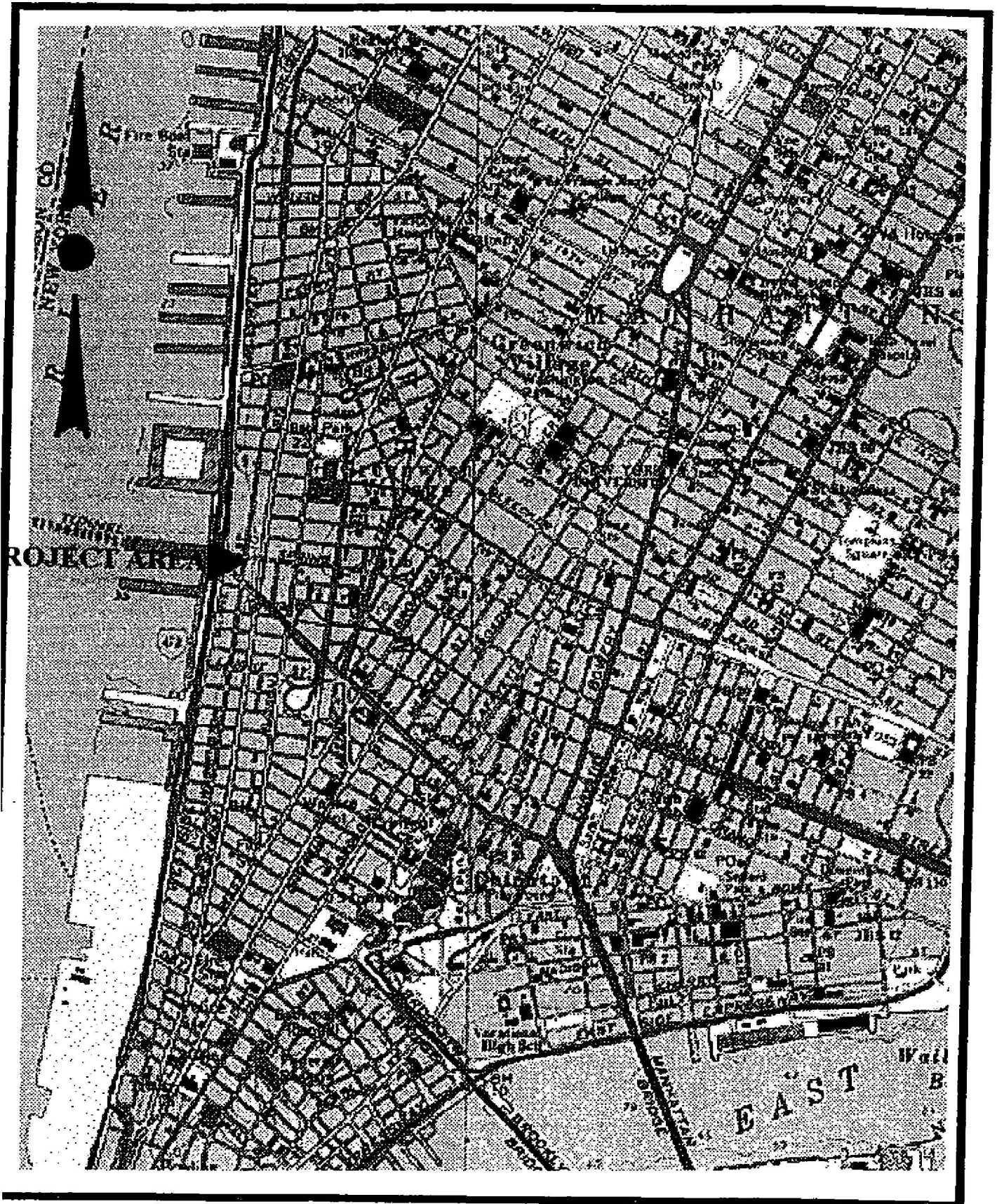
- Fig. 1: New York City Tax Map including Project Area (dated May 31, 2000). Scale: 1" = 100'
- Fig. 2: Manhattan Sectional Map showing Project Area. Scale: Approximately 1/4" = 60'.
- Fig. 3: Outline Map showing Ward Boundary Lines as Adopted in 1730. Scale: Not shown.
- Fig. 4: Ewen's 1802 Diagram of Plated and Opened Streets in Vicinity of Project Area. Scale: None shown.
- Fig. 5: Ewen's Diagram of Grants along Shore of Hudson River in Vicinity of Project Area. Scale: None shown.
- Fig. 6: Ewen's Diagram of West Street showing location of Canal Street Basin Bulkhead. Scale: None shown.

- Fig. 7: Block 595 (then Block 52) showing Lot No. & Ownership in 1848. Plate 32 of Tax Assessment Records. Scale: None shown.
- Fig. 8: 17<sup>th</sup> Century Native American Trails and Place Names on Manhattan. (taken from Hartgen, 1999: Fig. 5-1). Scale: Shown on map.
- Fig. 9: Henry P. Johnston's compilation showing the fortifications on Manhattan Island in 1776. (Map entitled *Map of New York City and of Manhattan Island with the American Defenses in 1776* in Johnston's *The Campaign of 1776 around New York and Brooklyn*.) Scale: Enlarged. Approximately  $2\frac{3}{16}$ " = 1 Mile.

Appendix A: Maps & Figures

Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.

Map 1: Location Map. USGS Quad. 7.5 Minute Series. Scale: 1:24,000

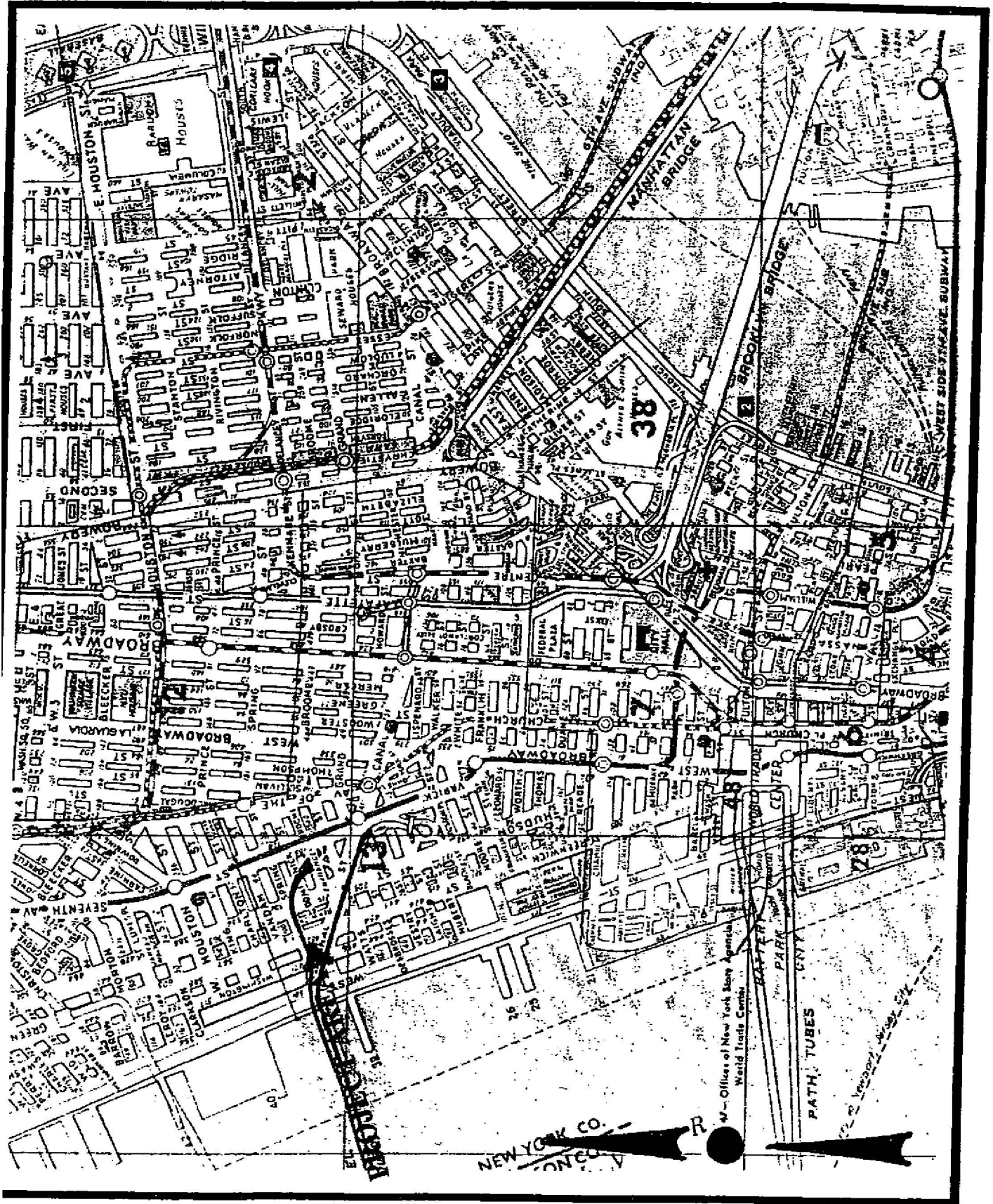




Appendix A: Maps & Figures

Block 595. Lot 66 & 68. 328 Spring Street & 489 Washington Street. Borough of Manhattan. New York County, N.Y.

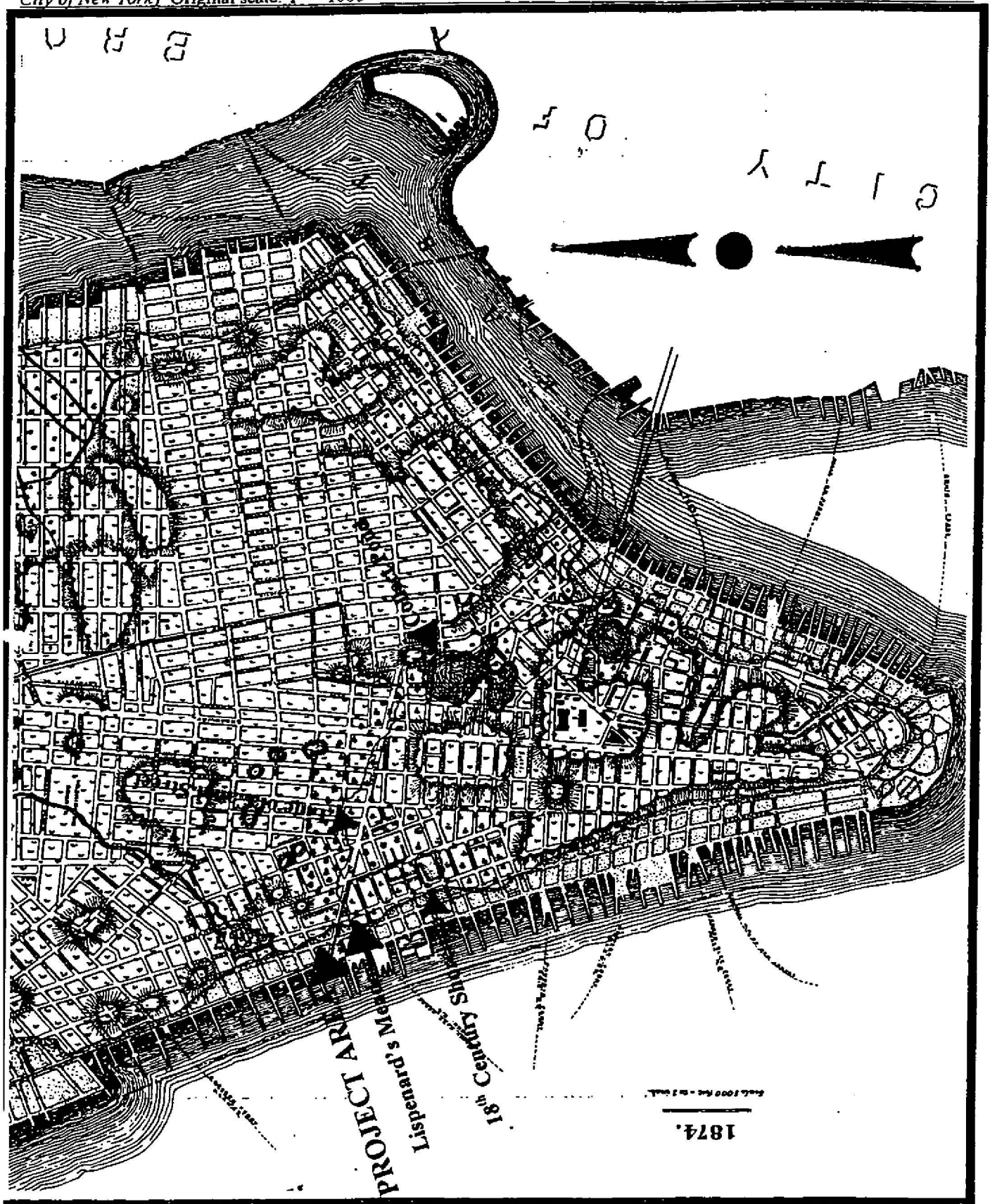
Map 2: Location Map. (Taken from Hagstrom's *New York City 5 Borough Atlas*) Scale: 1" = 1500'



## Appendix A: Maps & Figures

Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.

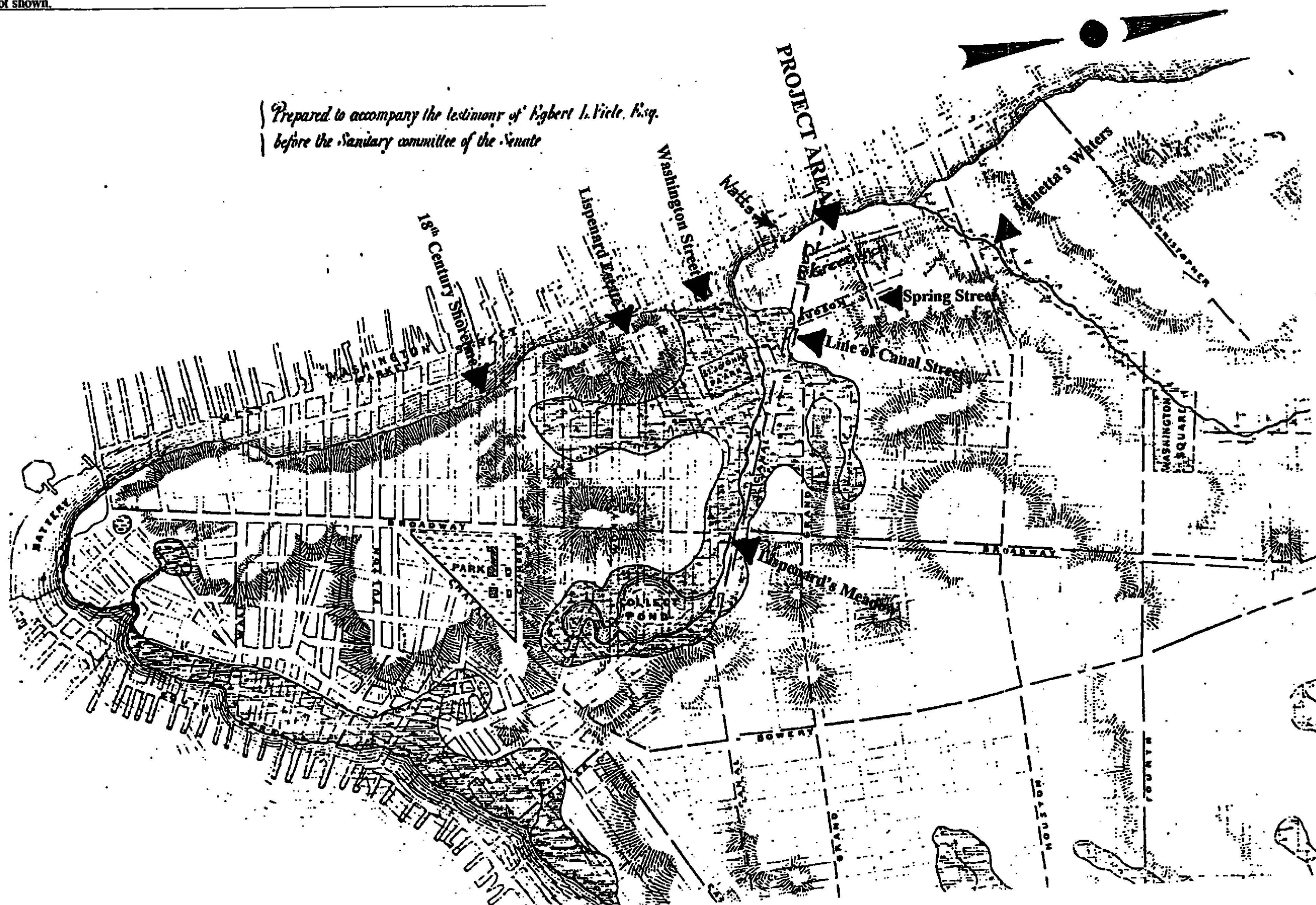
Map 3A: Original water courses & made land in lower Manhattan (from Viele's 1874 *Topographical Atlas of the City of New York*). Original scale: 1" = 1000'





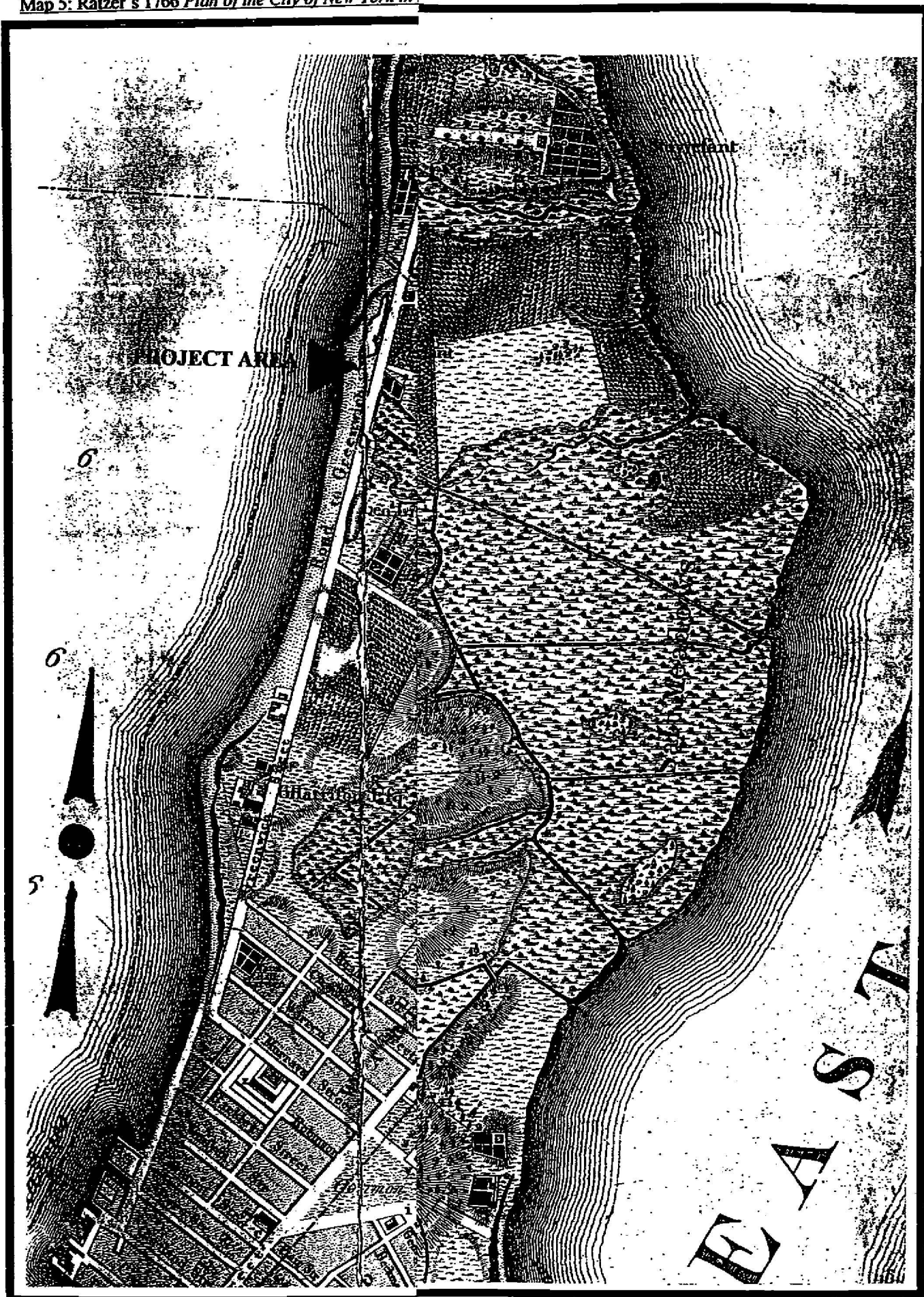
Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N. Y  
Map 3B: Original water courses & made land in lower Manhattan (from Viele's 1874 *Original Topography of Manhattan*  
*Island*. Scale: Enlarged, not shown.

Prepared to accompany the testimony of Robert L. Pickle, Esq.  
before the Sanitary committee of the Senate









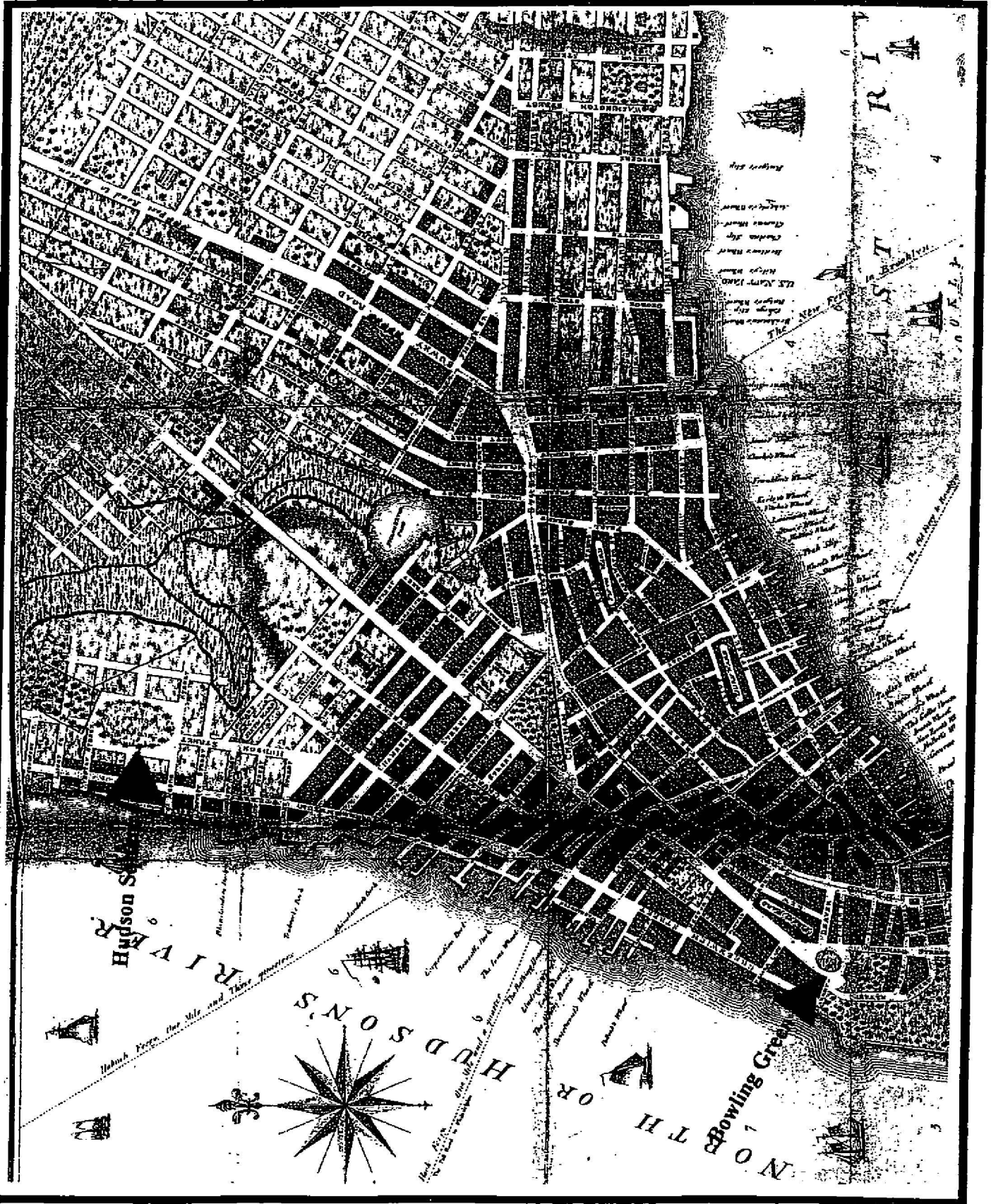




Appendix A: Maps & Figures

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Map 8: Taylor & Roberts 1797 *A New & Accurate Plan of the City of New York*. Scale: Not included on map

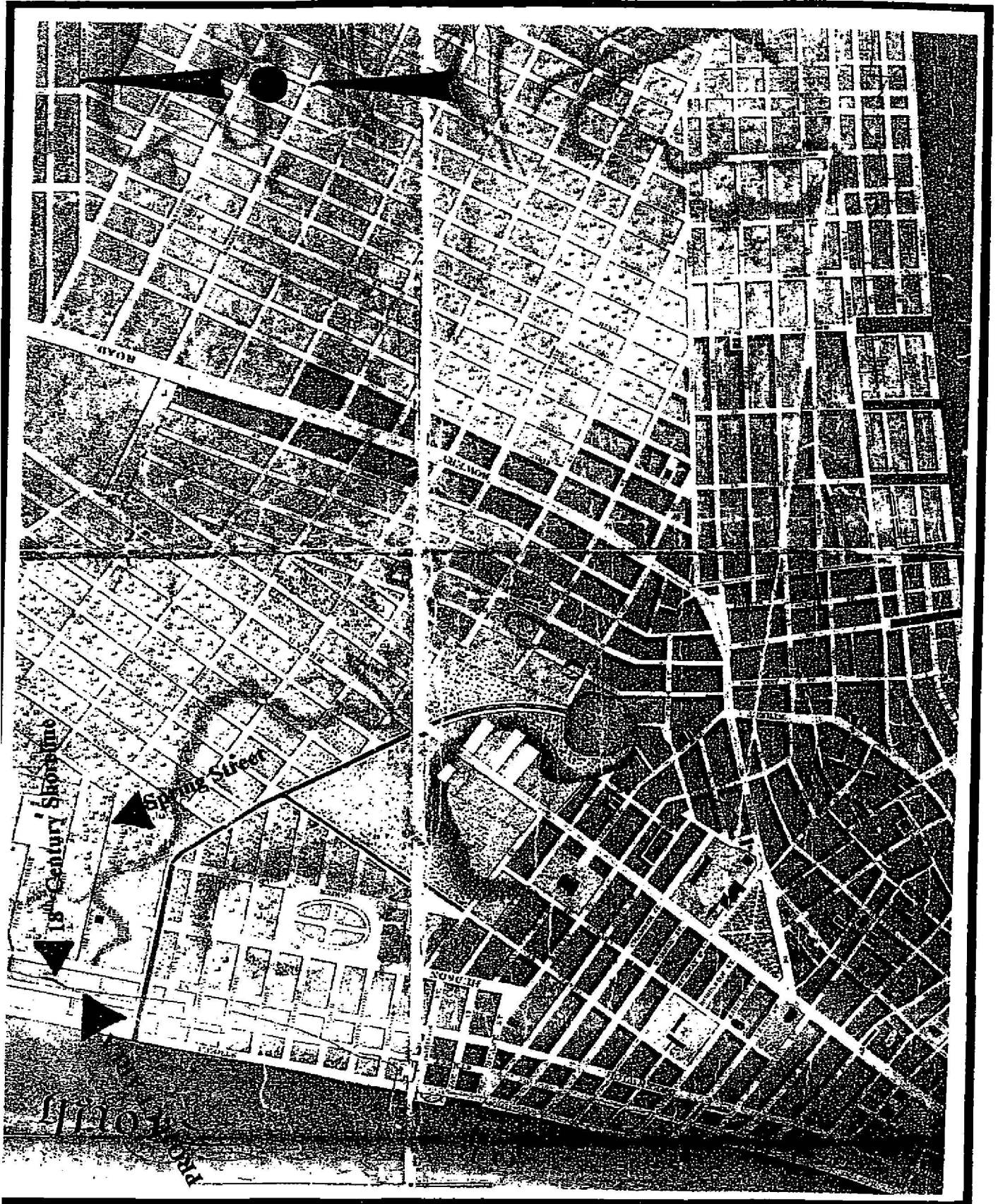




Appendix A: Maps & Figures

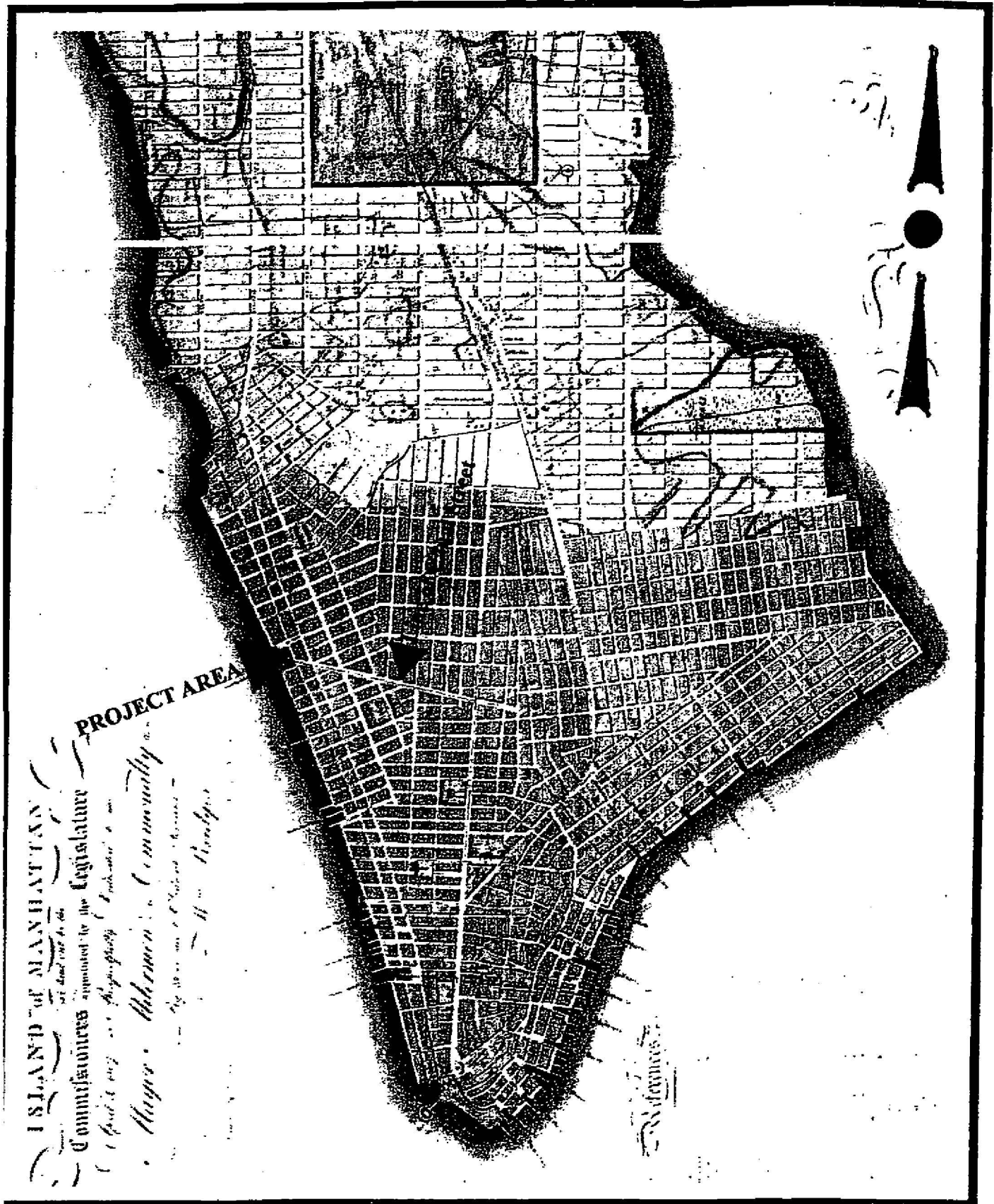
Block 595. Lot 66 & 68. 328 Spring Street & 489 Washington Street. Borough of Manhattan. New York County, N.Y.

Map 9: Mangin & Goerck 1803 *Plan of the city of New York*. Original scale: 100' to the Inch

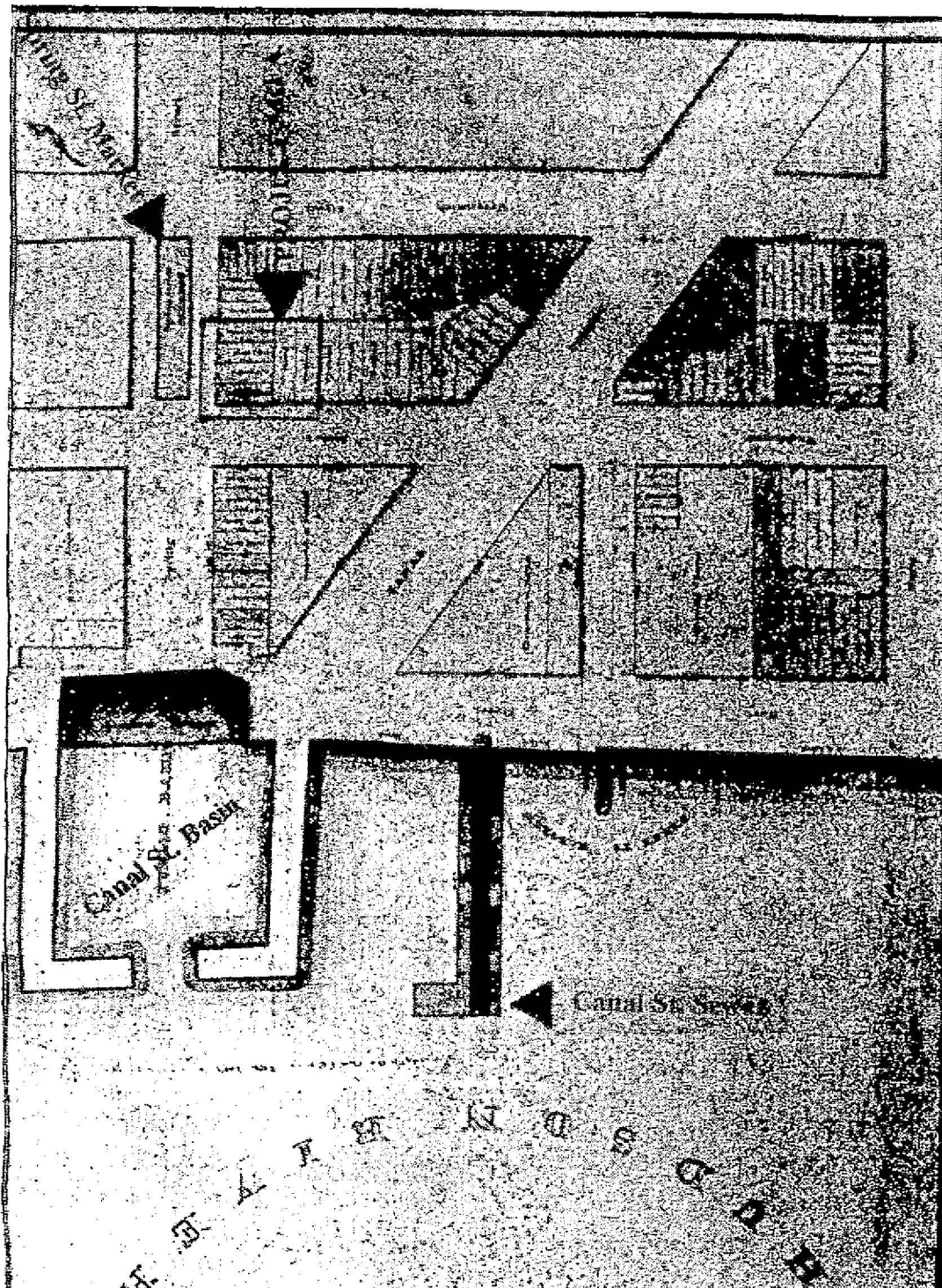


Appendix A: Maps & Figures

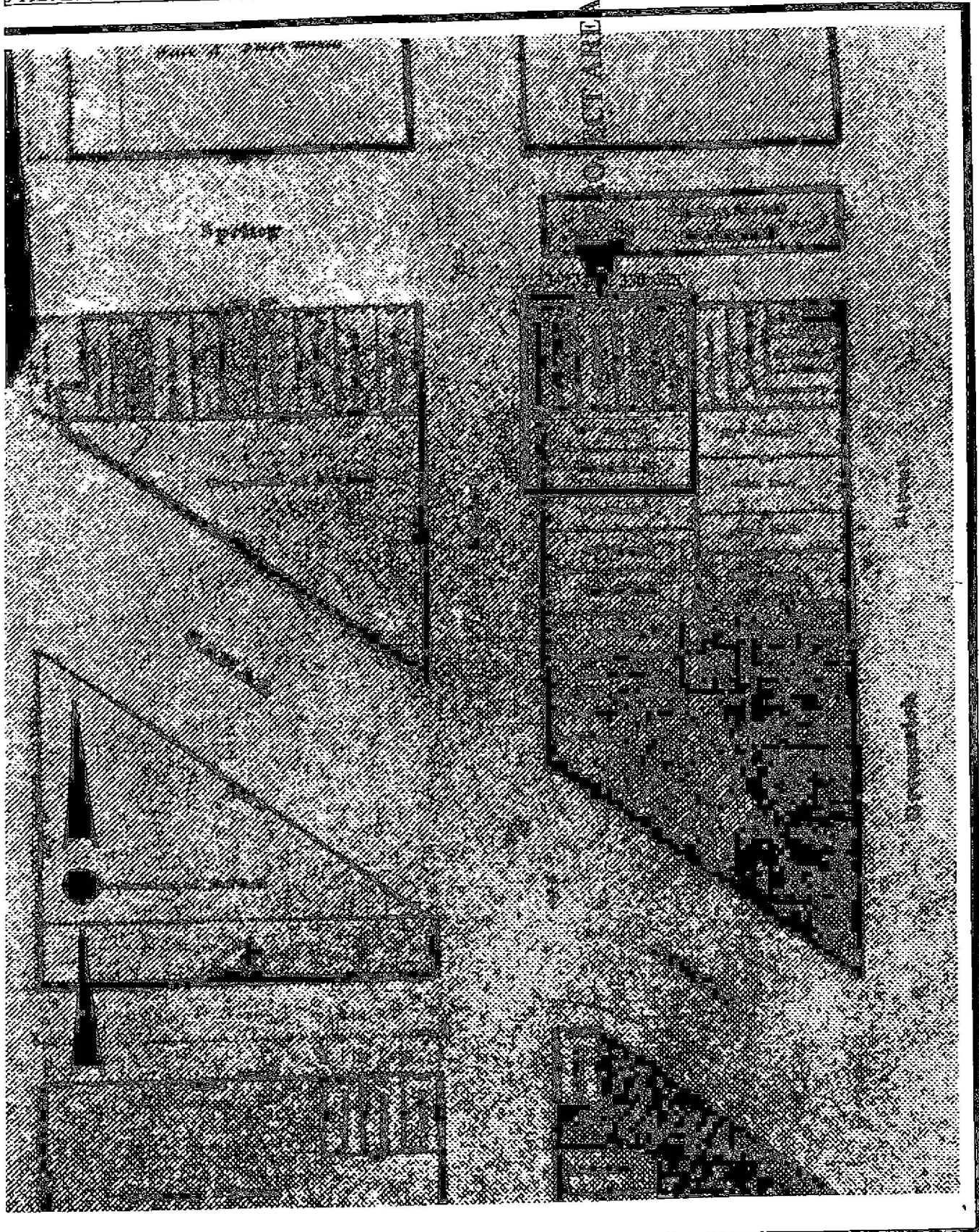
Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.  
Map 10: Bridges's adaptation of the 1811 Commissioners' Plan. Scale: Enlarged, not shown





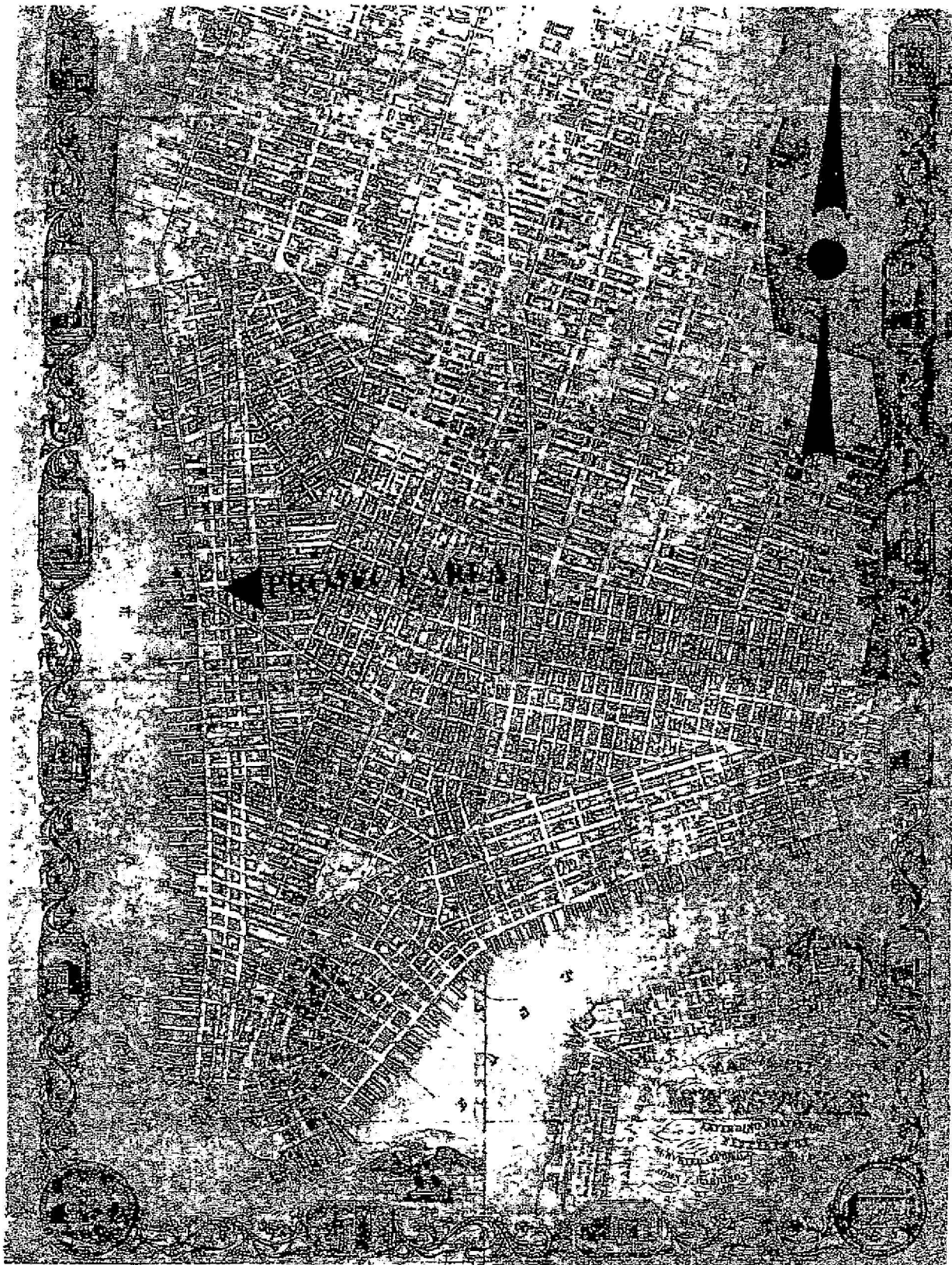






Appendix A: Maps & Figures

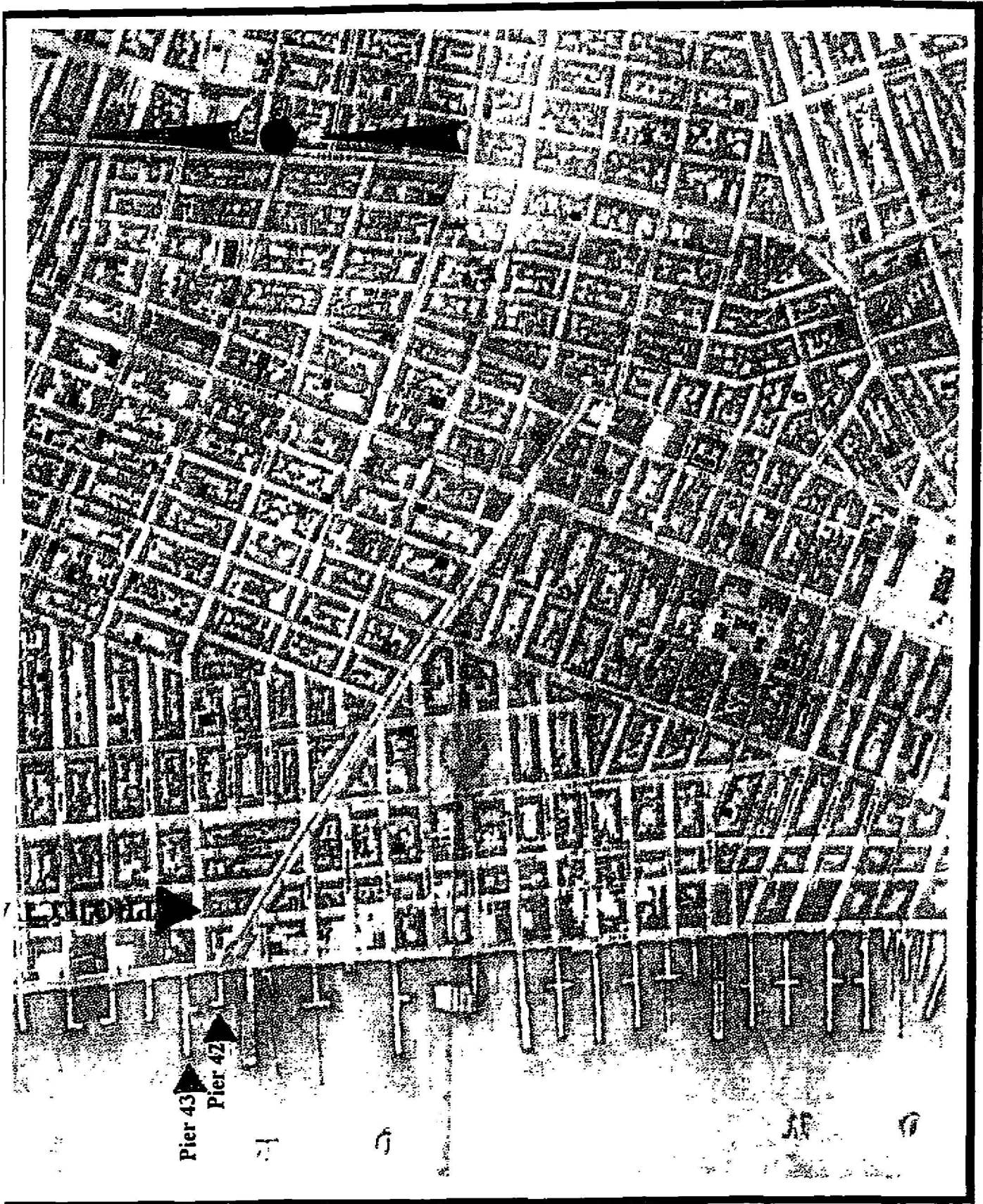
Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.  
Map 13A: Dripps 1850 Map of the City of New York Extending Northward to Fiftieth Street. Scale: Enlarged, not shown

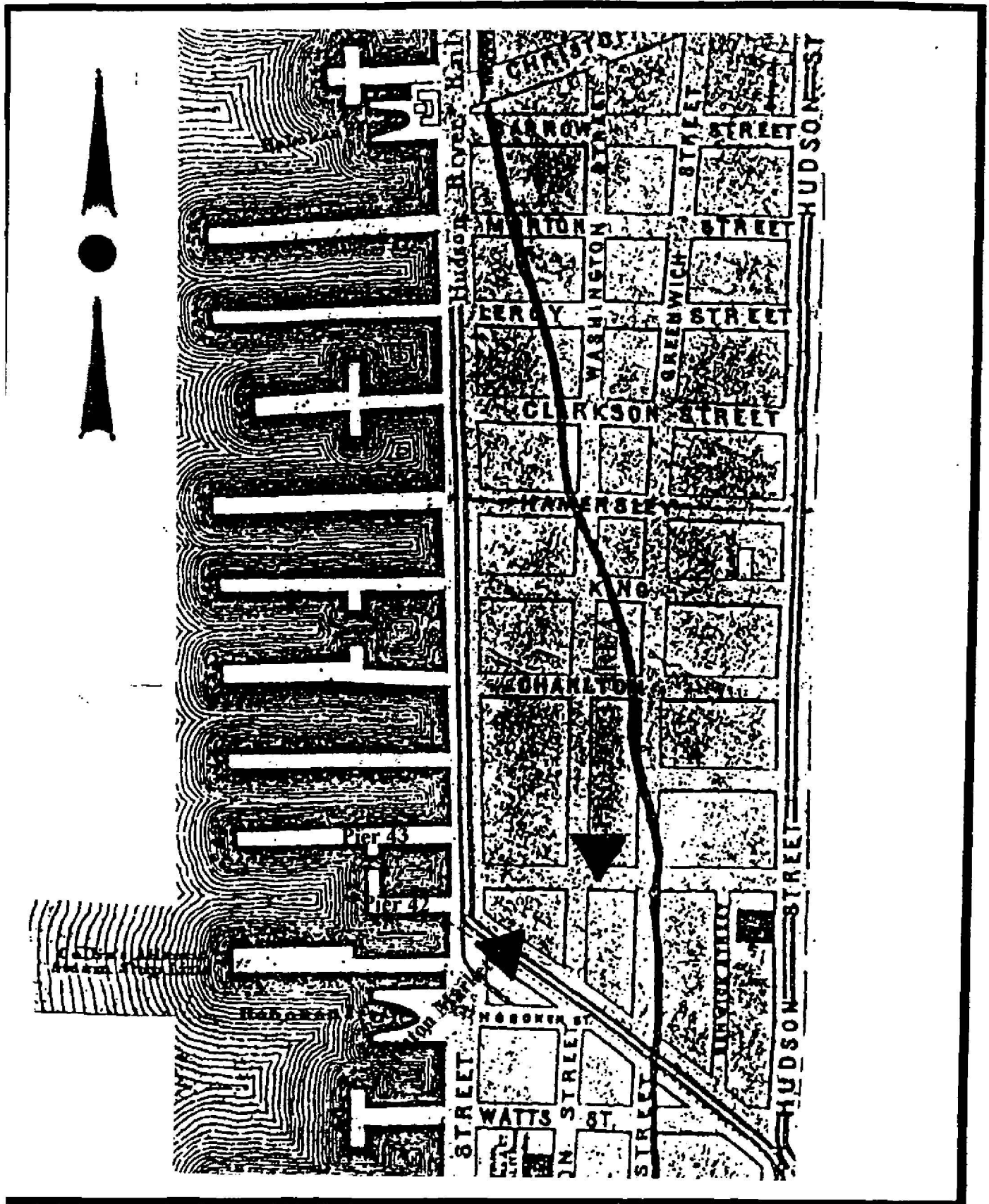


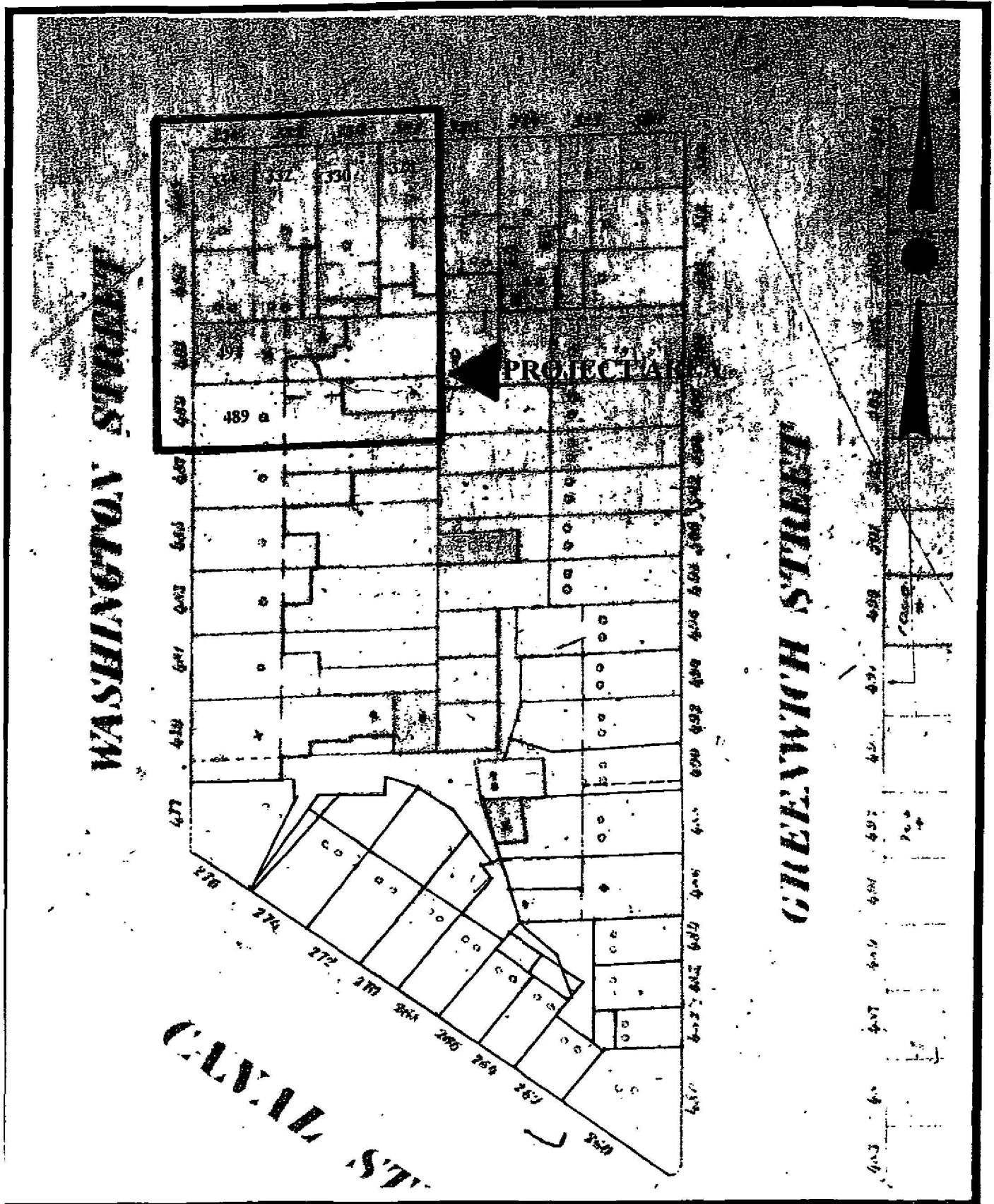


Appendix A: Maps & Figures

Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.  
Map 13B: Enlargement of 1850 Map of the City of New York Extending Northward to Fiftieth Street. Scale: not shown





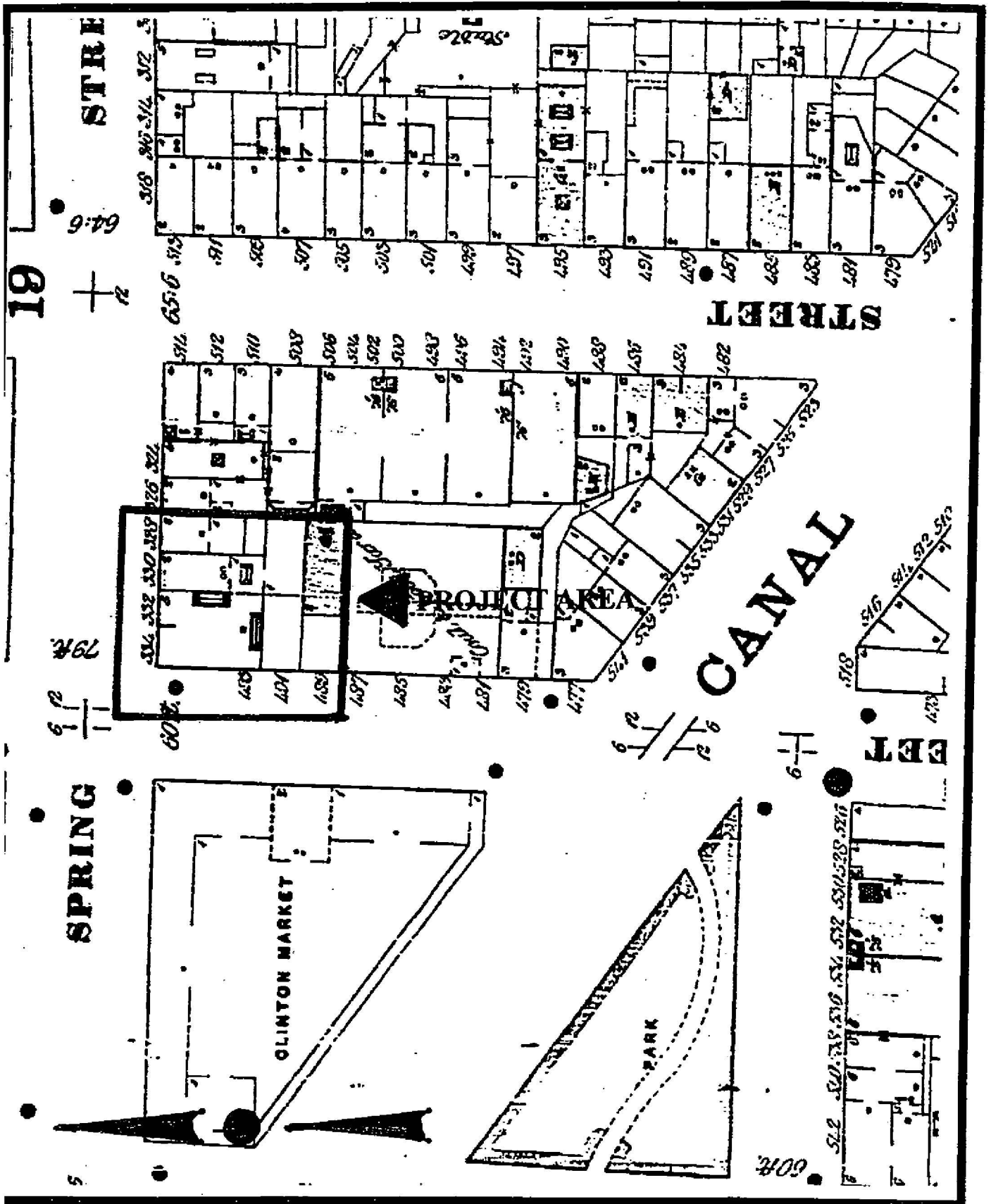


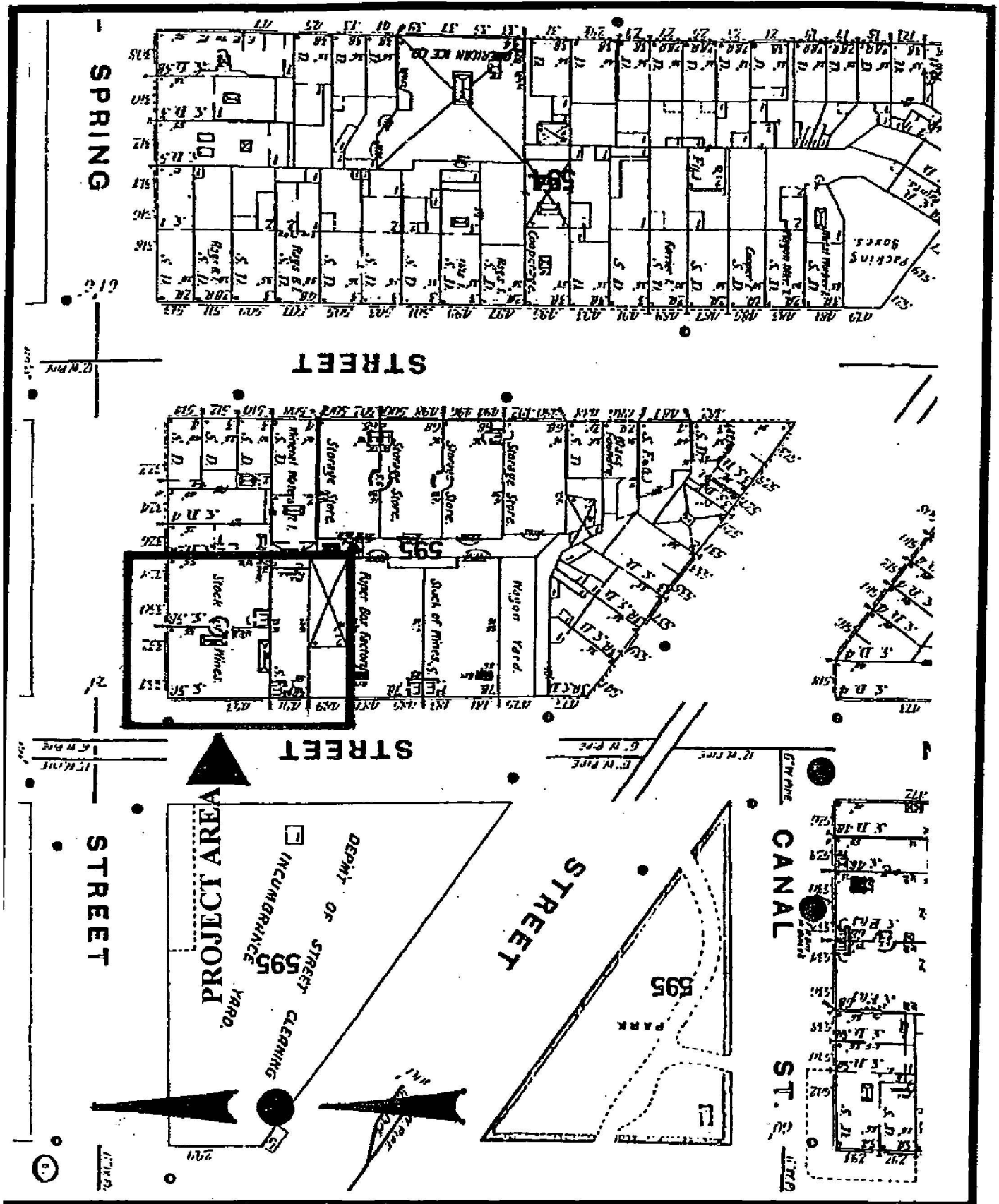


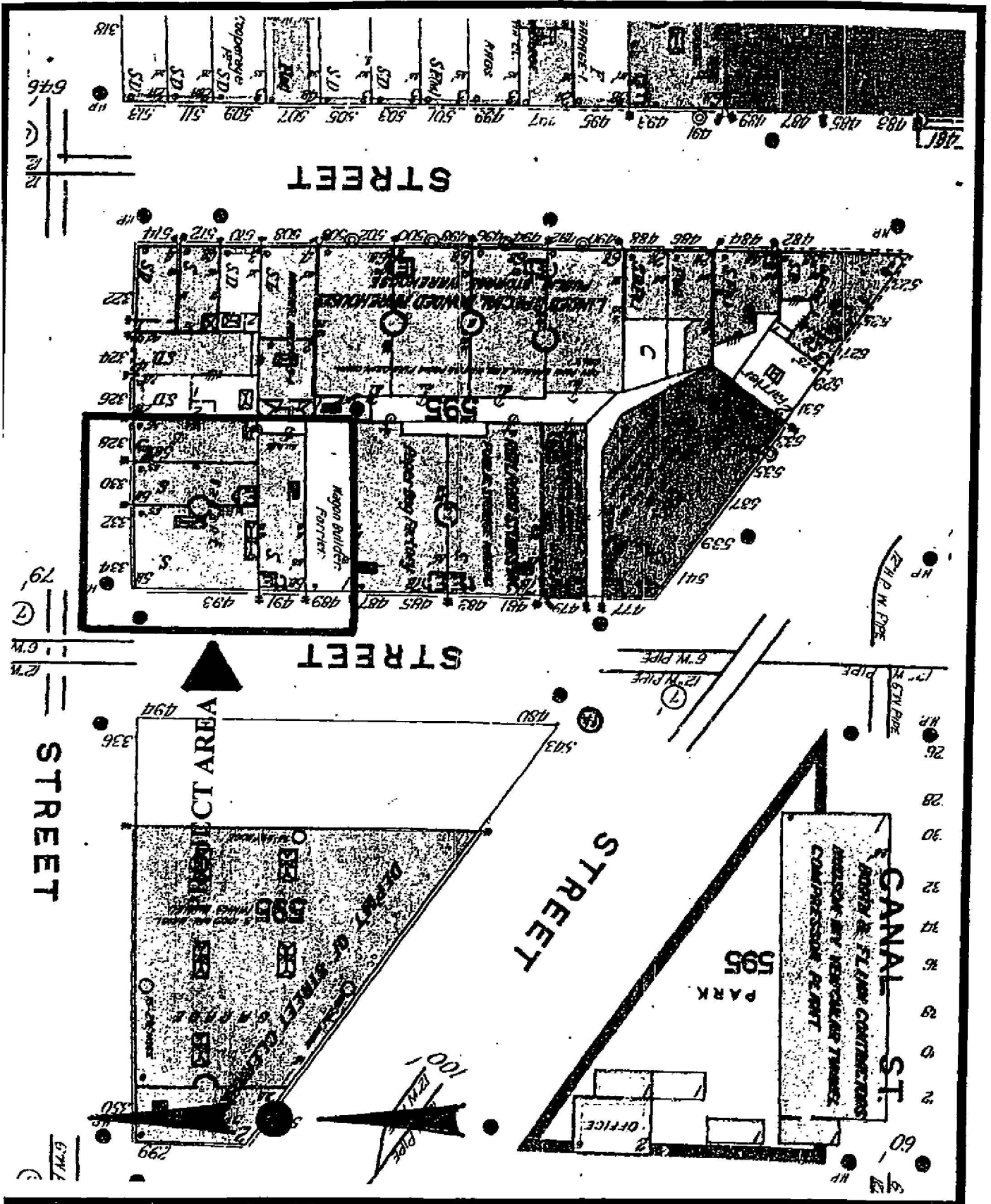
Appendix A: Maps & Figures

Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.

Map 16: Sanborn 1894 Insurance Map for the 8<sup>th</sup> Ward, Plate 18. Enlarged 25%. Original scale: 1 1/4" = 100 Feet

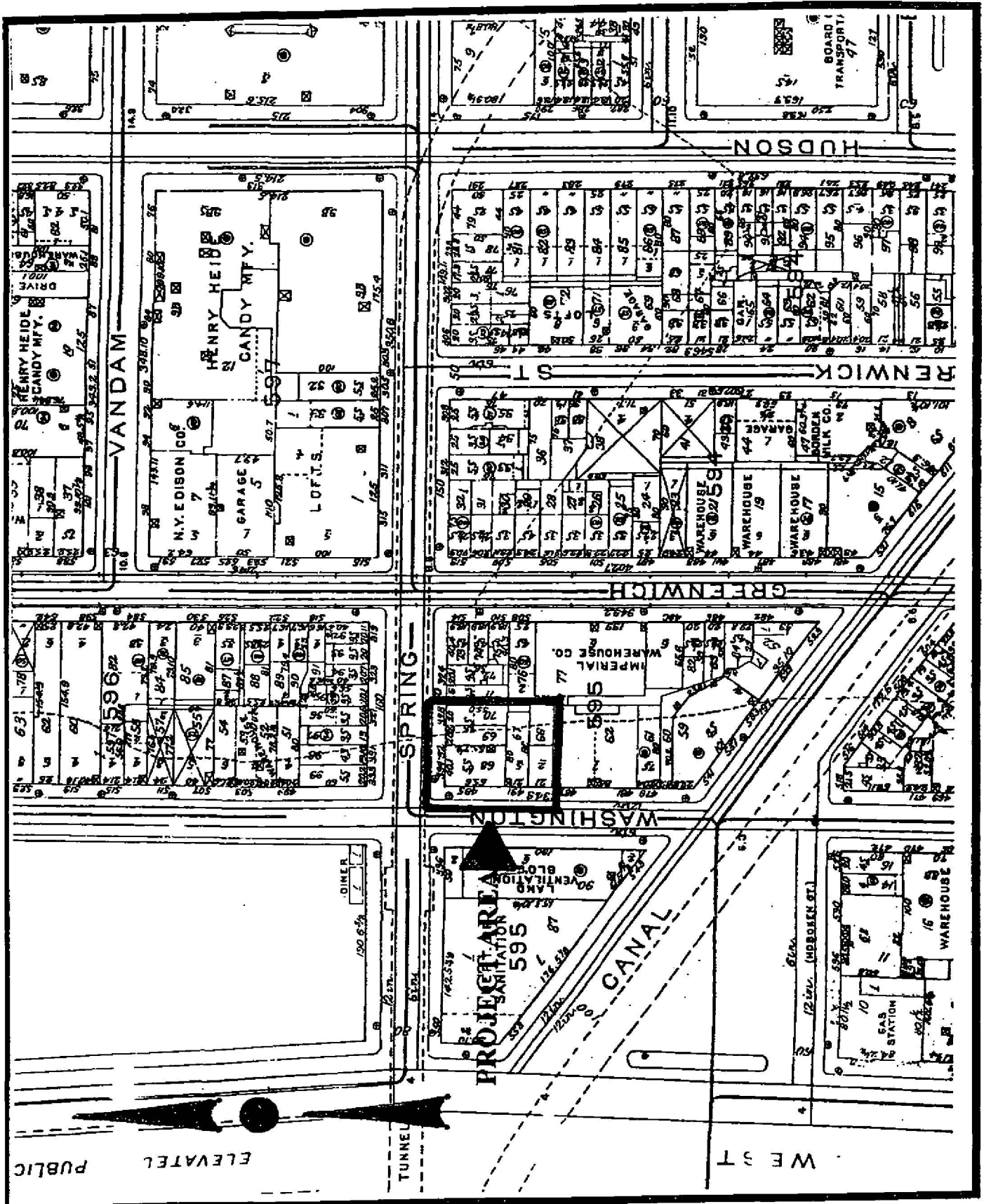






Appendix A: Maps & Figures

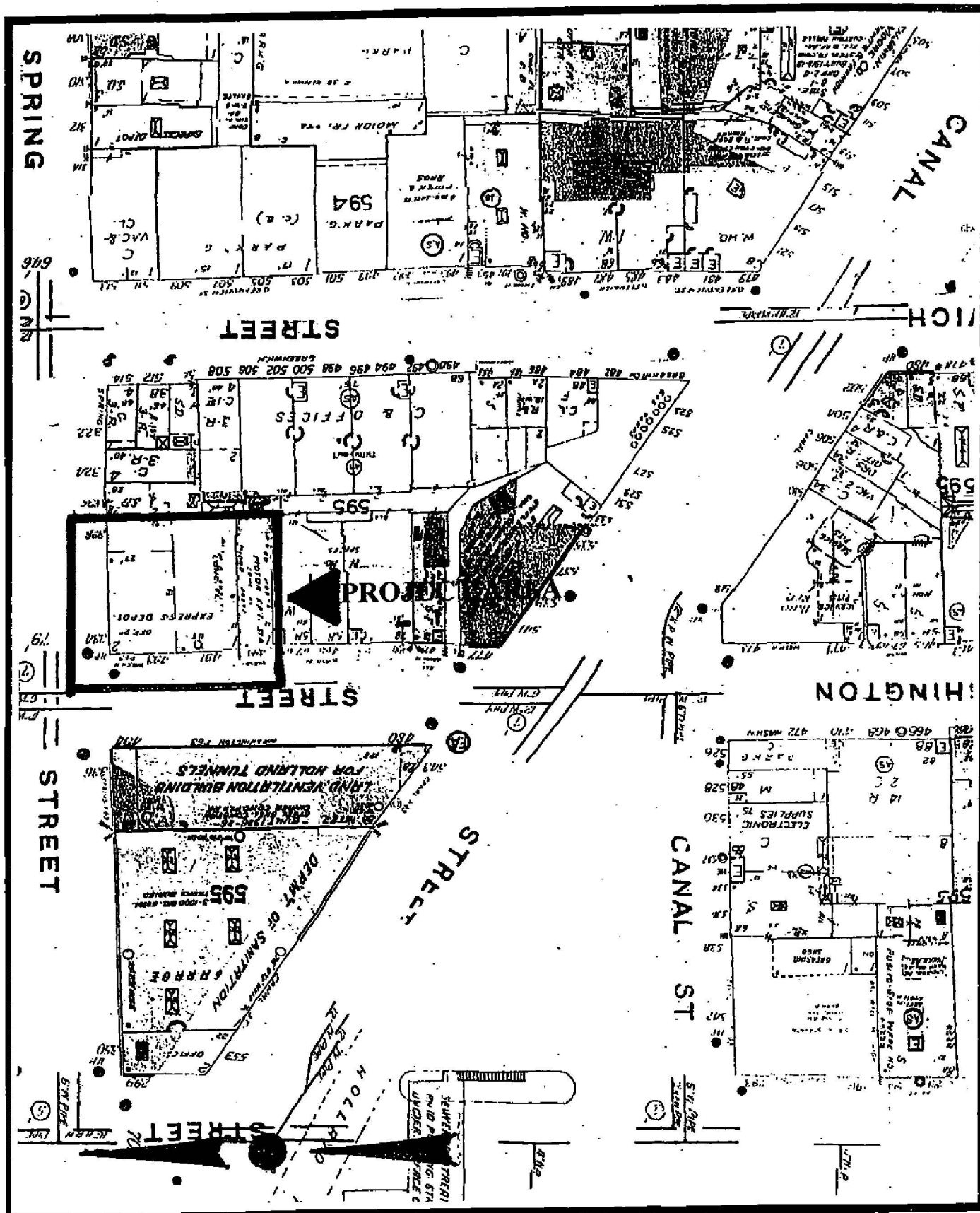
Block 595. Lot 66 & 68. 328 Spring Street & 489 Washington Street. Borough of Manhattan. New York County, N.Y.  
Map 19: Manhattan Land Book 1934 Map of Canal Street Area. Plate 21. Enlarged 25%. Original scale: 1" = 160 Feet



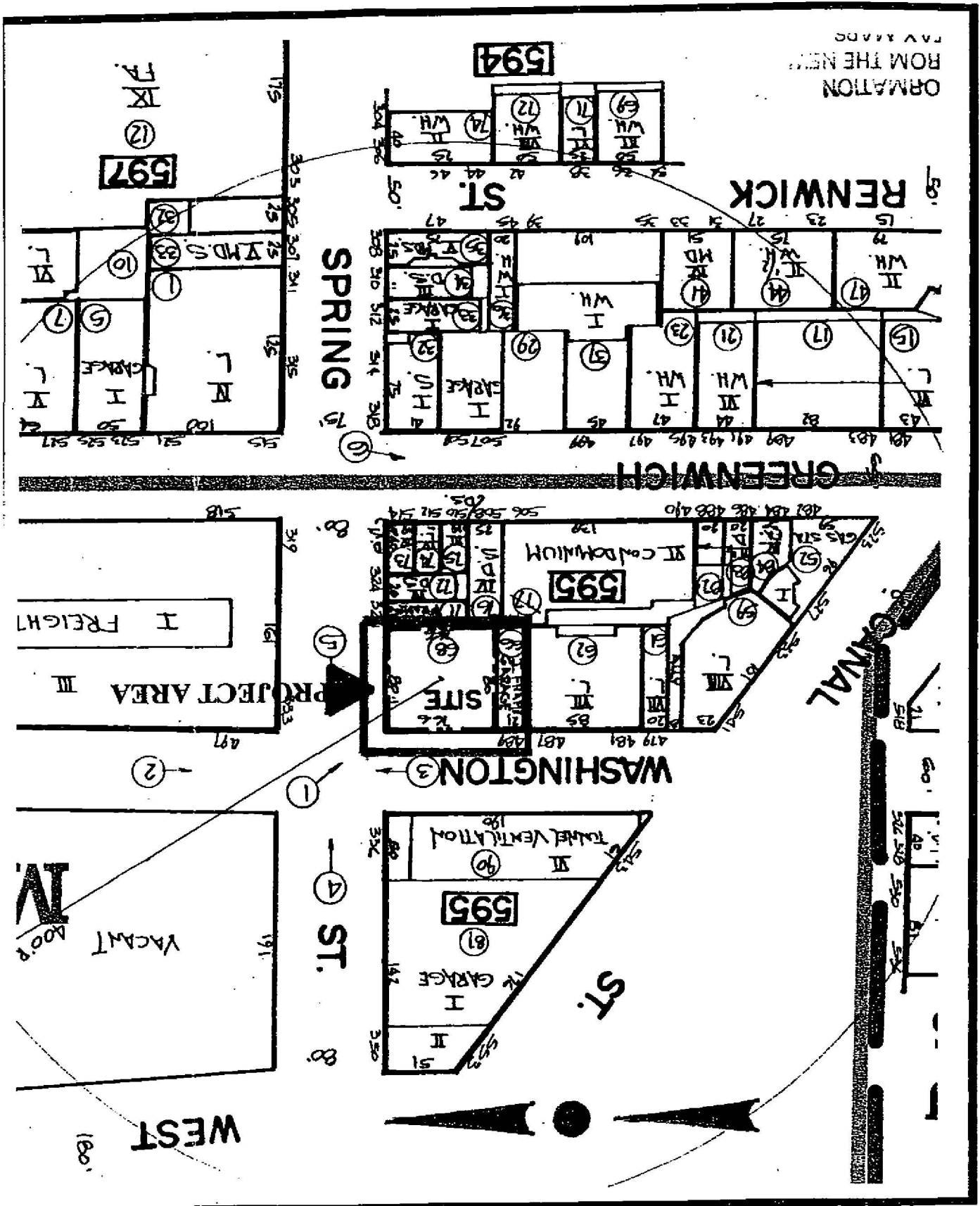
Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.  
Map 20: Sanborn 1994 Insurance Map of the 8<sup>th</sup> Ward, Plate 63, Scale: 1¼" = 100 Feet

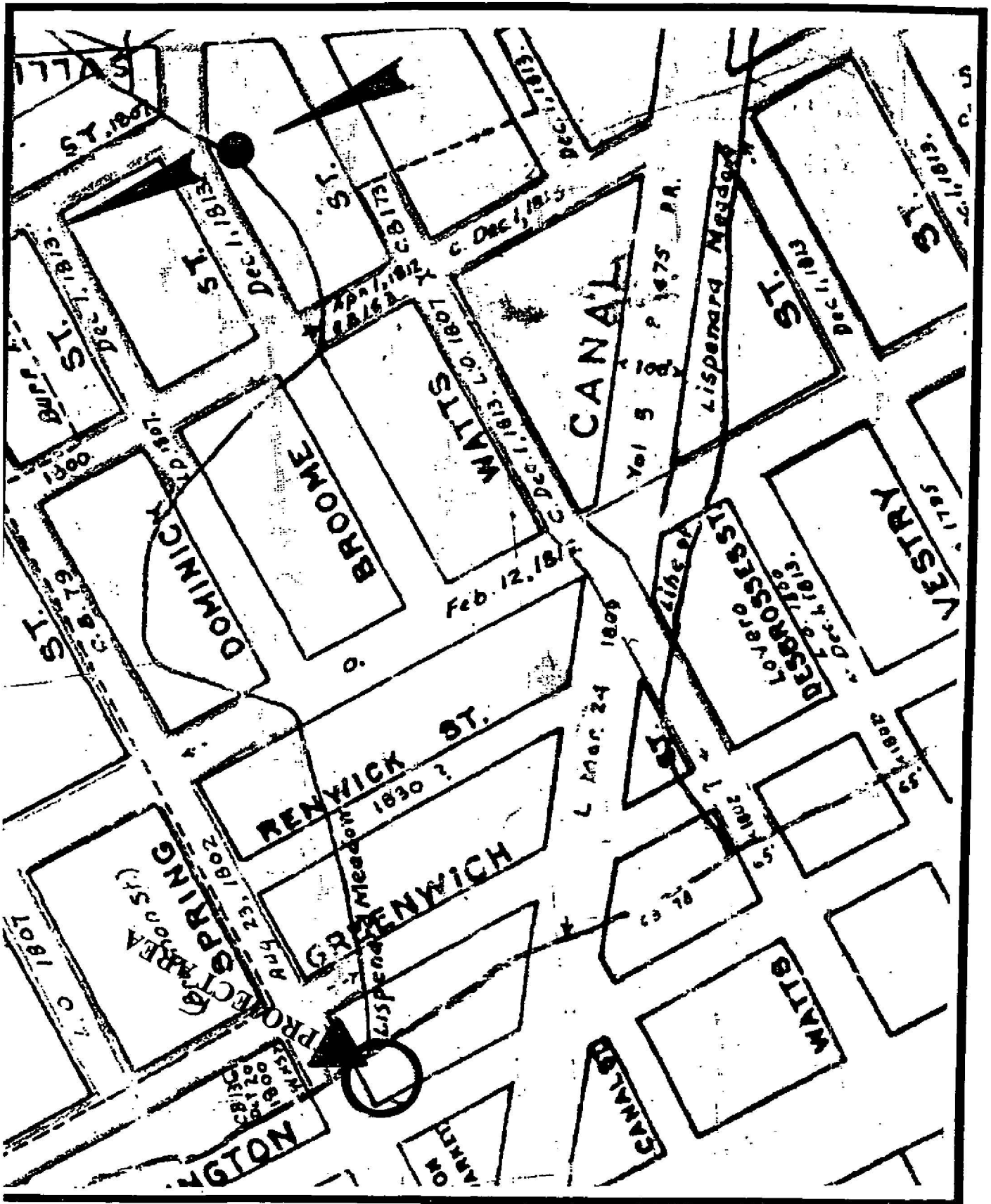
Block 595, Lot 66 & 68, 328 Spring Street & 489 Washington Street, Borough of Manhattan, New York County, N.Y.  
Map 20: Sanborn 1994 Insurance Map of the 8<sup>th</sup> Ward, Plate 63, Scale: 1¼" = 100 Feet

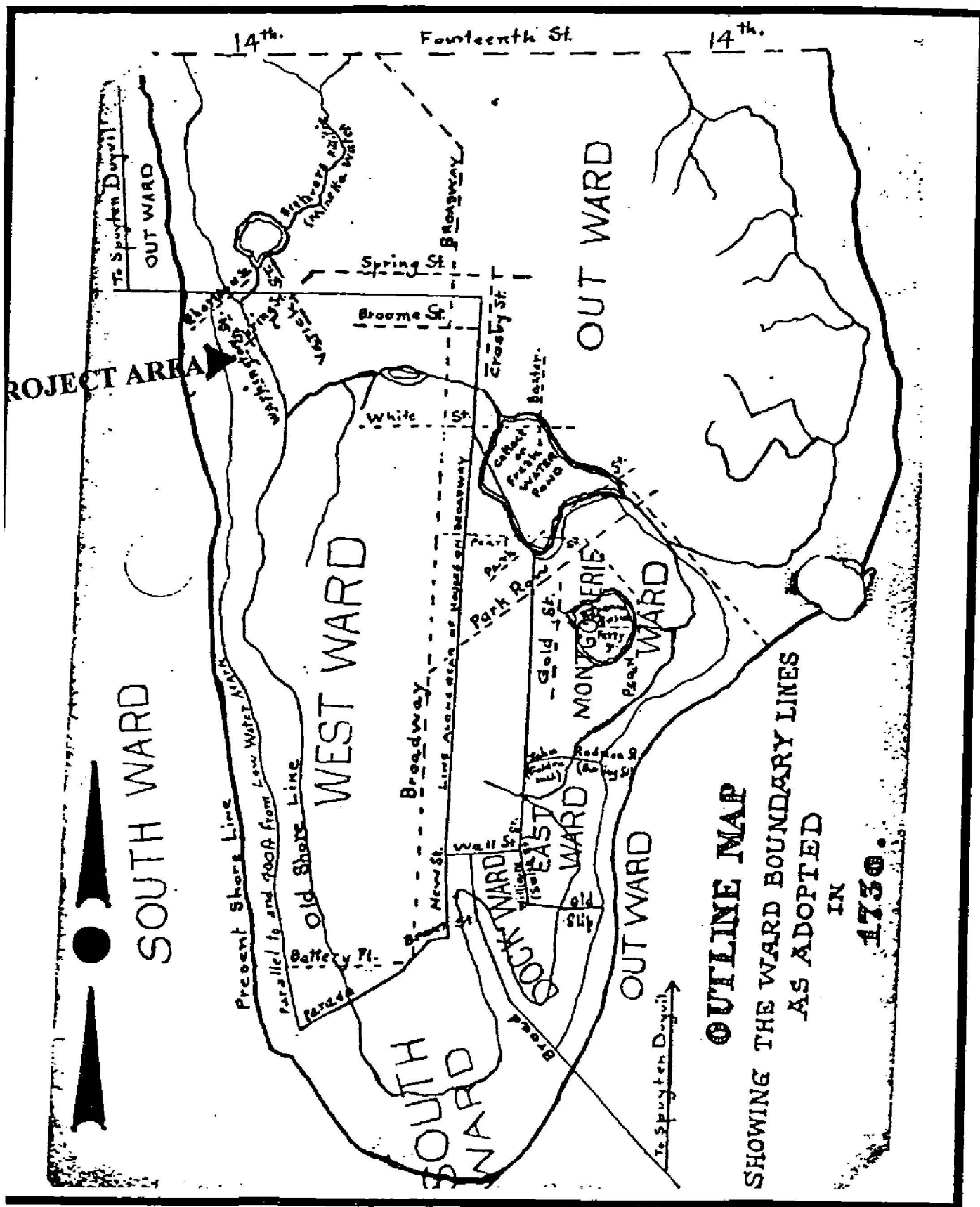
Map 20: Sanborn 1994 Insurance Map of the 8<sup>th</sup> Ward, Plate 63. Scale: 1¼" = 100 Feet

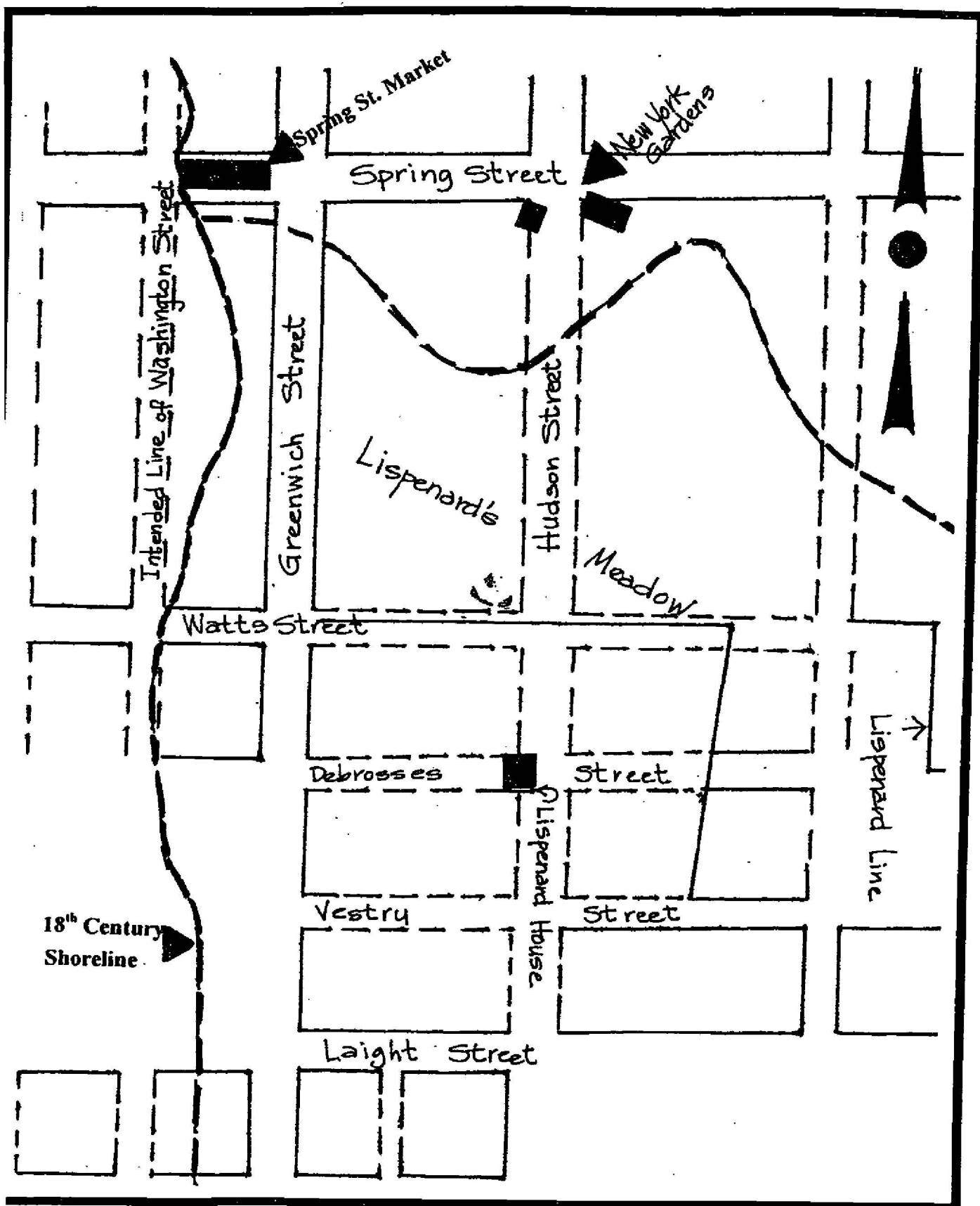




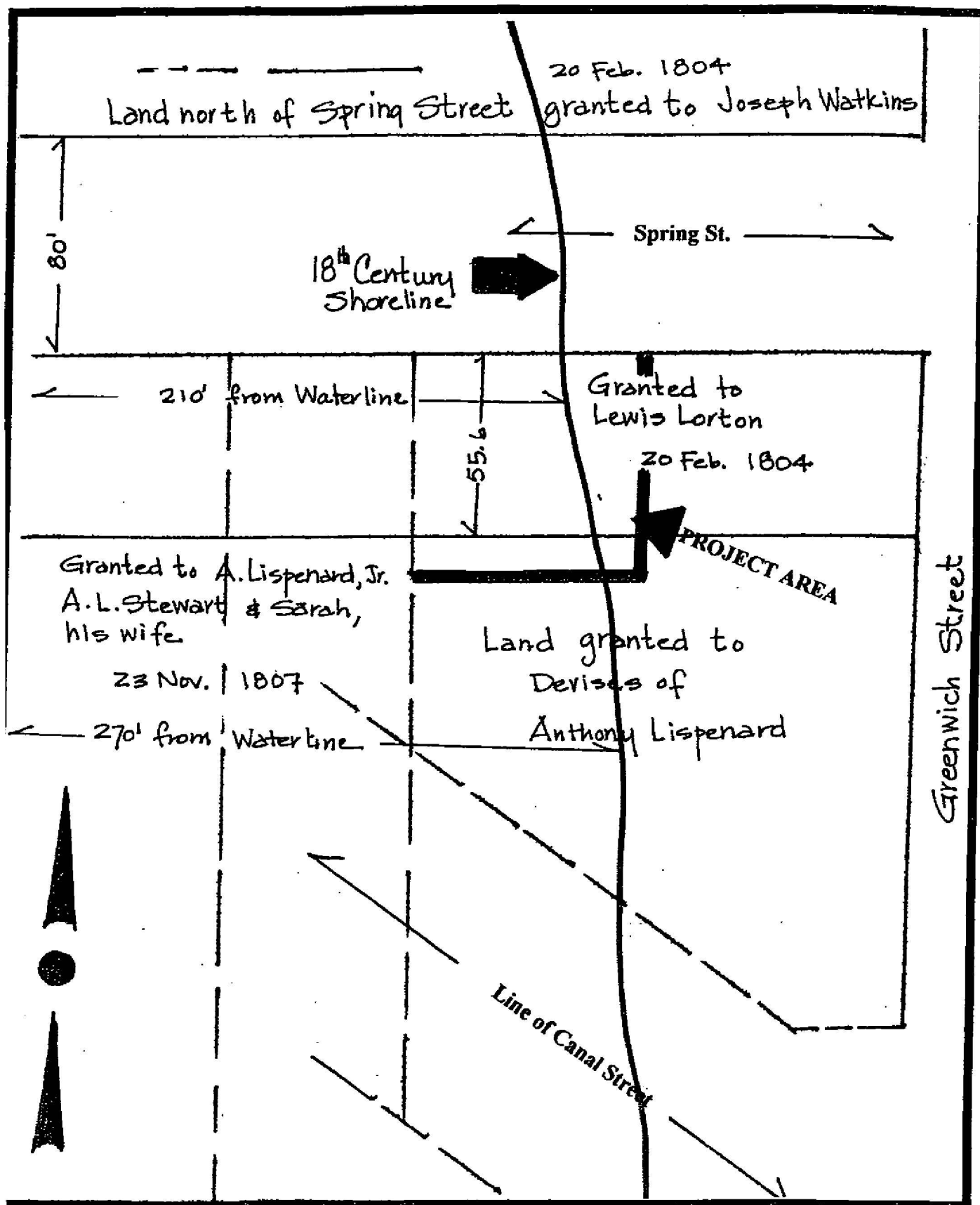


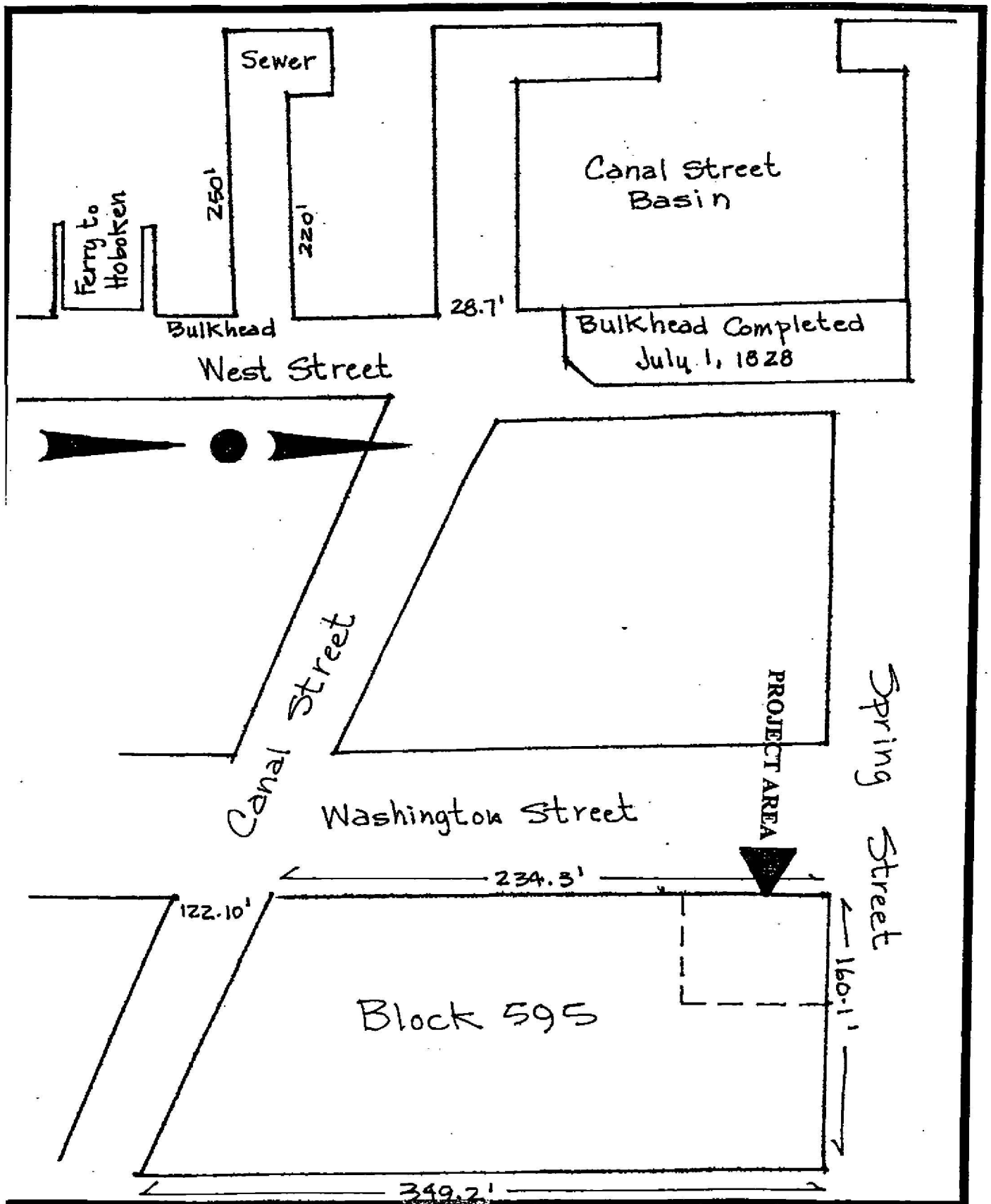


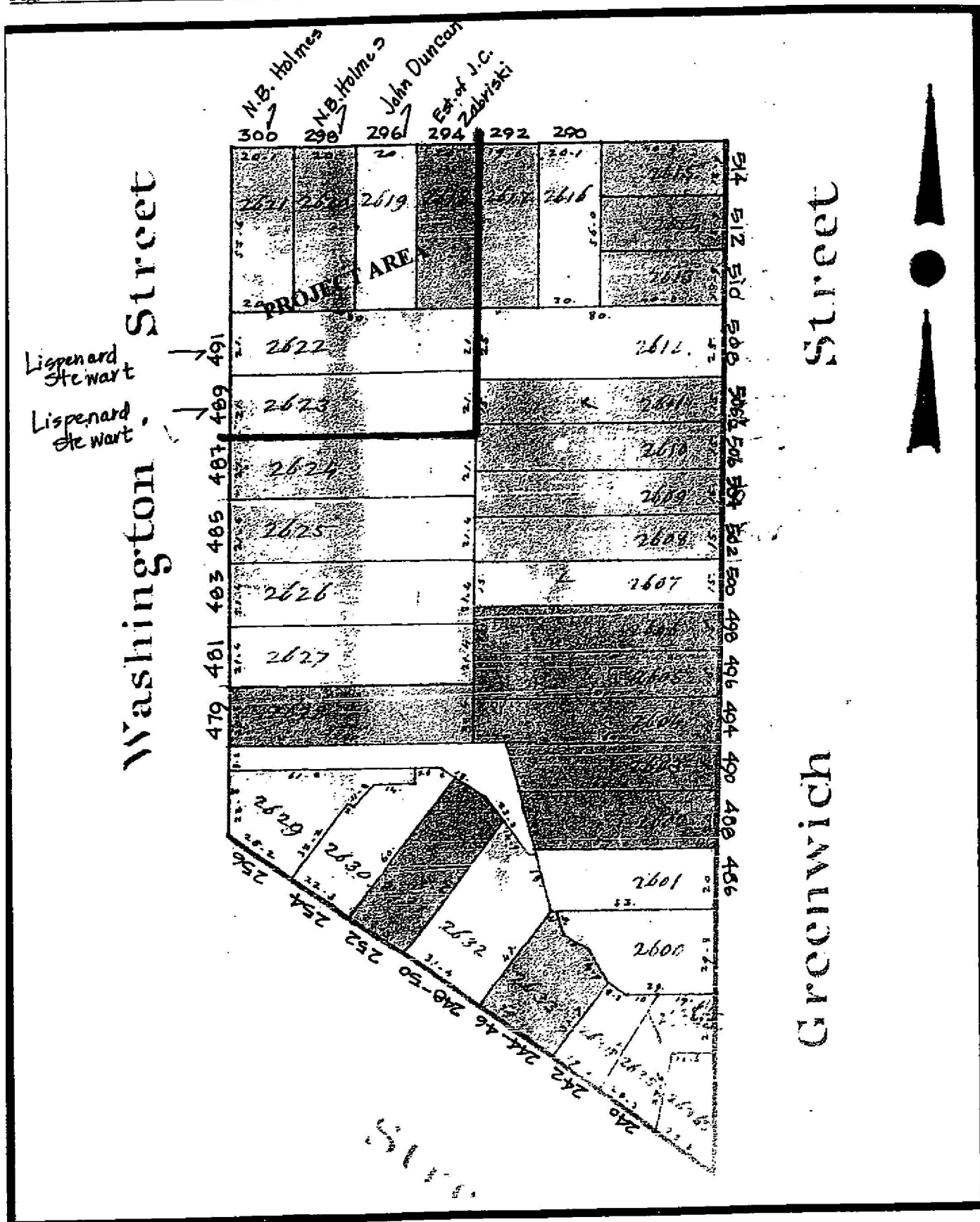






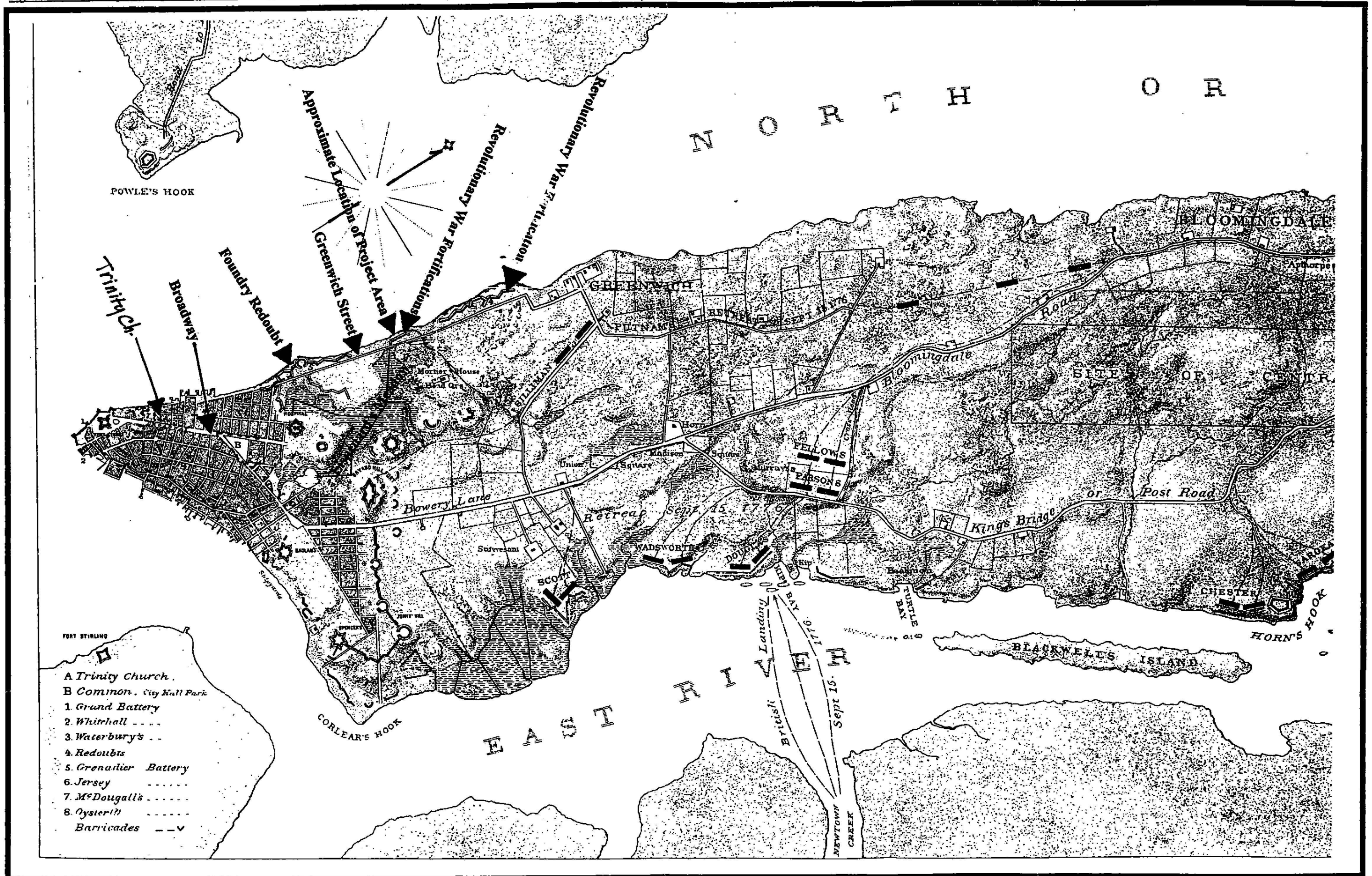












**APPENDIX B**

**REVIEW OF TEST BORINGS ON  
BLOCK 595. LOT 66 & 68**

**APPENDIX C**

**ADDITIONAL INFORMATION**

## DEPARTMENT OF BUILDINGS

BOROUGH OF

CITY OF NEW YORK

MANHATTAN  
Municipal Bldg.  
ManhattanBROOKLYN  
Municipal Bldg.  
BrooklynBRONX  
Bronx County Bldg.  
Grand Concourse & E. 181st St.  
BronxQUEENS  
21-10 49th Avenue  
L. I. CityRICHMOND  
Boro Hall  
FOR THE BOROUGH  
OF MANHATTAN

This NOTICE must be TYPEWRITTEN and filed in TRIPPLICATE

## DEMOLITION

PERMIT No. 193

APPLICATION No. 296 1936

WARD VOL.

LOCATION 491-495 Washington 9th SECOR  
528-534 Spring St.

BLOCK 595 LOT 88-89

(See Tax Map or Tax Receipt. Give ALL lot numbers.)

When the signature of the Commissioner of Buildings for the Borough of... has been properly affixed, this notice becomes an official notice of intention to demolish the building, buildings or parts of building herein described, in the manner agreed upon and as prescribed by law. If no work is performed hereunder within one year from the time of issuance, this notice shall expire and become void.

RECOMMENDED FOR APPROVAL ON JUL 15 1936 193

APPROVED JUL 15 1936 193

*John T. McLaughlin*  
SAMUEL FASSLER  
Commissioner of Buildings, Borough of

New York City, 193

TO THE COMMISSIONER OF BUILDINGS:

I, the undersigned, agree to DEMOLISH the building, buildings or parts of building herein described and located, and the undersigned applicant hereby agrees to comply strictly with all rules and regulations of the Department of Buildings for the Borough of... the provisions of the Building Code of the City of New York, and with every other provision of law relating to this subject.

Section 191, Building Code—"Wherever any building or part thereof, within 10 feet of the building line, is to be altered or raised to exceed forty feet in height, or whenever such a building more than forty feet in height is to be demolished, the owner or the person doing or causing such work to be done shall erect and maintain during such work a substantial shed over the sidewalk in front of said building and extending, so far as practicable, from building line to curb, the sidewalk being at least six feet wide and on streets having sidewalks less than fifteen feet in width, such sheds may extend beyond the curb to such extent as may, on the recommendation of the Commissioner of Buildings, be approved by the borough president, provided that when such sheds extend to within fifteen feet of the opposite building line, the written approval of the borough president or occupants of the two stories or parts of stories next above the curb of the buildings along the opposite building line shall have been obtained before such approval is issued. Such shed shall remain in place until the building is enclosed, or, in case of demolition, until the building has been reduced to twenty feet in height. Every such shed shall be kept properly lighted at night.

The attention of the applicant is also directed to the provisions of Sections 190-192, Chapter 23, Code of Ordinances of the City of New York with reference to placing building materials in the public thoroughfare, or otherwise encumbering the sidewalk or roadway with any article whatsoever without a permit from the President of the Borough, obtainable through the Bureau of Highways, and with reference to taking all reasonable precaution to prevent fragments or other substances from falling into the sidewalks or streets, or dust or light material from flying into any street or building during the process of demolition.

Section 200, Building Code—"In demolishing any building or part thereof, story after story shall be completely removed. No material shall be stored upon a floor of any building in the course of demolition, but old material shall be lowered to the ground level directly upon displacement. The material to be removed shall be properly wet to lay the dust incident to its removal."

Number of buildings to be demolished: 2  
(If only part of building, state what part.)

Classification: brick warehouse

Number of stories high: 5

Dimensions: 80 feet front, 80 feet rear, 78 feet deep.

I, the undersigned, have been duly authorized to file this demolition notice by

Everett Construction Co.

who is the OWNER of the building or buildings to be demolished as herein prescribed.

Owner Everett Construction Co.

Address 25 West 45 St.

(Sign here, with FULL name) Harry A. Biesants Co., Inc. Applicant.

*Harry A. Biesants*  
Pres.

If a Corporation, name and title of officer signing

Address 565 5th Ave. N.Y.C.

THIS IS TO CERTIFY THAT THIS REPRODUCTION IS A TRUE AND EXACT COPY OF THE ORIGINAL RECORDS OF THE  
DEPARTMENT OF BUILDINGS, CITY OF NEW YORK KEPT IN THE REGULAR COURSE OF BUSINESS. FILED IN PHOTOMATIC  
RECORDS, INC. N.Y.C. DATE 6-18-75 OPERATOR E.M.V. CAUTION

ORIGINAL



Referred to Inspector

on

193

for report, giving number and character of buildings; all pending New Building, Alteration or other applications on said property, and present status of same; and also whether or not this applicant is responsible and reliable

TOTAL Number of Buildings to be demolished,

(if only part of the building is demolished, Inspector should so state) described as follows:

Number of Buildings	Stories	Present Occupancy	Character of Construction
---------------------	---------	-------------------	---------------------------


(Dated) \_\_\_\_\_ (Signed) \_\_\_\_\_

(Title) \_\_\_\_\_

REFERRED TO U. B. CLERK

on JUL 14 1938

193

for report, stating all pending unsafe building cases against the property covered by this notice, and all unpaid bills for emergency work or survey and search fees, if any.

Building Case Pending

(Dated) JUL 14 1938 (Signed) C. C. C. Clerk

UNSAFE BUILDING CLERK

NOTE: Approval of Bureau of Sewers, Bureau of Highways and the Department of Water, Gas & Electricity must be obtained before actual demolition of the building or buildings is started.

REFERRED TO INSPECTOR

on

193

for supervision, and FINAL REPORT when work has been completed.

DEMOLITION COMMENCED

193

DEMOLITION COMPLETED

193

(Dated) \_\_\_\_\_ (Signed) \_\_\_\_\_

Inspector \_\_\_\_\_ District \_\_\_\_\_

THIS IS TO CERTIFY THAT THIS REPRODUCTION IS A TRUE AND EXACT COPY OF THE ORIGINAL RECORDS OF THE DEPT. OF BUILDINGS, CITY OF NEW YORK KEPT IN THE REGULAR COURSE OF BUSINESS. FILLED IN MICROFILM ETC. N.Y.C. DATE 5-14-75 OPERATOR E.A.S. CATERA/ ROLLER

ORIGINAL

## DEPARTMENT OF BUILDINGS

Borough of MANHATTAN, City of New YorkMANHATTAN  
Municipal Bldg.  
ManhattanBROOKLYN  
Municipal Bldg.  
BrooklynBRONX  
Bronx County Bldg.  
Grand Concourse &  
East 161st Street, BronxQUEENS  
21-10 49th Avenue  
L. I. CityRICHMOND  
Boro Hall, St. George,  
S. I.

NOTICE.—This application must be Typewritten and filed in triplicate for fuel oil installations in all dwellings and commercial buildings. One copy must be sworn to by applicant. Plot diagram is to be attached to each set of plans.

## FUEL OIL

DEC 14 1936

PERMIT NO. \_\_\_\_\_

APPLICATION NO. 1176/36

BLOCK \_\_\_\_\_

WARD \_\_\_\_\_

VOL \_\_\_\_\_

LOCATION 329/34 - Spring Street S.E. cor. of Washington Street

The said land and premises above referred to are situate, bounded and described as follows:

Beginning at a point on the S side of Spring Street distant 0' E. feet from the corner formed by the intersection of Spring Street and Washington Street running thence E. 80'-1" feet; thence S 76'-6" feet; thence W. 88'-1" feet; thence N. 76'-6" feet to the point of place of beginning, being designated on Tax Map as—Ward No. 59 Block No. 595 Lot No. 68

Application is hereby made for approval of the plans and specifications herewith submitted, including all amendments to the same which may be filed hereafter, and made a part hereof, for the installation of equipment therein described, with the understanding that if no work is performed within one year from the time of issuance, this approval shall expire by limitation as provided by law; and the applicant agrees to comply with all the rules and regulations of the Board of Buildings of the City of New York, and with every other provision of law relating to this subject in effect at this date.

Applicant J. N. Cardstein Address 50- Court Street B'klyn  
Owner and ~~contractor~~ Mrs. Jessie Moffat Address 145 - W. 58th Street N.Y.C.  
Architect J. N. Cardstein Address 50 - Court Street B'klyn  
Contractor Waterside Electric Co. Inc. Address 65- Flatbush Ave. Ext. B'klyn

## FUEL OIL SPECIFICATIONS

1. Baume. 28-32
2. Capacity of each tank 550 FLASH POINT 150°
3. Name of burner Wayne LOCATION see plan No. of Tanks 1
4. Occupancy Storage Building and Offices Foundation none  
If premises is used for residential purposes state number of families. B. S. & A. Approval No. 115/32
5. Location of remote control see plan Number of approved fire extinguishers. 2-1 qt. Chem.
6. Fire retarding as required by the Building Department
7. Is work being done to comply with an order of a municipal department? No  
If so, give order number.
8. Size of building (if any) 80'-1" feet front 76'-6" feet deep 25 height \_\_\_\_\_  
feet \_\_\_\_\_ stories \_\_\_\_\_
9. Construction of buildings: frame non fireproof yes fireproof \_\_\_\_\_
10. Estimated cost \$500.00

COMPENSATION INSURANCE has been secured in accordance with the requirements of the Workmen's Compensation Law, as follows:

LIBERTY MUTUAL INS. Co. Policy # WC 140132  
EXPIRES OCT 19 1937