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STAGE 1A DOCUMENTARY STUDY
"THE WILLIAM"
15 WILLIAM STREET
NEW YORK, NY

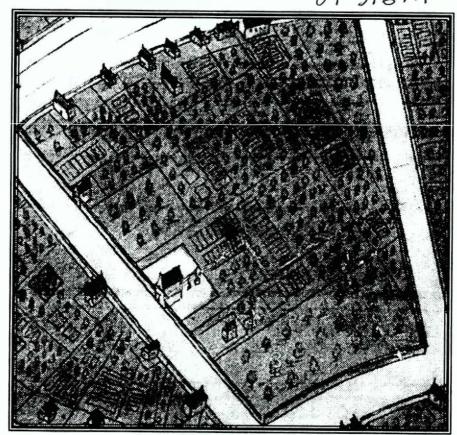
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# STAGE 1A DOCUMENTARY STUDY

"THE WILLIAM"
15 WILLIAM STREET
NEW YORK, NY

# Prepared For:

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#### INTRODUCTION

The proposed 15 William Street project, "The William," is a multi-story mixed-used building to be built at the northwest corner of Beaver and William Streets (Block 25, Lot 35) in Lower Manhattan. The proposed construction will be a reinforced-concrete building with a 45-foot deep basement excavation. The earth retention system assembled during construction will consist of a series of secant piles drilled into place along the site perimeter.

A special permit from the New York City Planning Commission is required for the construction of a public parking garage at The William, which require environmental review pursuant to CEQR. As a function of the review process, the New York City Landmarks Preservation Commission (LPC) has requested a Documentary Study of the project site. This Study, often referred to as a Phase 1A, covers the project's Area of Potential Effect (APE). For the 15 William Street project, the APE is considered to be the entire Lot 35 area except for a 10-foot wide MTA buffer zone imposed along the William street sidewalk frontage. Because the project sponsor is seeking Liberty Bond financing, the proposed project is also subject to review by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), which has requested information on the subsurface conditions of Block 25, Lot 35.

The following document adheres to the LPC Guidelines (2002) which state that the purpose of a Documentary Study is to determine whether significant intact archaeological resources might exist on a site. The Guidelines stipulate that the Study provide a comprehensive analysis based on a number of sources (e.g., maps, archaeological reports from sites in the project vicinity, street directories, building records, tax assessments, historic photographs, soil borings, census data, utility records, etc.). This Documentary Study presents the findings of Historical Perspectives' research and conclusions. Initially, the research approach is outlined, followed by a report of existing conditions. A broad, contextual background is provided and a site-specific historical account is presented chronologically, including tax/census/directory data, newspaper accounts, historical photographs, maps, building department records, utility installation plans. conveyance records, etc. A number of illustrations and appendices complement the historical accounts. As with any urban center, street names and city tax block/lot designations have changed over time; an effort has been made to introduce the reader to each change. following Study also presents a review of archaeological sites in the project vicinity and moves into a discussion of possible resource types that might be associated with the project site over time. The Study concludes with a presentation of the extent of subsurface disturbance of the site over time and recommendations for further archaeological consideration.

<sup>&</sup>lt;sup>1</sup> Due to restrictions imposed by the MTA over concerns for the stability of the Section 3B subway system in the Williams Street streetbed, no excavations will be allowed within 10 feet of the William Street sidewalk, providing a 10-foot wide buffer for the MTA system. Currently, construction trailers are parked in this William Street sidewalk/buffer zone; the land under the trailers will not be excavated. See Photographs 11-13.

# RESEARCH DESIGN

This study was designed to address two major questions. What is the likelihood that potential archaeological resources of significance exist within the APE; and, what is the likelihood that such resources have survived later disturbances? Sufficient information was gathered to compare, both horizontally and vertically, historical past usage and the subsurface disturbance record. Documentary research also focused on establishing current subsurface conditions and the extent of impacts from prior construction.

To accomplish these goals, Historical Perspectives, Inc., performed a documentary and cartographic review. Research was conducted at various institutions, such as the New York Public Library, the Municipal Archives, and the New-York Historical Society. The records of public and private offices, such as the Department of Buildings and Consolidated Edison (ConEd), were also tapped. Archaeological reports and publications pertinent to Lower Manhattan and possible resource types were collected for comparative analysis. Various on-line resources, e.g., the National Park Service and Ancestry. Com contributed to the evaluation. In addition to documentary research, field visits were completed. Photographs of existing conditions were taken.

#### **EXISTING CONDITIONS**

Manhattan Island lies within the Hudson Valley region and is considered to be part of the New England Upland Physiographic Province (Schuberth 1968:10). The underlying geology is made up of "gneiss and mica schist with heavy, intercalated beds of coarse grained, dolomitic marble and thinner layer of serpentine" (Scharf 1886:6-7). The land surface in the metropolitan area was carved, scraped, and eroded by advancing and retreating glaciers during three known glacial periods. After the final glacial retreat during the Post-Pleistocene, glacial debris, a mix of sand, gravel, and clay, formed the many low hills or moraines that constitute the present topography of the New York City area. Formed following the last of the three glacial periods, Manhattan Island is marked by these low hills, surrounded by rivers, and has a large protected deep water bay.

The project site is in Lower Manhattan (see Figure 1). During the late Precontact and early Historical Periods – prior to development – the project site was on the southern slopes of a hill. Near the end of the late precontact era the coastline was one block east of the project site near the eastern side of present-day Water Street and by the middle of the 19<sup>th</sup> century the shoreline had been extended to its present boundary, four blocks east of the project site, on the east side of South Street.

The most recent U.S.G.S. topographical map shows the project area as a well-defined urban setting at an elevation of approximately 15 feet above sea level (mean low water) (see Figure 1). The project site is currently vacant, most recently having served as an asphalt parking lot. Foundation-design testing has been initiated at the site in recent months. These activities have yielded information on the depth of fill, bedrock, and the water table, as well as identifying extant (but unmapped) infrastructure systems. This information is presented under the following

heading: PROPOSED PROJECT IMPACTS. See Photographs 1-31.

# HISTORICAL BACKGROUND

Although early Dutch trading expeditions had already been visiting the Hudson River for many years, the first settlement in New Netherland was not undertaken until 1624, under the authority of the Dutch West India Company, a private trading company founded in 1621. The purpose of this expedition was to strengthen Dutch ownership claims by occupying strategic points in the territory. Surprisingly, Manhattan was ignored in favor of Governors Island, where eight men were left to build a fort to protect the mouth of the Hudson. The main group of colonists traveled north and established Fort Orange, now part of Albany, in an area advantageously situated for participation in the lucrative fur trade (Brodhead 1853:150-151).

Eventually, the Dutch traders recognized Manhattan as the strategic heart of the region. Colonization began in earnest in 1625, when an expedition of Company farmers with livestock, tools and provisions arrived on the Hudson River, establishing itself at the southern tip of Manhattan Island, with the purpose of building a fort and laying out nine Company farms, or bouwerijen (bow-wer-RAY-en). These bouwerijen were intended to supply Company personnel with agricultural provisions, so that the Manhattan post would be self-sufficient (Bachman 1969:82-87). In addition, farm land, including a small tract north of what became Prince Street, was also designated for the "Company's Negroes" (Stokes 1998 VI: 70-72).

Cartographic resources indicate that during the early historical period portions of Lower Manhattan were used for farmland or pastureland. The residential component of Manhattan was located inland, and most of the commercial activity (wharves, slips, shops, and warehouses), was located along the waterfront at the southern tip of Manhattan (Castello 1660; Miller 1695; Lyne 1729).

The West India Company was generally scrupulous about acquiring title to the lands it occupied, and upon his arrival on Manhattan Island in 1626, Governor General Peter Minuit opened negotiations with the local Indians, and purchased the approximately 22,000 acres of the island for about 60 guilders worth of goods. The erection of Fort Amsterdam was begun near the foot of present Broadway, commanding the upper bay and the entrances to the Hudson and East Rivers (Brodhead 1853:164). The settlement around the fort, eventually called New Amsterdam, grew slowly, and at the time of the English conquest in 1664, extended only as far north as the palisades built along present Wall Street. Many of these settlers were merchants and fur traders who needed access to the shipping routes. As a result, much of the land granted was located along the rivers surrounding the island.

Although sections of Manhattan were considered unsuitable for agriculture, as early as ca.1628 at least six Company bouwerijen, four of which were near the East River shore, had been laid out and leased to tenants. These four farms embraced a total area of 120 acres. In addition to the Company farms, by 1635 about 150 colonists inhabited a number of private farms north of the town Rink (1986:128). Unfortunately, Manhattan was not terribly fertile, and only two of the

original farms were considered to have good land, the others better-suited for growing rye or buckwheat (Brodhead 1853:167; Bachman 1969:91; Jenkins 1913:69-70).

Most of Manhattan's farmsteads suffered greatly during the Indian troubles of 1642-43, and by the end of hostilities, the bouwerijen needed so many improvements that the West India Company decided to sell them rather than invest the money (Jenkins 1913: 70, 73, 94). Following the 1664 conquest of New Netherland by the English, most private property was confirmed in its pre-conquest ownership. Director General Peter Stuyvesant chose to remain in New York, and retired to his "Great Bouwery," which he had purchased from the Company, and he remained influential in the colony until his death in 1678.

Officially, New York City encompassed the entire island of Manhattan, which included the "Out Ward" created by Governor Dongan in 1683. The Out Ward extended from approximately present Canal Street to the Spuyten Duyvil (Valentine 1853:182,184). The line of city fortifications which protected "the compact part of the city" had begun its slow march northward, as a palisade on Wall Street was demolished in 1699, and a new line erected in 1745 slightly north of present Chambers Street. Other improvements to Lower Manhattan include the laying out of Bowling Green in 1733 (Latimer 1995: 132), and the establishment of a series of slips and wharves in the 1740s.

William Street was laid out in ca.1656 (Innes 1902:233). During the 18<sup>th</sup> century, numerous drygoods stores were established along William Street (King 1892: 33). As the city grew northward and the population increased, the commercial center also expanded, transforming the landscape of what is now considered Lower Manhattan from a residential and agricultural locale to an urban/commercial setting.

The Revolutionary War saw a seven-year period of British occupation of New York City, which followed Washington's evacuation of Manhattan Island in 1776. As a result of the war, earthworks and redoubts dotted the landscape. Many of the city's residents suffered greatly during the occupation. Within the city proper, disastrous fires in 1776 and 1778 left Broadway from Trinity Church (Wall Street) to the Battery in ruins. Trinity and the nearby Lutheran Church on Rector Street had been consumed in the conflagration, and not rebuilt. The British used the buildings of the Dutch, Presbyterian and other "dissenting" denominations as a riding school, stables, prison and hospital (Smith 1972:5, 50).

Following the war the recovery of the city was swift, and the need to improve conditions in lower Manhattan, especially along the waterfront, was apparent. In order to address the problem of the lack of dock space, the East River waterfront was filled, expanding the shoreline of Lower Manhattan to South Street. The newly created land along the waterfront in the Lower East Side became the center of the economic life of the city, while the streets further inland were lined with overcrowded tenements. The majority of the commercial activity in Lower Manhattan was directly tied to the fluctuating shipping industry.

During the 19<sup>th</sup> century the commercial nature of Lower Manhattan was firmly established. Although the War of 1812 brought the rapid expansion of New York City to a temporary halt, it

did give rise to the New York Stock and Exchange Board which was organized to aid in financing the war (WPA 1939:85). While Wall Street was growing into the financial center that it is today, the waterfront was declining as the federal embargoes on European trade goods hurt the shipping industry. City directories, newspapers, and maps indicate that the project neighborhood had been transformed into a commercial haven for financial institutions. The proximity to the financial district and Wall Street further reinforced the commercial nature of the project locale throughout the 20<sup>th</sup> century.

By the middle of the 19<sup>th</sup> century, the core area of the city's businesses and residences had expanded to the point of requiring six major markets below Chambers Street and a seventh market at Catherine Slip where a ferry to Brooklyn berthed. Fires, poor sanitation, disease, and overcrowding forced people out of lower Manhattan into surrounding districts such as Greenwich Village, Bloomingdale Village, and Haerlem Village. New lines of transportation were opened and passenger boats left from the east and west sides of Manhattan to accommodate these "commuters" (NYCLPC 1983:25).

## PROJECT SITE HISTORY

Historic maps offer a wealth of information on the land-use history or disturbance record for Lower Manhattan and, more specifically, for the William Street project site. From as early as the 17<sup>th</sup> century, certain maps provide details about the development of the project block. Below is a summary of available cartographic information, as well as primary source data to complement the map review. Numerous figures, historic photographs, newspaper accounts, tax assessments, building permits, etc., are attached to establish a full account of Block 26, Lot 35 through time.

In the mid-19<sup>th</sup> century, Egbert Ludovicus Viele created a series of maps showing former conditions in Manhattan prior to historical development (Viele 1865, 1874). While these maps do not depict the 19<sup>th</sup>-century development of Manhattan, they provide a wealth of information on the landscape prior to development. The project block is shown on the edge of a large hill, sloping downward from north to south. At that time the elevations above sea level (ASL) were noted at the intersection of Exchange Place and William Street as 18 feet ASL, and at Exchange Place and Broad Street as either 18 feet or 13 feet ASL (Viele 1865). No elevation was provided for the intersection of William and Beaver Streets. Prior to the construction of buildings within this block, this hill was probably graded to some degree, with soils and rocks used for landfill along the waterfront.<sup>2</sup>

The project site was a part of the West India Company's reserved "pasture ground" which was leased to Jan Jansen Damen in the spring of 1638. At the termination of the lease in 1644, the land was divided into building plots (Innes 1902:150). The William Street corridor was originally known as Smith (Smee/Smit) Valley, reflecting a blacksmith's residency in the area. Smee Straat, later William Street was cut through the Valley in ca.1656 (Innes 1902:233). The original name of Beaver Street was Pinze (Pinzer) Street, which has been mistakenly mapped as Princess Street.

<sup>&</sup>lt;sup>2</sup> The British Headquarters Map of 1782 (Plates 1 and 2) confirms the Viele topographic interpretation for the project site area of Block 25 – the slopes of a sizeable hill.

The Castello Plan (1660) depicts the early development of Nieuw Amsterdam, showing the fort at the southern tip of Manhattan and several developed blocks north to Wall Street. Only a few isolated parcels of land north of Wall Street are recorded as being in use. This map is the earliest to identify specific buildings and/or landowners in the project neighborhood. By 1660, the project block was already established between Broad, Exchange (formerly Garden), William (formerly Smee or Smith), and Beaver (formerly Princess) Streets. Historian I. N. P. Stokes' "Key to the Castello Plan" (Figure 5) assigns developed blocks specific identification letters (Stokes 1998 II: Plate 82E). The project site is located in the southeast corner of Block "L" and appears to have been divided into three separate parcels under separate owners, identified by numbers 1, 2, and 3. (See Appendix A for a table of Stokes' identification of owners/occupants for the entire Block "L".) On the Key map, please see the easternmost section of the project block, fronting on what is now William Street, which is separated from the rest of the block by a lot line and has the designation "1." To the west of property number 1 is a small structure and lot identified with the number "2." The fenced lot designated number "3" on the Key to the Castello Plan, and situated to the west of the "2" cottage and lot, is the location of a large single structure fronting on what is now Beaver Street. Because of the potential inaccuracies of historic maps, it is not possible to state definitively that all of the number 3 property falls within the current project site but it appears that a portion of the Castello-depicted "3" may be within the western edge of the project site. Each of these properties is discussed in detail below.

# Castello Plan / Block L / #1

Historian I. N. P. Stokes identifies parcel "1," the easternmost within the project block, as the Garden of Augustine Herrman. Herrman was quite an interesting early leader in the colony, having arrived in New Amsterdam from Prague in 1608. (Figure 2) A factor for an Amsterdam mercantile firm, and a real estate speculator, as well as being an accomplished linguist, Herrman's own home was built in ca.1641 at 33 Pearl Street, a waterfront parcel (Innes 1902:53-54). He also owned extensive property in the Harlem area to the north.

The 1660 map indicates this is a garden by the depiction of trees laid out in parallel rows. Records indicate that although Hermann was granted this lot in 1647, the orchard was in the possession of a tenant, Allard Anthony, who demanded satisfaction from the city "for the survey through his garden" in 1656<sup>3</sup> (Stokes 1998 II: 288). Just two years later, in 1658, Herrman requested "leave to lay out his garden," but was told that he must pay Allard Anthony for the costs he incurred before laying it out. Anthony must have been paid by Hermann because within two years, the garden parcel was divided into seven lots which are described by Stokes in his *Iconography of Manhattan Island* (Stokes 1998 II:395; Plate 87). Stokes' deed research indicates that the project site encompasses Lots 1-6 of the former garden<sup>4</sup>. Records indicate that in 1660 Hermann sold garden Lots 3-5 to Tielman Van Vleck, the attorney for Daniel Gabry, and in 1669 he sold garden Lots 1 and 2 to Isaac Bedlow.

<sup>&</sup>lt;sup>3</sup> Smith Street, now called William Street, was "cut though" under the Ordinance of 1656 (Stokes 1967: Vol. II: 288).

<sup>&</sup>lt;sup>4</sup> Lots 1-6 appear to fall within the project site. Stokes stated that the location of Lots 1-5 was covered by the large Corn Exchange Building; Lot 6 was the Van Nostrand Building (Stokes 1998, Vol. II:288).

As Stokes notes, this lot is obviously an orchard. Seventeenth-century gardening manuals, among them the influential *Den Nederlandtsen Hovenier* (The Dutch Gardener) by Jan van der Groen, gardener to the Prince of Orange, and first published in 1669, recommend planting orchards with trees in parallel rows (Groen 1683: 103; Lauremberg 1631: figs. 27, 28). Although the Castello Plan is not of great enough size to flesh out the area between the trees, Groen suggests that before the apple, pear or other fruit trees grow to maturity, the gardener plant cherry or plum trees in these locations. When the desired fruit trees become established, then the smaller trees would be removed and currant or gooseberry bushes planted in the semi-shaded areas (Groen 1669: 16-17, 1683: 9).

According to Adriaen van der Donck, in his 1656 Beschrijvinge van Nieuw Nederlant (Description of New Netherland), almost all of these plants were already present in New Amsterdam (Schaefer et al. 2004). Donck's list includes apples, pears, various kinds of cherries, peaches and apricots, plums, almonds, persimmons, figs, currants, and gooseberries (Donck 1968:24).

This particular lot is further illustrative of the problem of land speculation in New Amsterdam. Speculators, waiting for the price of real estate to rise, established orchards, rather than building much needed housing (Schaefer et al. 2004). The Amsterdam Directors cited the area between Smee [Smith] Street and Princes [Beaver] Gracht, where "the houses apparently are surrounded by excessively large plots and gardens," space that should have been devoted to new dwellings for the growing population of New Amsterdam (Blackburn and Piwonka 1988:93; Cohen and Augustyn 1997:40).

#### Castello Plan / Block L / #2

The structure identified as number "2" on the Castello Plan is described as "the little cottage and garden of Pieter Pietersen, the Menist, or Mennonite." According to Stokes' research, the house and property were also owned by Augustine Herrman, and Pietersen was likely a tenant similar to Anthony, discussed above (Stokes 1998 II:288). Stokes notes that from early records this P. Pietersen could have either been a carpenter or a worker in a brewery.<sup>6</sup>

The #2 lot appears to be devoted partly to an orchard, and the simple rectangular beds laid out in parallel rows signify a kitchen garden, containing vegetables and herbs. Groen's recommended layout for a "A Dutch Garden, and flowerbed," devotes three-quarters of the area to a kitchen garden, with beds in parallel rows, as in the Castello Plan. One part was for "vegetables and salad," the second for "asparagus, cauliflower and savoy cabbage," and the last was planted with peas, various beans and carrots (Groen 1669; 1683).

Similarly, in 1650, Council Secretary Cornelius van Tienhoven, in a document intended for prospective immigrants as well as for the Directors, reported that in New Amsterdam, "[a]fter the houses are built . . . gardens are made and planted in season with all sorts of pot-herbs, principally parsnips, carrots and cabbage, which bring great plenty into the husbandman's dwelling" (O'Callaghan 1856:365-371).

<sup>&</sup>lt;sup>6</sup> Historian John H. Innes posits that the Smith Valley property owned by Herrman could have been a "slave establishment." HPI's research to date has not located corroborating evidence of this association.

The value of this garden plot was called into question before the city fathers, however. According to Stokes, "The rear part of the plot, on which eight small trees are growing, was exchanged by Herrman for a whole farm on Long Island; at least, Symon Loosten so asserts in his litigation over the lot. Before Smee Straet (present William Street) was cut through, Joosten had bargained for a parcel, 50 x 100 feet, which was ruined by that city improvement. In exchange, he was obliged to take a piece of the same dimension in the rear of the Menist's plot, which he in disgust conveyed a few months later to Johannes de la Montagne" (Stokes 1998 II:288).

# Castello Plan / Block L / #3

The fenced Lot, designated Number "3" on the Key to the Castello Plan and situated to the west of the cottage, was the location of the Red Lion Brewery from approximately 1660 until it was demolished in 1675. New Amsterdam's Red Lion Brewery is thought to have produced the first brand-named colonial beer (<a href="http://www.brewreview.com/brewreview/marginalia/history.asp">http://www.brewreview.com/brewreview/marginalia/history.asp</a>). According to Stokes (Stokes 1998 II:288-289),

Just when, or by whom, the Red Lion Brewery was built is not a matter of record. The indications are that Isaac de Forest began the business here; that before August, 1660, Joannes Verveelen was his partner in the brewery, and that the de la Montagnes, father and son, had some interest in the business [including Brewery brewing apparatus and dependencies].

Before 1670, De Forest had become the sole owner of the land; in this year he conveyed the rear part of the plot to Frederick Arentsen, a turner.

In July 1675, [De Forest's] widow, Sara, sold to Thomas Verdon, mariner, 'Just the halfe or equal breadth of my Erve [property] next the Street, (Except) the going or passage of Eight foote which going is to bee cut off between both Erves. The true length & breadth thererof as in Jacques Corteleau's middle breefe is specified...'

Indisputably, this was the date of the demolition of the [Brewery] building, through the very centre of the site of which the passage was to be cut. Probably, it had not yet been erected in September, 1656, as the deed of that date to the property on the west side recites no brewery.

Isaac de Forest and Verveelen were active men in the colony. According to Innes, DeForest was a brewer by 1653 when he petitioned the Common Council about a beer contract (1902:73). "Johannes Verveelen became one of the five original land grant recipients and residents of New Haarlem (now Harlem). He was the proprietor of the first inn in Harlem. He also operated ferries east across the Harlem River at what is now 125th Street and, later, across the Spuyten Duyvil Creek to the north. Later he served as Harlem Constable, Magistrate, and Delegate to the General Assembly at Albany, New York" (http://www.vanvalerfamily.net/settlers.html).

Stokes calculated the placement of the Red Lion Brewery as being 47, 49, and 51 Beaver Street (Ibid.).<sup>7</sup>

For the island's early colonists, beer was a dietary staple for breakfast, lunch, and dinner, and was often brewed in private homes and taverns. Beer was a good deal safer and more palatable than the available drinking water which was often drawn from polluted rivers.

In 1633, Governor General Peter Minuit and other employees of the Dutch West India Company endeavored to produce the beverage on a larger scale, and converted a log cabin in *Marckvelt*, or Market Field — located in today's Financial District — to a public brewery (http://www.lowermanhattan.info/global/contact.asp). From this small facility, the early settlers began producing large quantities of ale made from top-fermented malt and hops. "Alcohol was an ever-present fact of life; the preferred occupations in New Amsterdam were tavern owner or innkeeper or brewer. In fact, in 1657 there were twenty-one taverns, tap rooms, and grogshops in the city, the most popular was the Blue Dove on Pearl Street" (Cohen et al. 1997: 40).

While Lower Manhattan brewers continued to produce this beverage throughout the 17th century, they faced an increasing number of obstacles, as a lack of fresh water and limited access to grains and hops often curtailed production. As a result, breweries began springing up elsewhere in the colonies where resources were more abundant. New York's mass production of ale shifted upstate to Albany, which soon became one of the ale-brewing capitals of the east.<sup>8</sup>

The Castello Plan includes details of the Brewery yard behind the structure, and the garden to the rear of the yard, also. A well is depicted in the rear courtyard. See Figure 5. To the rear of the open courtyard, are areas planted as orchards, and simple beds indicating kitchen gardens, where vegetables and herbs would have been produced. Based in their configuration and small area, it is highly unlikely that they were growing grain for beer production at this location. In contrast to the simple gardens on the project site lots, more elaborate beds which are certainly flower or pleasure gardens can be seen in other parts of the town, as drawn on Figure 4.

A few years later than the Castello Plan, the inset of 1664-68 Nicoll's map depicts the development of Manhattan south of Wall Street just a short time after the Castello Plan. Two small structures are depicted on the southeast corner of the project block. The Key does not contain any information about these structures. It is possible that the drawing does not depict actual buildings, but instead is a convention indicating that the block has been developed. Two other structures are depicted in the vicinity of the small cottage occupied by Pietersen and shown on the Castello Plan.

<sup>&</sup>lt;sup>7</sup> In LPC's 1982 study, "Towards an Archaeological Predictive Model for Manhattan: a Pilot Study," the Red Lion Brewery is noted in Appendix 10: Location of Miscellaneous Structures. The city study also places the Brewery at 47-51 Beaver Street.

<sup>&</sup>lt;sup>8</sup> By 1845, New York State was home to 102 breweries, and by 1879 the number had more than tripled to 365, 124 of which were located in New York City.

The Miller Plan of 1696 (redrawn in 1894) depicts Lower Manhattan at the end of the 17<sup>th</sup> century. Very few individual structures are identified, and none of them are located within the project block. Instead, the block is shaded, which typically indicates that "development" has occurred (Miller 1695). Similarly, the 1731 Lyne-Bradford Plan depicts Lower Manhattan in the early eighteenth century. According to the map, by that time the city had spread significantly northward from Wall Street as the population grew. The perimeter of the project block is again shaded to indicate development, but individual structures – if any are present – are not shown in the project site. The only specific structure identified is on the northwest side of the block, and well outside of the current project bounds.

Although most of the 18<sup>th</sup>- and early 19<sup>th</sup>-century maps depict the project block as shaded to indicate development, no specific structures are identified (Buchnerd 1735; Maerschalck 1755; Ratzer 1776; Directory Plan 1789; Taylor-Roberts 1797; Mangin-Goerck 1803; Commissioners' Plan 1811; Goodrich 1827). The Old North Dutch Church is identified as being located one block north of Block 25 and its associated "Free School" was actually on Block 25, but well north and west of the APE. This series of maps is notable for the evidence of landfilling along the shores of Lower Manhattan. During this span of years, the waterfront was extended two blocks to the east to end at South Street. I.N.P. Stokes places The Black Horse Tavern (1735-1764) adjacent to the northern boundary of the project site. By the end of the 18<sup>th</sup> century, William Street was regarded as the principal market for retailing dry goods. A visiting English traveler noted that William Street was "elevated and convenient" (Stokes 1998 V:1315). In 1804, the postmaster of New York moved the post office from Broadway to his newly purchased home at 29 William Street, on Block 25 but north of the project APE (Stokes 1998 V:1417). Thomas Bailey, the Post Master, is located at the 29 William Street address at least through 1812 (See Appendix G).

Stokes also notes that several buildings within the project block were destroyed during the great fire of 1835, including the first Delmonico's (ca. 1827 - 1835), which fronted on William Street at the northern limit of the APE. While Stokes places the early and short-lived Delmonico's at 21-23 William, the city's Tax Assessment indicates 23 - 25 William Street. Between 1820 - 1825 the 23 and 25 William Street residential parcels are held by Gravillon (?) and Durand, respectively, with assigned values of \$8,000 and \$9,000 by 1825, while there is no listing for 21 William Street. Five years later, the 23 and 25 William Street addresses are listed as Delmonico & Brother and as vacant, respectively, with assigned values of \$8,000 and \$9,000. There is no 21 William Street listing. In 1835, Delmonico & Co. owns both the No. 23 and No. 25 properties, each evaluated at \$20,000. The official listing does have a strike-out through the owner name, which is probably a result of the fire. The increased assessments, noted for all properties on William Street within this same time span, are probably the effects of post-fire real estate speculation on replacement values.

The devastating fire of 1835 appears to have destroyed many of the structures within the project block. See Photograph 9 for a view of Block 25, as painted immediately after the fire. The Tax

<sup>&</sup>lt;sup>9</sup> Street numbers for the Block 25 frontages remain constant over time; however, the city tax lot numbers are changed in the late 1800s. Lot consolidation throughout the 20<sup>th</sup> century has rendered some of the historic lot designations obsolete. Therefore, to assist the reader in tracking the various sections of the APE, an effort is made to refer to the block number, historic lot numbers, and street addresses.

Assessments for 1835 record the fire's devastation; there are many occupants of the Beaver Street frontage that are literally crossed out. See Appendix B. This event likely spurred the construction boom shown on mid-19<sup>th</sup> century maps. It also prompted the installation of municipal water mains in the streets of Lower Manhattan. By 1842, Croton Water pipes had been laid in the streets surrounding the project blocks indicating that waterlines were available for all structures in the APE (Endicott 1842). According to the records of the Croton Aqueduct Department, sewers were introduced on Beaver Street in 1845 and on William Street in October 1850 (Board of Aldermen 1857: 114, 129).

According to I. N. P. Stokes, William Street was widened several times in the early 19<sup>th</sup> century, including the following dates and locations (Stokes 1998 VI:602). Maps indicate, however, that these street improvements may not have significantly affected the project block.

1829-30	from Pine Street to Maiden Lane
1831	between Exchange Street and Stone Street
1832	intersection with Exchange Place
1835	between Wall Street and Maiden Lane
1836	from Maiden Lane to Frankfort Street

By the 1850s, certain maps of Manhattan began to provide more accurate and detailed information about the dimensions of blocks and buildings. While the 1856 Colton Map illustrates no more detail on individual block development than the 1836 Colton, the Dripps map of 1852 uses shading to detail the horizontal shape of structures within the lots of the project block. No specific structures or land-uses are identified for the project site on this map, but the APE does appear to be predominantly covered by buildings. The center of the block, however, is depicted as undeveloped and there is an open lane from Beaver Street leading into the center of what becomes Block 25 (Dripps 1852; See Figure 11). This lane apparently corresponds to the "passage" of the late 17<sup>th</sup> century and the eastern side of today's 51 Beaver Street address.

According to the city's Tax Assessments on file at Municipal Archives, the Beaver Street passage/alley was an integral part of the block's business activities. In 1835, Hubbard & Casey owned "Stores in the rear of Gateway" worth \$20,000 while Rufus L. Lord owned the 51 Beaver Street residence, a property worth \$11,000.<sup>10</sup> Within five years, Lord had also become the owner of the "Store in rear of GateWay." The house and the store were assessed at \$14,000 and \$24,000, respectively. The tax records of 1845 are more explicit, noting that R. L. Lord owned 51 Beaver Street and also the stores worth \$6,000 "in the rear of 51 and known as Nos. 1, 2, 3, 4, 6, 8, and 10 Merchants Court." Lord expanded his holdings to include 53 Beaver Street (Tax Assessments, 1845-1855; See Appendix B).

In the mid-19<sup>th</sup> century, maps provided much more detail about the various structures within blocks, including color-coding to identify construction type or function (e.g., frame, brick, stable, warehouse). Within the project site, eight masonry buildings, 2-3 stories in height, are depicted

<sup>&</sup>lt;sup>10</sup> Lord and his family never lived in the project block. According to the U.S. Census Records (1830, 1840, and 1850), R. L. Lord was born (ca. 1782) in Connecticut and lived on Laight Street in Manhattan's Ward 5 (1850 Census/p. 61; roll M432\_537). As a member of the City's Common Council, Lord served on the official committee that investigated the Fire of 1835 (http://www.usgennet.org/usa/ny/state/fire/11-20/ch19pt2.html).

(Perris 1857 and 1859; See Figure 13). The center of the APE is vacant. Many of the rear facades of the buildings fronting on Exchange Place backup to face this open courtyard, which is labeled Lord's Court. By the end of the 1850s, the alley has been incorporated into a large masonry building as a passage (cartway) into the inner Lord's Court. In addition, for the first time, one of these 19th century structures is identified. The building located at the southeast corner of the block, is labeled the "Corn Exch Bank."

The Corn Exchange Bank was founded in 1852 and opened for business in 1853. It was a strong financial institution during the 19th century, and it was a forerunner of subsequent large-scale produce exchanges, e.g., the Produce-Exchange-Building Company. Such exchanges, open daily for business transactions, were formed with a limited membership to "inculcate just and equitable principles in trade; to establish and maintain uniformity in commercial usages; to acquire, preserve and disseminate valuable business information; to adjust controversies and misunderstandings between persons engaged in business; and to make provision for the widows and children of deceased members" (King 1892:744). An Exchange was the site of the buying/selling/trading of commodity "futures" based on an accepted grading system of that produce. The quality of shipments (e.g., wheat, corn, oats, rye, barley, cotton peas) was tested and assigned a merchantable grade, regardless of regional source and warehouse location. For example, there were 11 grades for corn and 19 grades for wheat by 1890 (Ibid.).

The Corn Exchange Bank, which later came to dominate the project site, was eventually absorbed by the Chemical Bank and Trust Company, one of the most powerful 19<sup>th</sup>- and 20<sup>th</sup> century financial institutions in the city. Although the Corn Exchange Bank, which had just formed, is not listed in Brown's *Pictorial and Business Directory of 1853*, numerous other banks are identified in the project neighborhood. Because of the proximity of the Customs House/Merchants Exchange, and Wall Street, the surrounding area became the heart of the City's financial and mercantile activities. It should be noted that the New-York Cotton Exchange was built on the southeast corner of the William and Beaver Street intersection in the mid-1880s, well outside the project site (King 1892:747).

Doggett's 1851 Street Directory certainly reflects the character of the neighborhood at midcentury – a concentration of active businesses line both the Beaver and William Street frontages. The 51, 53, and 57 Beaver Street businesses are auctioneers, commercial merchants, and importers. The 11, 13, 15, 17, 19, and 23 William Street businesses are similar: dry goods, importers, auctioneers, and merchants. The directory indicates that "Delmonico, freres, restaurant" had finally shifted to its present location at the southwest corner of the William and Beaver Street intersection. See Appendix C.

In 1867, no detailed information on the sizes and shapes of the structures within the project site is depicted, but the Corn Exchange building is identified as being owned by stockbroker, R. King

<sup>11</sup> The Perris 1859 departs from most other depictions and labels the inner-block as Merchant's Court, which does correspond to the mid-century Tax Assessments.

The Chemical Manufacturing Company opened for business in 1824 but it was not until the 1830s that the company shifted its main energies from the manufacture of chemicals to the establishment of a strong banking house (Jackson 1949:8-11). The Company's state charter expired in 1844 and it was re-organized in that year as the Chemical Bank (King 1892:665).

(Lloyd's Map of New York City, 1867). Deeds of the mid-century identify the block's inner courtyard, known as Lord's Court, with Sarah Lord and Henry Day and Henry Lord, serving as Trustees for Sara Lord (Liber 1504/Page 182/July 12, 1879). Obviously, R. L. Lord's family retained ownership of much of the commercial property he had acquired decades earlier.

This inner block, Lord's Court, and its various alleys and passages are colorfully described in an October 21, 1883 *New York Times* article, "Scenes in a Quiet Court." The passage or alley at 51 Beaver Street is described in the newspaper thusly:

The only entrance or exit for carts is an alleyway running under a building which fronts on Beaver Street. All of the other direct entrances lead to galleries which run along the two principal sides of the court. The majority of the offices front either on the galleries or on little passages running from them. The galleries are connected by short stairways, one being higher than the other.

Opening from some of these passages are business offices. There is scarcely a basement passageway which does not, after a few turnings, lead to some staircase which connects with some hall which ends in some street. Near the Beaver Street end is a flight of massive stone steps, by which the enterprising janitor mounts to the mouth of the ash-bin of the court.

When business hours are over a heavy gate of iron rods at the end of the alleyway is closed. At the same time the doors of the various other approaches are also closed, and Lord's Court ceases to be a thoroughfare for the night. See Figure 15.

In 1885 the project site was still divided into eight separate lots, then numbered 1662 through 1671, with Lots 1663 and 1664 being consolidated into Lot 1663, and no Lot 1668 (Robinson 1885; see Figure 16). Each of the lots was entirely covered by a building, except for the very ends of Lots 1663 and 1669 where a small "L" shaped area remained devoid of development (Robinson 1885). No details of building heights or the presence of basements were provided. All the structures are brick except for the 23 William Street building (Lot 1662), which is stone. The "LORDS CT" is still undeveloped in the center of the block – but outside of the APE – and a passage into the mid-block is depicted at 51 Beaver Street (Lot 1673) (See Figure 16).

Sometime between 1885 and 1897 the buildings on historical Lots 1662 through 1669 were razed and replaced by new brick structures which covered the entirety of each lot. The largest of these was the Corn Exchange Bank on what became Lots 35 and 39. The Bank, which was 11 stories plus a basement, was built with self-supporting brick walls and cast-iron interior columns with concrete footings on timber/pile foundations (Engineering Record 1902:557). See Figure 17; See Photograph 1. To the north of the new brick and stone Corn Exchange was the Van Nostrand Building, a four-story brick building with a basement which covered the entire lot (23 William Street/Lot 31). To the west of the Corn Exchange Bank was a four-story brick

<sup>&</sup>lt;sup>13</sup> Searches through the Buildings Department and the Municipal Archives holdings of original Buildings Department papers yielded minimum records for the APE.

<sup>&</sup>lt;sup>14</sup> The Lot 31, 23 William Street, building in the late 1800s was depicted as both stone (Robinson 1885) and brick with a stone façade (1897) but the footprint remained the same.

building covering all of Lot 37 (53 Beaver Street). The four-story building on Lot 33 (51 Beaver Street) was not as deep as the neighboring #37, measuring only 70 feet with a small brick extension on the west side of the lot.

Major changes occurred on the project site in the early 1900s. The southeast quarter of Block 25 experienced additional and severe subsurface impacts as many of the small-scale masonry buildings, and remaining air spaces, were replaced by a 20-story addition to the north side of the Corn Exchange Building. This larger 1901-1903 Corn Exchange structure, immediately to the north and abutting the 1893 Corn Exchange structure, was designed specifically for the subsurface conditions at the site. Although original construction plans could not be located, an article in the *Engineering Record* (Vol. 45, No. 24, 1902:557) details the design process:

Preliminary exploration borings made in their cellars before the old buildings occupying the site were removed, indicated that the soil consisted of earth, gravel and quicksand to the bed rock or hard pan at a depth of about 40 feet below the curb, corresponding with the strata underlying other tall buildings in this vicinity.... The cellar is to be carried down 11 feet below the curb, about to groundwater line, and the column loads are so great that it was thought best to carry them to the rock. On account of the depth to rock, the character of the soil, the large amount of ground water it contains and the necessity of avoiding any danger to the stability of the adjacent buildings it was decided to build the foundations in pneumatic caissons

The Engineering Record fully describes the caisson system, column loads, depth of boilers below cellar floor, thickness of basement floor, tonnage of the 275 foot smokestack, etc. There are illustrations of the structural details in the journal, also. See Appendix D. The new Corn Exchange structure was built on a series of 28 concrete and I-beam caissons, each 6 to 12.5 feet across. Steel grillage at the top of the caissons supported the 12"-thick basement slab. The caissons were not limited to the perimeter of the footprint; load-bearing support was needed in the elevator-bank core, also.

To the north of the expanded Corn Exchange was the Van Nostrand Building at 23 William Street (former Lot 31; see Photograph 2). Referred to as the Van Nostrand Building on 1897 and 1911 city atlases, it was a 4-story brick building with a basement that remained for many years (variously labeled as a 5-story structure, which could indicate that the basement was deep enough to be considered an additional level). The project site appeared unchanged in 1911 (Bromley 1911; Figure 18).

The first recorded subsurface impact to the alley or passage at the 51 Beaver Street location is a 1934 ConEd installation of a high-pressure steam line. The 12" steam line, supported on a concrete base, was laid the entire length of the narrow alley. A manhole was also installed. See Figure 19. Interestingly, the ConEd plan references the 51 Beaver Street easement as Taupiers Alley, an association that does not appear to be historical.<sup>15</sup>

Gary Elgort of the ConEd Steam Division supplied Historical Perspectives, Inc. with a 1922 scaled service survey of Taupier's Alley (5/26/05). The survey is difficult to read but it appears to include a below-grade vault in the extreme west/northwest portion of the alleyway, abutting stairs into the 51 Beaver Street structure.

The 1923 and 1951 Sanborn atlases provide additional information about the structures located within the project site (Sanborn 1923; Sanborn 1951). Both of these atlases indicate that the Corn Exchange building, covering all of Lots 30 and 35, had basements, and in parts of the buildings, also had subbasements. The two structures on the southwestern section of the project site were apparently razed and replaced by new buildings constructed in 1919 and 1920 (from east to west). These five and six-story buildings, also had basements.

Research at the New York Public Library identified an historic photograph of the buildings along William Street in 1929 (Photograph 1). A Photograph of 51 and 53 Beaver Street in 1955 includes the narrow alleyway into the inner block (Photograph 3). Department of Buildings records also include 20<sup>th</sup>-century notations on the narrow alleyway. Architect Harry Silverman filed a NYC Department of Buildings Alteration Permit 782/1963 for a flue at 53 Beaver Street which clearly identifies the "First Floor Alley" of 51 Beaver Street. The permit graphic includes the alleyway, measuring 10'2" wide and 14'3" high. A second Department of Buildings filing, dated February 21, 1964, confirms the alleyway measurements. See Figure 25.

Records indicate that in 1954 the Chemical Bank & Trust merged with the Corn Exchange Bank Trust Company to form the Chemical Corn Exchange Bank. Although there are a number of conveyance records on file with the City for the mid-20<sup>th</sup> century, the consolidated project site (simply, Lot 35) was basically unchanged until 1984 (Bromley 1974; Sanborn 1984; See Figures 20 and 21). The buildings were demolished and Lot 35 was paved and became an open parking lot from 1988 until 2005.

# CENSUS, DIRECTORY, AND TAX ASSESSMENT DATA

As noted in the above discussion, a variety of primary sources have provided links and associations between the landscape and people and urban processes. These links are referenced in the text. However, the review and cross-referencing of available census, directory, conveyance, and tax data has provided minimum residential occupation that might be associated with specific deeply buried yard features that pre-date the reconstruction of the neighborhood after the Fire of 1835. After the devastating fire, the project neighborhood evolved rather quickly into a commercial and financial center, no longer maintaining single-family homes and/or industrial complexes that would be likely to have left an archaeological footprint. In addition, water was available in the area within 10 years of the fire.

For example, efforts were made to connect 23 William Street with a particular family, group, or activity for a span of years. Obadiah Bowne purchased the 23 William Street property in 1804. Prior to the 1804 conveyance, the 1790 directory places Obadiah Bowne in the Dock Ward but with no specific address; Rothschild's 1789 census data places an Andrew Brown, a William Street merchant, at the 23 William Street address. The 1800 Census places Obadiah Bowne in Ward 2, the project site ward at that time. Obadiah and John Bowne are taxed on the 23 William Street property in 1808 and 1809. By 1810, Obadiah, John, and Andrew are assessed for this property. However, the Census data for 1810 does not include the Bownes, and there was no taxation on 23 William in 1815. There is an 1812 Directory listing for A&S Browne at 23

William Street. According to the 1820 census, O. Bowne is living in Staten Island. According to conveyance records, an A. Bowne, a descendant family member, is the "grantee" for 23 William Street in 1839, most likely a foreclosure and not an indication of residency. Various absentee owners were associated with the 23 William Street parcel until the restaurant moved on site, discussed above, but Delmonico's lasted less than 10 years, too. In 1840, No. 23 William Street was assessed at \$40,000 and owned by C. O. Halstead. Halstead maintained ownership of the property at least through 1855, but his financial activities on the site and the post-municipal water service date do not argue for any archaeological resources.

Available records for 51 and 53 Beaver Street have been compiled, also. Tax records as early as 1789 note a deForest descendant in this area of Beaver Street but there is no definitive link to the former brewery lot. Specific to 51 Beaver is the directory and census data that places an Abraham Isaacs, a tailor, at this address in 1789 (See Appendix G). An Isaacs family member is listed at 51 Beaver in 1807 records, the 1812 Directory, and both the 1810 and 1820 census. (However, the 1820 Directory does note Solomon Isaacs' residence as Liberty Street.) None of the Tax Assessments list Isaacs as the owner of any Beaver Street property but the family does maintain a long-term occupation at 51 Beaver Street. As discussed in the chronological discussion above, the Lord family owned the 51 Beaver Street parcel for many subsequent years but never lived on the block.

The 53 Beaver Street parcel, while tracked through various sources, apparently did not have the same long term, single-family associations that were noted for 51 Beaver Street. Nathanial Ingraham, who is listed as living in this Ward in 1800, sells the 53 Beaver Street property in 1807 to John Geltson. Ingraham and Gelston are both residents of Ward 2. John Turner is listed as the owner in the tax records of 1808, 1809, 1810, and 1815. Turner apparently sells it (or tries to sell it) in 1812; he is also assessed for the taxes of 55 Beaver Street in 1820. There are no directory or census entries until the 1812 Directory, which lists Elijah Warner, a painter, as living at 53 Beaver (See Appendix G). [Note: This same directory lists a J. Turner, printer, at 13 William Street.] According to the 1820 census, E. Warner was still in Ward 1 and presumably living at 53 Beaver Street.

Many of the records that have been reviewed are included as Appendices (B, C, F, G and H). Tables in Appendix G and H are cross references between Directory/Census/Conveyance Records.

# KNOWN HISTORICAL SITES IN THE VICINITY

In his research, Stokes identified five historic structures within the project block. They include:

- The Post Office was located north of the project site on the northeast corner of the block from 1804-1825. Demolished.
- Delmonico's (first site) located in the northern limit of the project site ca. 1827 until 1835. Destroyed by fire.
- Free School of the Reformed Dutch Church was located on Exchange Street to the west of the project site from 1730-1835. Destroyed by fire.

- Black Horse Tavern located immediately north of the project site near the northeast corner of the block from 1735-1764. Demolished
- Red Lion Brewery, located approximately on the west edge of the project site on the Beaver Street frontage from ca. 1660 until 1675. Demolished.

The Brewery and Delmonico's, which were described in detail above, were apparently located within the project APE.

While there are numerous historically important structures in the vicinity, there are no archaeological sites in the project parcel currently listed on the National Register of Historic Places, nor are there any archaeological sites with New York City Landmark status. A site file search at the New York State Museum (NYSM) in Albany, and the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) listed the following historic archaeological sites in this area of Lower Manhattan:

	OPRHP#	Site Name and Date	<u>Location</u>
	A061.01.0491	Municipal Ferry Pier ca. 1909	11 South Street
	A061.01.0490	Battery-Castle Clinton pre-1812	Battery Park
	A061.01.0604	209 Water Street cellar excavation	209 Water Street
	A061.01.0623.DO.23	Telco Block (Block 74W)	John, Front, Fulton, Water
			Streets
	A061.01.1271	175 Water Street Site	175 Water Street
	A061.01.1272	Historic Landfill Site 17th c.+	64 Pearl Street
	A061.01.01272.D0.14	Historic Landfill Site	64 Pearl Street & 34 Water
	*		Street
	A061.01.1282	Ronson Project Site/Dutch West India Co.	Pearl, Bridge, and
		Warehouse, etc. 17th -20th c.	Whitehall Streets
•	A061.01.1283	Barclays Bank Site	75 Wall Street
	A061.01.1284	Block 35 - Assay Site	Old Slip between Front and
			South Streets
	A061.01.1285	Site 1 Washington St. Urban	West & Hubert Streets
		Renewal Project 17th c., 1826	
	A061.01.006763	Schermerhorn Row	Fulton, Front, John and South
			Streets

Resource categories include a ferry landing, a foundry, Dutch living surfaces, and 17<sup>th</sup> through 20<sup>th</sup> century residential and commercial features and landfill. Only the first two sites listed above, the Municipal Ferry Pier and Castle Clinton at Battery Park, are currently listed on the National Register of Historic Places, although several of the sites listed fall within the South Street Seaport Historic District.

South of the project site is the Fraunces Tavern Block Historic District, designated by the New York City Landmarks Preservation Commission. The block, bounded by Broad, Pearl and Water Streets and Coenties Slip, contains mostly early 19<sup>th</sup> century buildings that escaped the fire of 1835. Eleven buildings within the district date between 1827 and 1833. Also within the district is the renovated 1719 Fraunces Tavern at 54 Pearl Street, now a museum. Although these are all

standing structures rather than archaeological sites, their historic importance relates directly to the project area.

In addition to these inventoried archaeological and historic sites, much archaeological research has been undertaken in Lower Manhattan that is not reflected in the inventory. For example, archaeological salvage excavations were completed within Block 32 at 55 Water Street, south and slightly east of the project site, when a relatively new building was constructed (Huey 1984:17). In addition to the extensive number of artifacts found in the remaining landfill within the block (most of the block has been impacted by foundation excavations and little remained by the time archaeologists were permitted to proceed), the original log crib footing under the northeast end of Cruger's Wharf, dating to 1740, was visible (Ibid.:18). Cribbing extended 175 feet southeast from Water Street, along the original line of Old Slip. Artifacts within the landfill were able to address research issues pertaining to colonial trade patterns and waterfront development (Ibid.:23).

Elsewhere in Lower Manhattan, archaeological research at Block 31, bounded by Pearl, Wall, and Water Streets — about two blocks northeast of the project site, revealed that the site possessed landfill associated with a series of water lot grants dating to 1694-95 and some of the earliest commercial activities associated with the waterfront in that area. By the middle of the 18<sup>th</sup> century and into the early 19<sup>th</sup> century, the block was mixed residentially, with a cluster of chemist/druggists, artists and small scale merchants (Louis Berger & Associates 1987:11). The block was eventually used as brokerages and for warehousing; by the 1820s it was all commercial.

Stage IB testing performed at the site exposed extensive yard deposits, middens, privies, wells, cisterns, and house and outbuilding foundations. The rear yard areas were concentrated within the center of the block. Deposits along the street fronts were destroyed by late 19<sup>th</sup> and 20<sup>th</sup> century construction. Most of the deposits dated from between 1780 to 1820. Home lot and commercial activities were reflected in the archaeological deposits (Louis Berger & Associates 1987:4).

There have been limited archaeological investigations into the identification of gardens/orchards in early Lower Manhattan. Of the excavated sites within the boundaries of New Amsterdam, seeds were analyzed on only one, the Broad Street Site, location of the West India Company warehouse. For various reasons, about half the seeds recovered could not be identified at the time (Grossman 1985: X-30). Of the identified seeds from the context of 1640, half were European fruit pits, and 45% of the remainder were classified as "weeds." The main "weed" identified was purslane (*Portulaca oleracea*), a prized European salad green and medicinal plant, which may have been purposely planted by colonists, or because of its invasiveness, accidentally introduced. Samuel de Champlain noted its presence in Quebec before the 1630s, where the Native Americans, who had no use for it, were futilely attempting to weed it out of their maize patches (Hylton 1974: 542). Floral analyst Leslie Raymer has noted that "purslane seeds are virtually ubiquitous in historical archaeological contexts in the eastern United States" (Yamin and Parker 2003:159).

#### RESOURCE POTENTIAL AND RESEARCH TOPICS

Archaeological resources can often provide evidence of past lifeways, allowing both a broader and a deeper understanding of earlier inhabitants, an evolving urban center, and social systems. Such resources can take many forms, including seeds and pollen samples that enable the recreation of 17<sup>th</sup>-century natural and manmade landscape, deposits in deep yard features (e.g., a well) that reflect consumption patterns of the residents or the copper keeler and wooden barrels essential to brewing ale. The following discussion highlights research issues pertinent to specific resource types that may have survived within the project site, and addresses each resource type's potential archaeological visibility.

# 17<sup>th</sup> Century Gardens

Although evidence from historical records and maps is strong, the available archaeological data on New Amsterdam gardens and flora there in general, are extremely sparse. Unlike wells and privy shafts, the garden features shown on the Castello Plan, e.g., paths, planting beds and fence posts, leave behind shallow traces and are ephemeral under the best of circumstances, much less in an area that has undergone intensive use such as Lower Manhattan. Despite the fact that the gardens of the Castello Plan are plausible depictions of gardens that one might have found in a 17<sup>th</sup>-century Dutch village, without archaeological evidence, some scholars even question whether the Plan depicts the actual and precise garden and orchard layout or it is a cartographic convention implying a garden and orchard (Schaefer et al. 2004).

A noted component of 17<sup>th</sup>-century Dutch garden layout was the use of pots and tubs, often containing exotic plants or trees. These were positioned in the planting beds, and taken indoors during the winter. Wooden tubs would not be likely to have archaeological visibility, and if they did, chances are that their use as planters would not be discernable. Red earthenware flower pots, however, which would also have been useful for providing fresh greens during the winter months, were produced by some Dutch potteries during the 17<sup>th</sup> century (Oldenburger-Ebbers 1990: 169; Groeneweg 1992: s.v. bloempot; Schaefer 1998: 85-86, 141). None have yet been identified from New Amsterdam, and even in the Netherlands itself, they tend to be few and far between, at least in 17<sup>th</sup>-century domestic contexts (See e.g., for the towns of Nijmegen, Kampen and Deventer, respectively: Thijssen 1991; Clevis and Smit 1990; Clevis and Kottman 1989).

As noted in the previous section, of the very few excavated mid-17<sup>th</sup>-century living surfaces from New Amsterdam, only on the Broad Street site was a seed analysis even attempted, and for unknown reasons, never properly analyzed (Grossman 1985: X-30). Coupled with documents and available archaeological data from the Netherlands (e.g., Clevis and Kottman 1989:66-69), pollen and seed samples from New Amsterdam could provide important insights into the adaptations of the Manhattan colonists, and their impact upon the local environment. What plants had been introduced from the Old World to the New, and what native plants had been adopted by Europeans? This data would not only address the evolving colonial diet, but in a time when most medicine was based on herbal cures, also health care.

#### Breweries

Beer, cider and other relatively weak fermented beverages were almost universally consumed from the earliest days of New Amsterdam largely due to the poor water quality in Lower Manhattan. The colonists, in addition to importing the beer from the Mother Country, quickly began practicing the art of brewing themselves.

While it is not known exactly when the first brewery was erected in New Amsterdam, Van Twiller, Governor of New Netherland from 1633 to 1638, was known to have erected a brewery on the West India Company's farm, which extended north from what is now Wall Street to Hudson Street (<a href="http://brewery.org/brewery/library/ambeer/AB\_03.html">http://brewery.org/brewery/library/ambeer/AB\_03.html</a>). From at least the 1650s onward, under Dutch rule, there were numerous breweries in New Amsterdam. Pieter Van Couwehoven and his brother Jacob, each operated a brewery in New Amsterdam. Olaf Stevensen Van Cortlandt was proprietor of a large brewery with its well located near the "Heere Gracht." Out on the eastern end of the Bevers Gracht (now Beaver Street), Michiel Jansen sank a well and opened a brewhouse in 1656, after his brewery in Pavonia (New Jersey) burned down. Across the street from Jansen's brewery was the Red Lion Brewery (partially within the project site), which the Castello Plan of 1660 depicts with a well in its large yard. Established by Isaac De Forest, first in the line of another prominent American Family, the Red Lion flourished in the 1660s under Joannes and Daniel Verveelen (Koeppel 2000:13).

Beer is produced through the slow fermentation of malted and hopped liquid, and can be divided in to three basic categories: stout, lager, and ale. Stout is generally a strong, dark, heavy beverage with a relatively high alcoholic content. Lager (after the German word - lagern, to store), produced by a yeast which is activated at a relatively low temperature ( $40^{\circ}$  F) which causes bottom fermentation, is the lightest form of beer. The yeast ferments at these cool temperatures, and flocculates (forms a cloudy mass) on the bottom of the vat. In between these two extremes in both color and alcohol content is ale, which is produced with top-fermenting yeasts, which ferment best at about  $60^{\circ}$  F. Ale, because it was produced at a temperature which was more easily maintained, was the brew of choice in colonial times.

Reports from 17<sup>th</sup> century residents of Jamestown indicate that the production of drinkable ale was not easy, and the colonists were not always successful. One resident complained "I would you could hang that villain Duppe who by his stinking beer hath poisoned . . . the colony." Unlike the sophisticated scientific methods employed in today's breweries, 17<sup>th</sup> century beermakers relied on taste, smell, and touch to assess readiness. It was not uncommon for housewives to be responsible for brewing beer at home (<a href="http://www.nps.gov/colo/Jthanout/BREWING.html">http://www.nps.gov/colo/Jthanout/BREWING.html</a>).

While beer could be brewed at home, there were no real efforts to produce ales at a commercial scale until early in the 17<sup>th</sup> century. Well into the 17<sup>th</sup> century, commercial beer production was only conducted on a small scale, but both men and women were involved in the process.

Many ingredients were added during the brewing process, and the early farmsteads of Manhattan probably supplied the 17<sup>th</sup> century brewers with at least some of the necessary ingredients. The first step in making beer was choosing water of a pleasing taste, which would have been relatively difficult in Lower Manhattan where many of the wells were reported to be brackish

(Koeppel 2000:13). Because water quality was so poor in Lower Manhattan where the settlement was surrounded by salt water and swamp, the production of beer proved necessary. All the boiling which took place in the brewing process destroyed dangerous bacteria, and various ingredients improved upon the taste. The grain, which gave the beverage its body (barley was the usual ingredient, although corn, oats, wheat and rye could also be used) had to be malted (sprouted then dried in kilns) before being added to the mixture. Sugar of some type, usually in the form of molasses or honey, provided nourishment to the yeast. Hops, the fruit of a vinelike plant related to the mulberry tree, gave the ale its characteristic scent and flavor.

To make beer, malt was soaked in a large wooden mash tub at low temperatures then separated out of the liquid and - often - used for animal feed. The liquid, called "wort," was then poured into a keeler, a large copper pot to which was added hops and other ingredients. After boiling the mixture for several hours, the brewer cooled it to about 70° F and sprinkled on the yeast, which began to digest the sugar in the solution and excrete it as alcohol. Bacteria and foreign yeast could spoil a brew, so it was of utmost importance to keep the keeler covered. The mixture was periodically stirred, traditionally with a bunch of broom straw which was impregnated with yeast. This helped to quicken the fermentation process.

When fermentation was complete, the ale would be either consumed immediately or transferred into barrels for storage. Efforts were made to separate the liquid from the sediment, which was left behind in the keeler (<a href="http://www.nps.gov/colo/Jthanout/BREWING.html">http://www.nps.gov/colo/Jthanout/BREWING.html</a>).

Archaeological excavations have been undertaken both in the United States and abroad at various breweries and at the site of related industries – namely distilleries. Excavations have been undertaken at the site of a brewery run by one of the by leading Quaker families in Philadelphia during the 18<sup>th</sup> century. Preliminary archaeological excavations of this 1794 brewery built north of the Wyck House in Philadelphia identified a brewery wall and uncovered a cache of green-glass bottles (Cotter et al 1995:329). Although no additional investigations were conducted, archaeological recommendations for the Germantown Historical Society property include, whenever possible, further investigations in an attempt to establish the remainder of the brewery complex, including any remnants of the original installations such as the stone malthouse with kiln, a stone brewhouse, and a wooden millhouse. However, within ten years after the brewery was demolished (ca. 1840) a new road was laid directly across the complex/yard.

Hartgen Archaeological Associates (HAA) recently excavated an 18<sup>th</sup> century distillery in Albany, New York (<a href="http://www.hartgen.com/quackenweb/trades.htm">http://www.hartgen.com/quackenweb/trades.htm</a>). Excavations unearthed the remnants of a stone firebox and a still base as well as fermentation vats (Ibid.). Similarly, George Washington's 18<sup>th</sup> century whiskey distillery at Mount Vernon has also been professionally excavated (<a href="http://www.archaeology.org/interactive/mtvernon/">http://www.archaeology.org/interactive/mtvernon/</a>). It has been reported that at a 2003 archaeological project undertaken in Oxford, England, stone walls and culvert channels were encountered that may have related to a probable brewery. Of note, the area that was archaeologically investigated had been associated with the brewing industry for a long period.

Potential archaeological resources from the Red Lion Brewery on the project site may include remnants of the structure's foundation, as well as artifacts such as barrels and barrel staves, keelers and their lids, metal tools for stirring and lifting, jugs, bottles, vessels for mashing and mixing, and similar items. However, it is most likely that the foundation and yard area have been completely disturbed and/or destroyed during the 19<sup>th</sup> and 20<sup>th</sup> century development of the site. The site does have the potential to possess shaft features associated with the brewery which may have extended below the depth of historical impacts (see below).

# Shaft Features

Shaft features – such as wells – often became convenient receptacles for all sorts of trash, providing a valuable time capsule of stratified deposits for the modern archaeologist. They frequently provide the best domestic remains recovered on urban sites. Truncated portions of these shaft features are often encountered on homelots - as well as commercial and industrial lots - because the shafts' deeper and therefore earlier layers remain undisturbed by subsequent construction. In fact, construction often preserves the lower sections of these features by sealing them beneath structures and fill layers.

The potential depth of shaft features throughout Manhattan is varied, and depends, in part, on the subsurface conditions at the time they were excavated. Wells would have been excavated at least as deep as the water table, and likely deeper to access potable water. For example, once the water from the Collect Pond, in the area between today's Canal and Pearl Streets north of the project site, was no longer potable, having been declared "stagnant and mephitic" in 1796, deeper wells were dug throughout the city to access clean water (Kieran 1982:31). However, according to Koeppel, the brewery wells in early New Amsterdam "were likely very shallow, and, given the geological conditions, provided water best drunk after boiling with the requisite ingredients into beer" (Koeppel 2000:13). He further notes - citing depictions on the 1660 Castello Plan - that they may have been lined with wood, and that all of the early brewer's primitive wells in New Amsterdam featured wood buckets suspended from long, counterpoised poles. Koeppel's observation indicates that it is possible that the depth of the well associated with the Red Lion Brewery was not that deep. If that is the case, then it may have been entirely impacted by subsequent historical development.

In contrast to Koeppel's conjecture, Geismar notes that historical shaft features in Lower Manhattan may be fairly deep. For example, a possible privy identified at 17 State Street extended 13 feet below the grade that existed at the time it was constructed, and that this depth coincided with the depth of a privy excavated at the Augustine Heerman warehouse site on the block bounded by Whitehall, Broad, Bridge, and Pearl Streets, also in Lower Manhattan (Geismar 1986:44). By 1823, privy vaults were required to be at least five feet deep (Goldman 1988:45).

If the truncated well that formerly served the Red Lion Brewery is extant in the project site, it may potentially possess artifacts associated with one of Manhattan's earliest commercial sites. Post-brewery occupation of 51 and 53 Beaver Street would have needed a yard well, also, and

Apparently, the State Street warehouse location was owned by the same man, A. Herrman, who owned part of Block 25 in 1660.

possibly maintained the extant brewery well. If extant, the well shaft deposits may relate to the 18<sup>th</sup> and early 19<sup>th</sup> century residential occupation of the two lots.

### PROJECT IMPACTS: PRE-EXCAVATION AND PROPOSED

Current project pre-excavation actions have included soil borings, 12 foundation-design test units, steam line and easement installation, and driving secant pilings. Each of these actions is described in detail below; plans detailing the precise location of the activities are included in Appendix E, courtesy of Mueser Rutledge Consulting Engineers and Bovis Lend Lease. Data pertinent to our understanding of the subsurface conditions has been noted.

# Soil Borings

Nineteen small-diameter soil borings were conducted in 2004 over the project site, particularly around the perimeter.<sup>17</sup> The borings data established site stratigraphy, including identification of fill depths (7 to 19 feet below grade). The identification of Stratum F- Fill is very straight forward. The fill appears to be a loose and coarse sand with fragments or traces of brick, concrete gravel, metal, wood, and in a few cases, glass. Several of the borings encountered the foundation/floor remains of the Corn Exchange (many between 7-10.5 feet below the surface).

The description of the fill (MRCE 2004:5) states that four borings (M-7, M-14, M-16A, and M-18) encountered a layer of gray sand, silt, and clay mixture with trace gravel; this layer was identified as reworked original soils (11 to 13 feet below grade in three perimeter locations and 6-7 feet below grade in the approximate location of the steam line easement). Cheryl Moss, geologist with MRCE, was interviewed on the interpretation of the "original" soils as listed in the borings report. According to Moss (personal communication to Cece Saunders, 5/24/05), the thin and intermittent gray varve above the "M" (silt/fine sand), is indicative of exposed, post-glacial soils reworked by natural processes (e.g., wind, water, chemical decomposition). There was no reworked topsoil in any of the borings, nor any indication of organic matter. Groundwater was noted at depths from approximately 13 to 20 feet below grade with the groundwater being lower in the southern section of the property. The borings location plan and site soil levels, as provided by Mueser Rutledge Consulting Engineers, are presented in Appendix E.

#### Test Pits

A series of 12 foundation-design test pits (ranging in size from 15 x 15 feet to 30 x 40 feet) were excavated to a depth of approximately 11 feet below grade, at the interface of the slab/grillage or to the top of the timber pilings of the former buildings on the site. These test units, which included areas abutting the William Street sidewalk, were necessary to identify possible "obstructions" in the filled cavities of the former basements. The test pits, which have been backfilled, also located both active and abandoned underground piping. Excavations for Test Pit 9, which was split in east and west sections by a substantial, below-grade brick wall, revealed

<sup>&</sup>lt;sup>17</sup> MCRE borings data from 1988 was also included in the analysis of their current report for 15 William Street.

timber pilings on the east side of the brick wall. These pilings, resting in "natural soils," correspond to either the rear of 53 Beaver Street (former Lot 37) or the extreme west side of the 1893 Corn Exchange structure. See Appendix E and Photograph 26. The on-site geotechs noted under-pinning during the Test Pit 9 excavations, an indication that the 51 and 53 Beaver Street buildings may not have had pile foundations. Original soils were noted around the timber pilings (DeNivio, personal communication to Cece Saunders, 5/19/05 and 5/26/05). Such natural soils may be indicative of sensitivity for some degree of stratigraphic integrity.

Test Pit 10, located in the northwest section of the project site -- immediately north of the exit corridor for the 1934 steam line, uncovered the top of a brick manhole at a depth of 8 feet below grade, clearly beneath the fill layer (See Appendix E and Photographs 26 and 27).

Annotated photographs of the exposed test units, provided by Bovis Lend Lease, complement the test pit location plan in Appendix E (see Photographs 8-32).

#### Steam Line

The active 1934 ConEd steam line was identified during pre-excavation activities. See Photograph 5. Coordination with ConED resulted in the excavation of the line, including its concrete protective shell, and the re-installation of the line adjacent to the 55 Broad Street building, on the western edge of the APE. Figure 26, provided by Bovis Lend Lease, illustrates the original route of the steam line and the current route in relation to the project site bounds.

The shift of the steam line was coordinated with the re-alignment of the easement (alley/passageway) that has historically passed through the east side of the 51 Beaver Street parcel (Lot 1673 prior to ca.1890 and Lot 38 post ca.1890). The easement construction is discussed below.

# Easement Re-alignment

The easement (referred to variously as Taupier Alley, a passage, the Gateway, etc.) was reconfigured to the west and widened for vehicular access to the inner block. It was widened from approximately 10'2" to approximately 30' (40' at the Beaver Street entrance). The easement reconstruction – currently supported on temporary piers - entailed excavations to a depth of approximately 15 feet below grade. See Photograph 6. The eastern extent of the excavations for the construction of the easement was the original route of the steam line. The excavations sloped from approximately 15 feet below grade at the 55 Broad building wall up to approximately 4½ feet below grade, approximately 45 feet east of the 55 Broad Street building wall. These excavations extended beneath the depth of the 1934 steam line installation. See Figure 23 which includes the depths (below Manhattan datum) of the completed pre-excavation in the easement area. See also Figure 24 which is a Geologic Cross-Section annotated with excavation depths.

<sup>&</sup>lt;sup>18</sup> There were no Building Department records on the construction of either 51 or 53 Beaver Street.

# Secant Pilings

The first critical installation of the proposed construction, which will include a 45-foot deep excavation, is an earth retention system. This retention system is dependent on a series of secant piles drilled into place along the site perimeter (Langan 2004:2; Photograph 7). To this end, a 10-foot wide and 15-foot deep installation trench was excavated along the inside of the APE perimeter in the Spring of 2005. Contiguous, 30-inch secant pilings (315 total) were then driven around the APE perimeter within this trench. The secant piles are internally braced; no external bracing is proposed and the continuous trench around the inside of the APE perimeter has been backfilled. As planned, this piling system will limit any construction impacts to neighboring properties.

See Figure 23 for the secant pile plan and secant-pile-trench location. See Photograph 7 for the installation of the pilings.

# Pre-excavation Removal of Cavity Fill

In addition to the secant pilings trench, the new easement/steam line excavations and the test unit investigations, the entire APE has been excavated to the approximate depth of the prior basement slabs. The presence/absence of obstructions in the cavity (e.g., remaining cellar walls and boiler equipment) had to be verified for design purposes.

Due to MTA restrictions against de-stabilizing the water table, project excavations have generally not proceeded beyond the depth of ground water, which in most areas of the site is directly beneath the basement slab or where the slab is anticipated. Project engineers have recorded elevations of the depth of the pre-excavation cavity; see Figure 23 for these depths (based on Manhattan datum). See Photographs 4 and 7. Excavation activity has been suspended at these depths.

# Proposed and Future Action

As can be seen on the foundation plan of the proposed building (Figure 22), "The William" will cover the entire project site. Deep excavations for a parking facility, more than 40 feet below grade, will extend across all of Lot 35.

# CONCLUSIONS AND RECOMMENDATIONS

In summary, the project site was an integral part of the 17<sup>th</sup> century development of Lower Manhattan, supporting an orchard, residence, gardens, and brewery as early as the 1640s but before 1675. An approximately 10-foot remnant of the 17<sup>th</sup>-century block configuration – a passageway – survived as an easement for more than 300 years. This narrow passageway did experience subsurface impacts when a high-pressure steam line was installed in 1934, approximately 8 feet below grade for the entire length of the steam line. The remainder of the project site experienced deep and substantial construction disturbance, particularly during the 100 years following the fire of 1835. The Corn Exchange Bank, which later came to dominate

the project site, was eventually incorporated into the Chemical Bank and Trust Company, one of the most powerful 19<sup>th</sup>-and 20<sup>th</sup>-century financial institutions in the city.

Locating and identifying such archaeological resources *in situ*, however is extremely difficult in urban settings that have remained in active use for hundreds of years. Subsurface deposits can be preserved if they are buried deeply enough to escape subsequent impacts by construction activities, such as caissons, basement and foundation excavations, and utility installations. The extent of activities on the 15 William Street project site prior to the 21<sup>st</sup> century was not conducive to *in situ* preservation for most resource types. As discussed above, these site conditions and disturbances include:

- The early leveling that obliterated the natural sloping topography certainly destroyed 17<sup>th</sup> century top soils that would provide pollen and seed evidence of native and introduced plant species.
- The high water table that has been recorded on the project block since 1893 suggests that it would not have been practical to construct deep privies and cisterns often receptacles for trash deposits once the shaft features were abandoned. While cisterns that collected rainwater and privies would be excavated to a shallower depth than the water table, excavations for wells most likely extended beneath the high water table in order to collect potable water.
- Construction episodes of the 19<sup>th</sup> and 20<sup>th</sup> centuries entailed massive subsurface impacts to much of the project APE. As a part of the proposed development, engineers with the Mueser Rutledge Consulting Engineers company have mapped the locations of at least some of the substantial 1903 caissons, see Appendix E.
- The installation of a high-pressure steam line in Taupier Alley (easement) compromised the only portion of the APE that apparently did not experience cellar/basement construction.

There is no question that the project site has hosted various structures and activities from the mid-17<sup>th</sup> century. The massive construction of the two Corn Exchange buildings required extensive sub-slab support systems that obliterated any potential for pre ca.1900 resources within the building footprints. There is minimum documentation of sub-cellar construction impacts for the three smaller buildings on the site: 51 and 53 Beaver Street (historic lots 37 and 38) and 23 William Street (historic lot 31).

- The 23 William Street parcel, part of an orchard in ca.1660, is situated on what was part of the original higher slope of the block prior to the grading/leveling as the city's street grid was regulated. This parcel was apparently one of the Bowne family holdings at the turn of the 19<sup>th</sup> century. There does not appear to be a continuous occupation at this location for an extended period, however. This address was the first site of one of the City's most famous restaurants, Delmonico's, but it was a very short-lived occupation due to the fire of 1835. After the initial 19<sup>th</sup> century development as a relatively modest 4 story building, it sat for many years between two massive 20-story buildings.
- One of these former historic lots, 51 Beaver Street, however, apparently corresponds to both a portion of a ca.1660 brewery complex, which was mapped in 1660 with a well in

its courtyard, and which supported a residence before the fire of 1835, prior to municipal water service. Although a tenant, the resident family is identified in several period documents. A portion of the 51 Beaver Street lot remained an open alley for more than 300 years but was impacted by the installation and later removal of a high-pressure steam line. The full extent of the impact of the steam line installation/removal on a portion of the 51 Beaver Street lot, and perhaps the adjoining 53 Beaver Street lot, is unknown.

• The 53 Beaver parcel was a residential property as early as 1660 when it was the site of "the little cottage and garden of Pieter Pietersen, the Menist, or Mennonite." This property abutted the Red Lion Brewery and bounded the open passage to the block's inner courtyard for more than 300 years. Although apparently occupied by tenants, not owners, the 1812 – 1820 resident worked as a painter on the same block, at 55 Broad Street. Recent test pit excavations revealed timber pile foundations that may have supported the demolished 53 Beaver Street building. Of particular note was the original soils encountered around the timber pilings; such natural soils may be indicative of some degree of stratigraphic integrity.

Based on documentary research and the evaluation of subsurface disturbance that has occurred on the site, it is possible that the 51 and 53 Beaver Street parcels may contain truncated wells associated with a 17<sup>th</sup>-century brewery, a 17<sup>th</sup> century residence, and subsequent residential occupations up to 1835. These potential resources could be present to and beneath the level of the water table below the extant basement foundations. Therefore, HPI recommends archaeological testing prior to building construction in these two contiguous areas to evaluate the potential for these portions of the project site to contain such resources. Such a testing protocol would be developed in consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and the New York City Landmarks Preservation Commission (LPC).

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**FIGURES** 

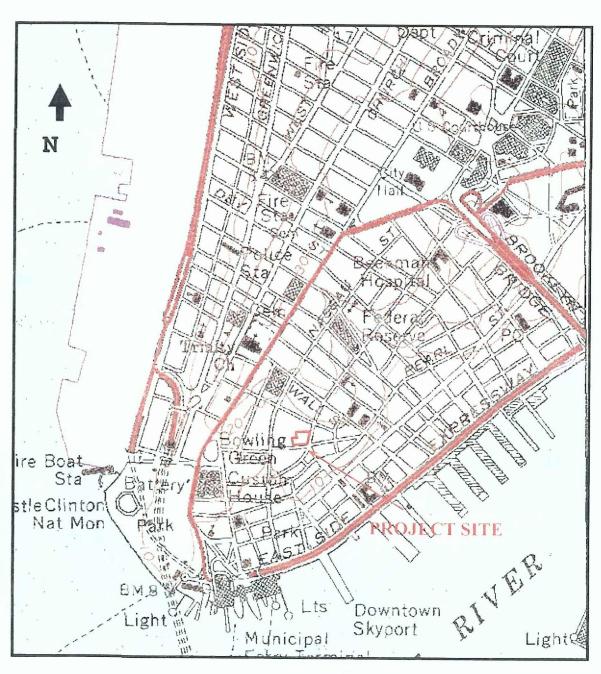


Figure 1. Location of Project Site on USGS 7.5' Series Quadrangle, Jersey City, N.J.-N.Y. 1967 (revised 1981)



**Figure 2.** Portrait of Augustine Herman Bohemiensis (1621-1686). (Innes 1902)

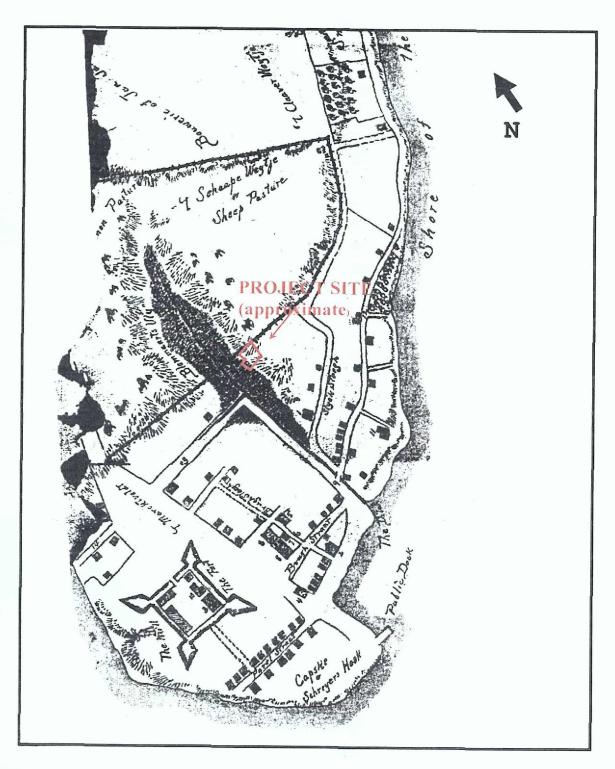
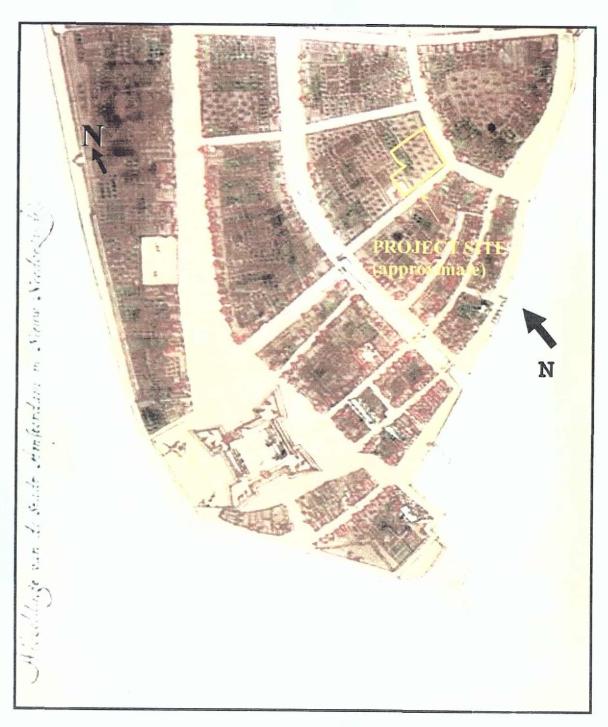


Figure 3. Approximate location of Project Site on *Plan of New Amsterdam* Compiled by J.H. Innes in 1644 (Innes 1902)



**Figure 4.** Approximate location of Project Site on *The Castello Plan, 1660* (Cohen and Augustyn 1997:39)

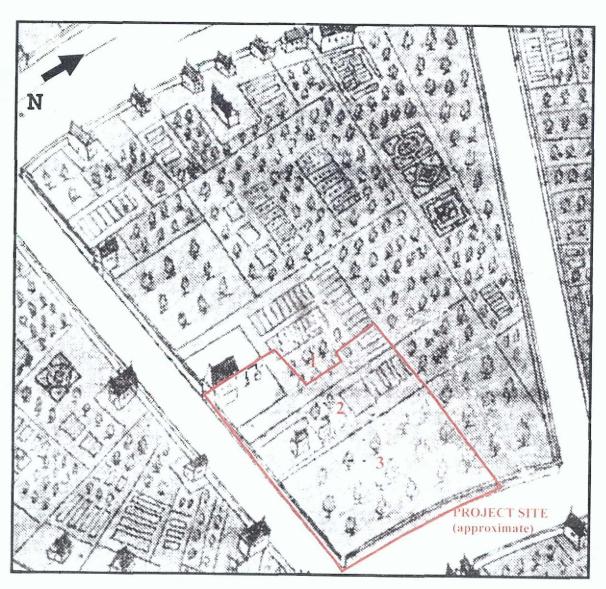
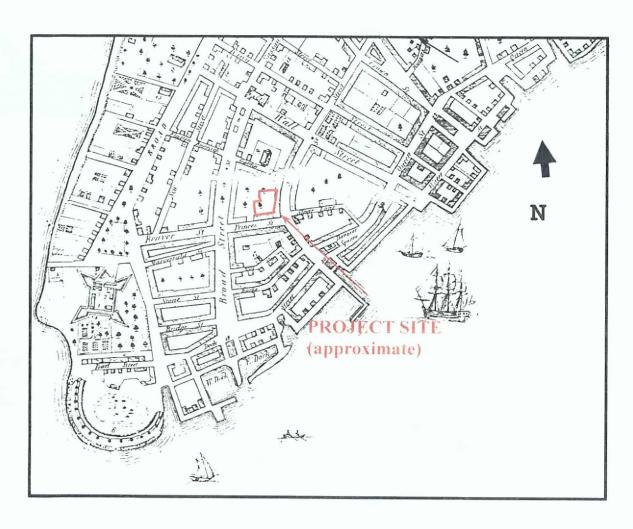
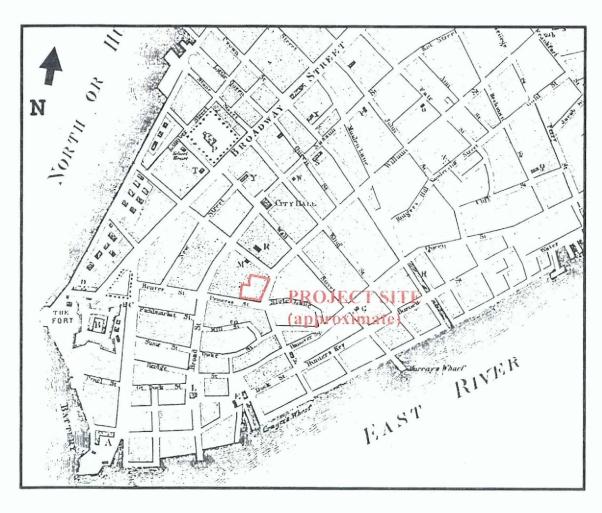


Figure 5. Close-up of *The Castello Plan, 1660* showing house with well within Project Site (Stokes 1967)



**Figure 6.** Approximate location of Project Site on Grim's *Plan of the City and Environs of New York.* 1742-3-4. (Grims 1742)



**Figure 7.** Approximate location of Project Site on Major Holland's 1776 *A Plan of the City of New York.* (Holland 1776)

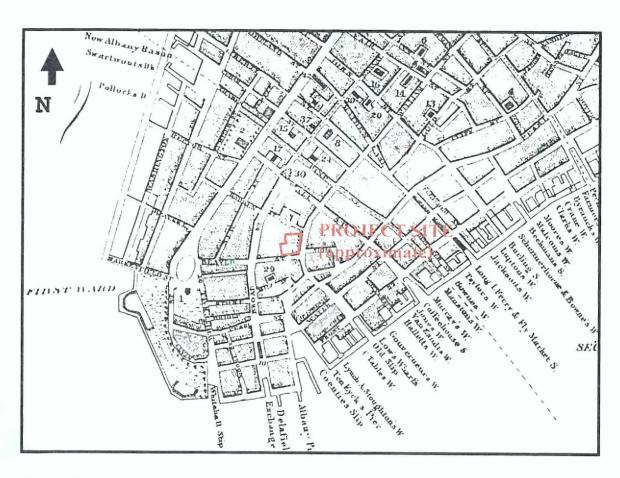


Figure 8. Approximate location of Project Site on *Plan of City of New York* drawn from Actual Survey by Casimir The Goerck and Joseph Mangin in 1803 (The Goerck and Mangin 803)

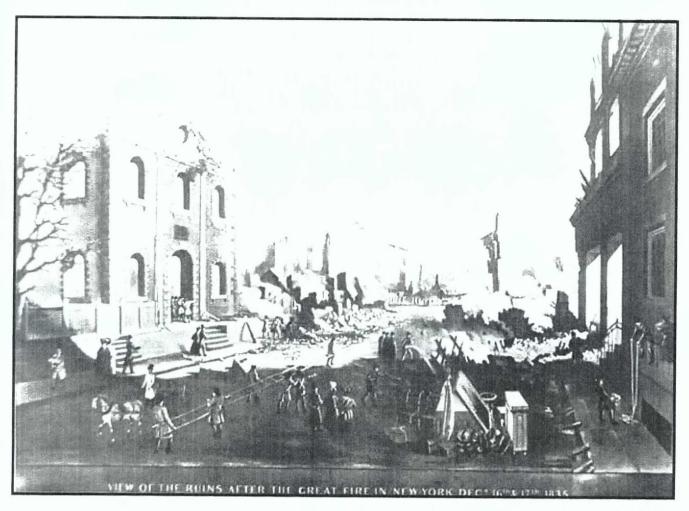
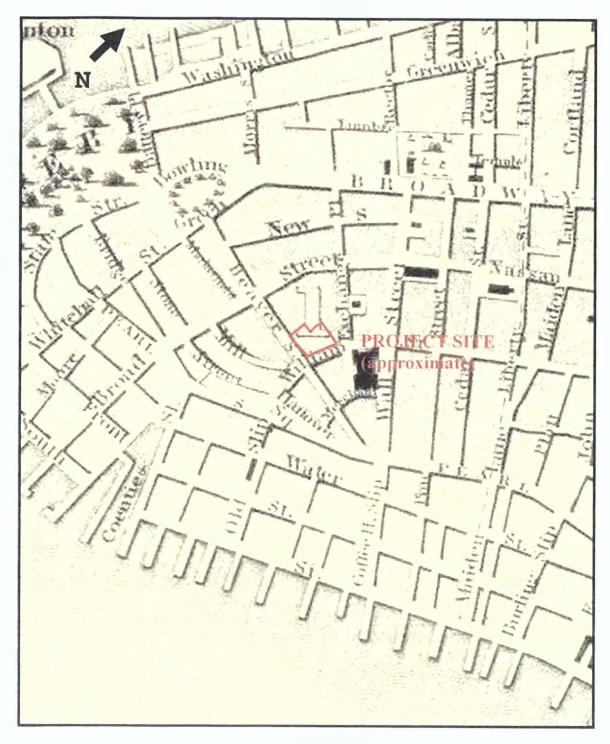
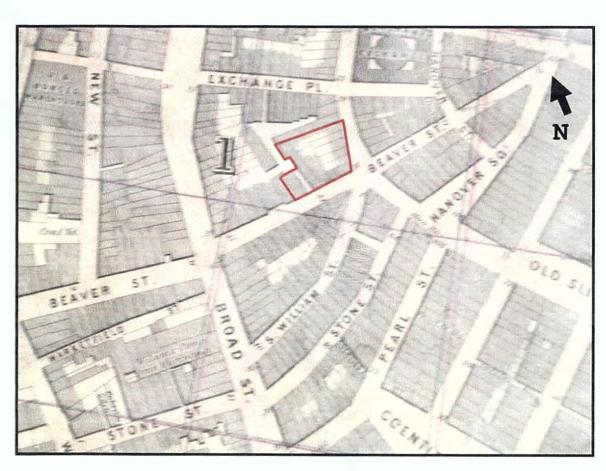


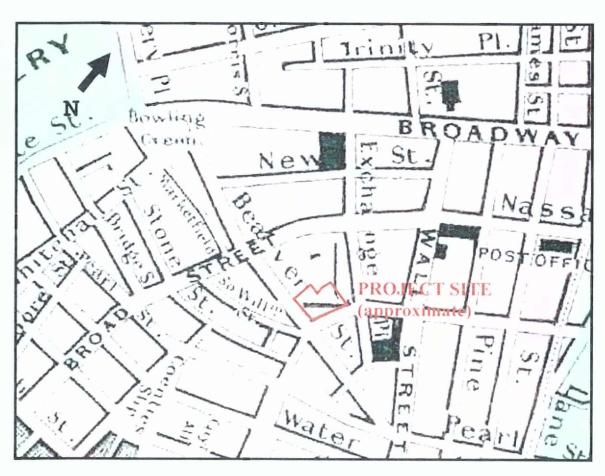
Figure 9. The aquatint "View of the Ruins After the Great Fire in New York Decr 16th & 17th 1835" was engraved.... The view was made on Exchange Place, looking east. At the left is the ruin of the South Dutch Church, which had been built in 1807 on the site of the original (1692) church. In the center background is the block between William and Hanover streets, running through from Exchange Place to Wall Street, where the Merchants Exchange had stood. (Kowenhoven 1953:150)



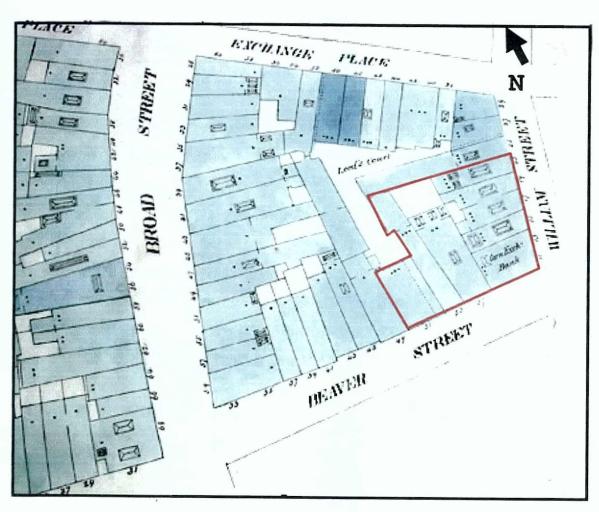
**Figure 10.** Approximate location of Project site on 1836 Colton map entitled *Topographical Map of the City and County of New York and the Adjacent Country.* (Colton 1836)



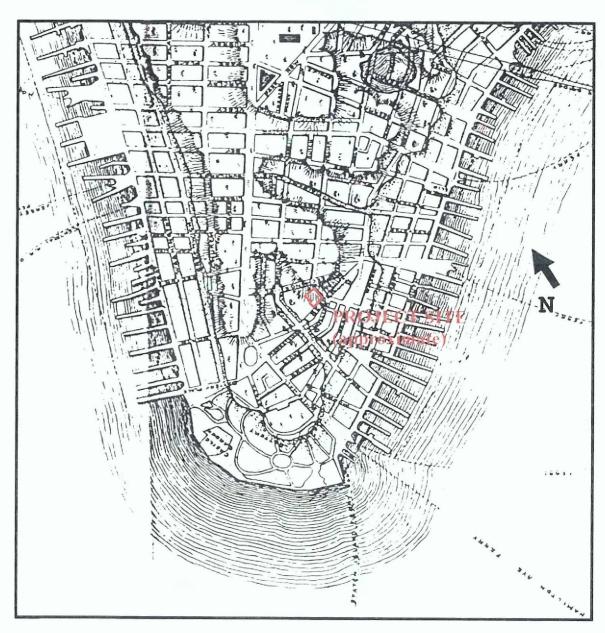
**Figure 11.** 1852 map of *City of New York Extending Northward to Fiftieth St.* by Matthew Dripps with APE and lot subdivisions. (Dripps 1852)



**Figure 12.** Approximate location of Project Site on J.H. Colton's 1856 *Map of New York and the Adjacent Cities*. (Colton 1856)



**Figure 13.** 1857 Perris *Atlas of the City of New York* showing existence of Corn Exchange Bank in southeast corner of APE.



**Figure 14.** 1874 Viele *Topographical Atlas of the City of New York Including the Annexed Territory, Showing the Original Water Courses and Made Land* with approximate location of Project Site. (Viele 1874)

Andrew Comment

# SCENES IN A QUIET COURT

A PLACE SURBOUNDED BY TRAF FIR DOT ALMONT UNKNOWN. A THOROGOMEANE BY DAY FOR DESIGNA WAS AND A HATEL OF BEST POR OF.

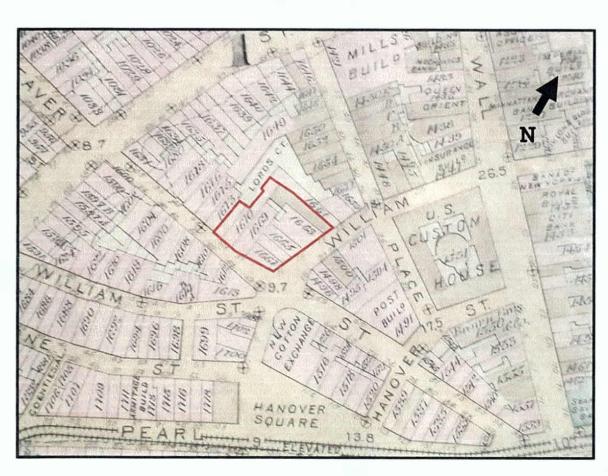
strangely quiet in the heart of the roaring babel of tradio.

The only entrance or exit for carts is an alleyway running under a building which fronts on Beaver-street. All of the other direct entrances lead to galleries which run along the two principal sides of the court. The majority of the onices front either on the galleries or on little passages running from them. The galleries are connected by short stairways, one being higher than the other. Stairs lead from both of the galleries to the pavement of the court. In crossing from Exchange-place to Benver-street the following line of march should be observed: Pass through the hall-way of No. 50 Lxchange-place, proceed the length of the gallery

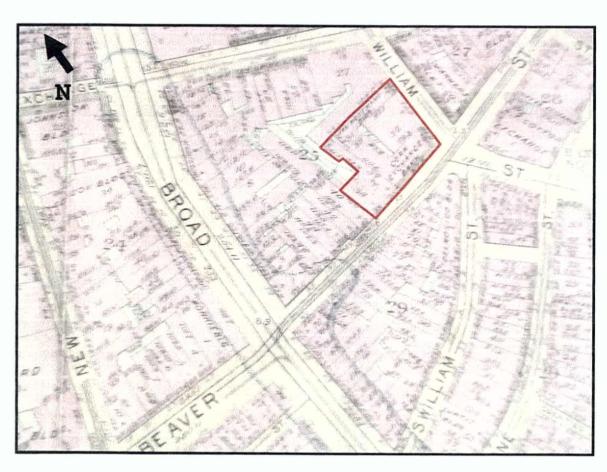
sages that they suggest the catacombs of ancient Rome. Opening from some of these passages are There is scarouly a basement business offices. passageway which does not, after a few turnings, lead to some staircase which connects with some hall which ends in some street. Near the Beaverstreet end is a flight of massive stone steps, by which the enterprising janitor mounts to the mouth of the ash-bin of the court.

When business hours are over a heavy gate of iron rods at the end of the alleyway is closed. At the same time the doors of the various other and pronches are also closed, and Lord's Court ceases to be a thoroughfare for the night.

Figure 15. October 10, 1883 New York Times article describing entrance to alleyway fronting Beaver Street.



**Figure 16.** Robinson 's Atlas of the City of New York with lot subdivisions included in APE. (Robinson 1885)



**Figure 17.** 1897 Bromley Atlas of the City of New York, showing the existence of the Van Nostrand Building and the Corn Exchange Bank within the APE. (Bromley 1897)

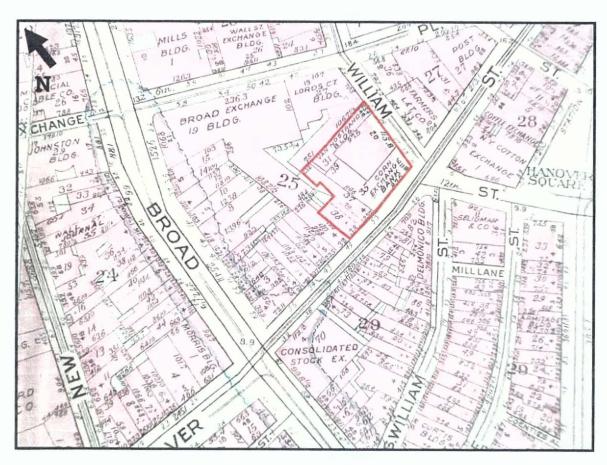


Figure 18. 1911 Bromley Atlas of the City of New York, showing the existence of the Van Nostrand Building and Corn Exchange Bank within the APE. (Bromley 1911)

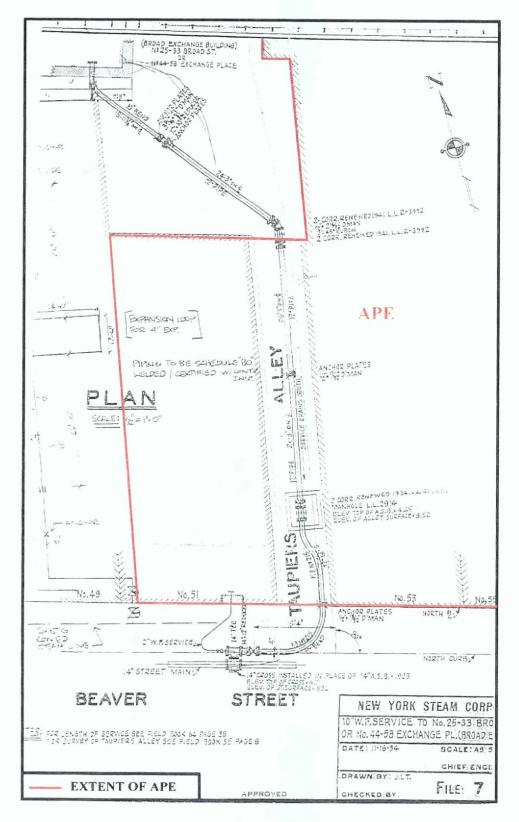
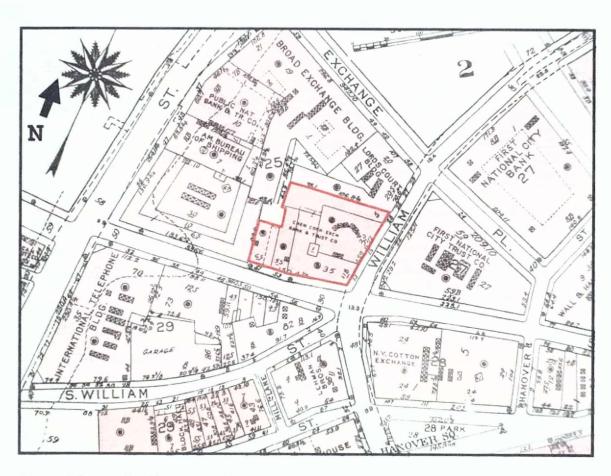
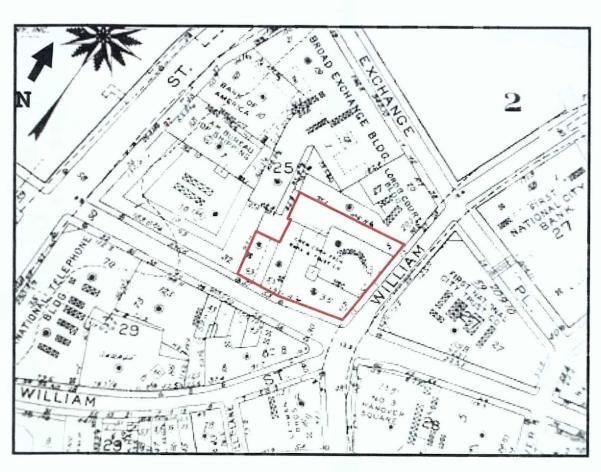


Figure 19. 1934 Engineering Plan of the Consolidated Edison Steam Line placed within the APE. (Richard LeLand, Kramer Levin Naftalis & Frankel, 5/15/05)



**Figure 20.** 1974 Bromley *Atlas of the City of New York*, showing ownership by the Chemical Corn Exchange Bank & Trust Company. (Bromley 1974)



**Figure 21.** 1984-1985 Sanborn *Atlas of the City of New York* with APE. (Sanborn Map Company 1984-1985)

Figure 22. Foundation plan for the proposed 15 William Street property. (SLCE Architects, 4/14/05)

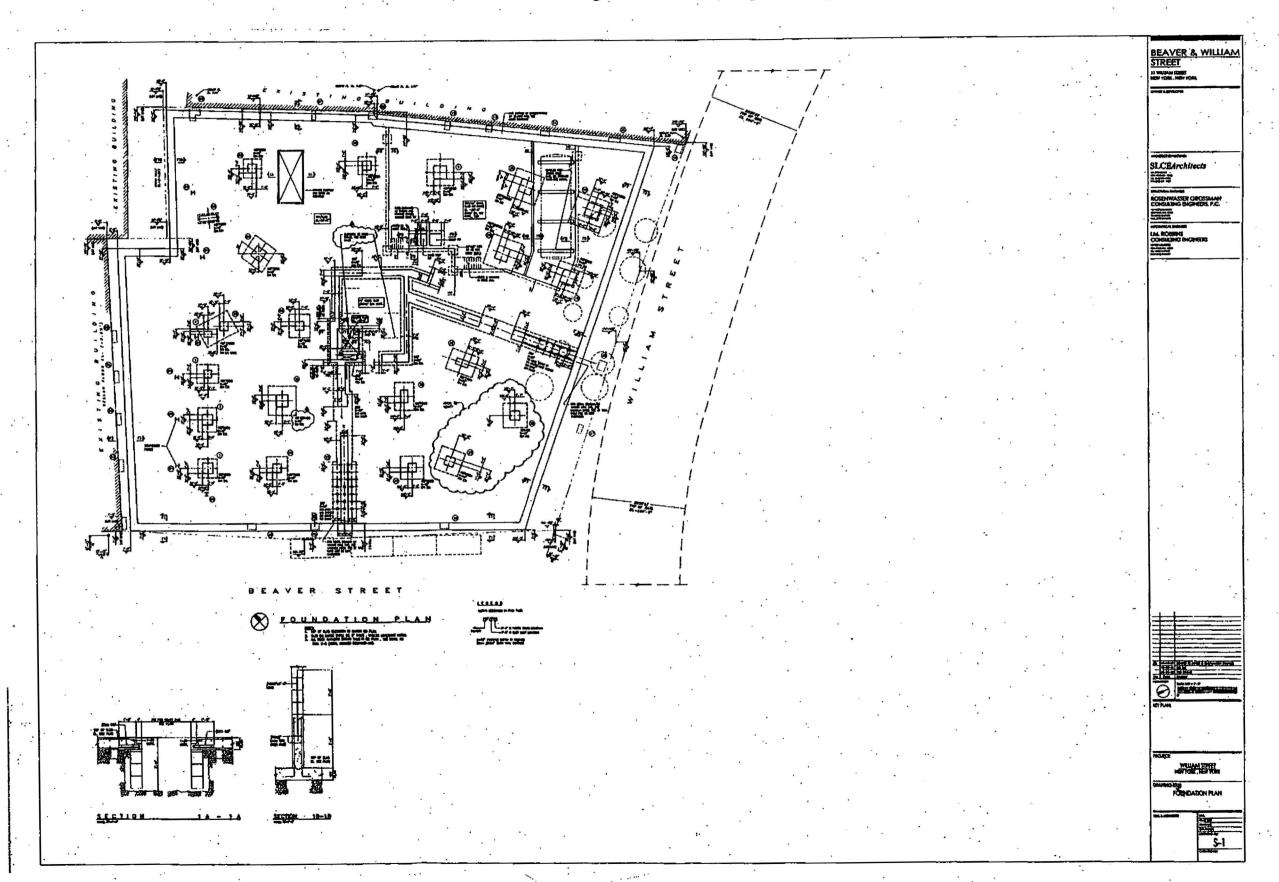
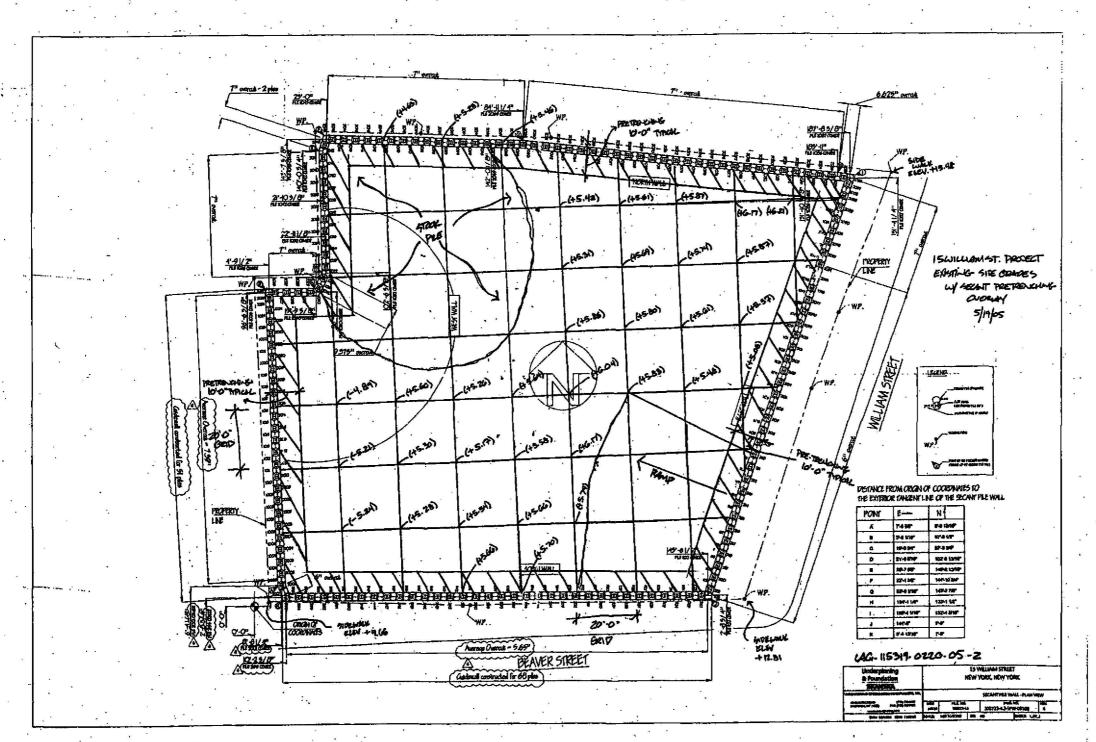


Figure 23. Location of Perimeter Excavation Trench for secant pilings. Elevations of depth of pre-excavation work (Elevations in relation to Manhattan datum). (SLCE Architects, 4/14/05)



Geologic Cross-Section of 15 William Street with notations by engineers from Bovis Lend Lease on the extent Figure 24. of pre-excavation activities. (provided by Stephen Dalton, PanAm Equities, 5/16/05)

ADDED NYCT TUNNEL

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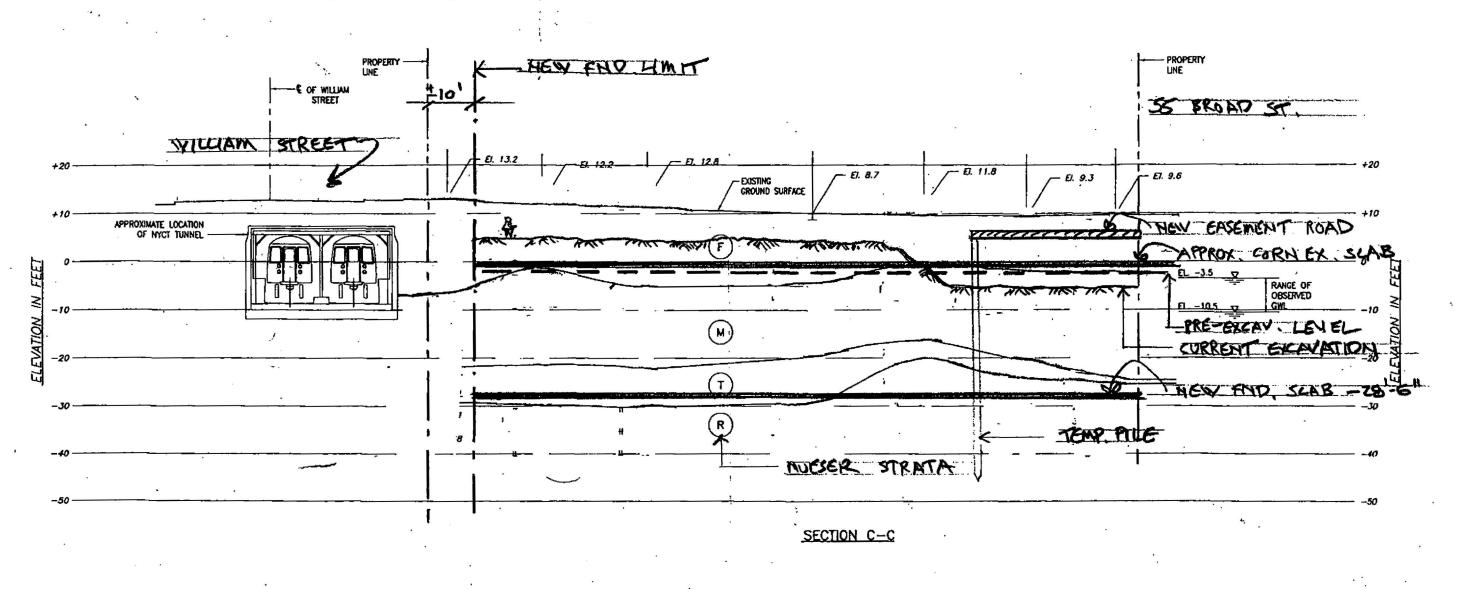
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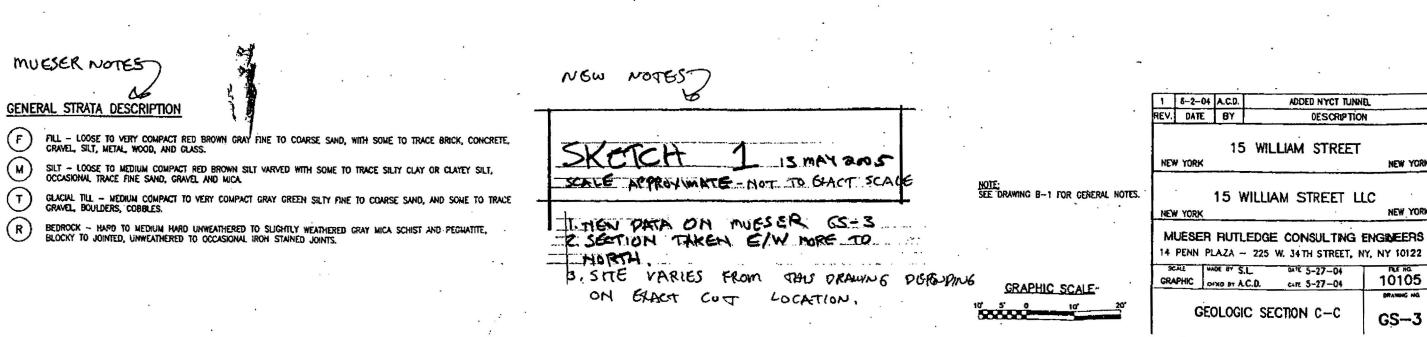
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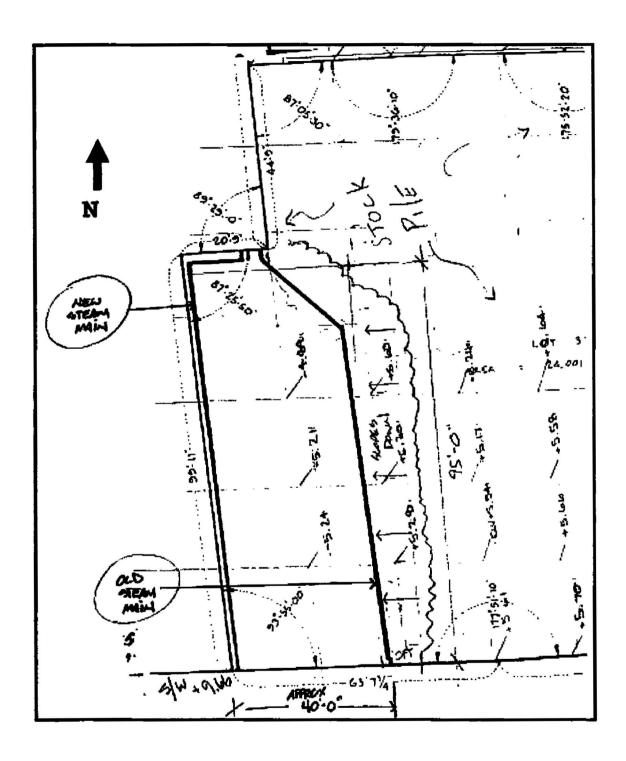
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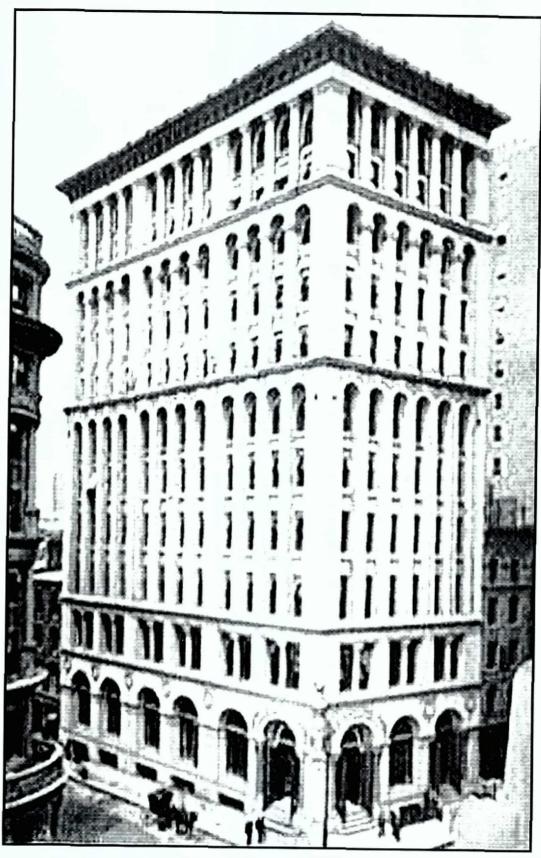


Part of the town town
Alt. APPLICATION No. 782 1963 BLOCK 25 LOT *385 BLOCK MANHANTA
LOCATION 53 Beaver Street, N.S. 861-8½ West of William Street, Manhattan House Number Street Distance from Neares; Corner Borouga
Date February 19, 19 64
Application is hereby made to the Borough Superintendent for approval of the following AMENDMENT to the specifications and plans filed with the above numbered application, with the stipulation that this amendment is to become a part of the aforesaid original application and subject to all the conditions, agreements and statements therein contained.  Applicant Harry Silverman Signature
Address 101 Park Avenue, New York
Reconsideration is respectfully requested to accept the present flue from the present cellar food pre- paration area. The range is and has existed for a number of years, and is used for auxilliary cooking and warming purposes, and not all the time. The primary cooking is done in the restaurant on the on the first floor where the flue is connected into a chimney.
The cellar flue or breeching serves the preparation
area as well as the range. The register for the same
is not on a lot line, nor on a building line, but is in a wall of a one story alleyway between this building
and #51, both of which are on the same lot. The alleyway and both buildings are of fireproof construction.
() and obtainings are of the episod construction.
COCCEPT BLOG- "SI BEAVER ST. BLOG- * 53 BEAVER ST.
(118:000)
(M)(CC)
ALLEY WAY?
2/21/24/
10-2-
· /   •   •
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FIRST FLOOR LEVEL
CURA CURA REGISTER
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FI EVATION @ FIRST FIRMS ALL EVIVAY
ELEVATION @ FIRST FLOOR ALLEYWAY
Estimated Cost: This Amendment S Fee Required S Mouse Verified by
Fee Paid
Note.—The applicant must not use the back of this sheet. If more space is needed, additional sheets must be used. No item must be continued over to absorber object; but each stem must be complete on the sheet on which it appears. Only those items that appear above the endorsements of the bottom of the sage can be considered.
EXAMINED AND RECOMMENDED 19 APPROVED FEB 2 19
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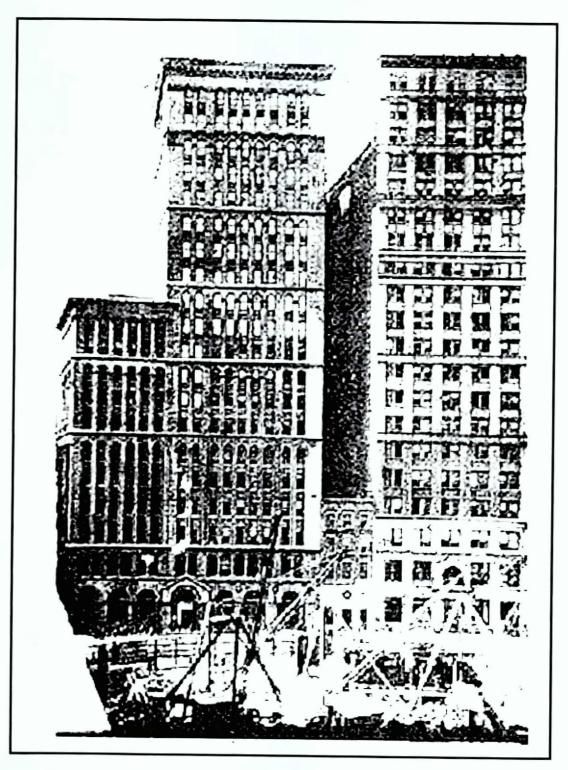
Figure 25. [51 Beaver Street] Alleyway measurements as noted in Department of Housing and Buildings files.



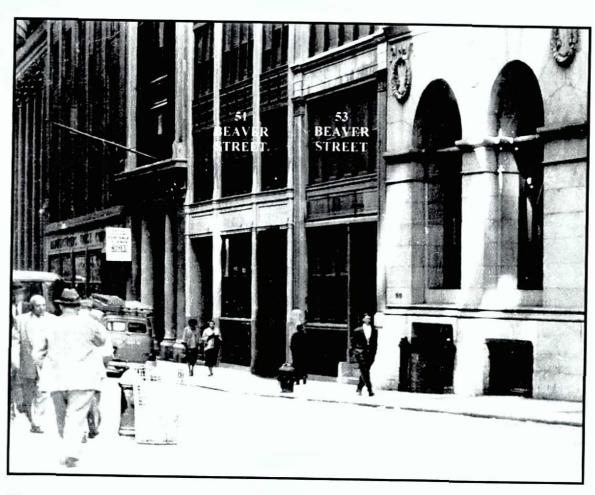
Plan of location of former main steam line (1934) and new main steam line (2005) within the southwest corner of the project APE (51 Beaver Street). (provided by Bovis Lend Lease, 5/20/05; Note: steam line not to scale)



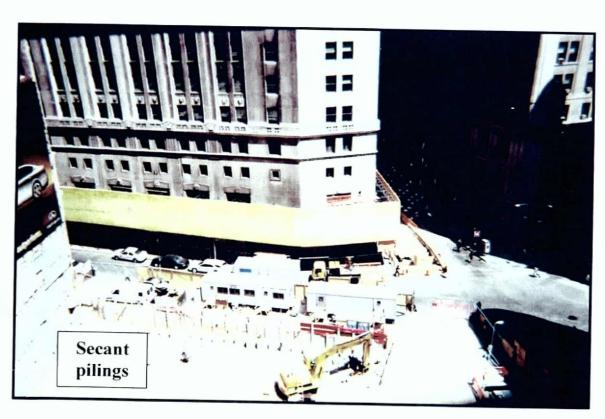
Photograph 1. Corn Exchange Bank Building between 1893 and 1902. (Office for Metropolitan History, 246 West 80th Street, NY, NY, 5/19/05)



Photograph 2. 1929 Photograph of William Street. The three buildings on the left of the photograph (11-23 William Street) are the 11-story and 20-story Corn Exchange structures and the low-rise structure, at times listed as the Van Nostrand Building, on the northern limit of the APE. (provided by New York Public Library)



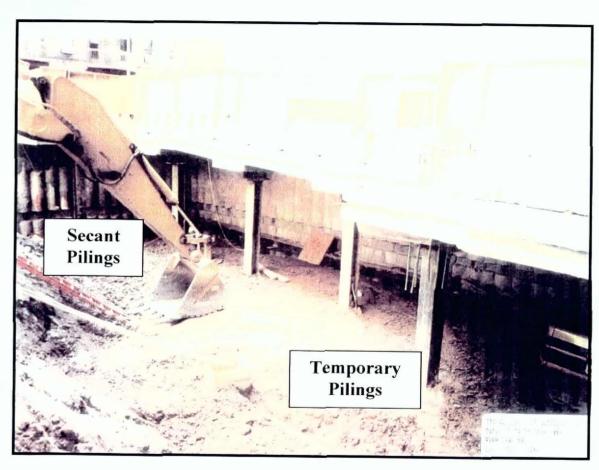
Photograph 3. Beaver Street and corner of Corn Exchange Bank Building taken in 1955. (Office for Metropolitan History, 246 West 80th Street, NY, NY, 5/19/05)



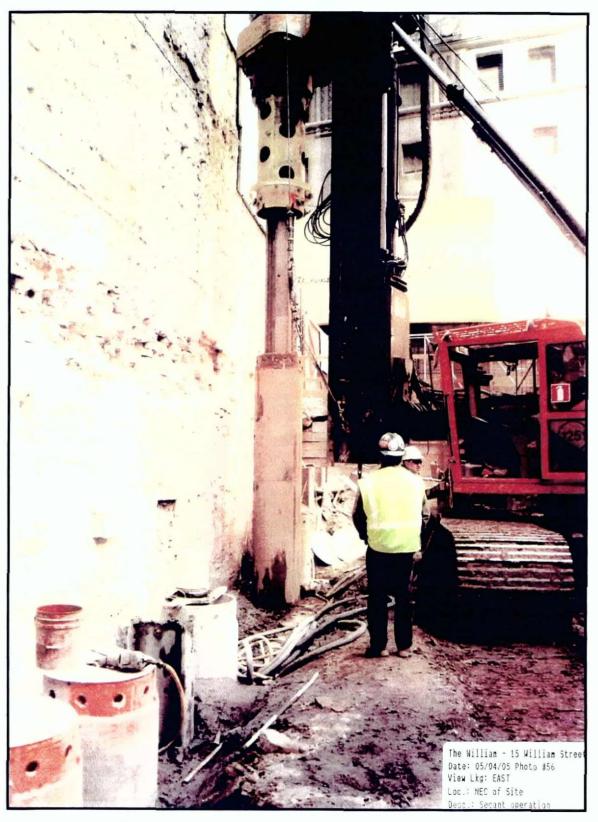
**Photograph 4.** Project site with Corner of William and Beaver Streets to the right. (HPI, 5/19/05)



**Photograph 5.** Project Excavation for the relocation of steamline and for easement. (provided by Bovis Lend Lease)



Photograph 6. Southwest Corner of Project Site looking towards the southwest. Construction of new pile supported easement. (provided by Bovis Lend Lease)

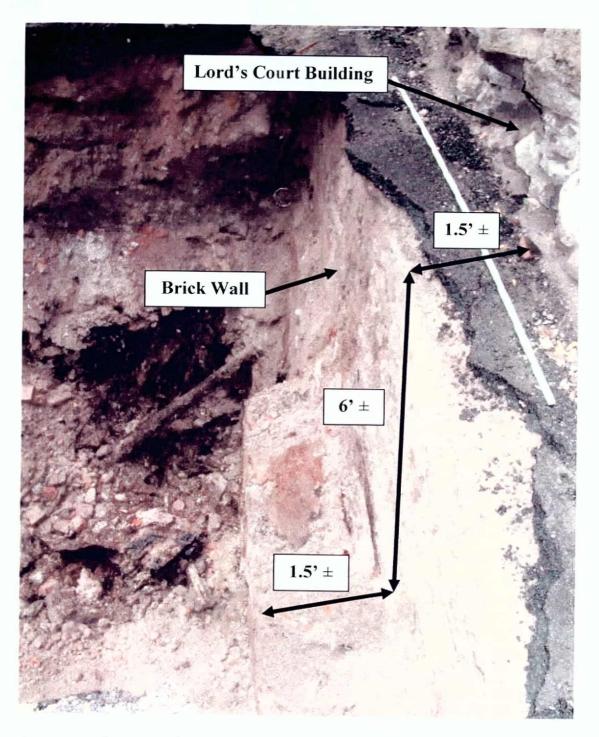


Photograph 7. Northeast Corner of Project Site looking towards the East. Secant Piles being driven along APE perimeter. (provided by Bovis Lend Lease)



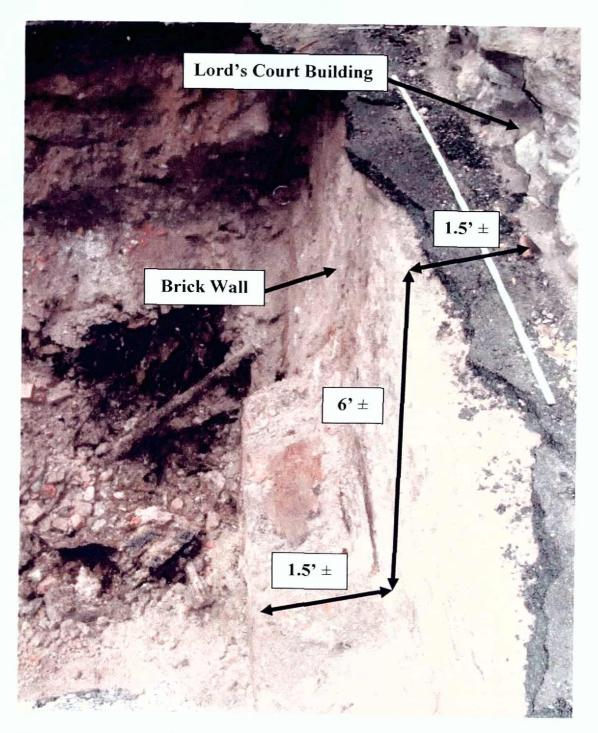
Photograph 8. TP-1: Facing East – Brick pier adjacent to William Street.

15 William Street	
Mueser Rutledge Consulting Engineers	10105
TEST PIT 1	PHOTO 1822



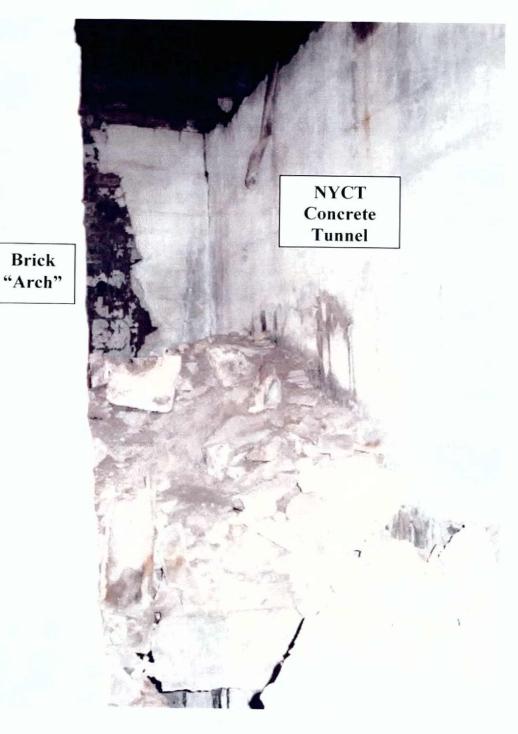
**Photograph 9.** TP-2: Looking West-Bottom of brick wall 11 feet deep from grade.

15 William Street	15 William Street	
Mueser Rutledge Consulting Engineers	10105	
TEST PIT 2	PHOTO 1991	



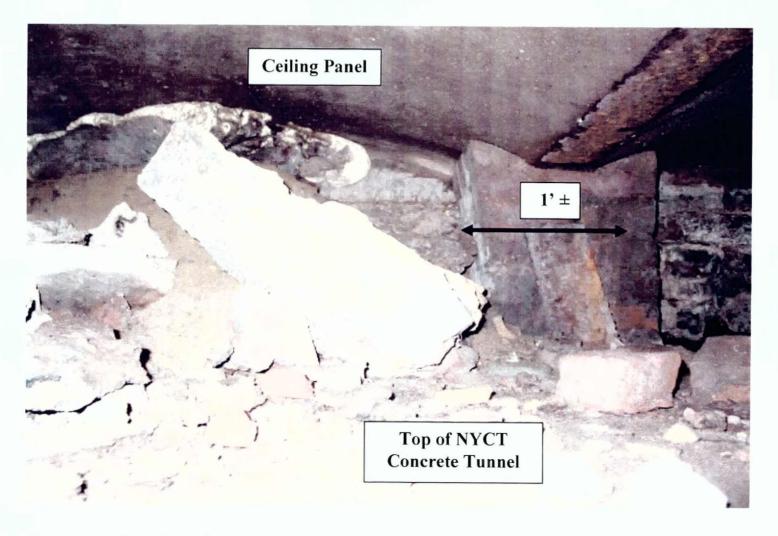
**Photograph 10.** TP-2: Looking West-Bottom of brick wall 11 feet deep from grade.

15 William Street	
Mueser Rutledge Consulting Enaineers	10105
TEST PIT 2	PHOTO 1991



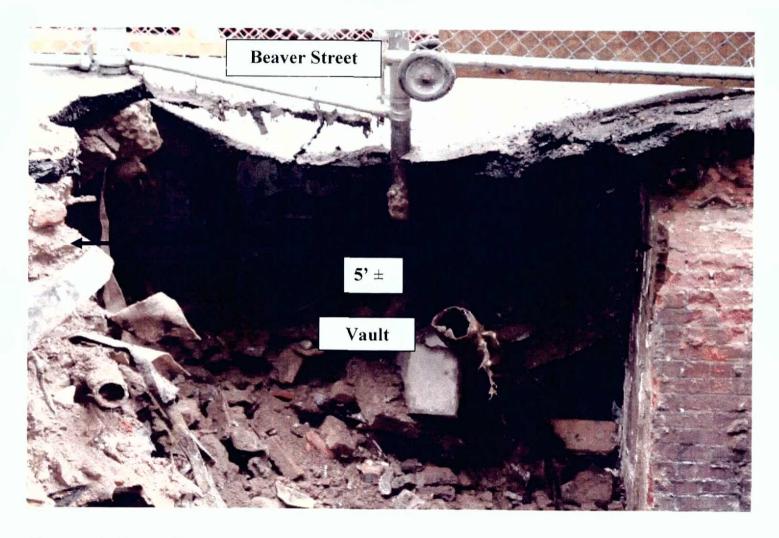
Photograph 11. TP-3: Looking Northeast-NYCT subway tunnel along William Street.

15 William Street	
Mueser Rutledge Consulting Engineers	10105
TEST PIT 3	PHOTO 1863



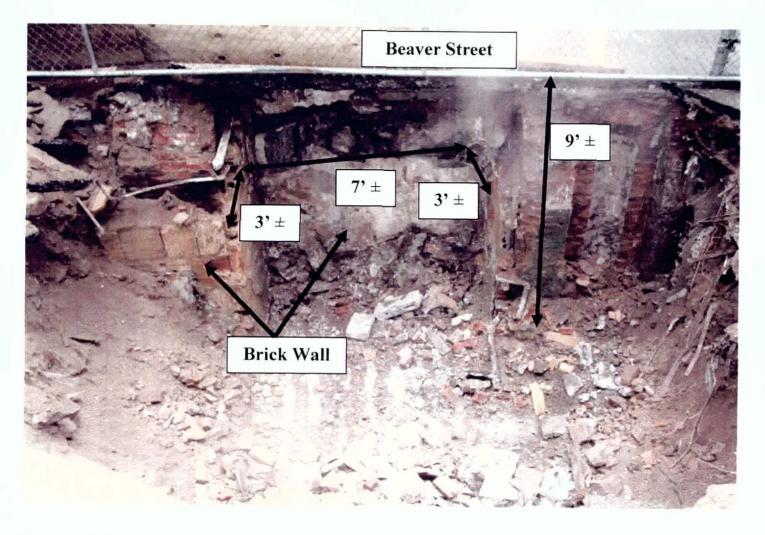
Photograph 12. TP-3: Space between top of the NYCT tunnel and the ceiling of the vault.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 3	PHOTO 1876



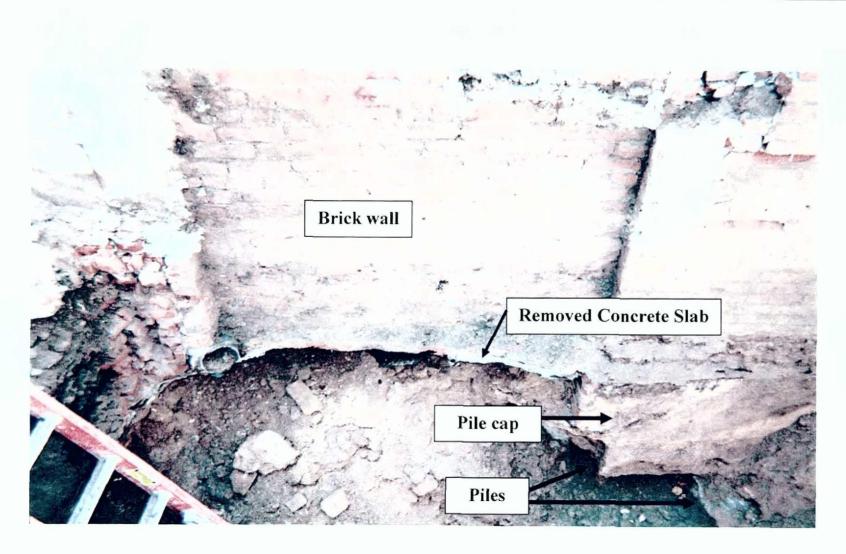
**Photograph 13.** TP-4: Looking South-Close-up on the entrance of the vault.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	101055
TEST PIT 4	PHOTO 1996



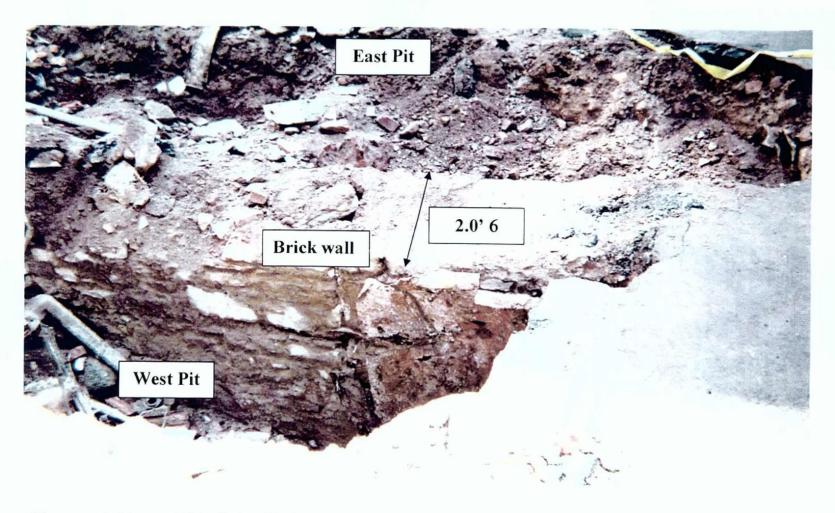
Photograph 14. TP-4: Looking South.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	101055
TEST PIT 4	РНОТО 2008



Photograph 15. TP-5 (East pit): Facing West-Bottom of test pit.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 5	PHOTO 07-5A



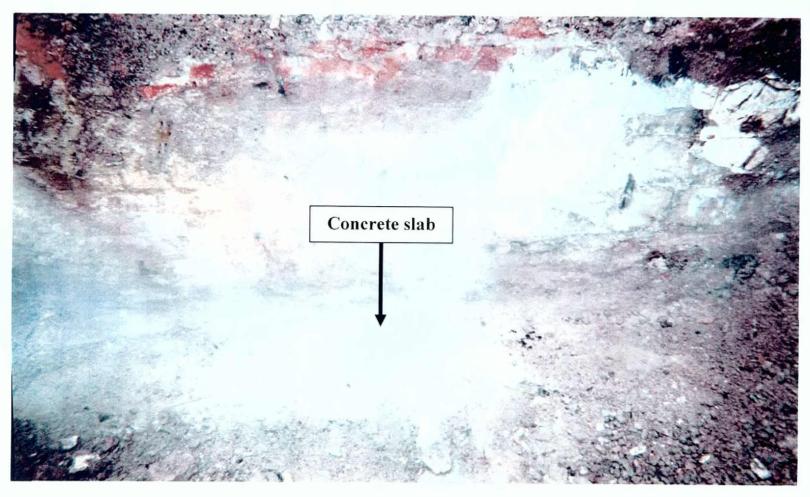
**Photograph 16.** TP-5: Facing Northeast-Top view of wall dividing TP-5 (East) and TP-5 (West).

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 5	PHOTO 12-10A



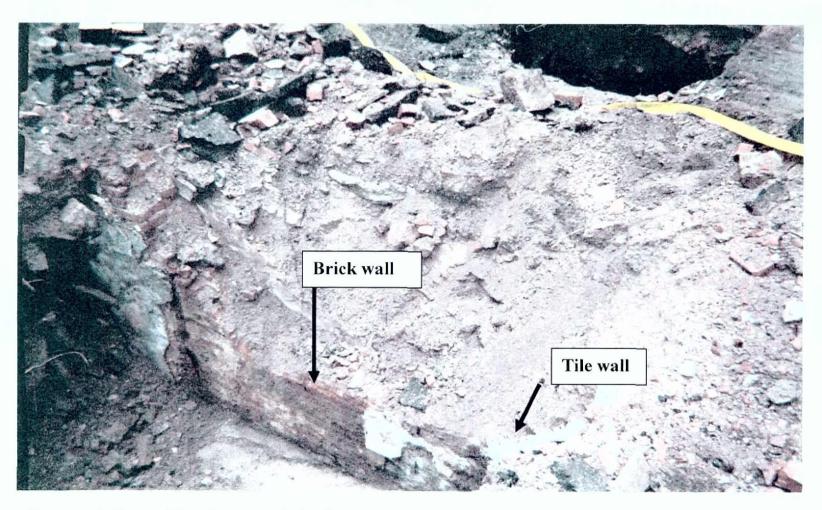
Photograph 17. TP-5: Facing South-Close-up of opening in concrete slab.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York, NY 10122	10105
TEST PIT 5	PHOTO 24-21A



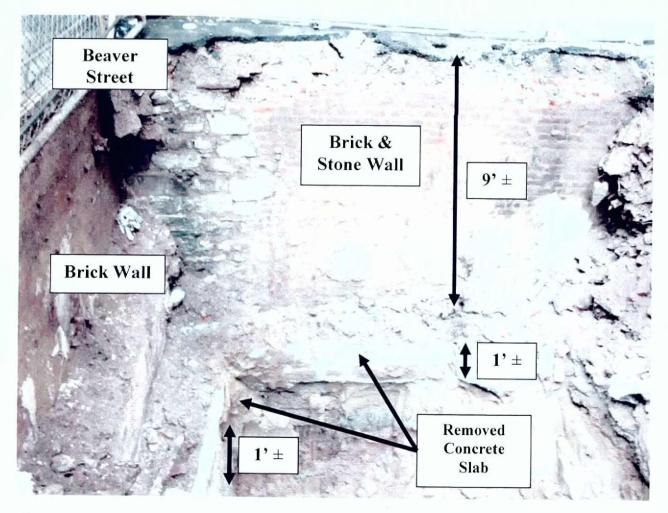
**Photograph 18.** TP-6 (East pit): Facing West-Bottom of brick and tile walls, where they meet; concrete slab.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 6	PHOTO 02-0A



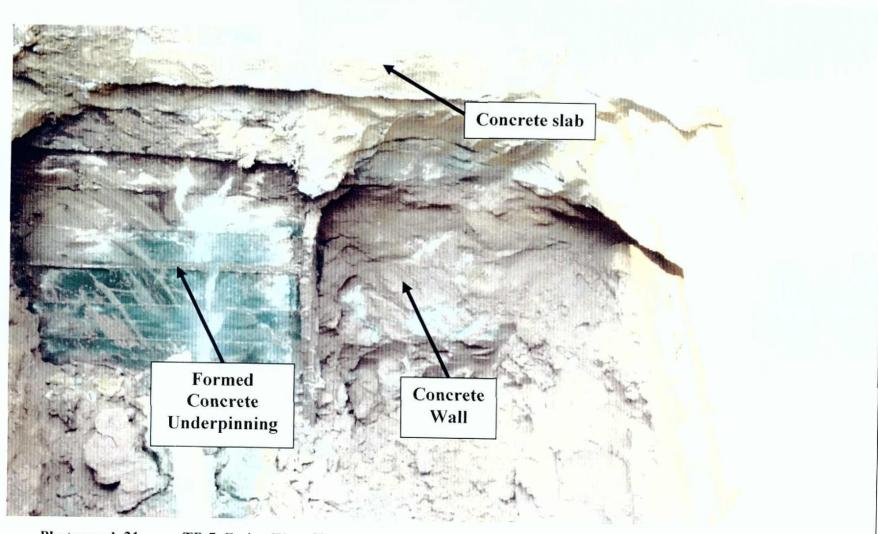
Photograph 19. TP-6 (East pit): Facing West-Exposed brick wall and top of tile wall.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 6	PHOTO 06-4A



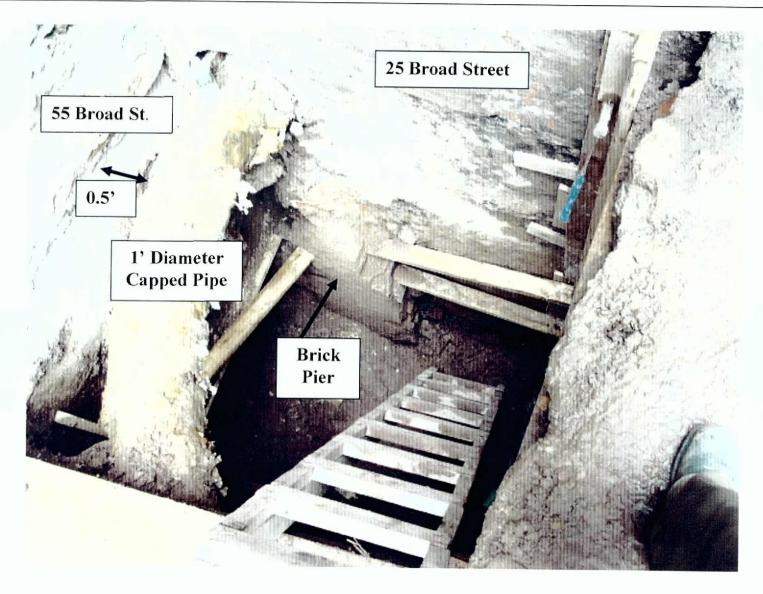
Photograph 20. TP-7: Facing West.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 7	PHOTO 2105



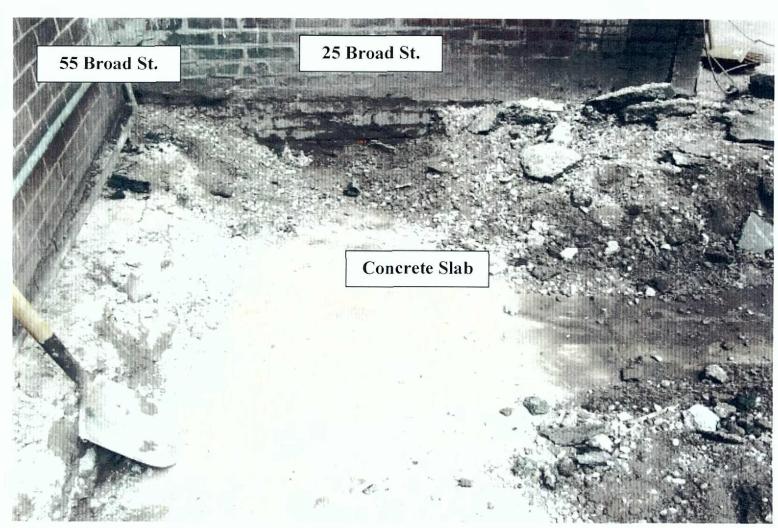
Photograph 21. TP-7: Facing West-Close up on concrete underpinning.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 7	PHOTO 2110



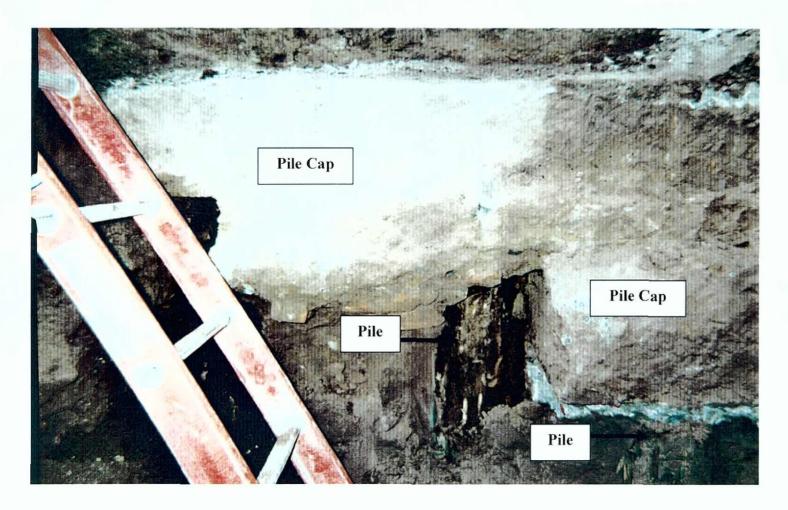
Photograph 22. TP-8: Facing North-Bottom of Test Pit.

15 William Street		
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York, NY 10122	10105	
TEST PIT 8	PHOTO 2115	



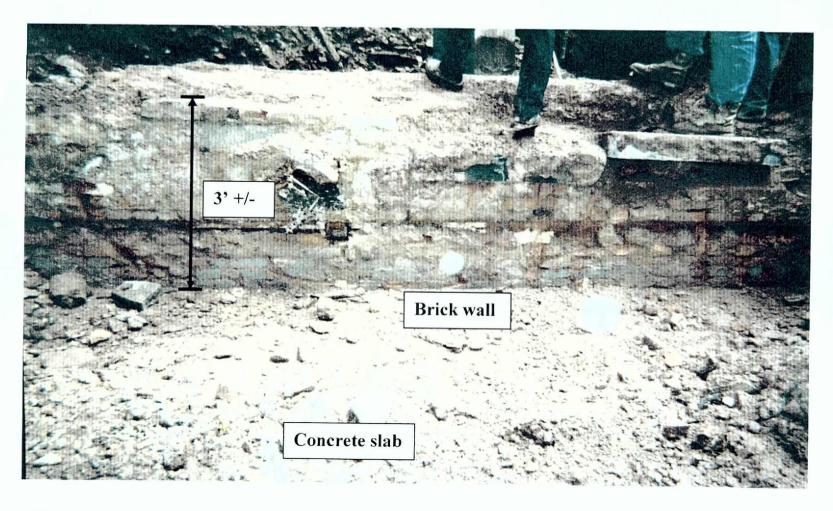
Photograph 23. TP-8: Facing North. Corner of 25 & 55 Broad Street.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 8	PHOTO 2068



Photograph 24. TP-9 (East pit): Facing West-Close-up of piles.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 9	PHOTO 27-25A



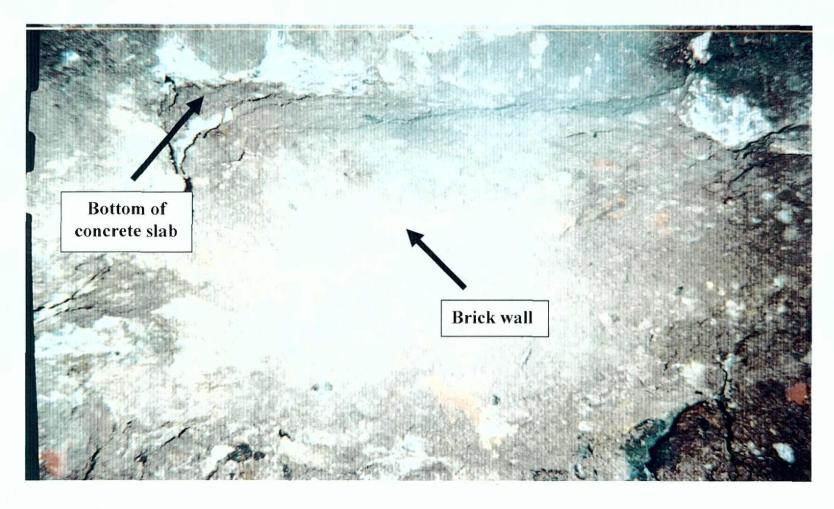
Photograph 25. TP-9 (West pit): Facing East-Brick wall in the middle of TP-9.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 9	PHOTO 26-24A



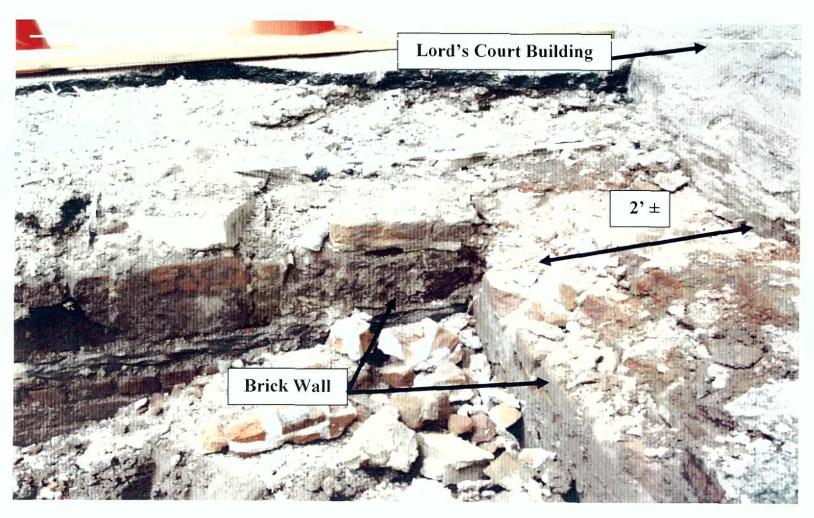
**Photograph 26. TP-10:** Facing into test pit (looking West)-Concrete wall and old manhole.

	15 William Street	
_	Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
	TEST PIT 10	PHOTO 09-7A



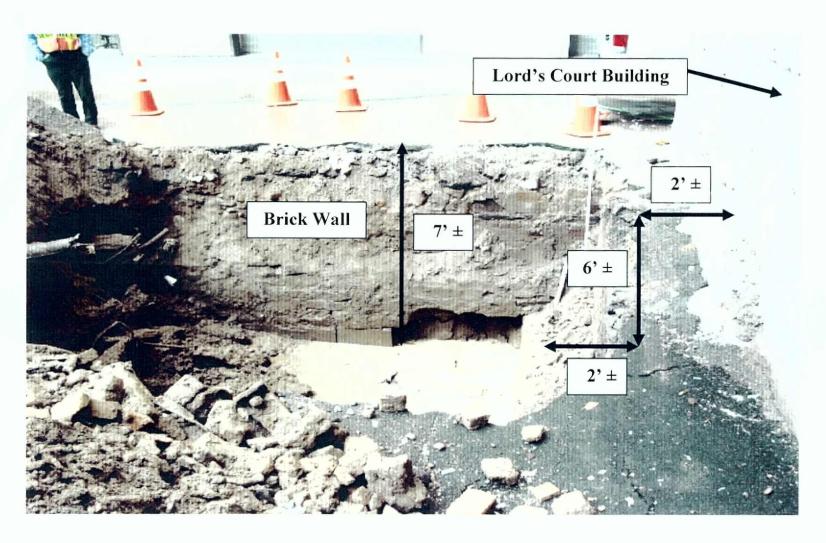
Photograph 27. TP-10: Facing West-Bottom of concrete slab and brick wall (Possibly catch basin).

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 10	PHOTO 15-13A



Photograph 28. TP-11: Looking Northwest-Close up on the brick walls. Both brick walls are 2 feet thick.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	101055
TEST PIT 11	PHOTO 1930



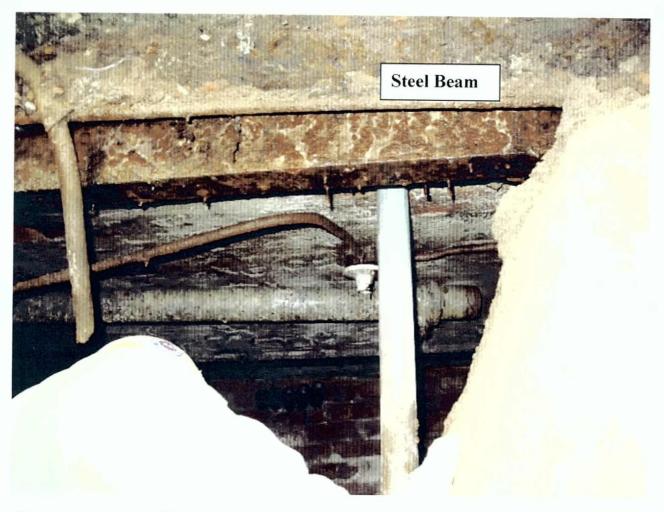
**Photograph 29. TP-11:** Looking West-Water seeped into the test pit and stabilized at 7 feet below grade.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York. NY 10122	10105
TEST PIT 11	PHOTO 1911



Photograph 30. TP-12: Facing East-Inside vault underneath William Street sidewalk.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York, NY 10122	10105
TEST PIT 12	PHOTO 2027



Photograph 31. TP-12: Facing East-Ceiling of the vault along William Street.

15 William Street	
Mueser Rutledge Consulting Engineers 225 W. 34th Street • New York, NY 10122	10105
TEST PIT 12	PHOTO 2036

## APPENDIX A Nicasius de Sille List Block L

## INDEX TO PLOTS ON THE CASTELLO PLAN MAP

## Numbering, as shown in STOKES' "Key to the CASTELLO PLAN"

This list has been abstracted from Vol II, pages 215-341, of I. N. Phelps STOKES: The Iconography of Manhattan Island, 1498-1909; Amo Press, NY, 1967. 6 Volumes (Lib Congress C# 67-13560) [NCL RR 974.71 STO], by Robert L. Protzmann, April 1999. While care has been taken to insure that this list is complete and correct, it has not been independently proofed. If anyone has questions or corrections, please forward them by E-Mail to Robert.Protzman@akzonobel.com.

This list shows the owners of the property in 1660, when the Castello Plan Map was drawn. The list also shows the last previous owner, when recorded by Stokes. The list will be different from the Dutch Grants Map list, which shows the original grantee of a given piece of property. Although some original property owners may have retained title in 1660, many properties had been sold, some many times by then.

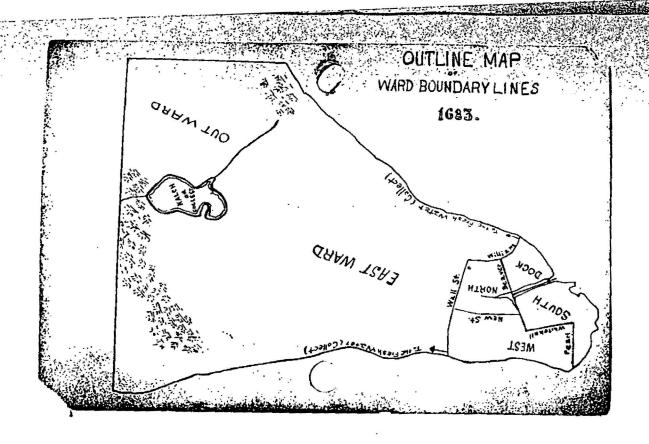
Note that the lot numbers given are based on "The Key to the Castello Plan, as provided by STOKES. The Dutch Grants Map uses different lot numbers, and the Castello Plan map, as reproduced by Spiers, also uses a different system of numbering.

Where STOKES gives the owner's occupations, spouse's names or property use, or renter's names, they are listed. In Colonial times, before the age of banks, when merchants accumulated more wealth than they could invest in business, they invested that cash in property, and bought or built houses. The houses were rented, producing additional income. When children came of age, or were married, they were often given or allowed to live in these houses. If the owner died in possession of a number of houses, they were willed to his children or other heirs (who by that time were often the occupants). STOKES does not state that many of the houses were rented, because the information may not have been available, but this can be assumed when an individual owned a number of properties. Traders and skippers, who lived in Albany, often maintained houses in New Amsterdam. They may have rented a portion of the house, while keeping some rooms for their personal use when they visited New Amsterdam on business.

BLOCK L (pp. 288, ff)			
<b>_</b>			
@1.	Allard Anthony	< 1656	
	to Augustine Heerman (garden)		
@2. ·	Augustine Heerman		
	Pieter Pletersen, the Mennonite (tenant)		carpenter (?)
@3.	Red Lion Brewery	< Aug	brewery
	Isaac de Forrest, Joannes Verveelen, de la Montagnes, owners	1660	
@4.	Albert Pietersen (Swart), the Trumpeter	< 1655	Trumpeter,
	(wife - Marritje Pieters)	1000	Tavemer
<b>@</b> 5.	Douwe Hermsen	<b>†</b>	
<b>@</b> 6.	Jan Swaen	Mar 3.	
	(wife - Marritje Jans)	1659	
@7.	Cornelis van Ruyven	1656	
	(prob rented)		
@8.	Jacob Strycker	1656	schepen
	to Sgt Jacob Luybeck	Dec 1658	
@9.	land of Cornelius van Ruyven and Jacob Strycker (prob rented)		
@10.	The "trivial school" of	< Jan	schoolmaster
	Harmanus van Hobocken	1660	
@11.	Jan Pietersen (van Holstein)		wood sawyer
	to Thomas Wandel	Jun 1,	
		1660	
@12.	Nicessius de Sille, the Fiscal		Fiscal
	(wife 2 - Tryntje Crougers)		

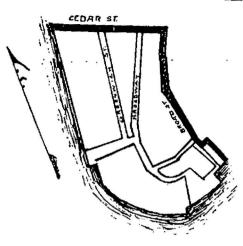
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APPENDIX B Tax Assessment Data June 1700- 1855



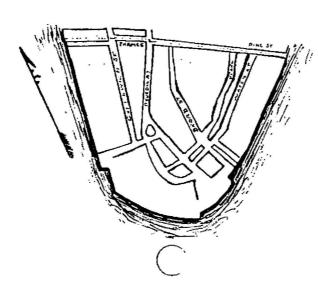
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1791-1803



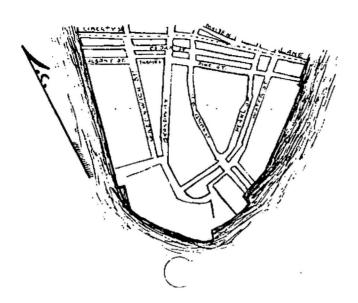
1<sup>st</sup> Ward

1803 -17



1º WARD.

1817-1913



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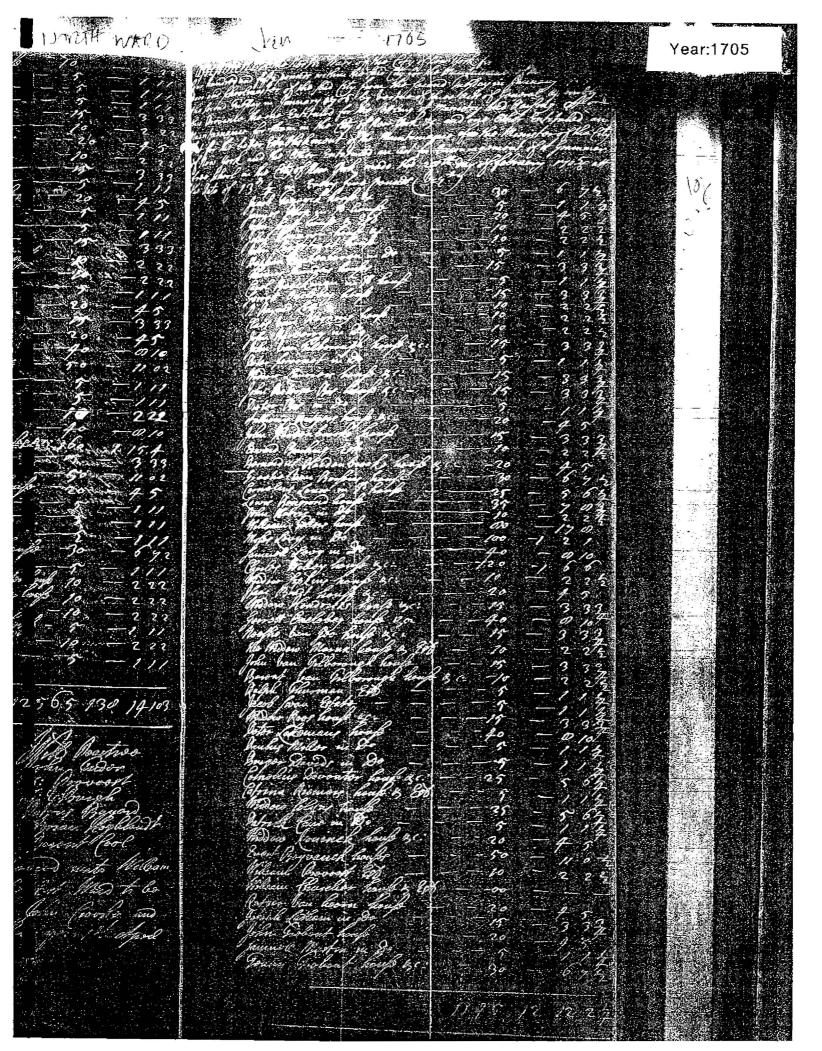
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TABLE NO.			DESCRIPTION		<u></u>		<u> </u>	
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OWNERS OR OCCUPANTS.	Description	Street	Side	Between what Streets.	Ward Map	Farm	Value of	
Of thems on occupants.	Property.	No.	of Street.	Detween what offeels.	No.	No.	Real Estate.	REMARKS.
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OWNER OR OCCUPANT.	DESCRIPTION OF PROPERTY.	Street No.	WARD MAP No.	FARM No.	VALUE OF REAL ESTATE.	Cornected Amount.	REGULAR RENTS.
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and the

No. Value of Real Estate. Corrected Amount. Regular Rents. OWNER OR OCCUPANT. F. D. Luquel Stone 18,0000 J. M. Forbes 200000 John Turner 95000r ST 7/10 1700 Thomas & Dans 25000 of & Meroper 100.0000 from Binange Bout 13 1666 Monison Leary Vla 157665 19 avor J. Offewart 20 Roor 17/661 19 1663 28,000 J. Walker 23/162 36.0001 6. O Halshad 45.000 A Lord 22,000 26,0001 J.W. Corlies 40,000 Worlde Agertes. 29.000 30,000 2. Stanton dis 000 Michael Bumham 36,000 a. Carley 20.00m 28,000n J Becheffen 14,000 57/268 Im 14,000 W. Elopilal 18,000 24000 28.000 Lord Bollwork 11,0000 Der 3. 3.30 6. Holbrook 21500 32 000 J, Van andererfe Jeseph Clampson 21.0000 31,0000 1316 18 1375 260000 NS Rowell 20.000 20, Room 7 20.000 22.000

## APPENDIX C Doggetts 1851 Street Directory

78 Bridget Smith, boarding J. H. Angliss, pianomaker Ann Colvil

Samuel Coles, packer Reuben Hunt, chairmaker Mary Van Buren John Mezanah, boatman

Charles Hilbert, mariner

**Moses Coutent** Halsted Bailey, clerk 83 John Sweeny, laborer 84 Richard Dudgeon, machinist

isaac Tylor, carman Eliza M'Nasser

James Klin, cutler Archibald Phillips, carman Henry French, smith

Michael Boinard, chairmaker Robert Heferts, thread &c. Bernard Neitherman, butcher

29 David Egan, bootmaker
John Forger, laborer
20 Louis Pink, greeer
31 August Pulse, segar maker
32 Henry Starck, porterhouse

Walton Simmer, shoemaker George Miller, tailor

94 John Ivers, carman

98 Felix Brix, grocer
98 Fetor Hussey, porter house
97 George Worthge, porter house
98 Joseph Brandna, bootmaker
Peter M'Knight, junk

(stables) John Wonder, bakery P. Reisenweber, bootmaker

102 John Mangels, grocer 103 Peter Mings, oils Alexander Amend, cabutmkr 105 Francis M'Knight, junk

#### Here Stanton Street intersects.

106 Edward M'Guire, grocer 107 Anthony Feller, grocer 108 Patrick Carrol Daniel Sullivan, broker

109 Michael Shuffer, carman 111 Augustus Shyring, tailor J. A. Miller, cabinet maker Jacob Keim, bootmaker

112 Peter Haines, smith 113 William Quinn, carman 114 Jacob Wirth, bakery

115 M. Reisenacker, bootmaker Fredk. Angelroth, harnesmkr

116 C. P. Stark, milk John Howe, tailor Andrew Johnson, smith Elizabeth Henderson

117 John Young, grocer 118 David Lessing, butcher 119 Owen Clark, butcher

120 George Taylor

Stephen Palmer, carpenter

121 Michael Brunag, junk 122 Joseph Forbach,watchmaker 122 Friedman Valentine, grocer 126 Bernard Christman, grocer Joseph Hoffner, vegetables

125 Mary Cunningham, tailoress Thomas Mulherin, pedier

James M'Laughlin, pedier 126 Alexander Ansted, pedier

197 John Siebenkaes, segars 128 Alfred Lewis, smith 129 Hein Weller, segars

John Lutz, oils 130 P. Flore, watchglasses 131 George Wirth, baker 132 John Wilbee, scavenger

And. Geoninneger, basketmkr

Lowis Born, broker Louis Achtman, porterhouse 134 Eneas Fitzpatrick, china 135 Claus Garms, grocer

#### WILLIAM STREET.

Salomon Kohustamm, importer Frederick Hoose, importer 2 R. J. Noes, brushes

A. C. Smith, tailor Henry Heitman, oysters J.-B. Danforth, merchant Isaac Gibson, ogent A. T. Cowman & Co., concirs

\*Benjamin Godfrey
3 Aaron Jacobs, drygoods Lehmaier Brothers, importers 29 John Lehmaier Morris Lehmaier

Winterhoff, Piper & Karck, importers \*Ferdinand Karck \*Edward Piper

D. A. DELIUS, importer S. Strahlheim & Co. importers \*Joseph Friedman Hartley & Molson, importers \*John Hartley \*Edward Molson

6 J. W. Jung, importer
William Dietze, agent
7 DENNIS CAROLIN, drygoods Henry Bodmer jr. Importer Conrad Wolfe, Importer

DUTILH & CO. forwarders .E. G. Dutlih Charles Humphreys

\*Henry Graff
J. F. Clarke, agent
11 Cummins, Collins & Seaman, drygoods
\*T. A. Cummins
\*C. B. Collins

\*G. C. T. Scaman

C. Gignoux & Co. importers Pfciffer & Co. clothiers \*Peter Pfciffer \*Solomon Frankenheimer Oscar Varet, importer
Chesterman & Hoguet, aucurs
\*George Chesterman
\*H. L. Hoguet
15 Ballin & Sander, importers

\*Eugene Ballin \*Charles Sander B. W. Hart, merchant John Martin jr. & Co. drygds \*William Martin

16 & 18 J. & J. Steuart & Co. importers \*W. H. Scott

C. Payen & Co. importers T. H. Theriott

Amos Keller, drygoods Andrew Lester & Co. drygds \*Horace Galpen Steegmann, Brothers & Co. importers

\*Henry Steegmann 20 BUTTERFIELD BROTHERS,

importra
\*R. S. Butterfield \*H. I. Butterfield Frederick Butterfield 22 Joseph Fisher & Co. importes

\*John Robertson Halsted, Brokaw & Co. drygds \*N. N. Halsted

\*Henry Butler BABCOCK, MILNOR & CO. importers

\*S. D. Babcock \*C. E. Milnor

\*Joseph Brokaw

\*C. II. P. Babcock

Elizabeth Kampfdressmaker 24 Austens & Spicer, auctioneers John Herber, bootmaker David-Austen

\*O, W. Austen \*James Austen 4J. H. Austen C. B. Spicer

25 M'Call & Strong, importers \*Hamilton M'Call \*J. M. Strong White & Thurgar, importers

\*J. F. White

\*G. C. C. Thurgar

Eibridge Maltby & Son,drygds

\*Elsworth Multby

J. & A. Petrie, importers

Van Wyck & Kobbe, aucturs

\*H. L. Van Wyck

\*W. A. Vobbe. . W. A. Kobbe

#### Here Exchange Place intersects.

33 Morris Woolf, shirts Corlies Haydock & Co.auctars
'J. W. Corlies

\*Robert Haydock
\*J. W. Corlies jr.
36 & 38 ASTOR MUTUAL IN-SURANCE CO.

Zebedes Cook, president 37 Bernheimer Brothers, drygds \*Herman Bernheimer \*Simon Bernheimer

381 J. H. L'liommedieu S. B. Warner, broker 39 J. N. Walker, hotel

Daniel Le Roy, exchange John Dore, exchange Charles Stuver, merchant Dillon & O'Gorman, lawyers J. B. Dillon \*Richard O'Gorman E. R. Tremain, broker W. L. Dryer Woodman & Black, lawyers \*C. N. Black Anron Woodman James Bergen, broker J. L. Morris

Horace Weeks, broker E. H. Warner, broker G. R. Beekman, broker J. D. Brown, broker Samuel Hammond, watches W. H. M'Vicar, broker Phelps and Wetmore, brokers
\*J. C. Wetmore

I. B. Wilbor jr. broker Charles Buckingham, broker Daniel Stanton, broker John Littlefield, chiropodist G. S. Shatford, baths Frederic Chazournes, broker

William Brugiere, broker Catterfield & Topping, aucture
\*W. F. Catterfield \*William Topping REIMER & MECKE,importers \*F. W. Reimer \*J. A. Mecke

42 W. B. Clerke, broker
Hartford Fire Insurance Co.
Henry Huntington, president
EZRA WHITE, agent Connecticut Insurance Co. B. W. Greene, president J. H. Ormsbee jr. merchant 43 Lane & Guild, importers

P. Van Zandt Lane .W. B. Guild

David Wallerstein, importer 44 FRANKLIN FIRE INS. CO. Peter Notman, agent William Burroughs jr. edir. Houghton & Co. brokers \*Royall Houghton .C. H. Houghton

## APPENDIX D

Excerpt from Engineering Record on the Corn Exchange Building (as provided by Mueser Rutledge)

customer a temporary supply, send the meter to the factory and on its return set it and collect the charges and remit to the manufacturer, in fact perform all the work as if the meter was owned by the Water Department. As a rule when a consumer pays from eight to fourteen dollars for a water meter, he believes he has a machine that will last him a lifetime. or at least as long as his clock, and when after one, two or three years it must go back for repairs, costing him from three to five dollars, he begins to think it a fraud, then in a year or two, more repairs, and after five or eight years he is informed that his meter is worn out and a new one must be bought, then he is sure he has been swindled, and that the water people and meter manufacturers are frauds.

The writer is firm in the bollof that all water meters should be owned and controlled by the Water Department or Water Company, and furnished the consumer at an annual rental, covering interest on first cost of the meter and reasonable repairs according to its size and cost, and require the consumer to protect it from frost; then the Water Department or company has complete control, and when a meter fails to work it is taken out and replaced by another from those in stock. If only in need of small repairs, such as replacing a broken wheel, disc, or bolts, this can be done at the repair shop, but if in need of more general repairs, the meter can be held and shipped with a dozen or more to the factory by freight, repaired and returned at a much less expense per meter than a single meter.

If the Water Department or company wishes to imitate the grocer and supply as he supplies his customers, then fix the rate per thousand gallons at a price that will cover the expense of the meter and in time pay for it, as the grocer does with his fixtures.

All Water Works managers know that the most difficult and perplexing matter they have to deal with is to fix a flat rate that will be equitable to all, and with the improvements of this day it is unreasonable to ask for water at a fixed rate; as well ask the grocer to supply your family with flour for a year at a fixed price, or give you liberty to tap his coal oil barrel when you wish, or the druggist to supply your family with drugs and medicine, or the brewer to run a supply of his product into your house at a stated price regardless of your capacity. Under the advancing conditions of water supply, the water meter is as much a part of the plant as is the pumps, filters, valves and hydrants, and should be so considered by the municipality or water company.

## The Mitchell System of Sewage Disposal.

About three years ago an experimental plant was built at Revere, Mass., to test the merits of a system of sewage disposal devised by Mr. C. D. Mitchell. This plant has been in operation since then with such success that the International Sewage Disposal Company was formed to take over the patents. Last year a disposal system of this type was put in operation on the Scituate estate of Mr. Thomas W. Lawton, the Boston banker, and a plant of 1,000,000 gallons capacity per day is now being installed at Elmhurst, Borough of Queens, New York..

The system involves a preliminary clarification of the sewage by sedimentation followed by the filtration of the effluent through sand with acration. The sewage passes at the disposal works into a channel running along the end of a series of concrete tanks, preferably four, which are provided with outlets so that the flow through the basins can be made continuous

from one to another, or any number of them can be cut out of operation. It has been found that a period of four to six hours of sedimentation gives the best results. The tanks have outlet chambers so arranged that the clarified sewage is drawn off from a level near the bottom of the tank, and is delivered into the next tank at a level near the top, thus preventing the passage of sludge from the bottom and of. grease and floating matter from the top of the liquid in one tank into that of another. This is considered a very important point of the system, as the purpose of the tanks is to furnish a clarified liquid which can be filtered at a rate. far above that usually practiced with intermittent filters. Each basin has an outlet in the center of the floor, which connects with a drain leading to a sludge filter.

The clarified sewage flows from the last of the basins into a concrete flush-tank, which has an outlet gate at the bottom of one end. When the liquid reaches a certain fixed height this outlet opens and the contents are discharged into a channel running along the head of the filters, with outlets enabling the flow to be directed into the distributing troughs over any or all of the beds. The construction of the beds is peculiar to the Mitchell system, and is described as follows by the company: "Starting from the bottom of the filter, the material is distributed upward in the following manner: Broken stone or coarse gravel laid on a concrete base, interlaid with lines of channel-tile pipe connected to an air chamber with natural or forced draft from the chamber into the chimney, then medium-fine gravel and mediumcoarse sand, then a layer of broken stone interlaid with lines of channel-tile pipe connected to an air chamber with natural or forced draft from the chamber into the chimney, constituting (with the lower pipes) the double-internal aeration. Continuing upward, is medium-fine gravel, medium-coarse sand, with fine sand forming the top layer of the filter." The air chambers mentioned in this quotation are large passages running along the two ends of the beds. One of them furnishes the air to the tile ducts and the other acts as an exhaust passage in connection with vents to the chimney of the pumping plant, if one is installed. It is held by the company that this system of aeration, in connection with the intermittent application of the clarified sewage, keeps the heds supplied with enough air to render the bacterial action unusually rapid. There have been some analyses made by Mr. S. P. Sharples, State Assayer of Massachusetts, showing a remarkable reduction in free and albuminoid ammonia when the rate of filtration is 21/2 million gallons per acre daily.

The sludge filter has a body of coarse material to afford thorough drainage and a top layer of pulverized coke or coal. After the sludge has drained for a few hours, it is thrown on a concrete floor, mixed with coal or coke, and finally burned in the furnace of the pumping plant. If farmers can be induced to use it as a fertilizer, the problem of disposal is so much simplified.

The entire works, sedimentation tanks, finshtank and filters, are roofed over so as to afford better protection against the interference of inclement weather with the operation of the system as well as to reduce by means of special ventilating arrangements, any possibility of the plant becoming a nulsance to neighbors. As before stated there are two plants of this type now in operation near Boston and one is in course of construction in Greater New York; further information concerning them can doubtless be obtained from the company, whose address is Tremont Building, Boston.

Extension of the Corn Exchange Bank Building, New York.

The Corn Exchange Bank at Beaver and William Streets, New York, is an eleven-story building with self-supporting brick walls and castiron interior columns with concrete footings on pile foundations, and was built several years ago. It has been decided to enlarge it by the addition of a steel cage extension with two wings occupying an irregular area of about 70x100 feet in extreme dimensions, as seen on the general plan. The new part will be twenty stories or 260 feet high above the street, and will be connected with the old building, and the entrance will be made common to both. Each new story will have a floor area of about 6,000 square feet and all above the first floor will be arranged to rent for office purposes.

Preliminary exploration borings made in their cellars before the old buildings occupying the site were removed, indicated that the soil consisted of earth, gravel and quicksand to the hed rock or hard pan at a depth of about 40 feet below the curb, corresponding with the strata underlying other tall buildings in this vicinity which have been from time to time described in The Engineering Record. The cellar is to be carried down 11 feet below the curb. about to ground-water line, and the column loads are so great that it was thought best to carry them to the rock. On account of the depth to rock, the character of the soil, the large amount of ground water it contains and the necessity of avoiding any danger to the stability of the adjacent buildings it was decided to build the foundations in pneumatic calssons, of which there are 28, arranged on the center lines of the columns shown in the general floor plan. The caissons are wooden cylinders with steel rings, diaphragms and cutting edges similar to those used in the Hanover Bank building and described in The Engineering Record in the issue of April 12. Their diameters vary from 6 to 121/2 feet, and their lengths will probably be about 30 feet.. Caisson sinking was commenced June 6th, and is required to be completed by July 15th.

The working chambers of the caissons are sealed with concrete under pneumatic pressure, the air lock and shaft removed and the upper parts of the caissons or cofferdams are rammed full of concrete up to about 5 feet below the cellar floor where they are capped with grillages of crossed layers of I-beams bedded in concrete, gronted, and receiving below cellar floor level the bases of the columns. The beams in the first courses of the grillages are set as close as possible and are of different lengths so as to cover nearly all the surface of the pier and be contained within the circular sides of the caisson. In the 6-foot calssons they consist of five 18-inch 55-pound I-beams; in some of the larger calssons they are 24-inch I-beams. In the 6foot caissons the second tier of grillage beams are three 18-inch 55-pound I-beams, set close together across the centers of the first tier to distribute the column loads over them. In the larger caissons the second tier beams are replaced with triple web plate girders 42 inches

In most cases each caisson supports a single column on its center point, but on the north side of the building four of the wall columns are carried 4 feet beyond the caisson centers on cantilever girders which instead of being supported directly on the caissons are carried on top of short lengths of columns which raise them to the level of the basement ceiling and increases the clear floor space in the basement. The cantilever ends of these girders carry the wall girders and below them the outer wall is built on concrete footings at the cellar floor

level which are put in carefully to avoid disturbing the masonry of the adjacent wall. There are four cantilever girders in the basement ceiling; one of them which supports column 5 is about 19 feet long over all, and at the long end reacts against a bracket riveted to the upper flange and to the face of column 4 which has a load about seven times as great as the reaction. The cantilevers supporting columns 6, 7 and 14 are similar, but carry intermediate columns on the top flanges between the fulcrums and the anchorages.

Cantilever 6-29 is 241/, feet long on centers, and has three 48x 14-inch webs, eight 6x6x 1/4inch flange angles and eight 28x9/16-inch flange cover plates, two of them extending the full length and the remainder being short lengths over the bearing of the fulcrum column. The middle web and angles extend from the end of the short arm of the cantilever to 6 feet from the center line of the reaction column to the face of which the end of the girder if fieldriveted. The reaction bracket on the upper side of girder 4-5 is omitted here, and the intermediate column 30 is seated on the top flange of the girder above vertical web stiffener angles like those above the fulcrum column. Intermediate column 30 is 8 feet 1 inch from the center of the fulcrum column.

The maximum column loads are: cantilever column, 551.5 tons; fulcrum column, 823.7 tons; intermediate column, 251.3 tons; reaction column above the girder, 265.3 tons; below the girder, 285.7 tons. The fulcrum column is seated on a triple-web distributing girder 42 inches deep, and the reaction column is seated on three 18-inch 55-pound distributing I-beams across the girder beams. Cantilever girder 9-7 is similar to girder 6-29. It is 19% feet long on centers, and has an intermediate column 7½ feet from the cantilever column. Its center web is 11 feet long, and it is made with three 48x9/16-inch webs, eight 6x6x%-inch angles and six 28x9/16-inch cover plates.

At one corner of the building the steel smoke stack and five columns are carried by a system of distributing and cantilever girders on a single calsson 121/2 feet in diameter, which sustains a total maximum load of 1.632 tons. The top of the caisson pier concrete is covered with fifteen 18-inch 55-pound grillage I-beams, across which nearly at right angles, are set three plate girders with different depths of webs, but all 52 inches deep over all, so as to provide level bearings for a double cantilever girder which is laid across their top flanges and is supported on all three of them. The middle lower girder is 19 feet long and has three full-length 48inch webs and enough full length flange cover plates to make its height equal to that of the other two lower girders.

At each end it supports a column, one of them having a lever arm of 7 feet and the other a lever arm of 9 feet from the center of bearing of the girder, distances which are inversely proportioned to the dead weight loads on the columns so that their moments are in equilibrium. One of the lower girders is 6 feet long and has a single web and does not support any column but acts as a bolster for-the upper girder and to distribute part of its load on the grillage beams. The other lower girder has two 51-inch webs and two cover plates, increasing its depth to the required amount, and is 91/2 feet long with a column at each end. The columns are 7 feet apart on centers; one of them is directly above the grillage beams and the other is just beyond the edge of the calsson, so that the overhang is hardly noticeable, although the girder is theoretically a double cantilever with arms about 4 feet and 3 feet long. The upper girder is 19 feet long and has three supports, one in the center, one 31/2 feet from

it on one side, and one 5½ feet from it on the opposite side. At one end it has a clear overhang of 4 feet, and supports on the upper flange a grillage of double-cantilever 8-inch I-beams which carry the 180-ton smoke stack. The moment of the smoke stack is balanced by the moment of a 276-ton column, which is seated on the 5-foot overhang at the opposite end and has an 8-foot lever arm from the center of support of the girder. The arrangement of all the girders is such that their moments under dead loads balance each other and that the center of gravity of their combined loads passes through the center of the enisson.

The basement floor is at ground-water level, about 11 feet below the curb, and is made with a continuous bed of concrete 12 inches thick with an asphalt waterproof layer between the top and bottom layers of concrete. The bollers are set 5 feet below the floor level in a calked steel pan 7 feet high. All steel work below the basement floor is asphalted and covered with at least 4 inches of concrete.

There are in the building, thirty-five columns. nearly all of which are made with two channels latticed in the lower stories and part of which are made in the upper stories with a web plate and four angles in an I-shaped cross section. The maximum column load is about 1,000 tons, and the corresponding cross-sectional area is about 200 square inches. All columns are made in two-story lengths, spliced in the second. fourth and sixth stories and so on, 2 feet above the finished floor lines. The splices are made with flange cover-plates shop-riveted to the lower sections of the columns to form jaws which are field-riveted to the upper sections, and with horizontal diaphragms between the abutting ends which are field-rivcted to both sections of the column. Columns 1, 2 and 4 carry the heaviest loads, and are each made with two 15-inch channels, one 12inch I-beam and cover plates and channel web reinforcement plates,

Four of the columns are extended above the roof to support the two 5,000-gallon elevator and house-supply water tanks. Each tank is a 6-foot horizontal cylinder 24 feet long and is supported in a segmental cradle by two columns each 6 feet 1½ inches from the center of the tank in the plane of its axis. Each column has a segmental cradle, T-shaped in cross section, which fits the circumference of the tank and is supported by cantilever brackets shop-riveted to the sides of the column as shown in the detail elevation.

The wall columns are fireproofed by being completely enclosed in red brick walls, 8 inches thick on the outside and 4 inches thick on the inside. The interior columns are enclosed with 2-inch terra-cetta blocks. The outer walls are of red brick laid in Portland cement mortar and on the street front are faced up to the third floor with granite 8 inches thick and with limestone above, all well anchored to the brickwork, and steel. The lower sections of the columns are designed to carry 75 per cent. of the total maximum live load and all of the dead load figured for the floors.

The use of wood in the building will be reduced to a minimum; all floors will be of concrete with a cement or tile wearing surface; the window sashes will be all metal or of wood covered with metal and the doors and trim will be of red oak, fireproofed.

The roof of the adjacent old portion of the building reaches to the eleventh story of the new building and above that story the side wall of the new building overhangs the lower stories 5 feet from the centers of the columns. The wall and the floor boyond the columns are carried by cantilever floorbeams which are continuous through the wall columns to the in-

terior columns to which they are riveted, and are supported on diaphragms riveted between the webs of the wail columns as shown in the accompanying detail. All other floorbeams terminate with their ends against the column webs or cover plates, and are connected to them with horizontal transverse angles riveted to the columns across their upper and lower flanges, the lower angles having their horizontal flanges reinforced in the standard way by the ends of vertical distributing angles.

The location of columns and typical arrangement of floorbeams with their lengths and sizes is shown in the plan of the twelfth floor tier. The other floorbeam plans are similar except as shown for the thirteenth tier and that there are special cantilever girders in the first floor tier and no floor girders in any of the other tiers. At the second, third, seventh, tenth, thirteenth, sixteenth, nineteenth and twenty-first tiers the wall is carried by double-web plate girders 3 feet deep which afford extra stiffness to resist transverse stress and distribute wind pressure. In nearly all other tiers the walls are carried by single-web plate girders two feet deep, which are built into the brickwork and are connected to the wall columns as shown in the cross sections of 12-inch and 16-inch walls. The south wall above the thirteenth floor is carried by girders composed of one 12inch channel, one 8-inch I-beam and one 16-inch cover plate, supported on the cantilever ends of the double floorbeams as shown in the sectional elevation. On the other sides of the building the upper stories of the walls are carried the same as the lower ones, on single and double-web plate girders, as already described. The twelfth story of the south wall is suspended from the thirteenth story cantilevers by 11/4inch vertical rods with upset screw ends which are set 6 feet apart, and carry a 12-inch I-beam with horizontal web on which the brickwork is

Wall columns 25 and 26 are offset horizontally in the twelfth story and column. 1 in the thirteenth story, as shown in the side elevations of the special wall girders which are also seen in the floor plans. In the twelfth story there are two separate girders with their abutting ends field-riveted together on top of the lower section of column 26 so as to make practically a continuous girder 25, 26, 1, about 35 feet long over all. In the thirteenth tier the regular double-web wall stiffening girder has one end connected in the usual way to the face of column 2 and at the other end is seated on the cap of column 1 and projects 4 feet beyond it to carry the upper section of the column over the old building.

All floors are made with 12-inch flat semiporous, end construction terra-cotta tile arches, and are proportioned for 75 pounds live load and weigh about 45 pounds per square foot, exclusive of the steel. The tiles have lips protecting the lower flanges of the floorbeams and girders and the ceiling is plastered on their lower surfaces. The roof is made with 12-inch beams about 6 feet apart with 3x3-inch T-bars 3 feet apart across their upper flanges which serve as skewbacks for and support transverse galvanized corrugated iron arches of 5 inches rise. Portland cement cinder concrete is filled in 3 inches deep above the crowns of the arches and is asphalted and covered with ordinary roof tiles. The ceiling is plastered on expanded metal suspended below the roof beams.

The smoke stack, 5 feet in diameter and 275 feet high, weighs about 360,000 pounds. It has a steel shell shipped to the building in 16-foot sections and connected to the floorbeams at every story with bolts through vertically slotted holes. The shell is %-inch thick for the lower third of its height, ¼-inch thick for the middle

1 and 3/16 inch thick for the upper third. diections are field-riveted together through de horizontal flange angles. The lower is a 21/4 x 21/2-inch angle and the upper 8x4-inch angle which supports the The lining consists of 2 inches of cinder next the shell and 4 inches of fire great the concrete. The fire brick has of its thickness supported on the 4-inch ge of the angle and the other half projects of a deep joint which is pointed up so wholly enclose the angle.

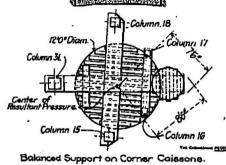
esrs. R. H. Robertson and R. B. Potter the architects, and Mr. A. Pauli of their Empervised the drawings and details. Mr.

5-8'I318# (3-48% Webs. |8-6%6% VIS |6-28% & Cox. Pts.

Nathaniel Roberts was the consulting engineer and the American Bridge Company is the contractor for the structural steel which weighs over 2,000 tons. Mr. J. F. O'Rourke is the contractor for the pneumatic caisson foundations.

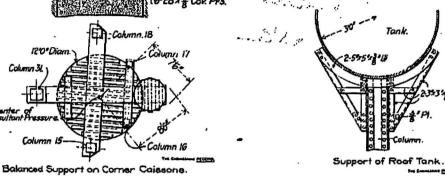
An Important Engineering Vacancy in the Bureau of Chemistry, Department of Agriculture, will be filled by a competitive examination on July 8, of which particulars can be obtained from the U.S. Civil Service Commission, Washington, ...

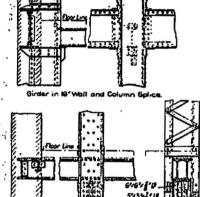
4-28% & PH



(48:4-114

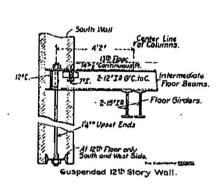
Girder 25-28. 12th Ties

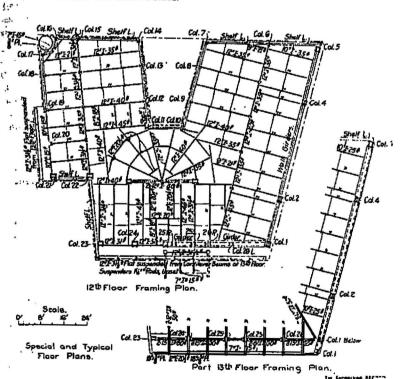


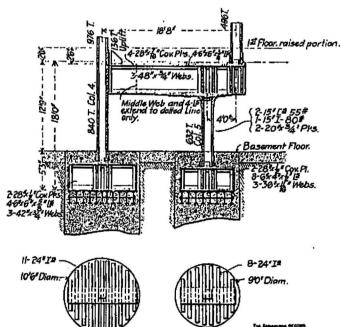


30 %

Girder I- 2. 13th Tier.





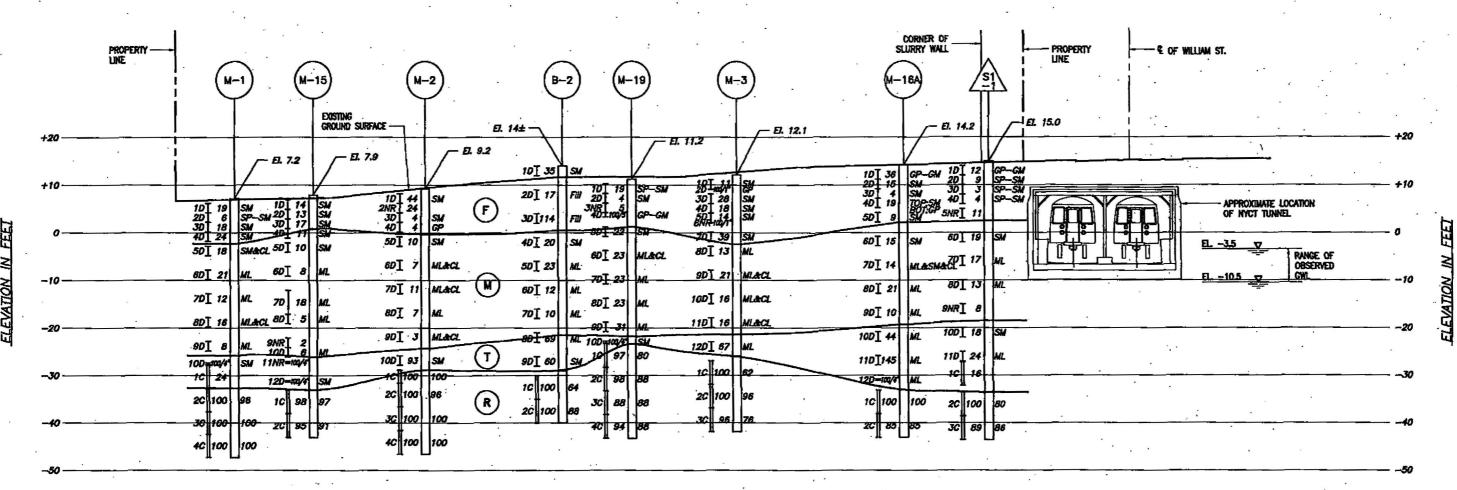


Cantilever Support of North Wall Columns.

STRUCTURAL DETAILS OF THE EXTENSION OF THE CORN ENGHANGE BANK BUILDING, NEW YORK. MESSES, R. H. ROBERTSON AND R. B. POTTER, ARCHITECTS; MR. NATHANIEL ROBERTS, CONSULTING ENGINEER; AMERICAN BRIDGE CO., CONTRACTOR FOR STEELWORK; MR. J. F. G'ROURKE, CONTRACTOR FOR FOUNDATIONS.

# APPENDIX E Subsurface Investigation 15 William Street, New York, NY Mueser Rutledge Consulting Engineers

•	Geologic Section A-A	GS-1
•	Top of Rock Contours	C-1
•	Test Pit Location Plan	TP-1
•	Boring Location Plan	B-1
•	Site Plan Existing Conditions	G-1
	and Former Structures	

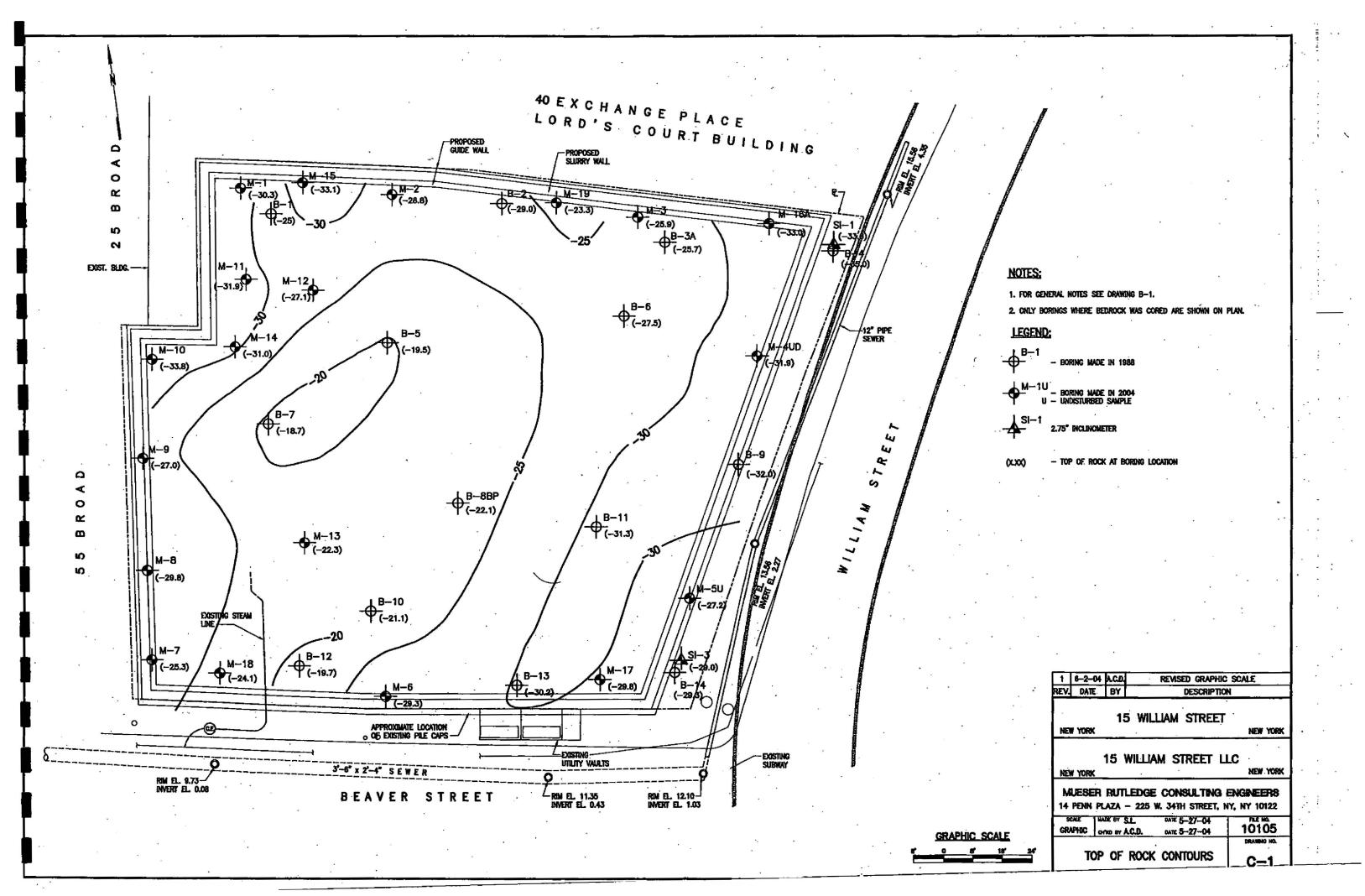


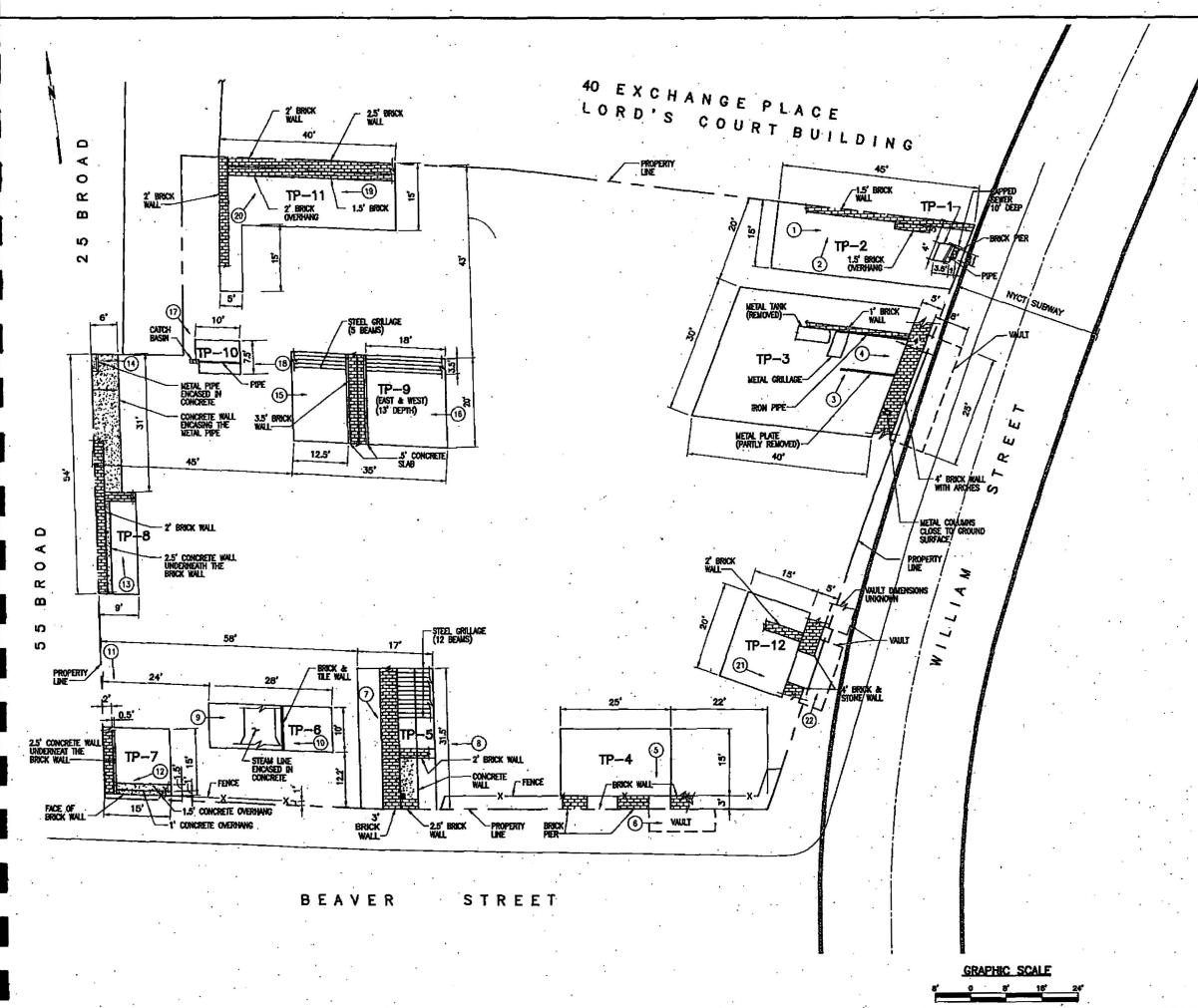
## SECTION A-A

### GENERAL STRATA DESCRIPTION

- FILL LOOSE TO VERY COMPACT RED BROWN GRAY FINE TO COARSE SAND, WITH SOME TO TRACE BRICK, CONCRETE, GRAVEL, SUT, METAL, WOOD, AND GLASS.
- SILT LOOSE TO MEDIUM COMPACT RED BROWN SILT VARVED WITH SOME TO TRACE SILTY CLAY OR CLAYEY SILT, OCCASIONAL TRACE FINE SAND, GRAVEL AND MICA.
- GLACIAL TILL MEDIUM COMPACT TO VERY COMPACT GRAY GREEN SILTY FINE TO COARSE SAND, AND SOME TO TRACE GRAYEL, BOULDERS, COBBLES.
- R BEDROCK HARD TO MEDIUM HARD UNWEATHERED TO SLIGHTLY WEATHERED GRAY MICA SCHIST AND PEGMATITE, BLOCKY TO JOINTED, UNWEATHERED TO OCCASIONAL IRON STAINED JOINTS.

·			,
	1 6-2-04 A.C.D.	ADDED NYCY TUNN	EL .
	REV. DATE BY DESCRIPTION		*
	15 WILLIAM STREET		
	NEW YORK	<del></del>	NEW YORK
DRAWING B-1 FOR GENERAL NOTES.	15 WILLIAM STREET LLC NEW YORK NEW YORK		
	MUESER RUTLEDGE CONSULTING ENGINEERS 14 PENN PLAZA - 225 W. 34TH STREET, NY, NY 10122		
GRAPHIC SCALE	GRAPHIC CHICO SY		10105
6 0 10 20	GEOLOG	IC SECTION A-A	DRAWING NO.





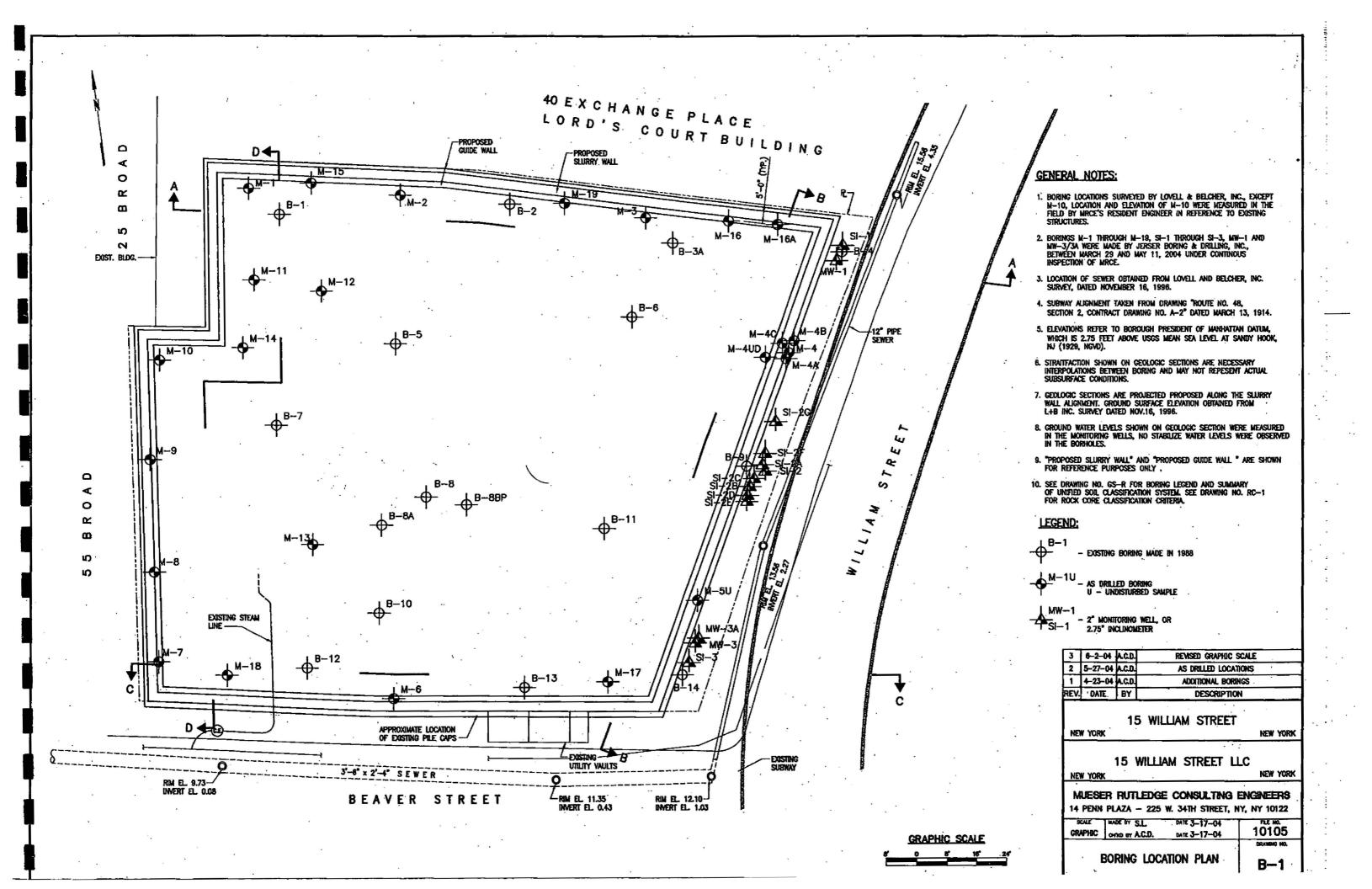
### GENERAL NOTES:

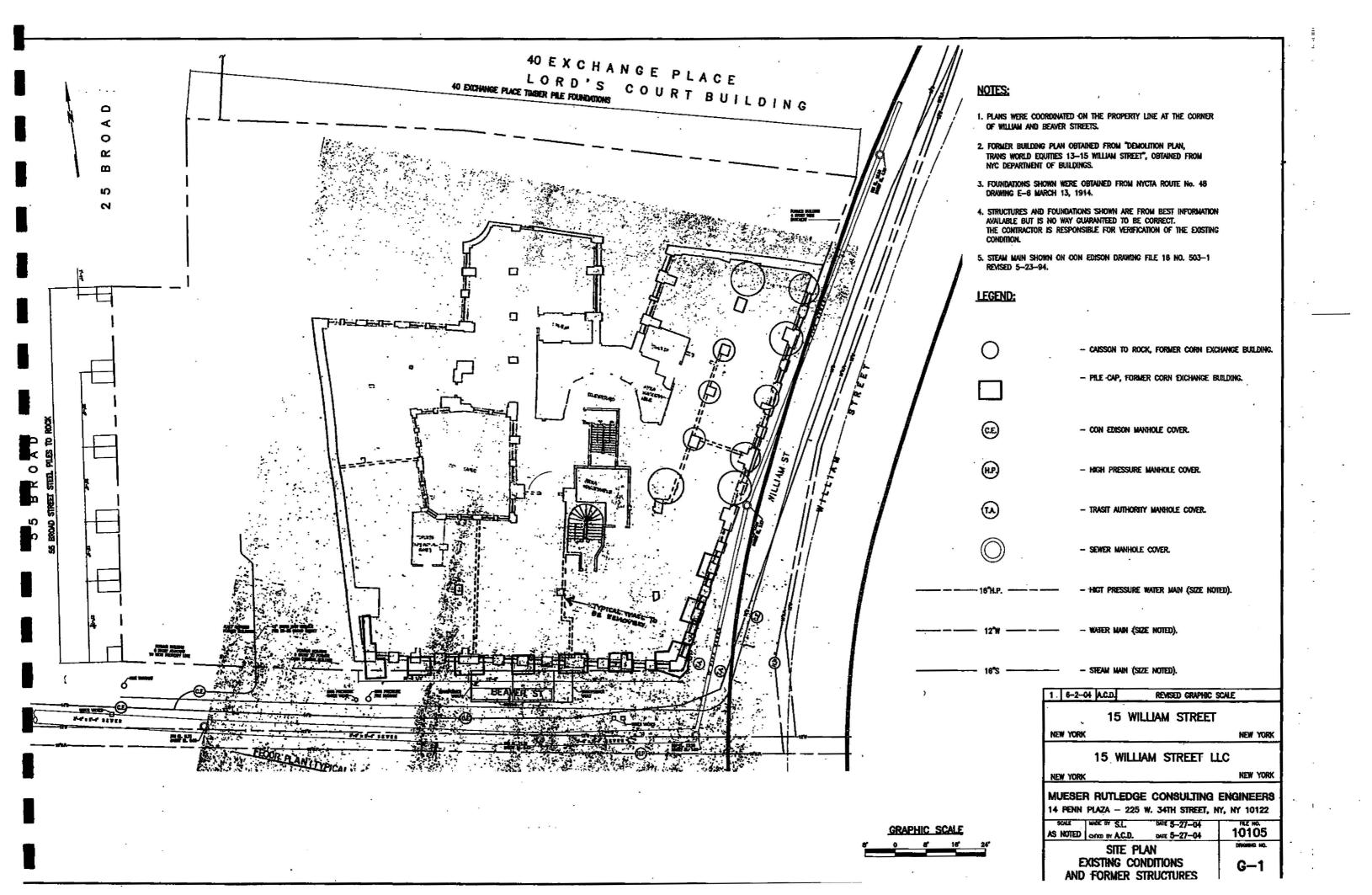
- 1. TP-1 WAS EXCAVATED BY JERSEY BORING & DRILLING INC.
  ON APRIL 2, 2004. TP-2 THROUGH TP-12 WERE EXCAVATED
  BY URBAN FOUNDATION ENGINEERING LLC. BETWEEN APRIL
  12, 2004 AND MAY 14, 2004. ALL TEST PITS WERE MADE
  UNDER THE CONTINUOUS INSPECTION OF MUESER RUTLEDGE
  CONSULTING ENGINEERS (MRCE).
- 2. LOCATIONS OF TEST PITS, PREVIOUS STRUCTURES, AND FENCE WERE MEASURED IN THE FIELD BY MRCE'S RESIDENT ENGINEER IN REFERENCE TO EXISTING STRUCTURES.
- · 3. TEST PITS PHOTOS ARE PROMDED IN THE REPORT.
- 4. SLABS FOUND IN TEST PITS ARE NOT SHOWN. REFER TO TEST PITS LOGS FOR THEIR LOCATIONS.
- SUBWAY ALIGNMENT TAKEN FROM DRAWING "ROUTE NO. 48, SECTION 2, CONTRACT DRAWING NO. A-2" DATED MARCH 13, 1914.

#### **LEGEND**

1) --- ORIENTATION OF PHOTO ATTACHED IN APPENDIX C.

			."		
2	6-2-04	A.C.D.	REVIS	ED GRAPHIC S	CALE
1	5-20-04	A.C.D.		EST PIT DETAIL	S · .
REV.	DATE	BY		DESCRIPTION	
l	*	15	WILLIAM	STREET	
NE	W YORK				NEW YORK
NE	w York	15	WILLIAM	STREET	NEW YORK
ML 14	JESER PENN PL	AZA -	225 W. 34T		ENGINEERS Y, NY 10122 PALE NO. 10105
	TEST	PIT LO	CATION F	LAN	TP-1





APPENDIX F
Grantor-Grantee Conveyance Records

## The William, 15 William Street

### Block 25 Manhattan

Grantor/Grantee Index at the City Register

General Statement of Early Title: "Titles in this book in the main in the Dutch period"

### No Instruments of Record

1654 to 1725

1727 to 1748

1750 to 1754

1756 to 1766

1768 to 1770

1772 to 1783

Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1804	Gelston, John	Bowne, Obadiah	Nov. 26	68:333	31	
1836	Bowne, Obadiah	Thomas, James P.	Mar. 26	352:220	31	
1836	Thomas, James P.	Halsted, Caleb O.	Mar. 28	346:450	31	
1836	Halsted, Caleb O. Lord, Rufus L.	Agreement	Dec. 31	366:506	30, 31	
1839	Halsted, Caleb O. Caroline L.	Bowne, Andrew	Jan. 15	394:111	31	
			,, ,,			

Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1804	Brinckerhoff, Abraham	Bowne, Obadiah	Nov. 21	68:318	32	
1815	Bowne, Obadiah	Cooper, George H.	June 24	110:273	32	· · · · · · · · · · · · · · · · · · ·
1822	Cooper, George H.	Whiting, David	Aug. 27	162:358	32	
1833	Whiting, David	Pitkin, John R.	Jan. 15	292:68	32	
1833	Nicholson, James Witter Nancy	Gallatin, Albert R.	Jan. 29	291:450	32 1/2	"Examine 32"
1833	Chrystie, James (Gdn of) Christie, *John *Albert (Gdn of) *Heirs of Nicholson, Frances Few, Catharine Gallatin, Albert Hannah Sewey, Frances Montgomery, Maria Gallatin, Albert R. Chrystie, Thomas W.	Steward, John, Jr.	Feb. 1	291:479	32 1/2	"Examine 32"
1836	Pitkin, John R. Sophia M. Halsted, Caleb. O.	Party Wall Agreement	Oct. 7	368:33	32	
1838	Pitkin, John R. Sophie M.	Walker, Joseph	Oct. 13	391:200	32	
1846	Halsted, Caleb O. Bowne, Andrew Walker, Joseph	Party Wall Agreement	May 1	475:256	32, 32 ½	
1852	Austin, David	Agreement	Jan. 12	587:377	32, 32 1/2	

	Stewart, John					
1852	Steward, John D. Jackson Joseph	Agreement	Ap. 4	685:297	32 ½, 33	
						,

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Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1797	Bayard, Samuel (Exr & Trst of) Breese, Samuel Burr, Aaron (Trustees)	Crygier, Cornelius	Feb. 16	55:327	33 ½	
1807	Sands, Joshua Mulligan, John W. (Comm in Partition)	Farrier, John	Mar 6	76:1	33	
1809	Crygier, Cornelius Hannah	Turner, John	Nov. 3	85:110	33 ½	
1818	Turner, John Margaret	Van Nest, Abraham	Feb. 7	125:268	33 1/2	
1822	Fyfe, Martha	Ferrier, Martha	May 31	160:341	33	
1831	Ferrier, John M. Dean, Mary Barriko, Ann C.W. Heirs of Ferrier, John Ferrier, Lilless Dean, Daniel Barriko, John V.B. Burnet, Joseph	Blake, Anson	May 12	272:290	33	4/5 Interest
1831	Ferrier, Martha (Excrs of)	Blake, Anson	May 12	272:294	33	
1831	Shaw, James (Sheriff) Barriko, John V.B. (Interest of)	Blake, Anson	Dec. 17	289:627	33	

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1833	Blake, Anson Elizabeth	Austen, David	Oct. 3	299:605	33	
1851	Austen, David	Townsend, William H.	Aug. 1	577:470	33	-
1852	Austin, David	Agreement	Jan. 12	587:377	32 1/2, 33	
	Stewart, John			_		
1852	Townsend, William H.	Levy, John	June 18	610:205	33	
	Henry	Haber, Isaac				
	Assigne of	Morrison, Lewis M.				
	Austen, David					
1853	Van Nest, Abraham	Corn Exchange Bank	May 2	640:348	33 1/2	
1856	Levy, John	Boody, Azariah	Feb. 5	693:651	33	
1856	Coggill, Henry	Boody, Azariah	Feb. 8	700:349	33	Warrantee Deed
1856	Coggill, Henry	Boody, Azariah	Feb. 29	699:359	33	
1857	Boody, Azariah	Smith, James Rufus	Sept. 8	745:93	33	

Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1786	Carpenter, Elizabeth (Excrs of)	Malcom, William	Nov. 23	44:60	34	
1796	Robertson, Alexander Lenox, Robert Goerck, Casimir Th. (Commissioners in Partition) Malcom, Sarah Widow of Malcom, William	Russel, Abraham	Mar 12	51:171	34	
1815	Russel, Abraham	Cooper, George-Henry	June 26	109:355	34	
1818	Turner, John	Cooper, George-Henry	Aug 22	130:220	34	
1853	Cooper, Ann Fredericka William D. Catharine D. Widow and Heirs of Cooper, George H.	Corn Exchange Bank	May 2	640:349	34	
			<del></del>			
					<del> </del>	

Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1805	Gilbert, William Betsey John W.	Homedien, Nathaniel	Aug. 19	70:326	35	
1810	Hommedien, Nathaniel L. Ann	Turner, John	Mar. 22	86:306	35	
1824	Turner, John Margaret	Taylor, John W.	May 1	176:273	35	
1836	Blake, Anson Elizabeth W.	St. Felix, John R.	May 11	358:129	35	
1837	St. Felix, John R. Maria Maltby	Sargent, Henry	Nov. 25	384:88	35	½ Interest
1839	Sargent, Henry Winthrop Caroline	Hunnewell, Horatio- -Hunnewell	Nov. 13	400:528	35	½ Interest
1843	Denny, Thomas	Welles, John	June 30	434:549	35	½ Interest
1848	Hunnewell, H. Hollis Isabella- -Pratt	Welles, John	Mar. 3	497:427	35	
1848	Welles, John	Hunnewell, H. Hollis	Mar. 7	502:283	35	

Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1807	Ingraham, Nathaniel G. Juliana	Gelston, John	Ap 3	76:60	37	[ pp photocopied]
1807	Gelston, John Phoebe	Turner, John	Ap 3	76:62	37	[ pp photocopied]
1811	Ledyard, John Mary Ann	Turner, John	Nov 25	94:405	37	[ pp photocopied]
1812	Turner, John Margaret	Lang, John	May 11	98:345	37	[ pp photocopied]
1818	Lang, John Sarah	Luqueer, Francis T.	May 22	127:524	37	
1825	Luqueer, Francis T. Mary	Lang, John	May 2	189:530	37	
1833	Lang, John Sarah	Depau, Francis	May 4	297:235	37	
1836	Blake, Anson Elizabeth	Lord, Rufus L.	Dec	369:368	37	
				-		

Year	Grantor	Grantee	Date	Vol:Page	Lot	Remarks
1855	Freeland, Hartman	Lord, Rufus L.	Feb 25	721:651-	22, 31 1/2, 38	Lease
Ť	(Exrs of)			657	,	
	Freeland, Hartman		1	İ		"an unencumbered
	Eliza B.		Ì	1		vacant lot"
	Gautier, Charlotte			1		
	Van Horn, Hartman F.					
ļ	John G., Jr.					
	French, Helen D.			Ì		
	Josiah H.					
}	Gautier, Anna E.					
	William H.					
	James R.					
	Wakeman, David B.					
	Elizabeth G.					
	Edmund D.B.					
1	Annie					
	Jabez					
	Sarah		1			
	Mason, John W.					
Ì	Hannah					
1	Gautier, Thomas					
	Francis P.					
	Hewitt, Clark					
1	Ann					
	Andrews, Benjamin					
	George D.					
s.	Gautier, Helen D.					
1855	Same 26 as above	Lord, Rufus L.	Feb. 25	721:658	22, 31 1/2, 38	

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1856	Andrews, Benjamin George C.	Wulf, William	Feb. 21	727:60	22, 31 ½, 38	
1857	Wulf, William	Lord, Rufus L.	Feb. 25	721:664	22, 31 1/2, 38	
1857	Wulf, William	Andrews, Benjamin George G.	May 2	726:643	22, 31 ½, 38	
1858	Disbrow, Samuel W. Sarah	Disbrow, Sarah H.  Margaret Greenvault, Mary Emily Disbrow, Andrew J.	June 17	762:125	22, 31 ½, 38	1/2 Interest
1860	Gosman, John	Lord, George DeForest	July 26	814:398 :399 :400 :401 :403 :404	22, 29 ½, 31 ½, 38	
1860	DeWitt, Hannah Devisees of Courtney, Hannah	Lord, George DeForest	July 26	814:405	22, 29 ½, 31 ½, 38	1/36 Interest
1860	Disbrow, Sarah H. Benjamin N.	Lord, George DeForest	July 26	814:407	22, 29 ½, 31 ½, 38	1/60 Interest 1/72 Interest 1/84 Interest 1/2 Interest
1860	MANY, MANY NAMES	Lord, George DeForest	July 26	814:410 :412 :414 :417 :419 :421	22, 29 ½,31 ½, 38	

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				:423		· -
1860	MANY, MANY NAMES (con't)	Lord, George DeForest (con't)	July 26 (con't)	814:424 :426 :428 :430 :433	22, 29 ½, 31 ½, 38 (con't)	
1860	FOUR NAMES	Gosman, John	July 26	814:434 :436 :438 :439	22, 29 ½, 31 ½, 38	

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APPENDIX G 1812 Street Directory Cross Referenced with Census Data

Street No.	1790	1789 (Rothschild)	1800 (Census)	1812 Directory	1807	1810 (Census)	1820 (Census)	1820 (Dir.)	1826 (Dir.)	1830 (Dir.)
William St.		<u> </u>	(-=====						-	
1				C D Colden attourney				yes-"mayor of City"		
5					yes					
7				Isaac Minard - boot & shoe man'y				yes, shoe and bilt	yes, Minard and Son shoe and boots	yes
11				Henry Garson grocer @ 59 Beaver						
13				J Turner printer				(0.0000000000000 0.000 0.000000 0.0000000		
15				John Anthon attorney				<u></u>		
15				Ann Griffin "Griffin, MA attorney						
19				Geo H Cooper "gr"				Geo D. Cooper attorney, h 59 Beaver; Geo H. Cooper had shop at 11 William	grocer, 11 William	yes
23	ļ	Andrew Brown (William St.) merchant		A&S Browne				Y AMANAA		
25				Wm Baillie merchant						
27				Peter Dewitt			<del> </del>			
27			ANNA VANDYKE - Ward 1, FEMALES: 1>45yrs	Mrs Vandyke "board						

Street No.	1789 (Rothschild)	1800 (Census)	1812 Directory	1807	1810 (Census)	1820 (Census)	1820 (Dir.)	1826 (Dir.)	1830 (Dir.)
29			Th Bailey - Post Master (29 was the post Office)	yes			yes	"post master h 12 Park Pl"	
Beaver St.					*				
33	 		Wm Cargill	yes	<del>}</del>			+	
33	<u> </u>	<u> </u>	H G Livingston	yes					-
35	 		John Debrow - merchant, taylor	(home 78 Water St.)					
39			Ezra Pratt - "mer 76 Front, h 38 Beaver"	(James Dewitt lived at 39 Beaver)					
43	 # 17 WE TELL TO		Robert Dunn -ship m						
47			Thomas Mahan -	(lives on 135 Division					
49		Ward 1, MALES: 1<1 0yrs, 1 10- 15yrs, 1 26- 44yrs; FEMALES: 1 10-15yrs, 2	John Reid - broker	lives in rear of 34 William	JOHN REID- Ward 1; MALES: 3<10yrs, 1 16- 25yrs, 1 >45yrs; FEMALES 2 16- 25yrs, 2 26- 44yrs, 3 "other		b-59th St.; h- Brooklyn		
		26-44yrs			free persons"				

Street No.	1790	1789 (Rothschild)	1800 (Census)	1812 Directory	1807	1810 (Census)	1820 (Census)	1820 (Dir.)	1826 (Dir.)	1830 (Dir.)
51	Abraham Isaacs - Dock Ward, MALES: 1<16yrs, 1>16yrs, FEMALES: 5, plus 1 slave	Abraham Isaacs (Princess St) Taylor	(Ceasus)	S M Isaacs - custom h broker	h- 51 Beaver St, works at 55 Broad	SOLOMON ISAACS - Ward I MALES: 1 10- 15yrs, 1 16- 25yrs; FEMALES 2 16- 25yrs, 1 >45yrs, 1 "other free persons"	1 , MALES: 1 26-45yrs; FEMALES: 2 16-26yrs, 2 26-	(b-Broad St, h- 106 Liberty)	h-490 Greenwich	
53				Elijah Warner -paint & gl 55 Broad; h 53 Beaver			Elijah Warner - Ward 1 MALES: 2<10yrs, 1 10- 16yrs, 1 16- 18yrs, 1 16- 26yrs, 1>45yrs; FEMALES 1<10yrs, 1 10- 16yrs, 2 16- 26yrs, 1 26- 45yrs; 1 person engaged in manufacturing			
54				John Ayell						l
54				Wm Dempsey notary				(b-20 Hall; h 2 Renwick)	b 35 William St, h 33 Grand	

## 1812 Street Directory Data Cross Referenced with Census Records

Street No.	1790	1789	1800	1812 Directory	1807	1810 (Census)	1820 (Census)	1820 (Dir.)	1826 (Dir.)	1830 (Dir.)
		(Rothschild)	(Census)		1					
54				John Wilkes - notary	yes					
				7 Beaver						
59				Mrs. Culbertson -	yes (listed as			yes		
				widow, teacher	"Mr")					
59				Henry Garson - "gr"						
									i	

APPENDIX H
Grantee/Grantor Names
Cross Referenced with Census Data

GRANTOR/GRANTEE	1790 (directory)	1800 (Ward 2)	1810 (Ward 1)	1820 (Ward 1)	1830 (Ward 1)	1840 (Ward 1)
1807 Nathanial Ingraham (grantor)	i oc (anosto),	NATHANIAL INGRAHAM Ward 2, MALES: 1<10yrs, 1 26-44yrs; FEMALES 1 10- 15yrs; 2 16-25yrs; 2 slaves		1020 (10212 1)	l l	1000 (100112-1)
1807 John Geltson (grantor & grantee)		JOHN GELSTON Ward 2, MALES: 2 10-15yrs, 1 16- 25yrs, 1 26-44yrs; FEMALES: 2<10yrs, 1 16- 25yrs, 1>45yrs 1 slave				
1811 John Ledyard (grantor)			JOHN LEDYARD - Ward 5 (Not in project site)			
1812 John Turner (grantor)			JOHN TURNER - Ward 1, MALES: 2,10yrs, 1 10-15yrs, 1 26-33 yrs; FEMALES: 1 10-15yrs, 2 16-25 yrs, 1 26-44 yrs.			
1818 John Lang (grantor)			JOHN LANG - Ward 1, MALES: 1< 10yrs, 1 10- 15yrs, 1>45yrs; FEMALES: 2<10yrs, 2 10-15yrs, 1 16-25yrs, 2 26-44yrs, 1>46	1, MALES: 3<10yrs, 1 10-18yrs, 1 16-26yrs, 1>46yrs; FEMALES:		

GRANTOR/GRANTEE	1790 (directory)	1800 (Ward 2)	1810 (Ward 1)	1820 (Ward 1)	1830 (Ward 1)	1840 (Ward 1)
1825 Francis Luqueer			FRANCIS LUQUEER -			
(grantor)			Ward 1, MALES:			
			3<10yrs, 1 26-45yrs,			
			2>45yrs; FEMALES: 2			
			16-26yrs, 2 26-44yrs; 1			İ
			person engaged in			
			commerce, 1 female			
			"free colored person"			
	,		<14yrs	;		
			-			

GRANTOR/GRANTEE	1790 (directory)	1800 (Ward 2)	1810 (Ward 1)	1820 (Ward 1)	1830 (Ward 1)	1840 (Ward 1)
1833 John Lang (grantor)					JOHN LANG - Whitehall Street (Not in project site)	
Francis Depau 1833 (grantee)			FRANCIS DEPEW - WARD 5 (Not in project site)	FRANCIS DEPAU - 1820 Directory - NYC - no address		
1836 Anson Blake (grantor)					ANSON BLAKE - Ward 9 (Not in project site)	ANSON BLAKE - Kings County (Not in project site)
1836 Rufus Lord (grantee)					The second secon	Rufus Lord - Ward 5 Laight Street (Not in project site)
LOT 38, 51 Beaver Stre	et					
No available grantee/grantor records pre 1855						
LOT 31, 23 William Stre	et					
1804 John Gelston (grantor)		JOHN GELSTON Ward 2, MALES: 2 10-15yrs, 1 16- 25yrs, 1 26-44yrs; FEMALES: 2<10yrs, 1 16- 25yrs, 1>45yrs 1 slave				
1804 Obadiah Bowne (grantee)	OBADIAH BOWNE - Dock Ward (no address)	OBADIAH BOWNE - Ward 2, MALES: 3 16-25yrs, 2 26- 44yrs, 1>45yrs; FEMALES: 1<10yrs, 1 10-15yrs, 12 16- 25yrs, 1>45yrs		OBADIAH BOWNE - Westfield, Richmond (Not in project site)		
1836 James Thomas (grantor)					JAMES THOMAS - Ward 1 New Street (Not in project site)	

GRANTOR/GRANTEE	1790 (directory)	1800 (Ward 2)	1810 (Ward 1)	1820 (Ward 1)	1830 (Ward 1)	1840 (Ward 1)
1839 Caleb Halsted (grantor)					1929/30 (Directory) CALEB O. HALSTED & Co., merchant Greenwich St., 2nd address - Pearl St. (Not in project site)	CALEB HALSTED - Ward 5 (Not in project site)
1839 Andrew Bowne (grantee)						