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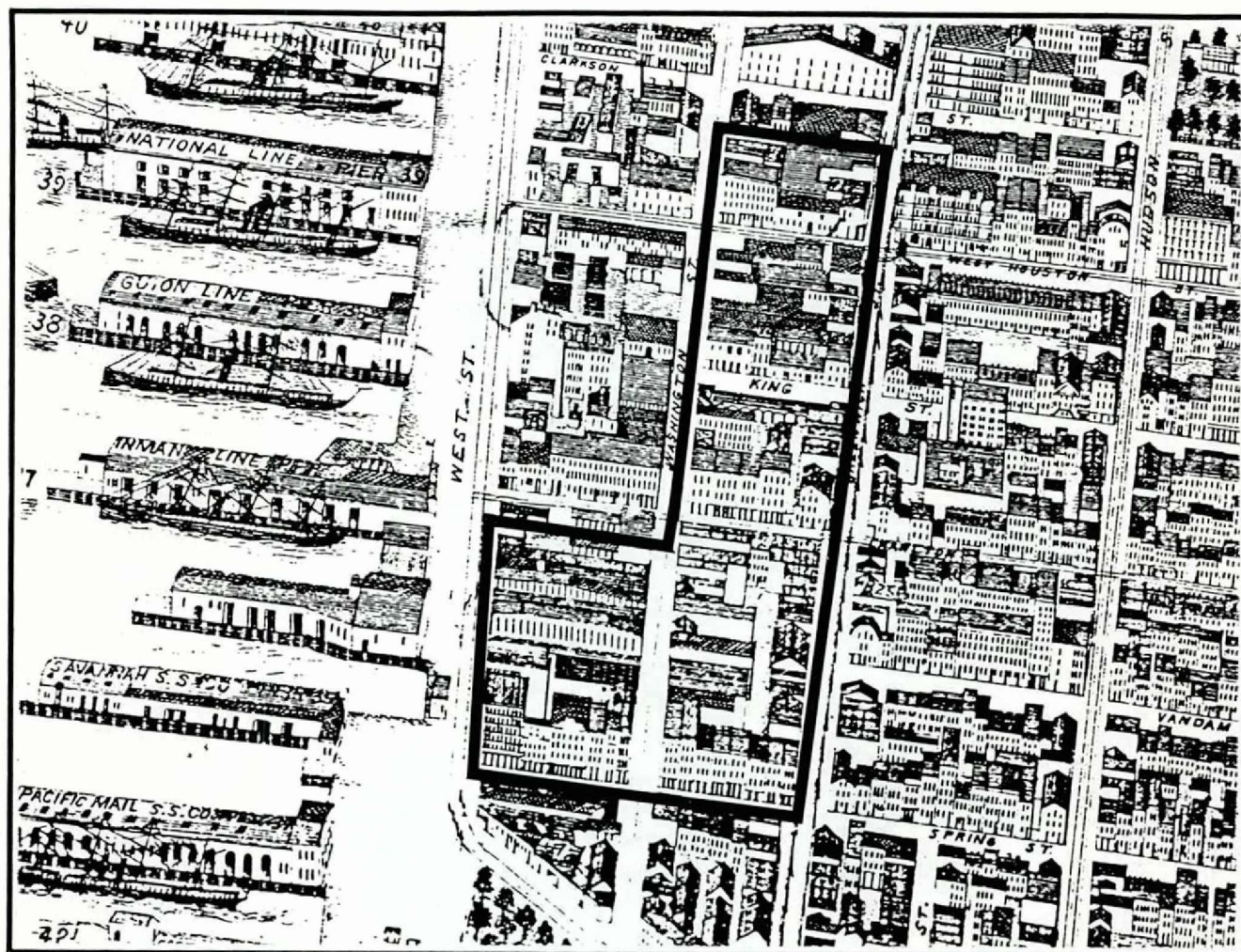
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ENVIRONMENTAL REVIEW

UPS Manhattan South Facility Phase 1a Archaeological Assessment

NOV 29 1988

LANDMARKS PRESERVATION
COMMISSION



CEQR No. 87-090M

Prepared for Allee King Rosen & Fleming, Inc.
Prepared by Joan H. Geismar, Ph.D.
November, 1988

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ABSTRACT

The UPS Manhattan South Facility site comprises five blocks on the southwest fringe of New York City's SoHo district. One block (Site A, bounded by Spring, West, and Washington Streets and the St. Johns Building) has been a parking lot since 1939; the three-story Union Terminal building, built in 1947, covers the rest of the site (Site B, bounded by Spring, Washington, West Houston, and Greenwich Streets). A new UPS distribution center is planned on Site A and on the southern part of Site B that will be joined by a bridge over Washington Street; the remainder of the terminal building will be renovated as will a garage north of West Houston Street that will become a UPS Customer Service Center. The western part of Site B and all of Site A is land reclaimed from the Hudson River between 1804 and 1818, and its development was mainly commercial.

Research indicated that any late-prehistoric or early historical deposits, or meaningful evidence of nineteenth century occupation, would have been obliterated by subsequent development; this is also true of the original shoreline and any shallow, off-shore landfill deposits or constructions. It also appears unlikely that inundated, early-prehistoric sites (dating between 6,500 and 9,000 years ago) are an issue; however, site-specific soil boring data to address this question are not currently available.

Based on this information, a monitoring program is recommended to document the early-nineteenth century wharves and other water front features built on Site A that now serve to structure the block (monitoring has proven a cost-effective, efficient means of recording landfill information both in New York City and in Europe); this program would not only make it possible to record documented wharves, but also any undocumented piers or bulkheads encountered during foundation excavations (bulkheads or parallel wharves are implied since the block was filled in more than one episode), and to sample the landfill itself. The location recommended for the monitoring program is a former lumberyard (317-318 West Street) in the northwest corner of Site A. It is also recommended that a planned soil boring program include two borings (from locations to be selected) to be sampled continuously from 30 to 90 ft. below the surface, a depth that would provide information about the environment and terrain 6,500 to 9,000 years ago when human occupation was a possibility. It is further recommended that a scope of work addressing these issues be developed that will be acceptable to the developer, the archaeologist, and the New York City Landmarks Preservation Commission..

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Graphics by Amy Geller (and Joan H. Geismar)
Except where noted otherwise, photos by Joan H. Geismar

ACKNOWLEDGMENTS

INTRODUCTORY SUMMARY AND RECOMMENDATIONS

Introductory Summary

This report presents a Phase 1a archaeological assessment of the proposed United Parcel Service (UPS) Manhattan South Facility site located in the southwestern limit of the SoHo District of Manhattan. It was prepared for Allee King Rosen & Fleming (AKRF) to fulfill part of the city's environmental review procedure (CEQR No. 87-090M), and its goal was to determine the site's history and archaeological potential. Of particular concern to the New York City Landmarks Preservation Commission (LPC) was the efficacy of undertaking a monitoring program to record any features structuring the landfill on the western part of the site, and any shoreline and fill features that might be found on its eastern portion. In addition, monitoring might provide the opportunity to sample the landfill and compare it with similar sites. On other urban sites, both here and in Europe, monitoring has proven a cost-effective, efficient means of documenting the fill process.

The site is bounded by Spring, West, Greenwich, Washington, and West Houston Streets and the southern side of the St. Johns Building (formerly the St. John's Park Freight Terminal). It currently comprises a block-long parking lot owned by UPS on the western part (Block 596 West, designated Site A), and the Union Terminal building owned by the Port Authority, but mainly occupied by UPS, on the eastern portion (Site B). The terminal building extends north from Spring Street between Washington and Greenwich Streets to West Houston Street (Blocks 596 East, 598, and 599). A related structure--a Customer Service Center--is planned on the

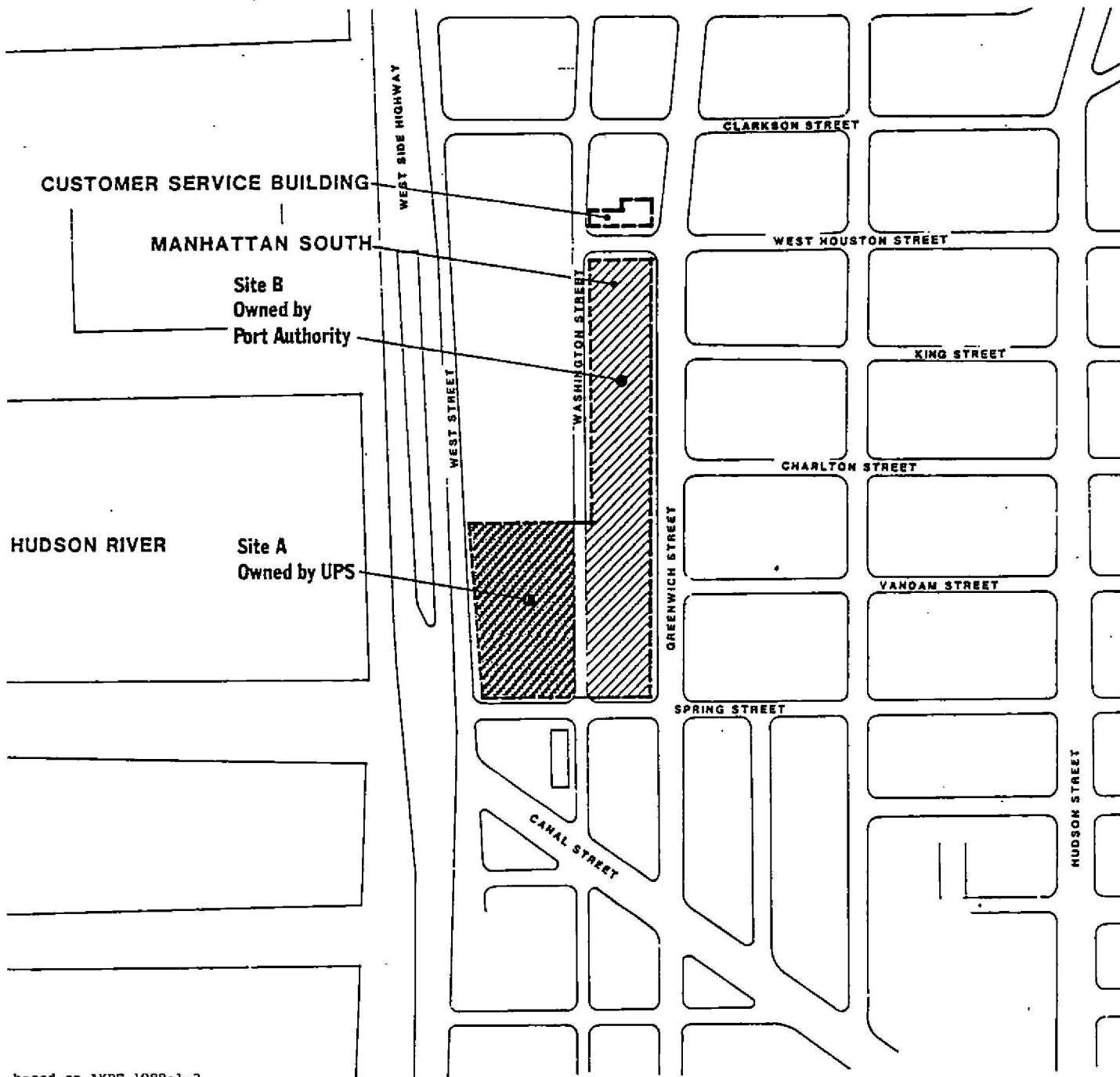
north side of West Houston Street (Block 600) where a garage used for maintaining and fueling UPS vehicles is currently located (Figures 1 and 2).

In addition to the landfill and development histories of the project site, the question of its prehistoric site potential has been addressed. Although the pre-fill terrain may have included a small bluff along a shoreline in the southeastern portion of Site B (Figures 27 and 28), subsequent development would have destroyed any evidence of prehistoric use. But the question of older, inundated sites on Site A has been raised by work done for the West Side Highway. Review of the data, which suggest a marsh in this area, does not indicate this would be an issue; however, since there is no site-specific, deep core data available, the possibility of such sites, while highly unlikely, cannot be entirely ruled out.

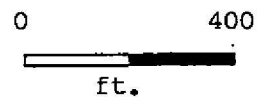
Since landfill structures and the process itself are a major research concern, and since construction of the Union Terminal building in 1947 would have eliminated any early-historical or off-shore fill features on Site B, Site A became the focus of research. It concentrated particularly on a lumberyard lot in the northwestern corner where an early-nineteenth century wharf is documented in tax records and on a map (Figure 25), and where subsequent development was minimal. However, Site A's southern portion, where a wharf is also documented, and the part of Site B that will be razed and rebuilt (from Spring to just below the Charlton Street line), were also researched as was the site of the planned Customer Service Center (see Historical Considerations).

Research into deeds, tax rolls and other public records, historical maps, published histories, unpublished reports, building





based on AKRF 1988:1-2



records, and photo archives indicate the western part of Site B and all of Site A were filled between 1804 and 1818. It not only documents that wharves extended west onto Site A from Washington Street, it also suggests the site was filled in more than one episode. This in turn implies that fill structures, such as parallel wharves or bulkheads, will be found on the block. It is also possible that undocumented piers may be preserved under fill.

The site's history includes ownership by 1640, but no seventeenth century development. By 1705, the eastern portion had become part of the Trinity Church Farm that extended south from Christopher Street between Broadway and the Hudson River; the western part (including the western portion of Site B) was included in lands under water (see Figures 23 and 24), which was also Church Corporation property. By 1782, defensive earthworks had been built on Site B (see Figures 27 and 28), and there may have been an unidentified, perhaps a defense-related structure, at what is now its southeastern corner; however, like any prehistoric remains, remnants of these constructions would undoubtedly have been destroyed by grading and subsequent development.

Except for the Revolutionary War defenses, the shoreline properties and the water lots remained undeveloped until after 1797 when the Church began to exchange shore-front and water lot rights for other city-owned sites. They were then conveyed by the city to individuals early in the nineteenth century with the expectation that land would be filled, streets would be constructed, and shore front blocks would be developed.

Intensive development began on Site B by 1804; this included residences as well as wharves and stores (warehouses), but the

project site in particular and all the west side seaport in general quickly became mainly commercial. By mid-century, well after the opening of West Street in 1818 had separated the site from the river, warehouses and other commercial establishments--including porter-houses, restaurants, a hotel, and a variety of trades--were located on Site A. However, some multi-family dwellings above stores or other businesses still remained.

Most of the nineteenth century buildings and, at least to a degree, the bustling seaport itself persisted through the 1920s. By then, the West Side Highway that began at Spring and West Streets had been opened and the New York Central Railroad had implemented a major west side improvement program that called for the construction of the St. John's Park Freight Terminal originally meant to cover Site A. Although still a question, there is evidence--mainly from photographs --that no foundations related to this building were ever constructed on the site. By 1931, buildings on the block were demolished in anticipation of this construction, but rather than a large terminal, it has been occupied by a gas station, a produce distribution center (later reused as a diner), and a restaurant as well as the parking lot since 1939.

In 1946, demolition began on Site B to make way for the Union Terminal Building. Construction entailed major site disturbance (see Figures 40 and 41) that undoubtedly destroyed any evidence of the former shoreline or of any late-eighteenth or early-nineteenth century structures that might have survived later building episodes. Consequently, Site A, which remained a parking lot, has become the focus of this investigation.

Recommendations

Based on the information presented here, archaeological monitoring is recommended during foundation excavations at 317-318 West Street on Site A (see Figure 43). While this would be the focus of the monitoring program, it should be noted that other areas of the site, where undocumented piers or bulkheads may exist, could also be archaeologically sensitive. In addition, it is possible that privies or cisterns, now filled, related to the small structures once fronting the lumberyard lot may also be encountered during monitoring. Like the landfill deposits, these could be sampled during the monitoring program.

As indicated above, monitoring has proven to be a cost-effective, successful means of documenting landfill-related piers and wharves; in addition, it would also allow the fill material to be sampled. It is recommended that a detailed scope of work be developed that will define the needs of both the archaeologist and the foundation contractor. This scope should meet the approval of LPC, the developer, and the principal archaeologist.

In addition, it is also recommended that soil borings anticipated prior to construction include two that are partially sampled continuously rather than at intervals. This should be done at locations to be specified and at depths from 30 to 90 ft. below the surface. This is a depth and thickness expected to document conditions from 5,000 to 10,000 years ago when Site A would theoretically have been dryer. Like the monitoring program, the parameters of the subsurface testing should be established by all concerned parties and approved by LPC.

The summary and recommendations presented here are based on the detailed, documented information found in the following sections.

SITE DESCRIPTION

The project site can be viewed as an L, with its short arm formed by Site A, a parking lot owned and used by UPS that is bounded by West, Spring, and Washington Streets and the St. Johns Building. This block became a parking lot in 1939 (see Appendix A, No. 7), after the nineteenth century structures that virtually covered it were demolished in anticipation of building the New York Central Railroad's St. Johns Park Freight Terminal (now The St. Johns Building). At that time, a Socony-Mobilgas service station stood on its southwest corner (Appendix A, No. 1), a produce distribution center on its southeastern corner (Appendix A, No. 6), and a one-story restaurant or store was at 317- 318 West Street (this latter structure only covered the front part of the building lot; see Appendix A, No. 4). Site A will be the location of a new, four-story terminal building.

The long arm of the L (Site B) comprises the three-story, four block-long Union Terminal Building (325 Spring Street) built in 1947 by the Port Authority, its current owner. This structure, which extends from Spring Street north to West Houston Street, is mainly occupied by UPS (AKRF 1988:I-1). The portion just south of the Charlton-Greenwich Street intersection will be razed to construct a new four-story terminal facility that will be joined by a bridge to the building planned on Site A. The rest of the structure will be completely renovated.

An additional part of the site is the maintenance garage on West Houston Street across from the terminal building. This one-story structure will be modified but, at this writing, no sub-surface disturbance is planned (Patton 1988:personal communication). (see Figures 3-15).

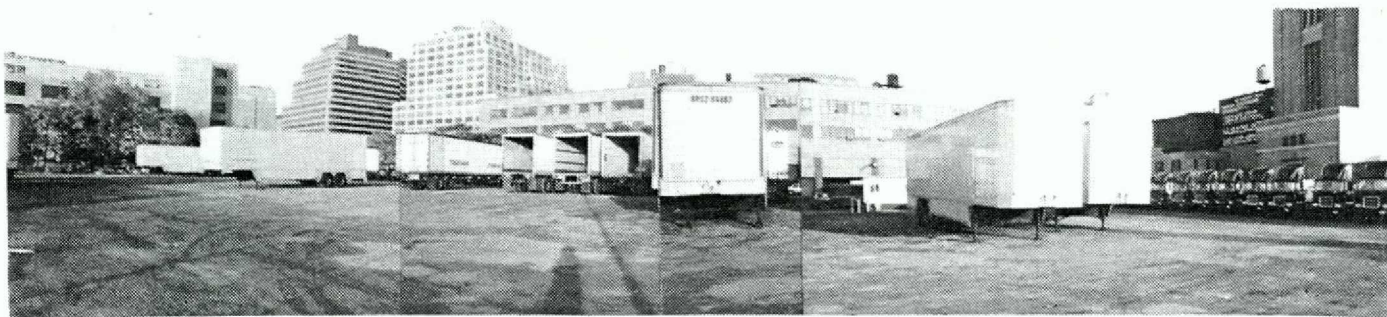
In addition to the Union Terminal Building, a major neighborhood feature is the above-mentioned St. Johns Building (340 Washington Street) built by the New York Central Railroad and opened in 1934. This structure extends north of Site A, beyond where Charlton Street ran until it was closed in 1931 (Street Cards nd). As will be discussed in the Landfill section, this building was originally intended to extend across Site A to Spring Street and eventually be enlarged to twelve stories, but this expansion was never carried out.

The character of the neighborhood evolved over the years, changing from a rural shore bordering the Hudson in the seventeenth and eighteenth centuries to a bustling commercial seaport area in the nineteenth. Land reclamation between 1804 and 1818 extended the Greenwich-to-Washington Street block westward and created the Washington-to-West Street block. In the process, the building of West Street, implied by 1818 in the tax records (wharves documented till then are no longer listed) separated the the site from the river. In the nineteenth century, businesses were predominantly meat packers and warehouses, but tradespeople and services such as restaurants, porterhouses, and saloons, were also located here. The busy, commercial aspect of the area and site continued through the first two decades of the twentieth century, after which it rapidly changed.

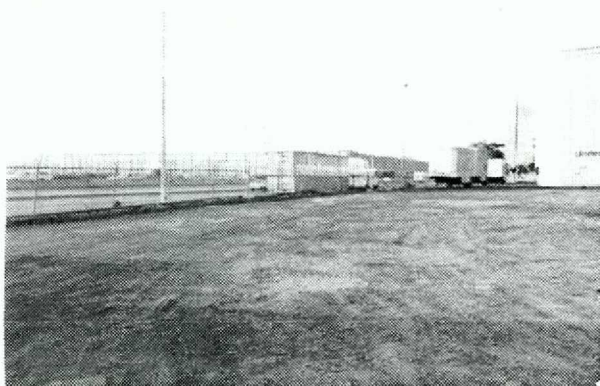
St. Johns
Building
↓

Union
Terminal
↓

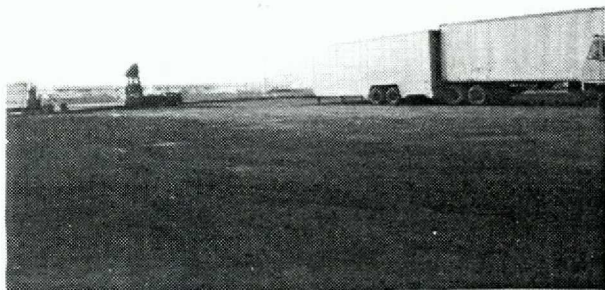
Spring St.
↓



3 Composite view of Site A looking north, east and south. (10/88)



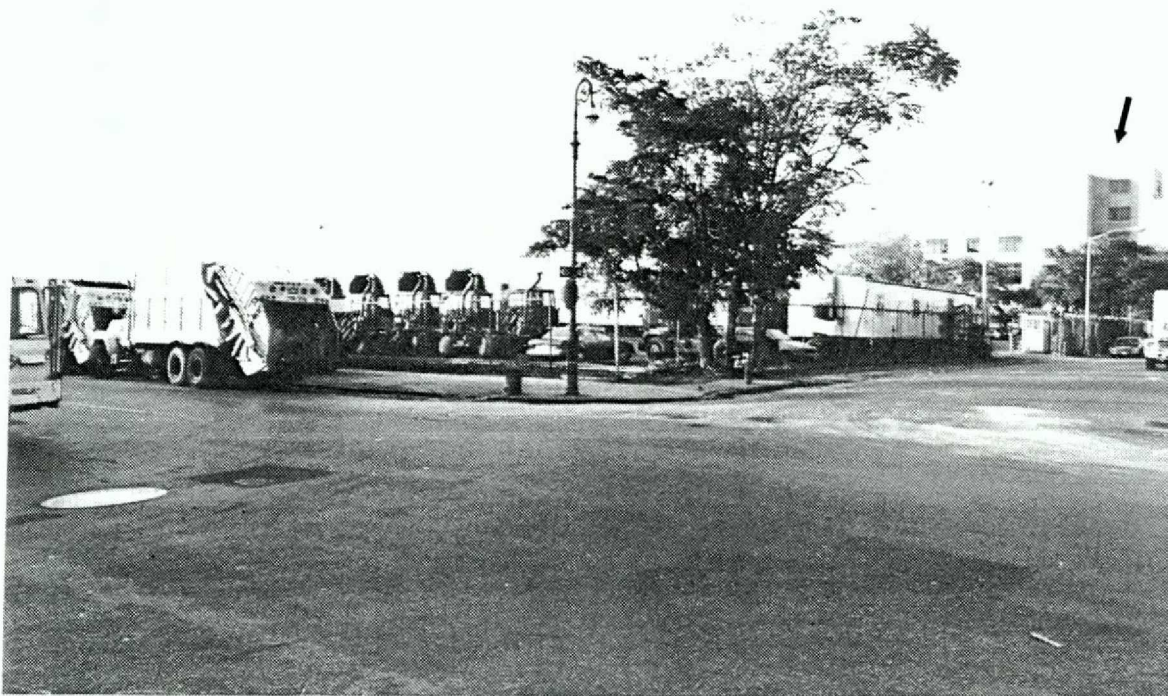
4 View northwest from Site A looking toward West Street and the piers on the Hudson River. (10/88)



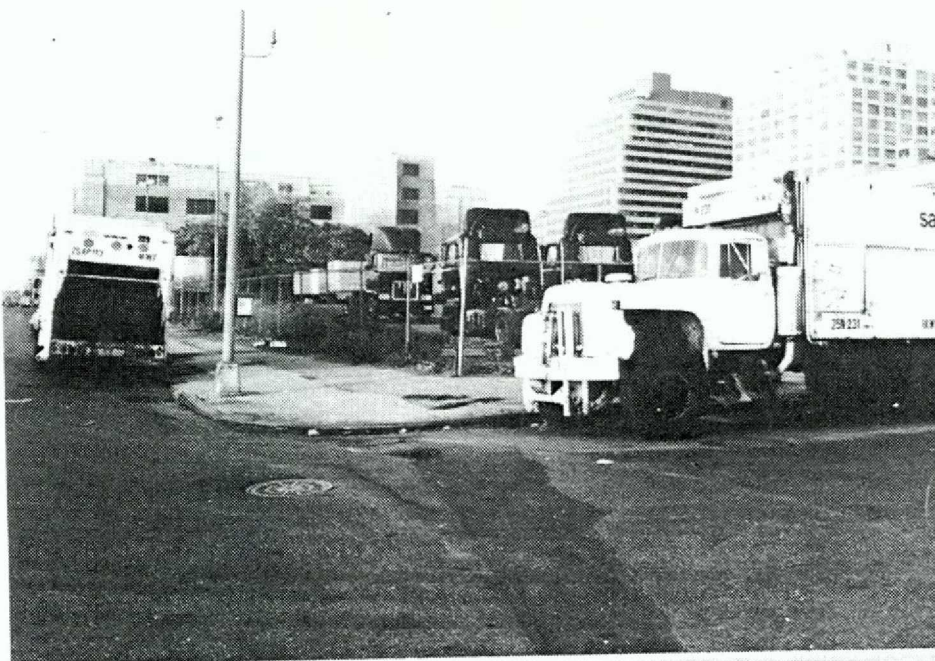
5 View west from Site A, looking across West Street toward New Jersey. (10/88)



6 Site A looking south toward Spring Street. West Street is on the right. Note the Holland tunnel ventilator building (arrow) between Spring and Canal Streets in center background. (10/88)



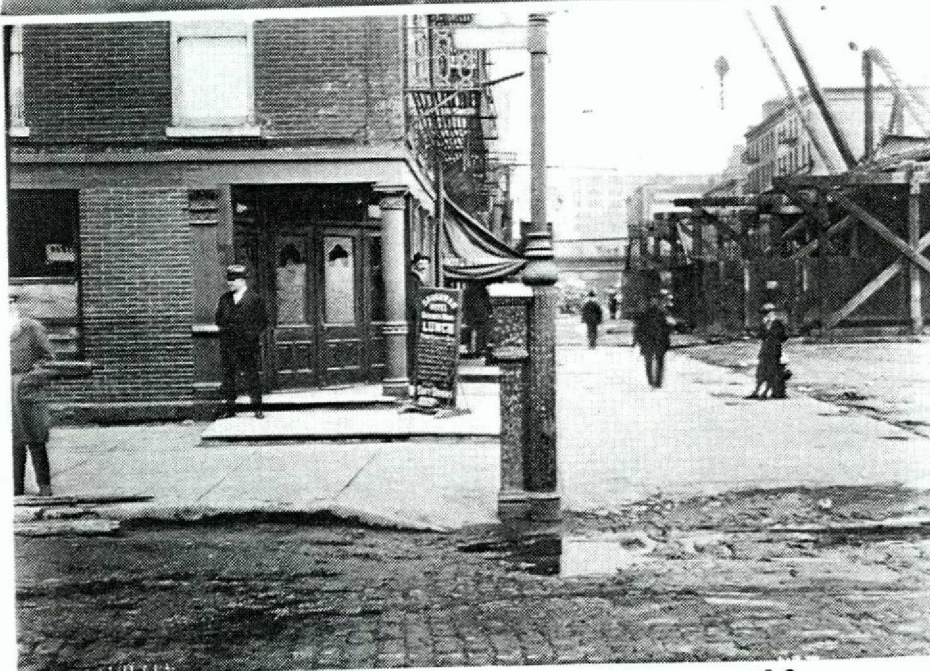
7 The corner of Spring and Washington Streets looking northwest toward Site A. UPS trucks, some cars, and a trailer can be seen on Site A and the St. Johns Building (arrow) is in the background. (10/88)



8 Corner of Spring and West Streets, looking north up West Street. St. Johns building in background, Site A, with UPS trucks, to right, (10/88)



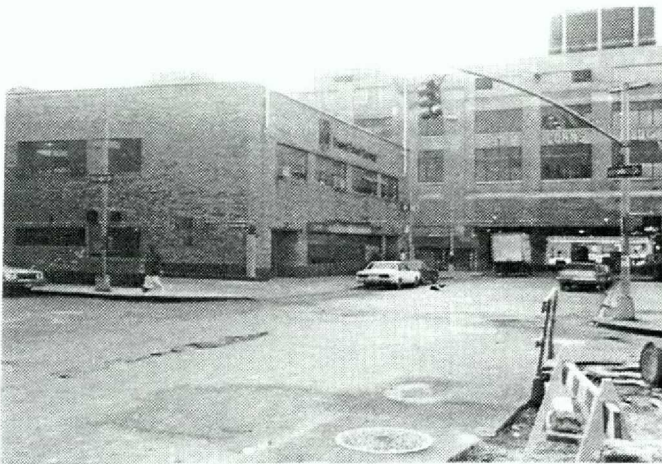
9 Same corner, 1929. Gas station then on the corner with 7-story warehouse next to it on Spring Street. This station replaced the Savannah Hotel demolished in 1927. (NYPL Photo Archives 1047:B3)



10 The Savannah Hotel at the corner of Spring and West Streets as it appeared in 1924, three years before it was demolished. The construction to the right was probably related to the Holland Tunnel which opened in 1927. (NYPL Photo Archive 1047:C2)



11 Looking south on Washington Street from W. Houston. The Union Terminal Building on Site B is to the left, the St. Johns Building to the right. (10/88)



12 Looking west from W. Houston and Greenwich Streets toward Washington Street. North end of the Union Terminal Building is on the left, the St. Johns Building on Washington Street is in the background. (10/88)



13 View south down Greenwich Street from W. Houston Street. The Union Terminal Building is on the right. (10/88).



14 Spring Street facade of the Union Terminal Building (325 Spring Street). This part of Site B, north to below the Charlton Street line, will be razed to make way for a new facility to be linked to a building proposed on Site A. (10/88)

An additional part of the site is the maintenance garage on West Houston Street across from the terminal building. This one-story structure will be modified but, at this writing, subsurface disturbance will be minimal and confined to previously excavated areas (Patton 1988:personal communication). (see Figures 3-15).

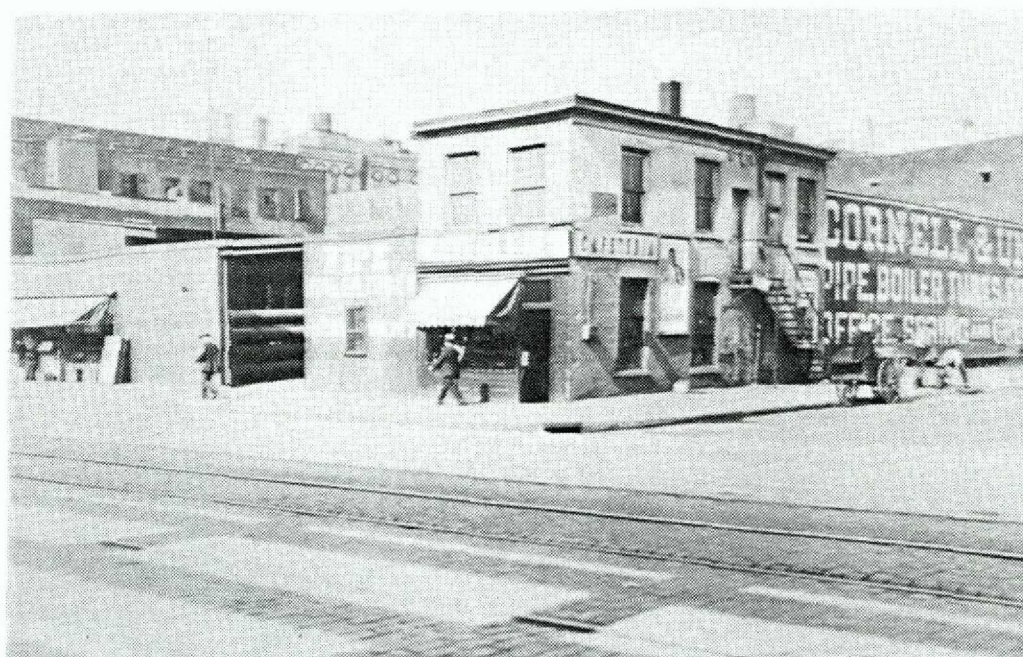
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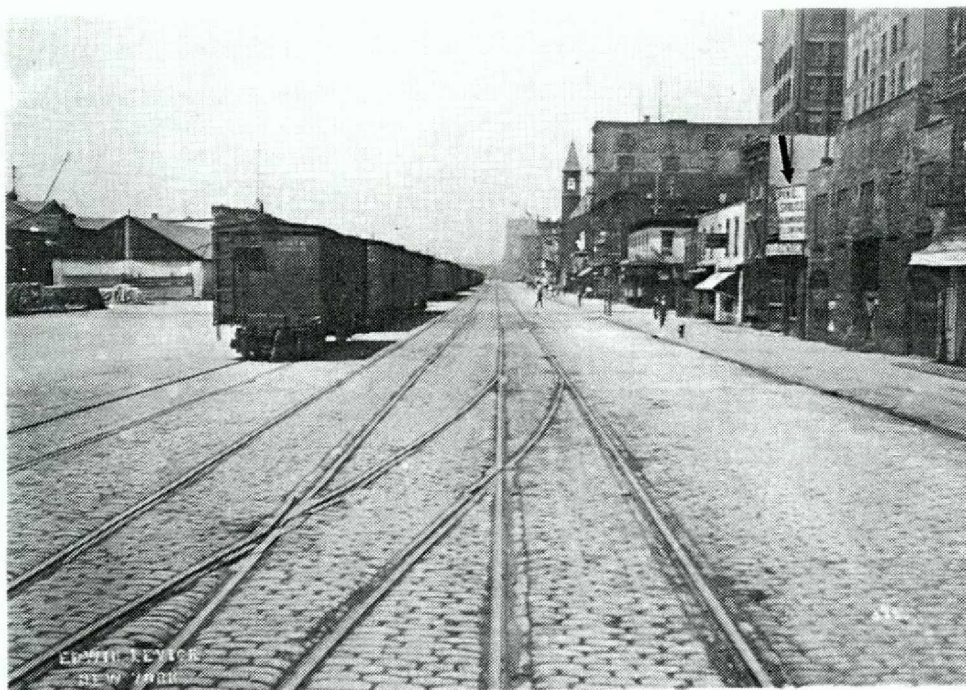
Today, the parking lot on Site A creates an open vista with views to the Hudson and New Jersey and little to suggest what the



15 Garage on north side of W. Houston (between Greenwich and Washington Streets), north of Union Terminal Building, that is to be remodelled as the UPS Customer Service Center. (10/88)



16 One block west of the above corner in 1930, now part of the St. Johns Building site. Note train tracks on West Street. (NYPL Photo Archives 1047: FG)



17 View north on West Street, 1918. Site A just above Spring Street is to the right. Note lumberyard (arrow) at 317-318 West Street and the trains and tracks of the New York Central railroad on West Street. (NYPL Photo Archives 1047:C2)



18 View of West Street north of Charlton in 1918. (NYPL Photo Archives 1047:D1)

site was like in the past (see Figures 16 to 18). (An exception is the James Brown house, a New York City landmark at 326 Spring Street across from the Union Terminal, the only nearby survivor of the area's early development.) For better or worse, all of the site's nineteenth and many of its twentieth century features are now gone: for example, the Ninth Avenue elevated line that ran on Greenwich Street by 1870 was demolished in 1940 (NY Times 9/8/40; 10/8/40). The West Side, or Miller Highway, opened from Spring Street in 1924, is also gone, as are the trains running on West Street--often referred to as "Death Avenue"--and the boys on horseback clearing a path for them (e.g., NYPL Photo Archives 1047:F4, F5; also see Figure 17). While these latter features added blight to the neighborhood, they also created a commercial aspect that is now eliminated. And finally, gone also are the streams and topographic features that defined the pre-fill and pre-development site area. Among them is Bestavaar's Kill (Minetta's Waters) that emptied into the Hudson west of Greenwich Street at either West Houston Street (Randell 1811; Stokes III 1918:966), or Charlton Street (Goerck & Mangin 1803; Hills 1782; Viele 1865 [see Figures 20 and 28 this report]); it is this latter location that is assumed to be correct for this report. Or Richmond Hill, a topographic feature to the east where a pre-Revolutionary War house was built that Aaron Burr later made his home (Valentine 1852:467).

PREHISTORIC CONSIDERATIONS*

As is the case with all of New York City's boroughs, prehistoric people inhabited Manhattan. Its shoreline area in

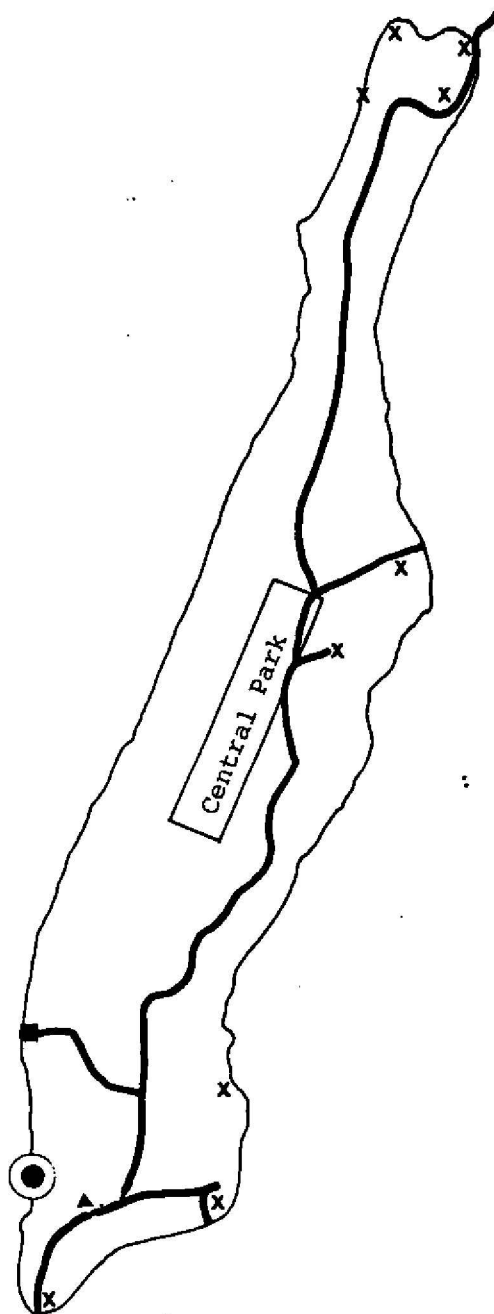
*I am grateful to Dr. Sydne B. Marshall, a consultant on the Westside Highway Cultural Resource Survey, for her comments on this section.

particular, both a source of food and a means of transportation, would have been attractive to local Native American populations. There is no question that most sites associated with the various Native American cultures that occupied the area since the retreat of the last glacier 10,000 to 12,000 years ago have been destroyed, but their number remains incalculable.

Beginning in the late-nineteenth century, and continuing into the early decades of the twentieth, local archaeologists began documenting sites exposed during street grading and other aspects of development. Among these early archaeologists were Reginald Bolton and Alanson Skinner, both of whom published their findings (e.g., Bolton 1934; Skinner 1915). While neither documented sites in the immediate project area, Bolton cites the extensive shell deposits uncovered during the grading of Pearl Street about one-half mile southeast of the project site as the Werpoes "Village"¹ Site (Bolton 1934:132-133). In addition, Skinner notes the Gansevoort Site (another "village") near the Hudson River and Gansevoort Street which would have been included in the more extensive area known as Sappokanican (tobacco field); this was an area that virtually encompassed modern Greenwich Village (Skinner 1915:51-52; see Figure 19 this report).

These sites--particularly the Sappokanican area which extended beyond the modern boundaries of the Greenwich Village Historic District to Bestavaar's Kill (Minetta Brook or Water)--suggest

¹ The definition of the Native American "village" in the local coastal context, as opposed to inland Iroquois sites, is problematic (Ceci 1988: personal communication; see also Geismar 1988:14-16).



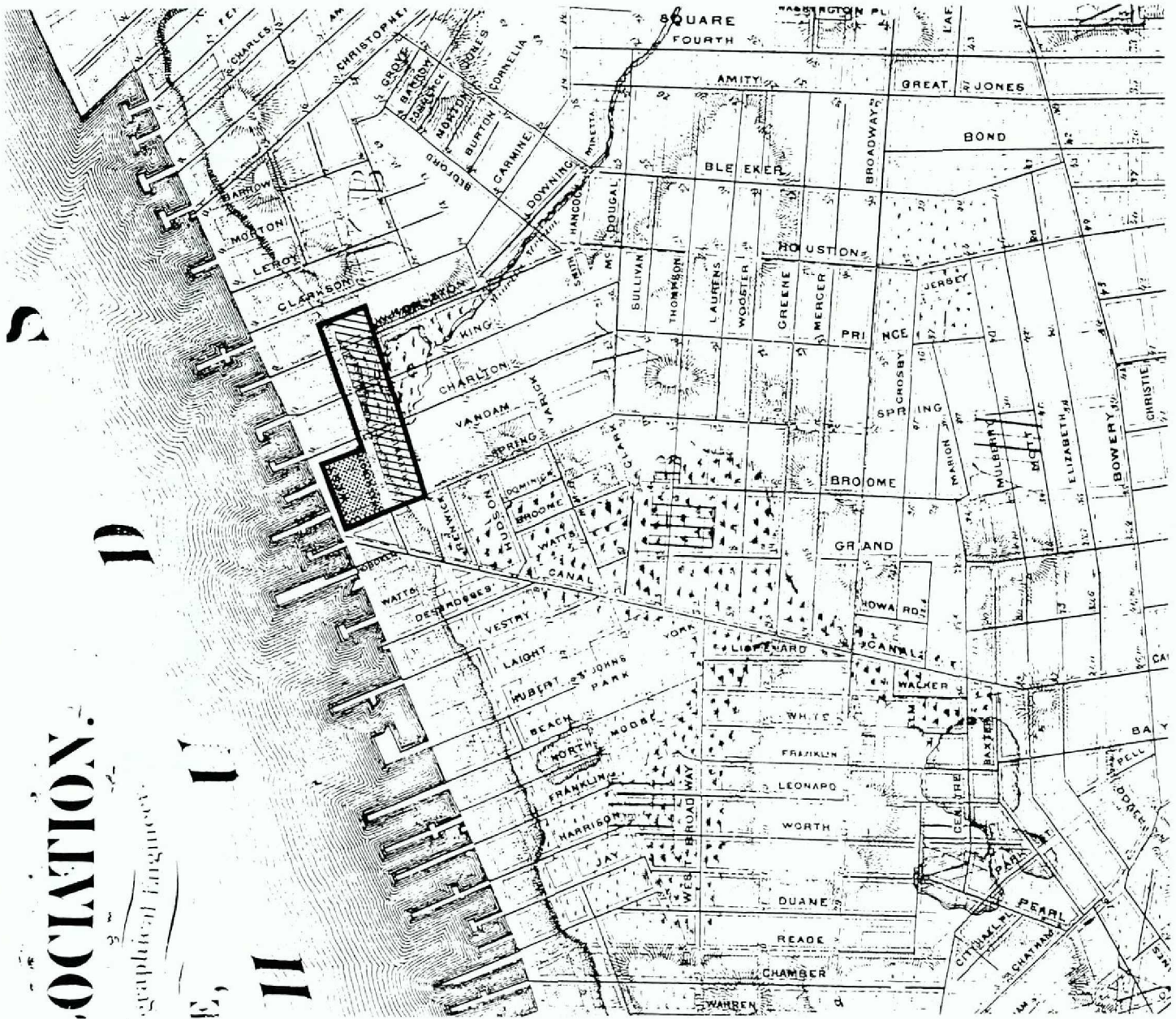
- project site location (approx.)
- x known Native American sites
- Indian paths
- ▲ Werpoes Site
- Sapohanikan (Gansevoort Street) Site

N

the project area's pre-development archaeological potential: since Bestavaar's Kill entered the Hudson approximately where Charlton Street formerly crossed Greenwich Street (see Figure 20 this report), the eastern part of the project site (Site B) might possibly have been an attractive hunting area. Moreover, since pre-fill maps indicate a flat shoreline and small bluff that might have made it attractive for prehistoric use (see Figures 27 and 28), it appears the most likely location for Native American sites would have been in the vicinity of Greenwich Street near Charlton, in proximity to the stream.



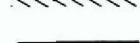
Whatever its archaeological potential, nineteenth century development would have destroyed evidence of Native American use in the site area a half a century or more before either Bolton or Skinner were conducting their investigations (see Historical section of this report). However, recent reconstructions of changes in Manhattan's shoreline have raised the issue of older archaeological sites that might have been inundated by the sea level changes that accompanied the melting of the glaciers (Historic Conservation and Interpretation [hereafter HCI] 1983; AKRF 1988). Consequently, an attempt has been made to correlate the data from these reconstructions with what is known about the project site.

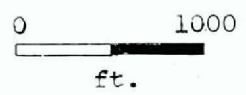
Undertaken between 1982 and 1983, the Westside Highway Cultural Resources Survey (the Westway Report) synthesized available research data to determine possible inundated sites or site areas. These data included site reports, historical references to prehistoric conditions, and thirty core samples selected from the hundreds available from engineering surveys done for the Westway



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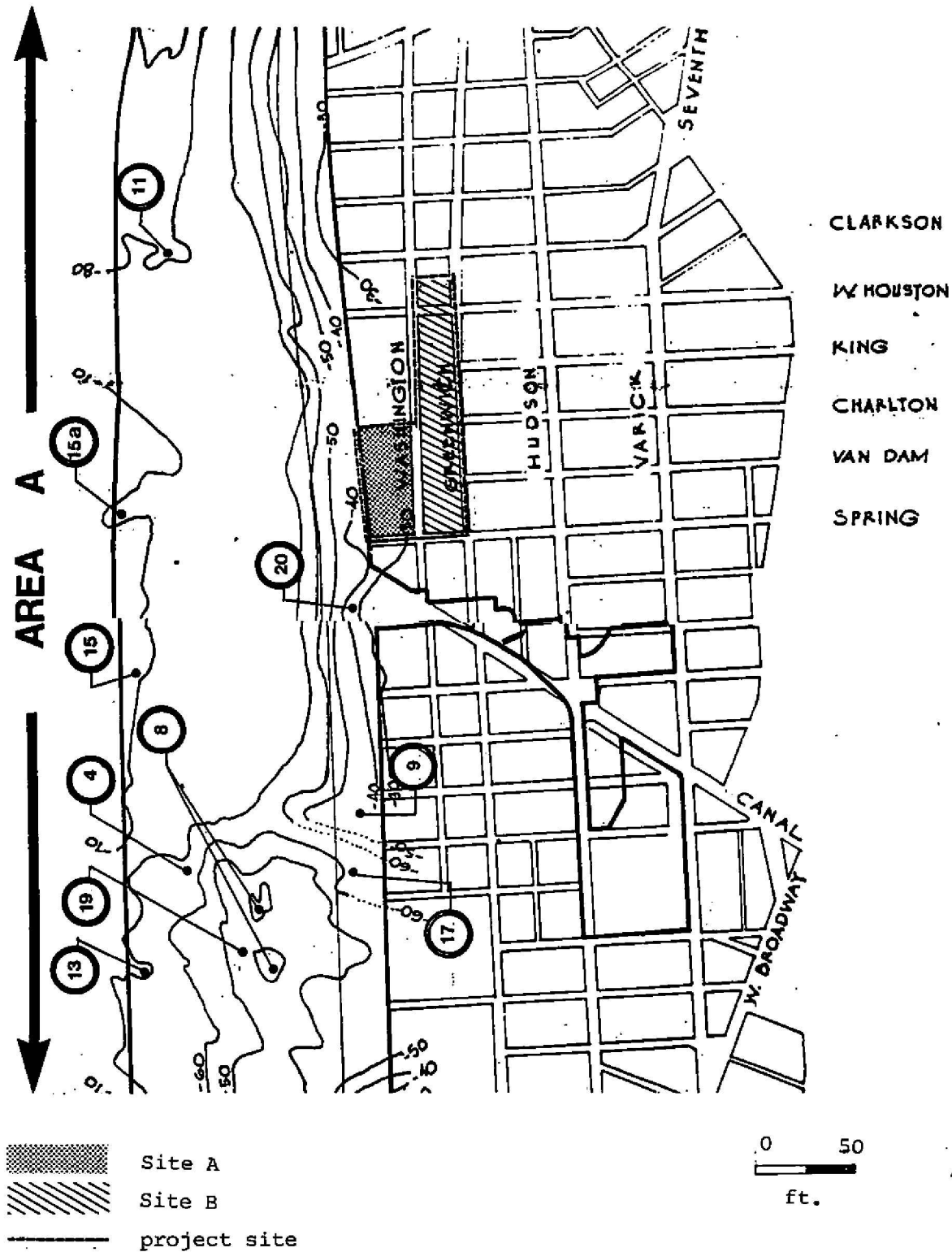
-  Site A
-  Site B
-  project site



Project. An attempt was also made to correlate the data with subsequent ground disturbance (HCI 1983;3-5). Based on this information, four potentially significant areas were identified (HCI 1983:6); of these, Area 1--just off-shore and the south of the UPS Southern Manhattan Facility Site (see Figure 21 this report)--was most relevant. It is important to note, however, that the project site itself was not identified as being archaeologically sensitive (HCI 1983:396-408)

A major premise for the study was based on the approximate sea level rise of one foot per 100 years, but, since the retreat of the last glaciers, there have been two major periods of rapid rise in sea level: 13,000 to 11,000 years BP (before the present) and 8,000 to 6,000 years BP. Of the two, the latter appears more favorable for human occupation (HCI 1983:18). It encompasses a time when the Native American cultural continuum would have been shifting from Paleo Indian hunters and gatherers (11,000-9,000 BP), the earliest culture known on our continent, to the more comprehensive food foraging of the Early to Middle Archaic cultures (9,000-7,000 BP; see HCI 1983:27-38 for a discussion of local Native American culture history)

Within the parameters of Area 1, the study identified one locus of potential sensitivity in proximity to the project site. Designated No. 20 (Figure 21 this report), it comprised an off-shore island or peninsula just southwest of the project site near Canal Street that was not inundated until about 7,000 years ago. Between this landform and the higher ground to the east, a marshy valley existed that may have carried a stream at modern Canal Street north



(HCI 1983:19); if so, this stream and valley probably traversed Site A of the project area. The data also revealed a delta-like feature at Canal Street that is perhaps associated with the stream. This sloping landform, which extends about 500 m. (c. 1,950 ft.) into the Hudson, was above sea level until about 6,500 BP (HCI 1983:19).

This means more extensive marshy areas, extending west of the current shore line, would have been available to Paleo Indian and Archaic hunters and gatherers than were available to the later Woodland cultures (3,000 BP to contact) that were known historically. However, there are no data to suggest that Site A of the project site, which was reclaimed from the Hudson between 1804 and 1818 (see Landfill section), was suitable for habitation by Native Americans of either period. In fact, the pre-inundation marshy conditions projected for this area preclude habitation sites but not food collection, but evidence for this latter activity is unlikely to be found.

It appears that although more land was once exposed, camp or habitation sites in the immediate project area are not an issue. It has been noted that north of Canal Street, and therefore in the vicinity of Site A, there are significantly fewer inundated topographic [or environmental] features that would have been amenable to settlement (HCI 1983:50, 399) than there are south of it. These include potable water and shelter; habitats for shellfish, fish water fowl, and land animals; places to land canoes; and, perhaps for later Woodland cultures, land for cultivation of corn, beans, and squash. In addition, in this coastal area, site locations were most likely on higher ground near coves and bays and where streams

entered these larger bodies of water (HCI 1983:45-46). Since there appears to have been a low-lying valley on the site, this does not seem to be an area where inundated sites would be anticipated. However, at present there are no site-specific data to either confirm or refute this assessment (soil boring data from Site A, which were recovered through interval sampling [Converse 1987; Melick-Tully 1987; see Soil Boring section], have not provided the information with which to evaluate past environments at the site). To recover this kind of data, continuous sampling between 30 and 90 feet below the surface is recommended; this would sample surfaces exposed approximately 5,000 to 10,000 years ago (HCI 1983:60-62).

LANDFILL

Throughout the world and throughout the ages, land reclamation has been part of urban coastal development. In Manhattan, early landmaking concentrated in the lower seaport area, but it occurs to some degree all around the island and along its opposite shores (see Figure 20 for a reconstruction of the prefill shoreline in the site area). It is an activity that began in the seventeenth century after the English took control from the Dutch and, as evidenced in the creation of Battery Park City, it continues to this day. Since historic maps and documents indicate the western part of Site B and all of Site A is land reclaimed from the Hudson River between 1804 and 1818, the project site exemplifies this process.

Landmaking in Manhattan began on the east side, ultimately extending three blocks east of Pearl Street from Fulton to Wall Streets (to the north and south only two blocks were added [Viele 1865]). Filling between Pearl and South Streets spanned about a

century (Stokes III 1918:1029). On the west side it began later, was apparently completed in two to three decades, and again extended only two blocks into the river rather than three (Geismar 1987).

While ten landfill sites have been excavated on the east side, only one--Site 1 of the Washington Street Urban Renewal Area (Geismar 1987)--has been investigated to date² (Figure 22). It is this site which is most relevant to the UPS South Terminal Facility site, both for its location and for the time of its filling.

Although the reasons for land reclamation are often complex, there are several factors that may have motivated it in Manhattan. On the east side it was undoubtedly prompted by the need for a safe harbor for sailing ships (the Hudson was often plagued by ice and had strong currents), the long-established ties with Long Island across river, and, perhaps more importantly, the greater opportunity for trade provided by building into the river and extending the depth of dockage³. On both rivers there was also the obvious commercial gain of creating new land.

On the west side, the intensification of land-making correlated with the advent of steam powered ships in the early-nineteenth century, a technological change that required more open space and lessened the impact of currents and other natural impediments to navigation. However, filling apparently occurred in the vicinity of

² An archaeological investigation was later conducted on Site 5C of the Washington Street Urban Renewal Area (Greenhouse 1986), but landfill research was not part of its focus (Baugher 1988:personal communication).

³ This aspect of landfill economics was suggested by Amy Friedlander, the compiler of the 175 Water Street Block history (Friedlander 1983).



- 1 Site 1, Washington St. Urban Renewal Area
- 2 175 Water Street
- 3 Telco
- 4 Schermerhorn Row
- 5 209 Water St.
- 6 Barclays Bank
- 7 Assay
- 8 Cruger's Wharf/Old Slip
- 9 Hanover Sq.
- 10 64 Pearl St.

0 2000
ft.

N

what is now the World Trade Center as early as 1794 when a visitor noted that Greenwich Street in this area was "a new part of town near the banks of the North-river" (Strickland 1971). By the time land reclamation began on the Hudson, it had slackened on the East River (Geismar 1987 II-1).

Sometime before 1767, Trinity Church acquired the dry land that comprises the project site (Stokes V 1928:147) and the right to adjacent water lots. However, it was not until 1797, when the Church Corporation began to exchange its waterfront properties and water lot rights for other city-owned land that grants issued by the city prompted west side landmaking and street construction.

Landfill Considerations on the Project Site

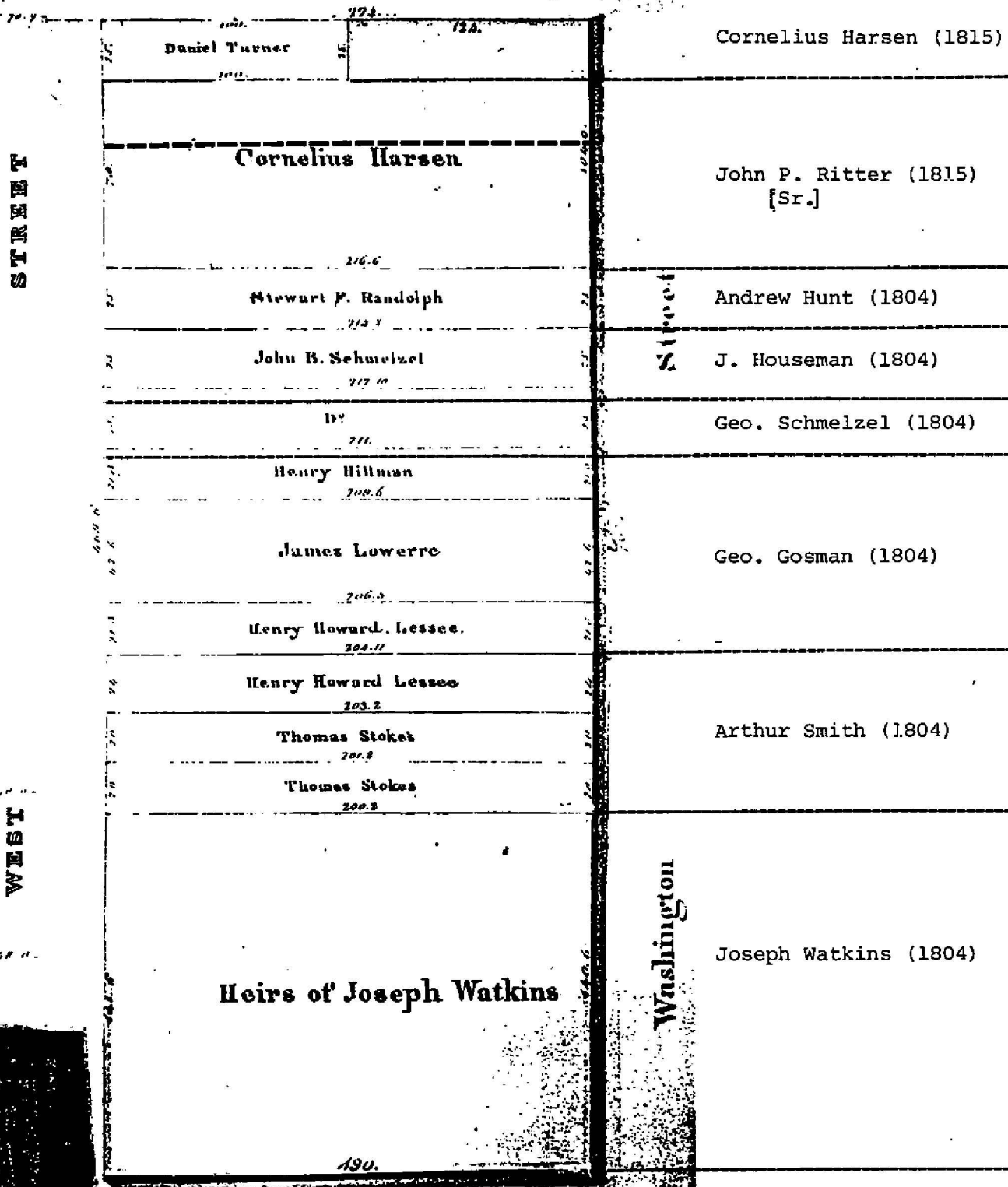
While much of Site B between Washington and Greenwich Streets (Block 596 east) is landfill (see Figure 20), its development, which included warehouses and meat repackers in the nineteenth century and the terminal building currently on the site in the twentieth, has undoubtedly eliminated fill-related archaeological data. This might have included evidence of its original shoreline and stone foundation walls similar to those that characterize landfill on the East River between the high and low water marks (e.g., Louis Berger 1987:VIII-26). For this reason, the issue of landfill will be addressed at Site A (Block 596 West), the more westerly site block where filling required more substantial structuring. It particularly focuses on a northwestern lot where archival research has indicated the presence of a wharf and where development was mainly limited to a lumber yard (317-318 West Street). A secondary focus concerns the block's southern portion,

again the site of a wharf, where nineteenth century buildings included four- and five-story dwellings with stores on the first floor as well as a hotel and, in the twentieth century, a gas station, a warehouse, a produce distribution center, and a diner (see Historical Considerations).

In 1804, the city corporation leased water lot rights on the project site (earlier grants had been purchases, but by this time the city had apparently realized the intrinsic value of these properties and held onto them). The lessees for water lots on both Sites A and B included four merchants, two masons, and a physician (Grants of Land Under Water [GLUW] 1804 E:251, 241, 133, 144, 147, 223, 196); two additional grants, one to John P. Ritter, a merchant who was an original grantee, the other to Cornelius Harsen, his son-in-law who was also a merchant, were made on the northern part of Site A in 1815 (they apparently owned the adjacent land and water rights on Site B by 1804); the southern part was granted to Joseph Watkins, a lumber merchant, in 1804 (GLUW 1815 F:411,417; GLUW 1804 E:251; see Figures 23 and 24).

Tax records and historical maps indicate that wharves stood on both the northern and southern limits of Site A from at least 1808 (the 1808 Eighth Ward Tax Roll [hereafter EWTR] is the earliest available) until 1817. By 1818, West Street had been opened between Charlton and Spring Streets (Stokes III 1918:1012), indicating that the street-forming wharf or bulkhead called for in water lot grants was then in place.

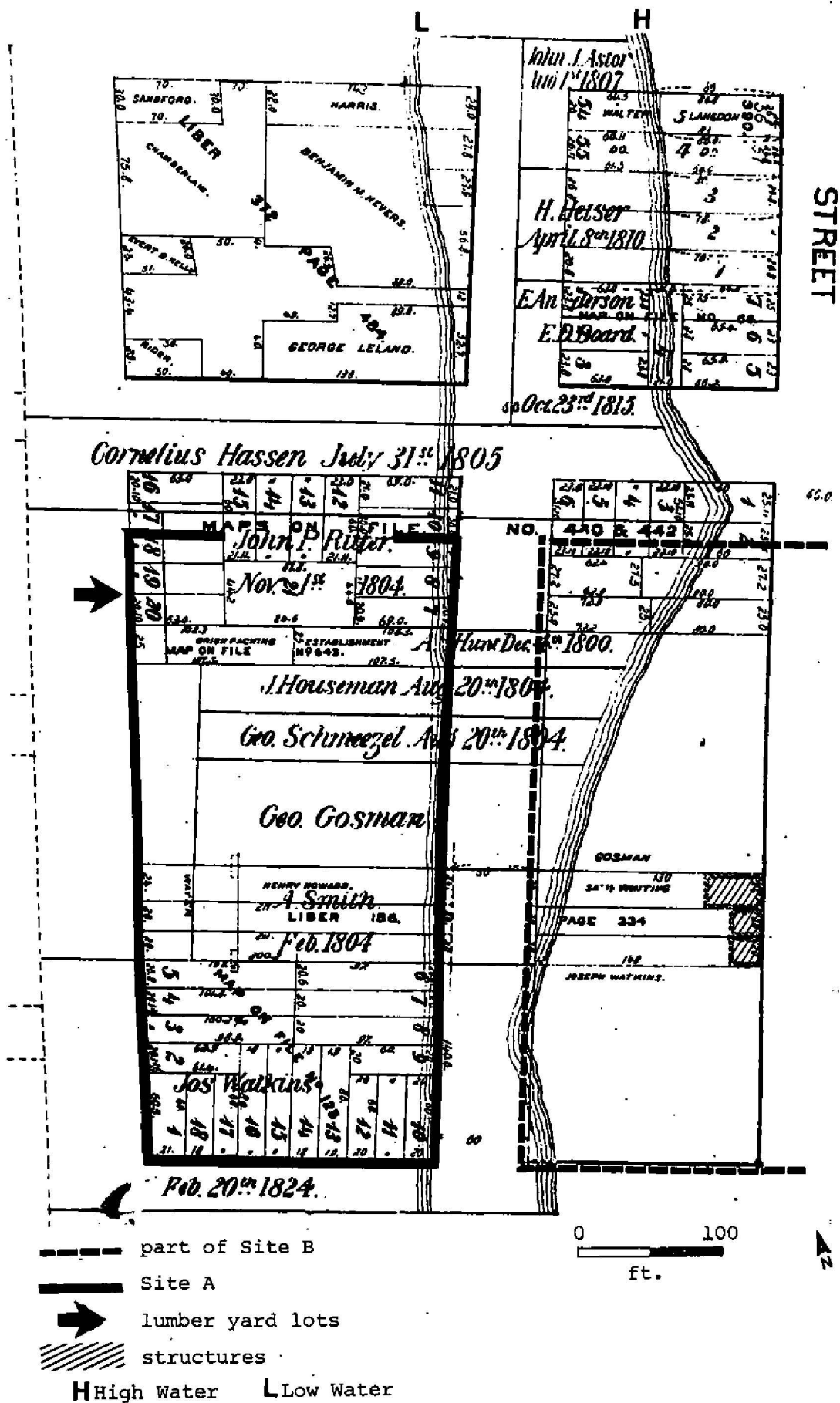
While the construction of Joseph Watkins' wharf near Spring Street (originally Brannon Street) correlates well with the date of



water lot grant divisions

northern limit of Site A

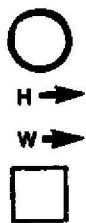
0 50
ft.



his water lot grant (GLUW 1804 E:251), the history of the northern wharf is somewhat contradictory: its owners, Ritter and Harsen mentioned above, are documented as receiving rights to their lots nine years after Ritter's wharf is on the tax rolls and six years after the streets they were to create as part of the water lot agreement were opened. On the other hand, Windwart, in his reconstruction of properties belonging to Trinity Church, indicates that Harsen (spelled Hassen here) and Ritter received their grants in 1804 (Windwart 1877; see Figure 24 this report). Whatever the legalities, the early-nineteenth century wharves, and perhaps appending piers not noted in the documents, are part of the landfill process on Site A.

Archaeological excavations have revealed that slips, wharves, and piers built for shipping purposes were often allowed to silt in and become filled, ultimately providing the structure for landfill (e.g., Geismar 1983, 1987; Rockman et al. 1983). This is an ancient practice archaeologically documented throughout northern Europe (Baart et al. 1977).

At Site 1 of the Washington Street Urban Renewal Area, located south of the project area and bounded by Greenwich, Washington, Beach, and Hubert Streets (see Figure 22), crib blocks, perhaps part of a block-and-bridge pier, were exposed and recorded during monitoring of foundation excavations (Geismar and Shmookler 1986 in Geismar 1987:IV 1-29). No wharves were found, and the piers documented through excavation do not appear on any known maps. The 1817 Hooker map (Figure 25 this report) which shows shoreline features suggests that Harsen's and Watkins' wharves structured much



- project site
- H → Harsen's Wharf
- W → Watkins' Wharf
- Site 1, Washington St. Urban
Renewal Area project site area

0 1/4
mile



of the landfill on Site A (the western barrier is probably under West Street), but, as noted previously, it is also possible that undocumented piers may be present.

When landfill from a mid- to late-eighteenth century east side site (the 175 Water Street Block) was compared with that from the Washington Street Site, the differences were striking (Geismar in press). Filling the latter site was faster, taking ten to twelve years rather than the fifty documented at Water Street; in addition, the fill was considerably cleaner (fill samples from Water Street contained almost seven times as many selected artifacts as there were from the Washington Street deposits). On the other hand, fill from the east side Barclays Bank Site, a block filled from the high to low water marks in the late-seventeenth and early-eighteenth centuries, indicated that filling took about the same amount of time as the later Washington Street site (Berger 1987 VIII:26); this may reflect differences in the level of intensity required to fill sites that are further off shore, or it may reflect other unknown variables that may themselves represent a pattern.

The Washington Street site, like the UPS facility site, was filled during the first decades of the nineteenth century when yellow fever was a concern and laws were enacted to control the cleanliness of the fill. However, the Washington Street sample revealed a flouting of these laws since garbage, some of it butchers' waste probably from a nearby market, was present although in smaller quantities than at 175 Water Street. Since the Spring Street market, located on Spring between Greenwich and Washington Streets, functioned from 1800 to 1829 (De Voe 1862:375-382), the fill at Site

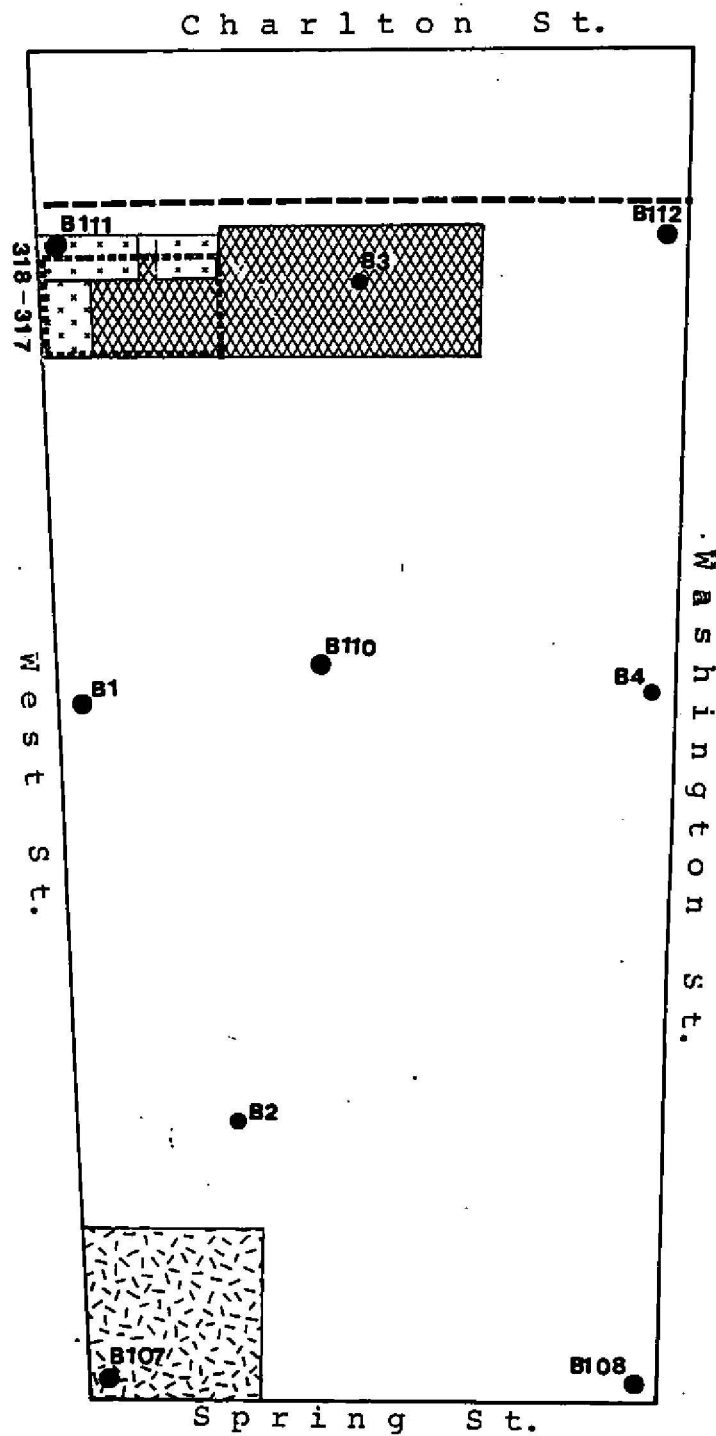
A is also expected to contain butchers' waste and other garbage, but in unknown quantities.

Monitoring Site A of the planned UPS facility will permit a cost-effective means of documenting the kinds of wharves or piers constructed during the fill process and of sampling what may be relatively undisturbed landfill in the lumberyard (see section on Borings). Comparisons could then be made with the contemporary Washington Street Site, allowing the question of fill patterns to be addressed. Similar field programs have proven effective in exposing and recording landfill features that are not always located through archaeological testing (e.g., Berger 1987; Geismar 1987). It is also a method that has been used successfully on London sites (Bateman and Milne 1983).

Soil Boring Data

Two soil boring programs have been undertaken to date in preparation for the construction of the proposed UPS terminal (Converse 1987; Melick-Tully 1987). They revealed that bedrock was quite deep, ranging from 86 to 102 ft. below the surface of both sites, and that 8 1/2 to 18 1/2 ft. of rubble fill were present at Site A (ten of the twenty-eight borings drilled were from this site).

Two of the Site A borings (B1 and B107, see Figure 26 for locations and Appendix B for logs) suggest that river bottom, represented by a thick, organic silt level (Converse 1987:5), was 21 to 25 ft. below the current ground surface prior to filling in the early-nineteenth century (it is also possible, but unlikely since peat or roots were not identified, that part of this organic silt deposit could represent the former marsh noted in the Prehistoric



- selected soil boring locations
- - - - - northern limit of Site A
- [cross-hatch] lumber yard
- [dotted] 19th C. buildings, 3 stories or less
- [diagonal lines] Savannah Hotel (1850s-1927); by 1929, part of gas station site
- [dashed] 1-story restaurant/store (1935-1968)

0 50
ft.



Considerations of this report). Moreover, since no organic level was documented on Site B, the borings tend to confirm the destruction of the original shoreline and any landfill deposits or stone foundation walls introduced during landmaking.

Since the proposed landfill investigation focuses mainly on the former lumberyard on West Street (No. 317-318 West Street), the borings from this lot are of particular interest. While the 10- to 10 1/2-ft. thick rubble fill level in this lot is among the shallowest of these deposits from Site A (only B107 in the southwest corner, at 8 1/2 ft., is less), its depth and distribution is surprising. Although part of the lot was never developed, there is no appreciable difference in the depth or description of the rubble level in B111, where structures once stood, and B3, the yard area (the former contained 10 1/2 ft., the latter 10). This may be an effect of both the sampling techniques (samples were collected mainly at 5-ft. intervals) and the descriptions of the fill which are somewhat vague. For example, landfill deposits, like demolition debris, could be described as "rubble" or "fill."

While rubble is found throughout Site A, none was recorded under the terminal building on Site B. This suggests that the 10-to 18 1/2 ft. of fill on this block was clean fill introduced during construction of the Union Terminal building in the 1940s.

Based on soil boring information, the nature of the fill and the chances of documenting an undisturbed fill sequence remain somewhat speculative. However, whatever the fill, recording the placement and construction techniques of the wharves and perhaps the

piers that structure this lot is a valid research focus that can be addressed through monitoring.

Impediments to Landfill Research at the Site

Because wharves that extend toward the middle of the block are documented near both Spring and Charlton Streets, landfill research logically concentrated on these areas. However, while 317-318 West Street on the northern part of the block was a lumberyard from the nineteenth century into the twentieth (see Figures 31 and 34), and therefore a logical focus of investigation, the southern portion along Spring Street was more intensively developed (see Historical Section). Some of this development--for example the gas station located on the corner of Spring and West Streets from the late 1920s into the 1940s--makes it less suitable for testing (petroleum odors noted in the boring log from this site [see B107, Appendix B this report] may indicate oil waste or petroleum contamination common to gas station sites).

A potentially greater problem concerns the St. Johns Building north of Site A between Washington and West Streets and extending to Clarkson Street. As noted in the PDEIS (AKRF 1988: II.B-3ff.), this three-story freight terminal, built by the New York Central Railroad in 1931 to 1934, was intended as a twelve-story freight house that was to extend south to Spring Street. As a component of the comprehensive West Side Improvement Plan, it was heralded at its dedication in 1934 as part of the greatest public improvement in the history of New York City (NY Times 1934). However, almost from its inception, the plans for the building changed, and the Spring to Charlton Street portion was eliminated

(see Appendix A, No. 2). The question remains whether or not foundations were laid on Site A before this change was made.

Unfortunately, no building plans have been located, and recorded information is ambiguous: a new building application in 1931 (NB 122-31), which supercedes an earlier one (NB 38-31) cancels caisson work between Spring and Charlton Streets, while the New Building Application docket notes it was completed in December, 1932). However, Mr. Murray Resnick, the building's manager for over twenty years, does not believe there is a foundation south of Charlton Street (Resnick 1988:personal communication), and the wording of the second application tends to confirm this (see Appendix A, No. 2). In addition, no refusals were noted by the drillers of the soil borings on Site A that might have indicated extensive foundation work. And finally, photos in the New York Public Library archives indicate that a Socony (Mobil) gas station built on the corner of Spring and West Streets between 1927 and 1929, was still there in 1933, both before and after foundation work was completed on the rest of the building (NYPL Photo 1047-B3, B4; for example, see Figure 9). This strongly suggests that no foundation work was done on Site A. Consequently, although there is some question, it does not appear there will be caissons found on Site A that would interfere with foundation excavations or archaeological monitoring, but this remains to be seen.

HISTORICAL CONSIDERATIONS

Until the nineteenth century, the portion of Manhattan where the project site is located was not considered part of the city. In the seventeenth century it was granted as farms and boweries by the

Dutch, and in the mid-eighteenth century much of the land in the area, particularly to the north within what is now the Greenwich Village Historic District, was a collection of country seats belonging to illustrious British Colonial families (De Voe 1862:400).

While the site area was apparently not part of the Greenwich village of the wealthy, it was undoubtedly visited much as the more northern part was during the yellow fever epidemics that plagued the city in the late-nineteenth century. A transient population is noted by De Voe in discussing the Spring Street market which functioned from 1800 to 1829: initially, it was only busy in the summer when the city dwellers came, "residing and boarding in the neighborhood then known as the 'lower village of Greenwich'" (De Voe 1862:378-379).

Although the eastern part of the project site, which originally bordered the Hudson, was owned before 1640, the only development prior to the nineteenth century appears to be an unidentified structure west of Greenwich, near the later Spring-Greenwich Street intersection (Hills 1782; Stevens 1900, see Figures 27-28 this report). This structure does not appear on the Ratzer map of 1767 and is not noted in the Stokes Landmark map (Stokes 1918 III). The Hills and British Head Quarters maps suggest it may be part of a defense (by 1776, there was an American camp around Richmond Hill to the east [Stokes IV 1922:927] and every street leading from the water was "almost stopped with Breast Works" [Stokes IV 1922:926]). Whatever its function, any evidence of it would undoubtedly have been destroyed by Site B's nineteenth and twentieth century development. As noted previously, like other



- Project site (approx.)
- Revolutionary War earthworks
- unidentified structure

0 c. 1/4
mile

N

STATE OF NEW YORK

*' the Territories depending thereon
 Major and Vice Admiral of the same*

PLAN OF THE CITY OF NEW YORK

AND ITS ENVIRONS

*As Humbly Dedicated by his Excellency's
 Most Obedt^e Humble Servant*

John Hills



project site (approx.)



unidentified structure

defenses

no scale

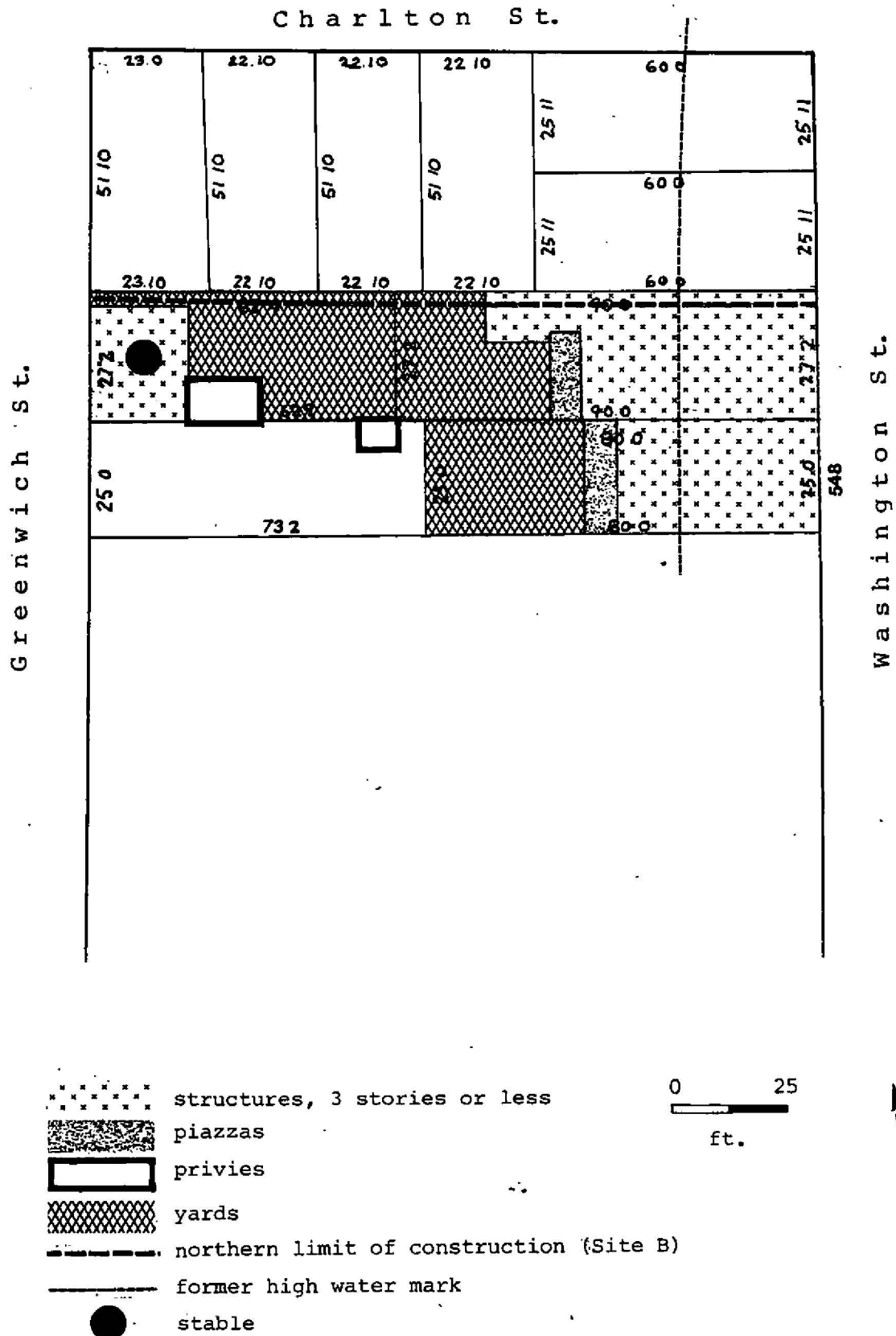


river front and landfill blocks in the area, this development, which was initially both residential and commercial, increased in intensity and eventually became mainly commercial.

The earliest conveyance recorded for Site B between Spring and Charlton, where construction is planned and where the portion of the terminal building now on the site will be razed, dates from 1796 (LD 1796 58:307). In that year, the Trinity Church Corporation conveyed Site B between Greenwich Street and the Hudson River to Edward Livingston and his wife, Mary. Livingston, who apparently never developed the site, became New York's Mayor in 1801 (Valentine 1861:440). Between 1800 and 1808, all the land on this block was then deeded to the future water lot grantees of Sites A and B between Spring and Charlton Streets (LD 59 1800:337, 430; LD 60 1801:493; LD 106 1814:282; EWTR). By 1808, the tax records indicate that all the Site B lots were built on except for Joseph Watkins' lumberyard near the corner of Greenwich and Spring. Thirteen houses are documented, but the Windwart map shows even earlier structures on Arthur Smith's⁴ lots (see Figure 24).

An 1844 estate map for Cornelius Harsen (Figure 29) documents the houses then standing on the northern part of Site A. Number 548 shown on the map was Harsen's home in 1827 (N Y Directory 1827). Although this and other documented structures were demolished and the sites subsequently rebuilt, the map is included here

⁴ Smith was one of two master mason's chosen to work on McCombs new City Hall in 1801, a commission which yellow fever cut short after only four years (Stokes V 1926:1404, 1430). It may have been more than coincidence that he was to own land once belonging to Edward Livingston who was mayor when Smith first received his commission.



because of its detail and because it is the only one located so far to illustrate the exact location of privies on a New York City lot. Unfortunately, evidence of these structures and out buildings would have been destroyed by construction of the Union Terminal Building in 1947 (see the section on Modern Development below).

Beyond its nineteenth century ownership, the project site's conveyance history can be traced to the first half of the seventeenth century when Dutch governors were making grants of large farms or boweries. This, and the later history of the planned construction are discussed in the following sections. In particular, the history of 317-318 West Street on Block 596 West is presented in detail. As mentioned before, this is where a lumberyard was located and where development has been minimal; it is this lot which is the major focus of the proposed monitoring program to record landfill and fill structures.

Early Site Ownership

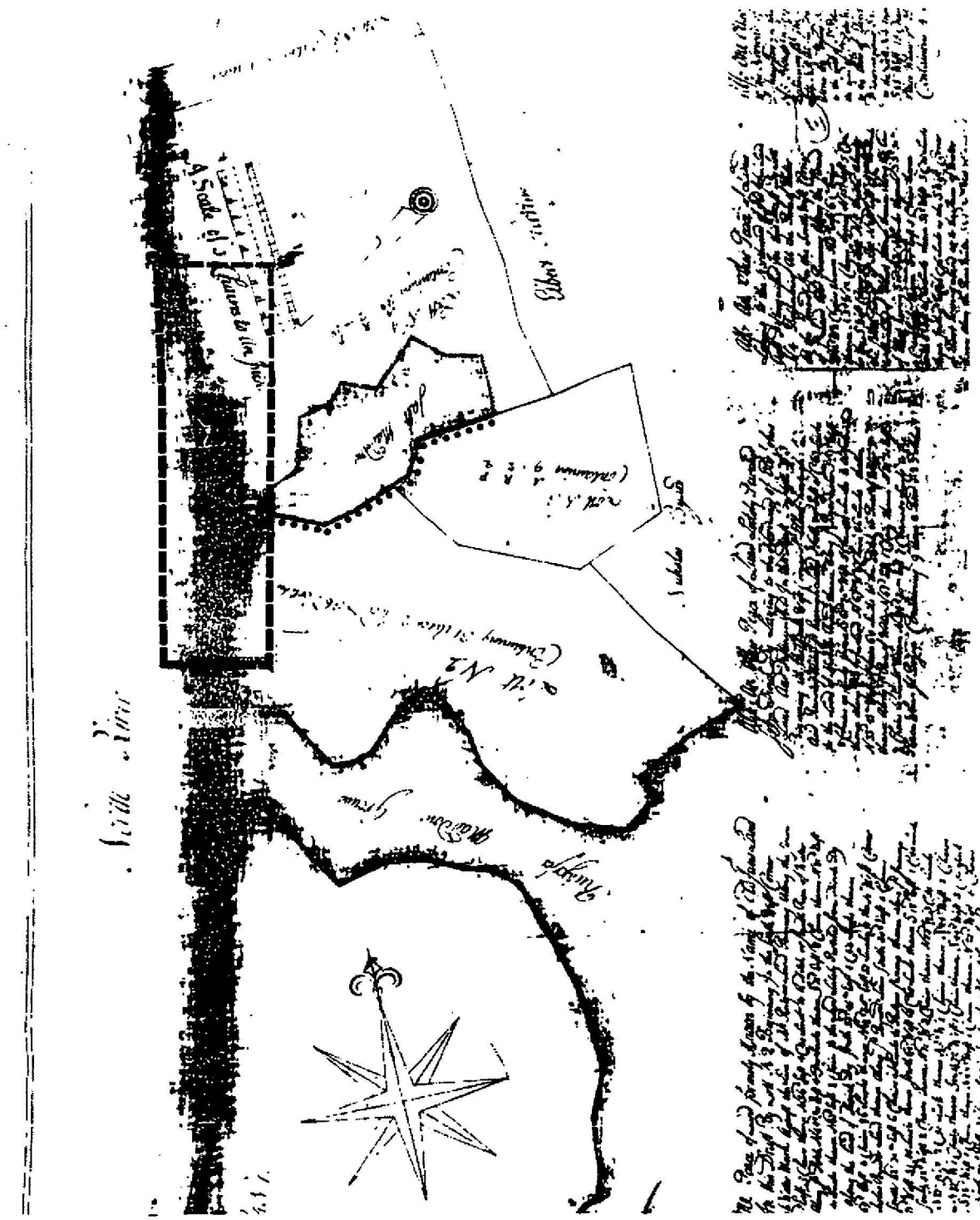
As noted in the Landfill section, by the 1760s, the project area was owned by the Trinity Church Corporation. Just how and exactly when the church acquired it is unknown. However, Stokes, in his Iconography, reconstructs its early ownership history (Stokes VI 1928:147-148); this is the basis of the early ownership history presented here.

The site apparently is located on two seventeenth century farm grants: Site A (Block 596 West) and the southern portion of Site B (Block 596 East) lie within a grant to John Seals (Jan Celes) that became known as "Old Jan's Land." Seals, an Englishman who probably came from New England (this appears to be so of most if not

all the English in Dutch New Amsterdam), received his grant in 1638. He never occupied this land and, upon his death sometime after April 7, 1645, it passed to his daughter, the wife of Teunis Nysten. Nysten received a ground brief for it from William Kieft, the Dutch Governor, in 1647. In 1651, the property was apparently acquired by Augustyne Heermans, a wealthy Dutch merchant who then deeded it to Rut Jacobsens of Fort Orange (Albany) in 1655.

Although the conveyance history becomes vague, it appears that by 1705, Queen Anne deeded what was known as the "Queen's Farm" to Trinity Church (WPA 1939:79). In 1767, Abraham Mortier received a 99 year lease from the Church for part of "Old Jan's land." Mortier's name is found on Ratzer's map of 1767, and, at the time, Francis Marschalk conducted a survey regarding this lease, but an even earlier Marschalk survey (1757) exists of the "King's Farm" that includes the project area (see Figure 30).

The portion of Site B located north of Charlton Street was part of another farm occupied before 1638, however, again there were no structures on the project site. This 27-acre farm was deeded jointly to Edward Fiscock, Hans Hansen, and Maryn Adriaensen by 1639. Fiscock (who may have been a physician and was, like Seals, an Englishman), Hansen, and Adriaensen each owned one-third shares. By 1639, Fiscock had sold his one-third which apparently included a house (not on the project site) to Claes Cornielssen Swits who then sold it to Adriaensen, giving him two-thirds of the farm. Hansen's share was sold to Cornelis Maersen of Rensaelarswyck. The marsh and the boundary stream adjoining this land became known as "Cornelis Maaersen's Cripplebush." "Master Fiscock's Land" became part of



----- Project site area
 Bestavaar's Kill (Minetta Water)

0 660
 ft.
 N

Trinity's upper farm and ultimately, Site B above Charlton Street. As noted previously, intensive development of the project site occurred after Trinity Church began selling its property at the turn of the nineteenth century. The history of this development will be found in the following sections.

Nineteenth Century History of Project Area

Site A

Water lots in Site A between Spring, Charlton, Washington, and West Streets, were conveyed to private ownership between 1804 and 1815. The eight original grantees in this block were Joseph Watkins, a lumber merchant; Arthur Smith and George Gosman, who were masons; George Schmelzel, Joseph Houseman, John P. Ritter and Cornelius Harsen, who were merchants; and Andrew Hunt, a physician (GLUW:1804-1815; N Y Directories). All were New York City tradesmen and professionals living in nearby neighborhoods (N Y Directories). An overview of the Eighth Ward Tax Rolls (ERTR), N Y Directories, and deeds suggests that these property owners typically owned or rented other properties in the area and were co-participants in family and business networks which sometimes extended over generations.

The Hudson shore front developed rapidly as a residential and commercial area in the early nineteenth century. A few blocks from the project area, Hudson Square (or St. John's Park as it was also called, after St. John's Chapel at Varick and Laight Streets) was one of the finest residential neighborhoods in the city. For several decades, fashionable homes fronted on a private park, which was sold in 1867 as the site for a New York Central Railroad freight

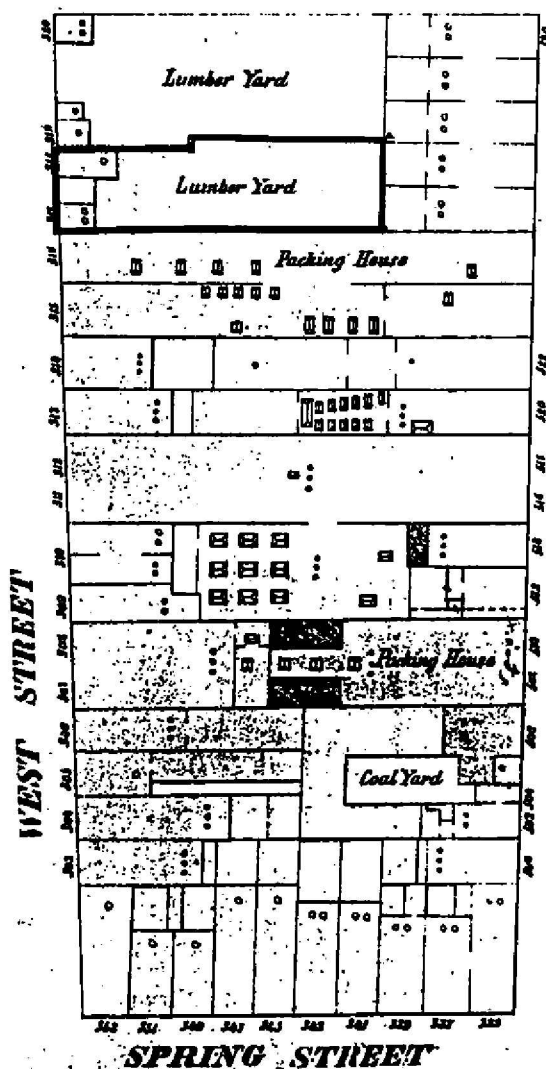
depot (Kouwenhoven 1953:140). The site under investigation appears to have been mainly commercial from its earliest development; its proximity to river transportation ultimately facilitated such businesses as meat repacking operations, lumberyards, and building suppliers.

Two wharves existed in the block (EWTR:1808), one on each end of the site until 1817 (see Figure 25). After this, according to maps, the block was filled to West Street (see Landfill section). The wharf at the southwest corner of Washington Street at Charlton belonged to water lot grantee John P. Ritter [Sr.], and later to his heir and son-in-law Cornelius Harsen. By 1826 there was a smoke-house on the site, and the shoreline was pushed to West Street. A wharf on the corner of Spring Street at West Street was owned by water lot grantee Joseph Watkins, and may have been incorporated into a public wharf on Spring Street by 1818. (This probably occurred after his death about 1817).

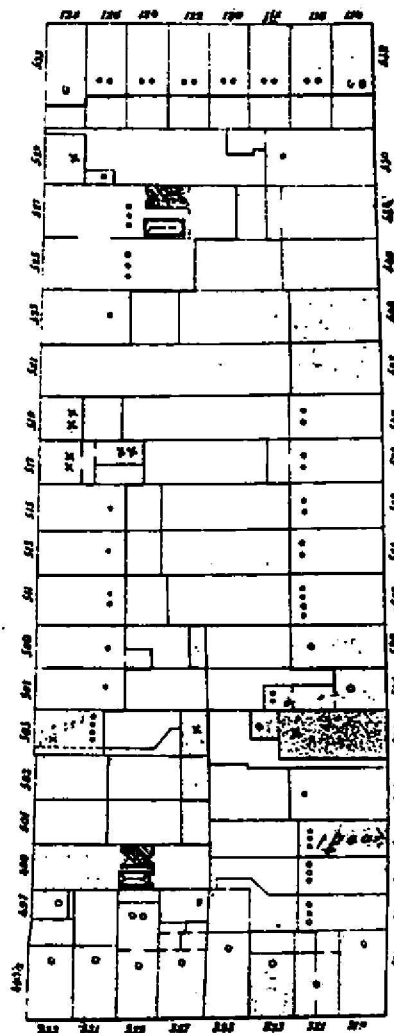
In the first decade of the nineteenth century, the block was characterized by "stores" or warehouses facing Washington and Spring Streets. These were apparently demolished in the 1820s and replaced by houses and new, perhaps more substantial, two- and three-story commercial buildings. By 1835, the blockfronts facing Washington and Spring Streets were fully developed. The west side of Washington Street between Charlton and Spring was lined with fourteen dwellings and three stores, and the north side of Spring between Washington and West with ten dwellings.

In 1858, Washington Street in this block contained twenty buildings, an office and one stable (see Figure 31 for the block

CILARLTON STREET



WASHINGTON STREET



GREENWICH STREET

317-318 West St. (lumber yard)

0 100
ft.

configuration about this time). Spring Street had ten buildings, and West Street had eighteen buildings and two lumberyards. Charlton Street, between Washington and West Streets, does not appear on the tax rolls until 1847; by 1857 four houses are listed on Charlton, only to be demolished for lumberyards by 1858 (EWTR: 1858).

As mentioned previously, the block retained a commercial character throughout the nineteenth century. Packing plants and warehouses extended through the middle of the block from Washington to West Street (see Figures 32 and 33). According to the 1851 Directory (the only year in which listings were according to address) there were two porterhouses and a saloon in the block, as well as four eating houses, and various businesses and professionals such as beef and pork packers, inspectors, hatters and clothiers, shoemakers, lumber dealers, and purveyors to the shipping trades--ships chandlers, sailmakers, and riggers (Doggett 1851).

The southern end of Site A--the north side of Spring Street between Washington and West Streets--was included in a water lot grant to Joseph Watkins on February 20, 1804 (GLUW E:251). As noted above, Watkins, a lumber dealer, maintained a wharf at the corner of Spring and Washington Streets until about 1817. His ten lots in this blockfront were leased to various businesses until 1839 when it appears that his estate was probated and lots sold to individual property owners (EWTR 1839). Many occupants on the block seem to have had long tenures; for example, Silas Olmstead, a grocer (Doggett 1851), was listed at the corner of Spring and Washington Streets (335 Spring Street) for at least fifty years (EWTR 1829-1879).



Site A
Site B

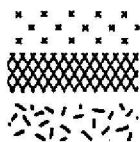
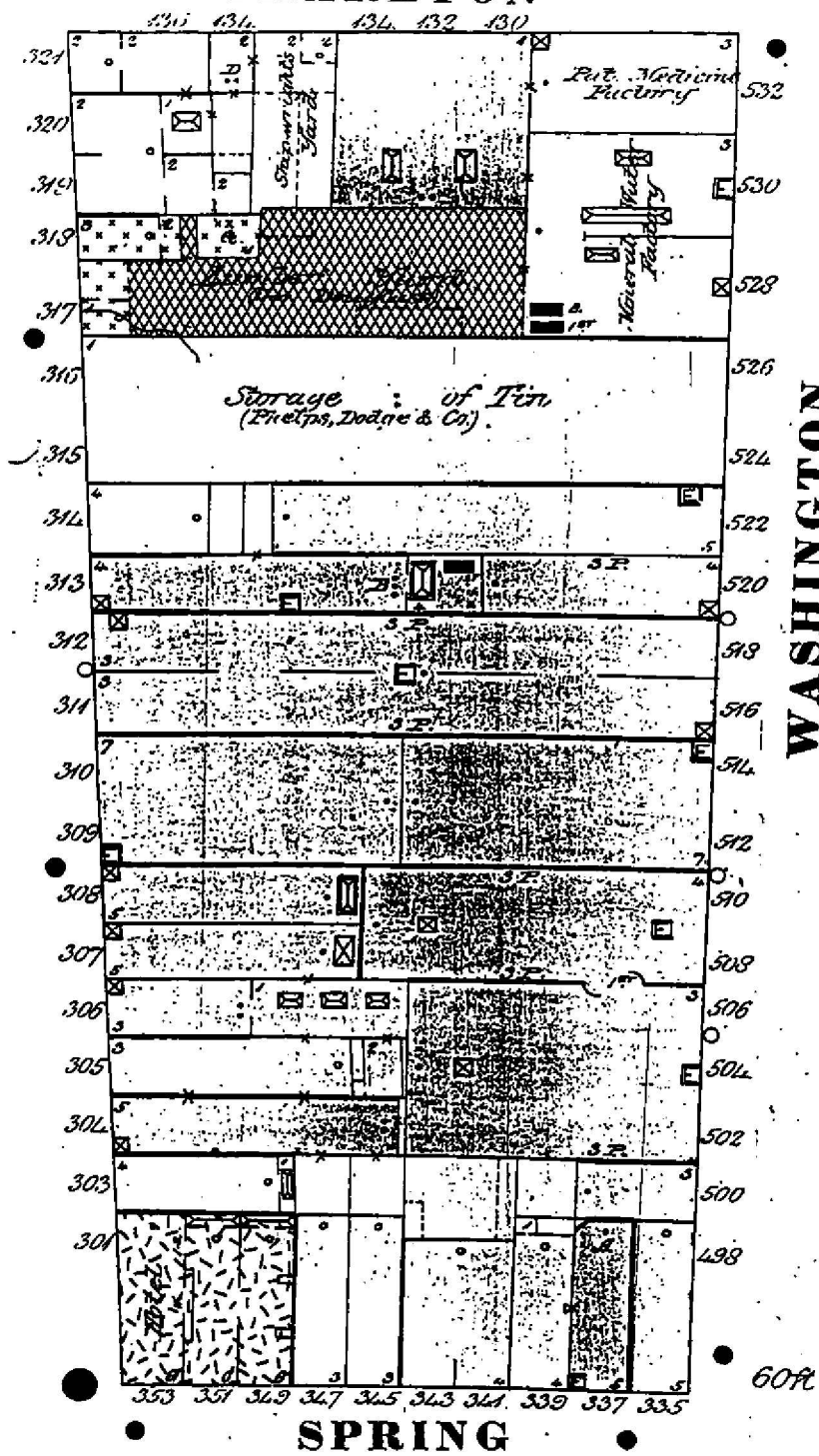
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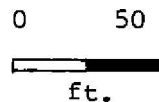
WEST

WASHINGTON

CHARLTON



structures, 3 stories or under
lumber yard
all or part a hotel (later
later a gas station)

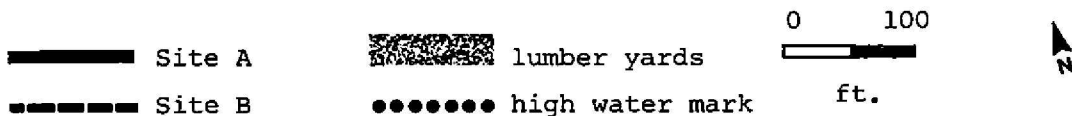
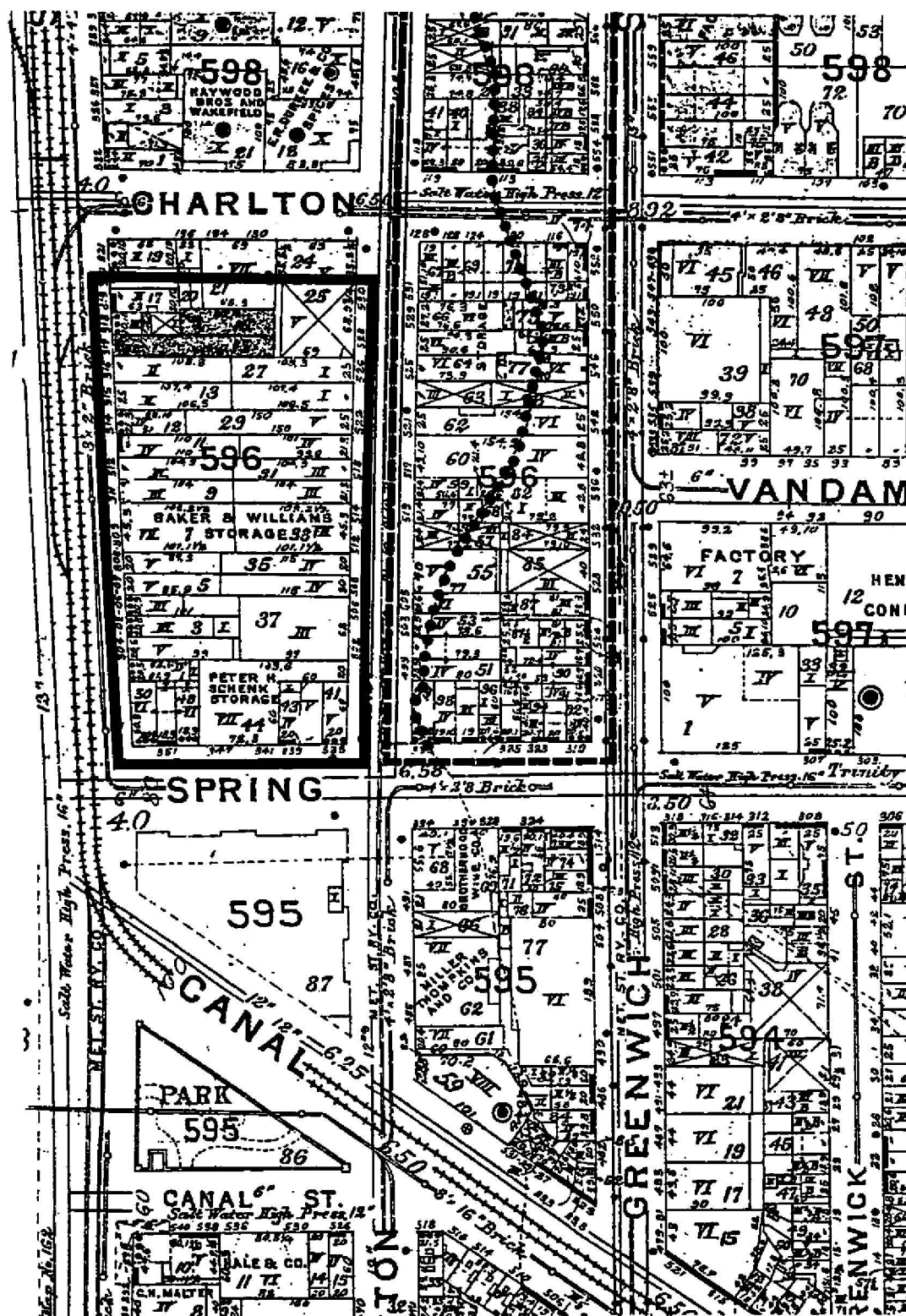


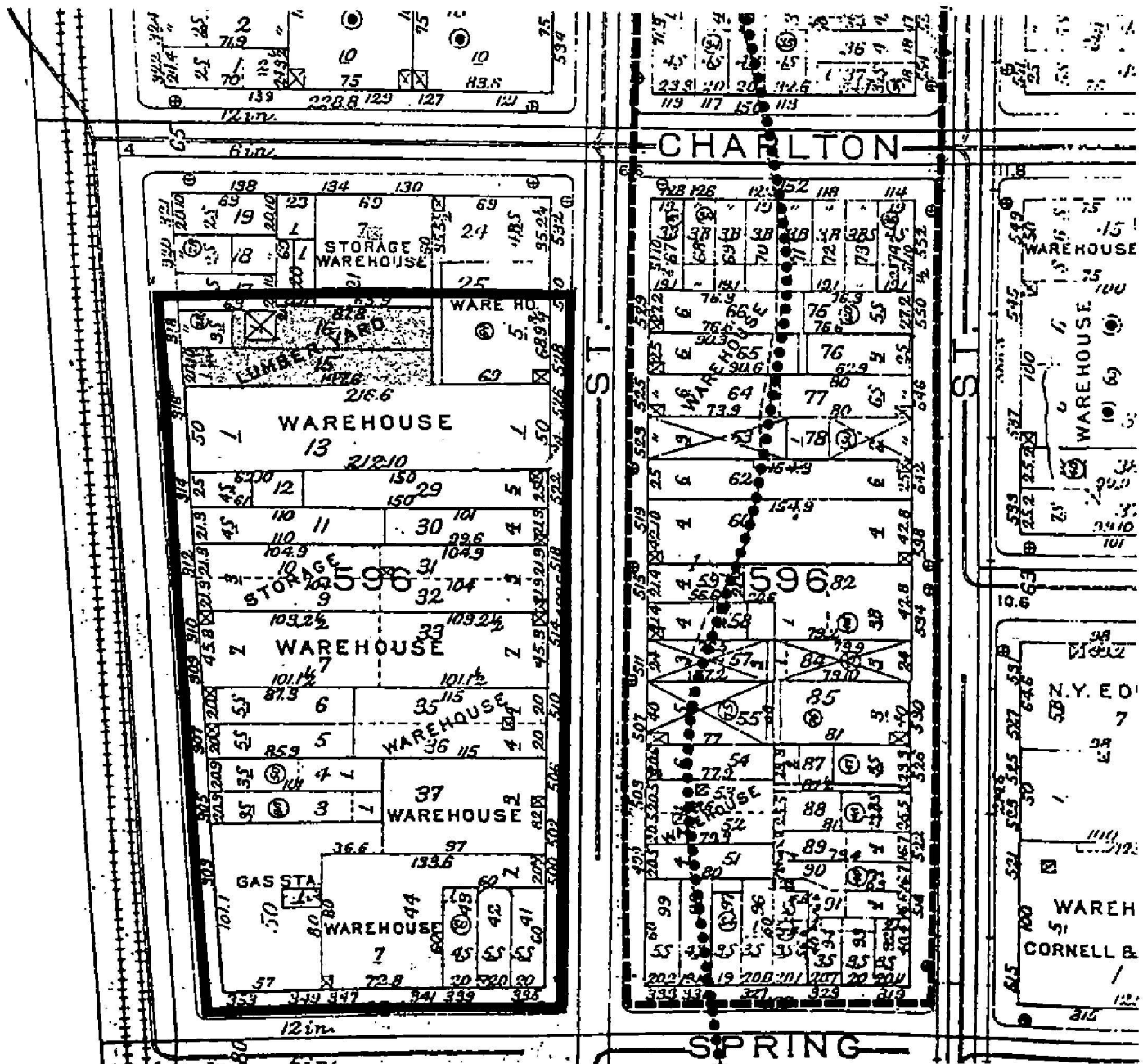
In 1851, on the corner where Watkins' wharf once stood, there was a liquor business owned by J. C. Paige (Doggett 1851). Structures at the corner of Spring and West were a hotel as early as 1852, when David S. Paige, possibly a son or other relative of J.C. Paige, had a hotel and a dentist's office at Spring and West Streets (N Y Directory 1852). A three-story building at 349 Spring Street may have been remodeled sometime after 1869, when Paige acquired 349 Spring Street from the estate of Philo Lewis, to create a three-lot parcel from 349 to 353 Spring Street. Although the Eighth Ward Tax Rolls persist in describing 349 Spring Street as a three-story building, Sanborn (1894, Figure 33 this report) clearly illustrates six-story structures over all three lots, then or later called the Savannah Hotel (see Figure 10). The N Y Directory for 1894 places the street address of Paige's hotel, and Paige's liquor business, at the West Street entrance of this corner property (301 West Street). In 1923, Sanborn shows the hotel only at 353 Spring Street, and by 1927 the hotel had been demolished and a gas station built on the site (e.g., Bromley 1932; see Figures 9 and 35).

The three buildings at 335 to 339 Spring Street remained in the same form for many years. The Eighth Ward Tax record for 1858 described 335 and 337 Spring Streets as five-story buildings, and 339 as a four-story building, and buildings of the same height are shown as dwellings with stores beneath by Bromley in 1932 (see Figure 35). As noted previously, by 1939 these structures had been demolished, and a narrow one-story shed (10.5 feet x 150 feet), with a produce platform, was being built at 341 Spring Street.

The buildings at 341 and 343 Spring Streets are described as four-story structures from 1858 (EWTR:1858) until 1912 when they were demolished to create Peter Schenck's seven-story warehouse (Hyde 1912; see Figure 34). The warehouse was being used by the Duval Company Pork Storage in 1923 (Sanborn 1923) and by unnamed occupants in 1932 (Bromley 1922 [1932]; see Figure 35). In October 1939, building records indicate that a certificate of occupancy was issued for a parking lot on this property (see Appendix A, No. 7).

West Street between Spring and Charlton is first listed in the Eighth Ward Tax Rolls in 1824 when Cornelius Harsen's stores and lots occupied what are now 317 and 318 West Street (Table 1); at the time they were valued at \$900 each. Harsen's own dry goods business was located downtown at Chatham and Mott Streets (N Y Directories 1824-1826), and the West Street property was leased from 1826 through 1842 to Philo Lewis (EWTR 1826-1842). Lewis, during these years, is listed in the Directories as a repacker of beef and pork. His business address is given as Washington Street near Spring, opposite the Spring Street Market and then the Clinton Market, to which he may have been a supplier. As previously mentioned, the former market, established in 1800, was originally called the Brannon Street Market, and was apparently located just south of Site B; the later Clinton Market, which replaced it as a neighborhood market, occupied the entire block south of Site A (for additional information about the Spring Street and Clinton Markets see De Voe 1862: 375-382; 527-549). In 1837 Lewis also became--in this era of Tammany politics--a New York City meat inspector (N Y Directory 1837).





- Site A
- Site B
- high water mark
- lumber yards

Philo Lewis lived in the neighborhood, first at 3 Charlton Street, then at 10 Vandam Street, and for at least fifteen years at 103 Hamersley Street (West Houston Street after 1858). It may be characteristic of the network of relationships in this developing community that Lewis moved to 103 Hamersley Street following the death of a Daniel Turner, who also rented from Cornelius Harsen. Turner ran a porterhouse on this rented property at the corner of West and Charlton Streets, and resided at 103 Hamersley Street from 1825 to 1835. Like many local businessmen, both Lewis and Turner had an interest in other local properties. In 1829, Lewis' personal estate was valued at \$500 (Ninth Ward Tax Rolls [NWTR]).

Purchase of 317 and 318 West Street from the Harsen estate, by John Douglas, is recorded in 1846 (LD 1846 470:289-291). Douglas was a lumber dealer who had other properties on the block as well as bulkhead rights opposite West Street as early as 1836. Prior to his purchase of the property from Harsen's executors, he rented an office and lumberyard next door at 319 West Street. The lots between 318 West Street and the corner of Charlton had, in fact, been used by various tenants for storage of lumber, lime, and bricks since the 1830s (EWTR). The properties purchased by Douglas continued to be used by him, and by his son George Douglas, as a lumberyard until they were sold to the New York State Realty and Terminal Company in 1930 (LD 3774:303; see Table 1).

It is yet to be determined whether any tenant or employee lived above the stores at 317 and 318 West Street since no person living on West Street had sufficient personal property to be listed in the personal tax rolls of the Eighth Ward. The 1851 N Y Dir-

UPS MANHATTAN SOUTH FACILITY Table 1

UPS MANHATTAN SOUTH FACILITY Ownership/Occupation of Lot 15 and 16 (Block 596 West), 1807 - 1946. (317-318 West Street)					
Date	Grantee/Owner	Lessee	Property Description	Remarks	Source
1804	John P. Ritter		Water lot grant High to low water water between Spring between Spring and Charlton Streets	This is land that form- ly belonged to Trinity Church	GLUW Liber E: 196 Windwart 1877
1808	John P. Ritter		Wharf and 6 lots		EWTR 1814
1814	Cornelius Harsen Joanna Ritter Harsen John P. Ritter		Lots 15 - 26 inc.	Son-in-law of Ritter, Sr. Daughter of Ritter, Sr. Son of Ritter, Sr.	Liber 106:291
1826		Philo Lewis	Lot and store	Lewis was a repacker of beef and pork and later a NYC meat inspector.	EWTR 1826 NYC Directories: 1822-1844
1846	John Douglas	--	Office and 1 1/5 lot	Douglas was a lumber dealer residing at 246 Spring Street	Liber 470:289 NYC Directory 1844
1860	" "	--	Lumber lot, 20ft.10in. x 147ft.6in. 3 story house, 16x28ft. Lot, 20ft.10in. x 147ft.6in.	Street No. 317 Street No. 318	EWTR 1860
1911	George Douglas	--	Lots 15 and 16	From heirs of John Douglas	Liber 213:117- 118
1930	NYC Realty and Terminal Co.		Lots 15 - 18 inc.	Estate of Marie L. Douglas	Liber 3774:303

ectory lists J. and T. Batten, inspectors, as well as John Douglas, lumber dealer, at 317-318 West Street. At 318 West Street is also listed Simon Stulf, shoemaker, but these may be business addresses only.

The buildings at 317 and 318 West Street are shown on the 1853 Perris map (see Figure 31 this report) as brick dwellings with stores underneath. In 1858, the Eighth Ward Tax Rolls describe the building at 318 West Street as a three-story house, measuring 16 x 28 ft. By that year, the house at 317 West Street was gone according to the tax rolls, but map data show a small one-story brick building persisting until at least 1923 (Sanborn 1923). Based on the same map data, it is possible that the building at 318 West Street remained unaltered until at least 1923.

Site B

Site B extends from Washington Street to Greenwich Street, between Spring and West Houston Streets, and includes the southern part of Block 600 between West Houston and Clarkson Streets. As noted in the introduction, only the southern part of this site (Block 596 East) and the southern part of Block 600, where a maintenance garage now stands, will be either demolished or converted into a new function. Consequently, the present focus of historical research is on these two areas, but in less detail than site A since Block 596 East has been highly disturbed and Block 600 is not intended for extensive excavation.

The eastern side of Block 596 East was part of the Trinity Church Farm property, while the western side of the block was conveyed as water lot grants by the City of New York to private

developers early in the nineteenth century (GLUW; see also Figure 24). The high water mark ran roughly through the middle of the block (see Figures 27 and 28 for surveyed maps that show the original shoreline and 20 and 24 for a reconstructed high water mark).

Spring Street and Washington Streets were developed soon after the land was filled. In 1827, the north side of Spring between Greenwich and Washington was lined with nine dwellings. The east side of Washington had eight dwellings at the southern end and five stables and five undeveloped lots at the northern side of the block. At the same time, the west side of Greenwich between Spring and Charlton contained seven dwellings, one of them then the residence of Cornelius Harsen (see Figure 29); the five houses on the south side of Charlton are described as "not finished" (EWTR 1827).

In 1858, Spring Street presented much the same picture, with eight two-, three-, and four-story buildings on the block. The Washington Street blockfront had fifteen buildings, including one stable. Seven two- and three-story buildings remained on Greenwich Street, and there were eight buildings on Charlton Street (EWTR: 1858) (see Figure 31 for 1853 map; also 32 and 36 for later depictions).

As noted above, the southern end of Block 600, (lots 23, 24, 34-42, see Figure 2 and Table 2) bounded by Washington, Greenwich and West Houston Streets, is also being considered for modification. Although minimal subsurface disturbance is planned, this part of Site B has been researched in case these plans change.

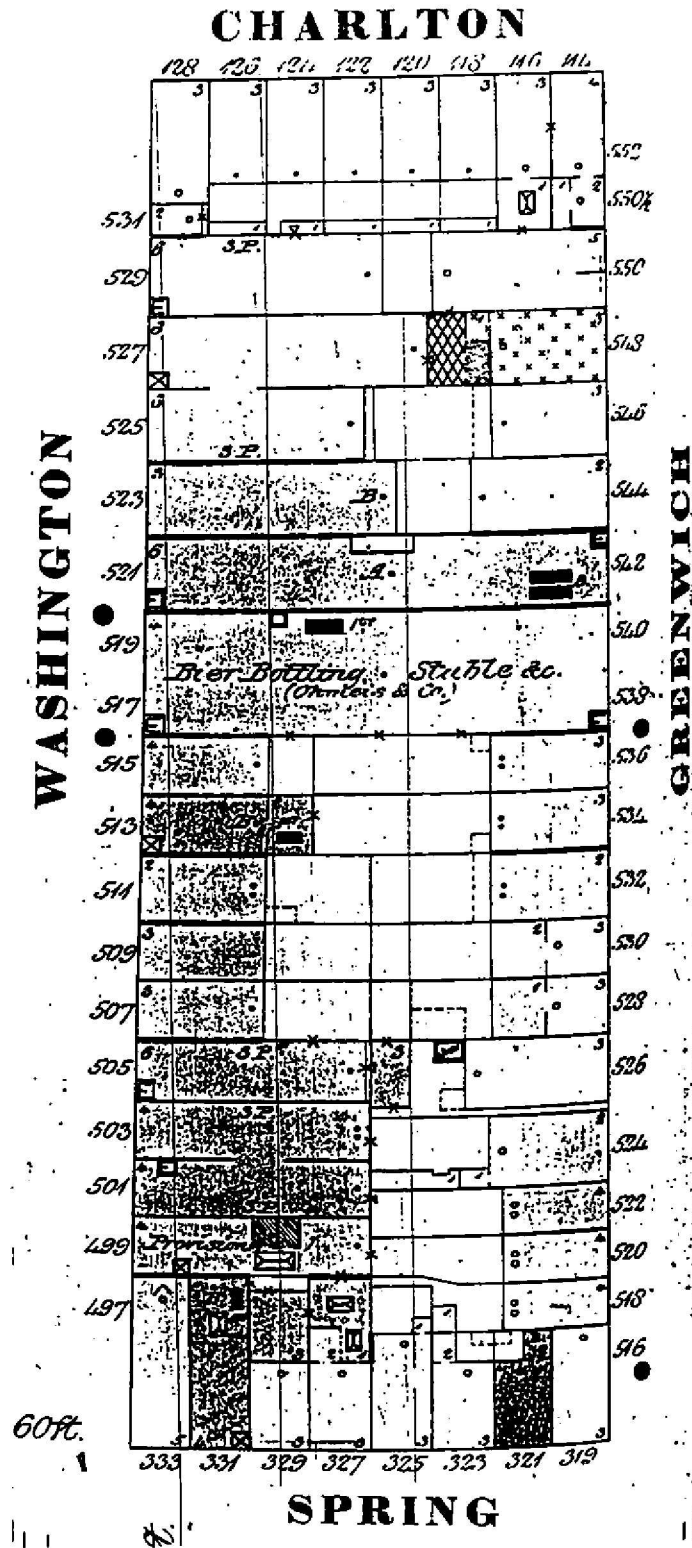
The easterly portion of the parcel was part of a grant to John Jacob Astor in 1807 (Liber 75:386) by Trinity Church. The


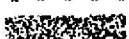

UPS MANHATTAN SOUTH FACILITY Table 2

A UPS MANHATTAN SOUTH FACILITY Ownership/Occupation of Lots 23 and 24 (Block 600), 1807 - 1946. (571-573 Washington Street)					
Date	Grantee/Owner	Lessee	Property Description	Remarks	Source
1807	John Jacob Astor	--	Lots 23 - 42 inc.	Part of grant by Trinity Church	Liber 75:386
1837		Daniel Frye	House & 1/2 lot		NWTR 1837
1838		Thomas Edwards Daniel Frye " "	House & 1/2 lot House & 3/4 lot " " "	Street No. 571 " " 569 " " "	NWTR 1838 " " " "
1851		Thomas Edwards Robert Getty Robert Getty	House and lot House and lot House and lot	Street No. 571 " " 569 " " 567	Liber 559:482; NWTR 1851
1855	Eugene Langdon	--	Lots 23 and 24	Partition deed, Estate of John Jacob Astor	Liber 685:1
1858		Walter Langdon Charles Brown	2-story house, 25x35 ft. 3-story house, 25x35 ft.	Street no. 573 571	NWTR 1858
1916	John J. Bradley	--	Lots 23 and 24	Estate of Marion Langdon	Liber 243:412
1946	NYC Port Authority		Lot 23	Formerly lots 23/24	Liber 4436:435

B UPS MANHATTAN SOUTH FACILITY Ownership/Occupation of Lots 39 - 42 (Block 600), 1807 - 1946. (322 - 328 West Houston Street, until 1858 Hamersly Street)					
Date	Grantee/Owner	Lessee	Property Description	Remarks	Source
1807	John Jacob Astor	--	Lots 23 - 42 inc.	Part of grant by Trinity Church	Liber 75:386
1837		Daniel Frye Daniel Frye	Lots 39 - 42 House & 1/2 lot	Assignment of lease Many lessees between 1837-1853	Liber 335:365 NWTR 1837-1853
1855	Cecelia (Langdon) de Nottbeck	--	Lots 39 - 42		Liber 685:1
1945	NYC Port Authority	--	Lots 38 - 42	Estate of Eugenia Nottbeck	Liber 4372:429

C UPS MANHATTAN SOUTH FACILITY Ownership/Occupation of Lots 34 - 38 (Block 600), 1807 - 1946. (594 - 596 Greenwich Street)					
Date	Grantee/Owner	Lessee	Property Description	Remarks	Source
1807	John Jacob Astor	--	Lots 23 - 42 inc.	Part of grant by Trinity Church	Liber 75:386
1845		Delaware and Hudson Railroad	Office and lot	Street No. 472 - 479	NWTR 1845
1855	Cecelia de Nottbeck	--	Lot and office	Street No. 471	Liber 685:1
	Eugene Langdon	--	2 lots	" " 473 - 475	" "
	Woodbury Langdon	--	Lot	" " 477	" "
	Eugene Langdon	--	2 lots	" "	" "
1913	Manhattan Railway Company	--	Lots 31 - 37		Liber 226-261
NW1945	NYC Port Authority	--	Lots 38 - 44	Estate of Eugenia Nottbeck	Liber 4372:429



 structure, 3 stories
 piazza
 yard

0 50
ft.

westerly portion was conveyed to Astor by the City of New York as a water grant on August 11, 1807 (Conveyance Index 1916:Block 600). Astor did not develop this land for some time, and it was only in the 1830s that the block began to be built upon.

Building had commenced on the east side of Washington Street in 1829 (Table 2A), with four houses rented on the block, and one under construction by J. J. Astor. By 1832 the block was completely filled, and four houses stood on lots 23 and 24 (NWTR 1829-1832). In 1855, these lots were sold to Eugene Langdon by the estate of J. J. Astor (LD 1855 685:1). In 1858, the tax rolls describe the lots as measuring 25 x 74 feet; at the time there was a three-story, 25 x 35-ft. building on lot 23 and a two-story, 25 x 35 ft. building on lot 24. These lots were sold to John Bradley in 1916 (LD 1916 243:412) and acquired by the Port Authority in 1946 (LD 4436:435).

No building was indicated on Hamersley Street until 1837 (Table 2B) when a house on Hamersley at the corner of Washington (lot 42) was rented by Daniel Frye (NWTR 1837). At that time, Frye also occupied lot 23 on Washington Street. By 1850 there were four houses on Hamersley Street. Lots 39-42 continued to be rented as one property by numerous leasees until they were sold by Astor's estate to Cecelia (Langdon) de Nottbeck in 1855 (LD 1855685:1). The lots on Hamersley Street continued to be held by heirs and descendants of the Langdon family until they were sold to the NYC Port Authority in 1945 (LD 1945 4436:435).

On the west side of Greenwich Street (Table 2C), lots 34-38 were leased by the Delaware and Hudson Railroad in 1845, possibly for storage purposes. They do not seem to have been developed by

Astor as no buildings are noted (NWTR 1845). The Langdon family acquired the parcel of lots from Astor's estate in 1855 (LD 1855 685:1). At this time, the only building listed on the tax rolls was an office on lot 38 (NWTR 1855). By 1858, however, sheds had been constructed which entirely covered each lot.

In 1913, lots 31-37 passed from the heirs of Langdon to the Manhattan Railway Company (LD 1913 226:261) and lots 38-42 were sold by the estate of a Langdon descendant, Eugenia Nottbeck, to the NYC Port Authority in 1945, as noted above.

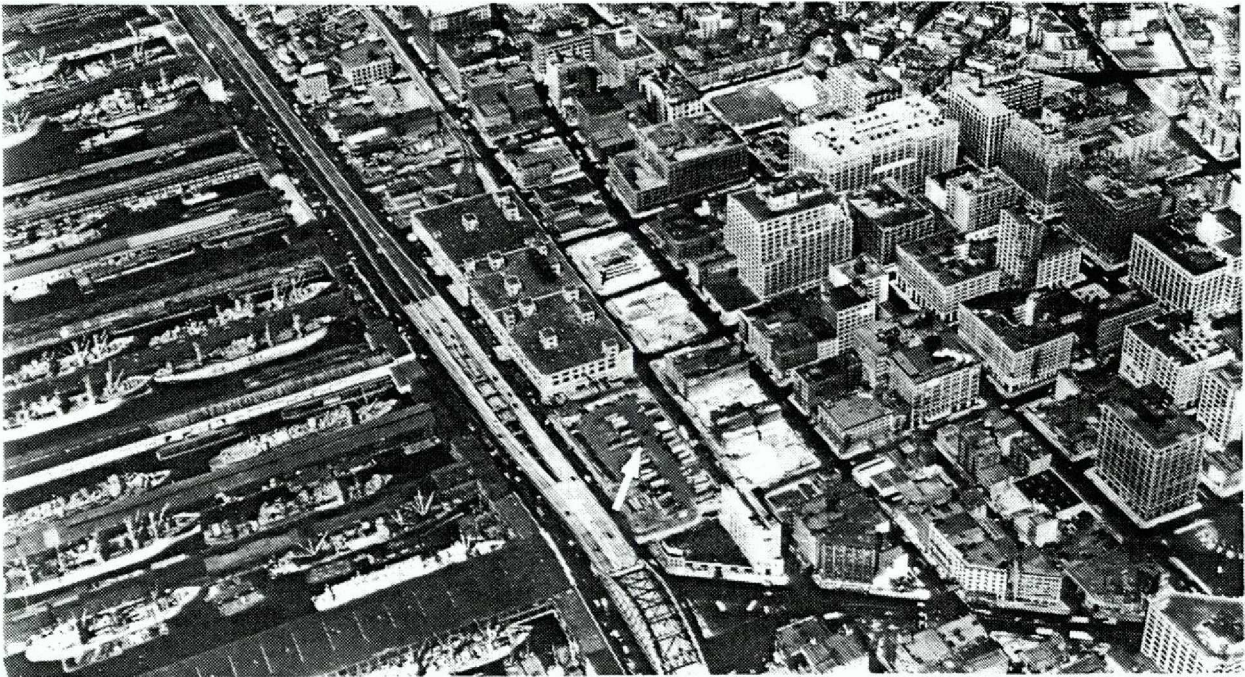
MODERN DEVELOPMENT AND RECOMMENDED FOCUS OF MONITORING

As outlined in the previous sections, the obliteration of any early features on Site B--both from the prehistoric or Revolutionary War periods--has been ongoing and very intensive. Of the many structures documented on Greenwich Street between 1804 and 1844, only Cornelius Harsen's home at 548 Greenwich Street appears to have survived until the mid-twentieth century (as noted earlier, Harsen was living here in 1827). This three-story structure appears on the 1932 Bromley Atlas (see Figure 35), but the part of the lot that once extended west to Washington Street, and the location of a documented privy, had become the site of a six-story warehouse by 1894 (Sanborn 1894; see Figure 36).

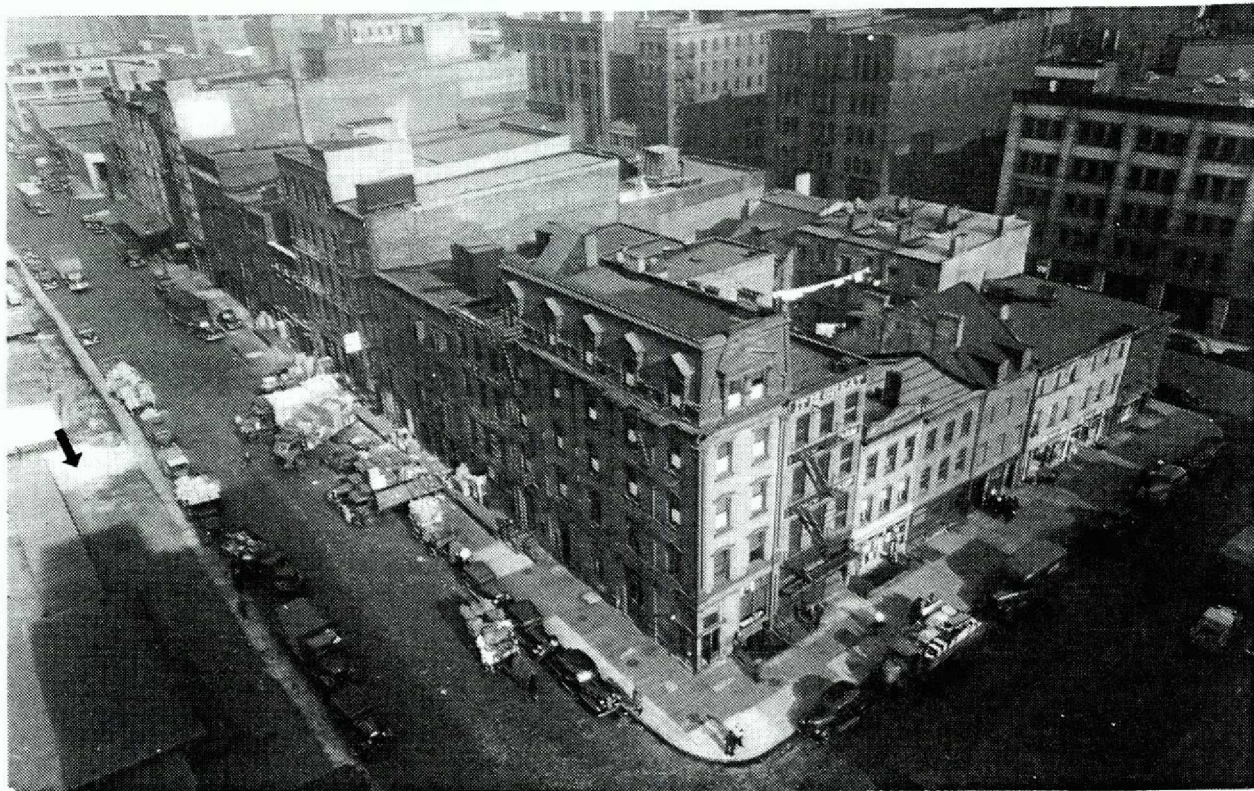
It appears quite certain the construction of the Union Terminal in 1947 would have destroyed meaningful evidence of this structure, its backyard, and any remnant of the former privy that might have survived the building of the warehouse (contemporary maps and the extent of the terminal excavations are shown in Figures 37-42). Plans for the foundation support the photographic evidence,



37 Aerial view of the project area (Site B outlined in white) in May, 1946, just prior to demolition of buildings in anticipation of construction of the Union Terminal Building. Site A is indicated with a black arrow. (Photo courtesy of the NY-NJ Port Authority TT-198)



38 The same as above, six weeks later (June, 1946) when most of the buildings were razed. Site A is indicated with a white arrow. (Photo courtesy of the NY-NJ Port Authority TT-287)



39 View of Site B buildings north of Spring Street looking north and east. Photo taken November 14, 1941. Site A is to the left; notice produce distribution center with long, narrow platform, on corner of Spring and Washington Streets (arrow). (Photo courtesy of NY-NJ Port Authority CP-1437)



40 Same as above, May, 1947, beginning of excavations (column line is in center of photo). Note old building foundations and the St. John's Park Freight Terminal (now the St. Johns Building) to left rear. (Photo courtesy of NY-NJ Port Authority (TT 406)



41 Site B during foundation excavations for the Union Terminal Building, looking north from Spring Street (8/21/47). Note that columns on western part of site are in place, those to the east still have to be excavated. Also note depth of excavations along the property line on Greenwich Street to the right. (Photo courtesy of the NY-NJ Port Authority TT-499)

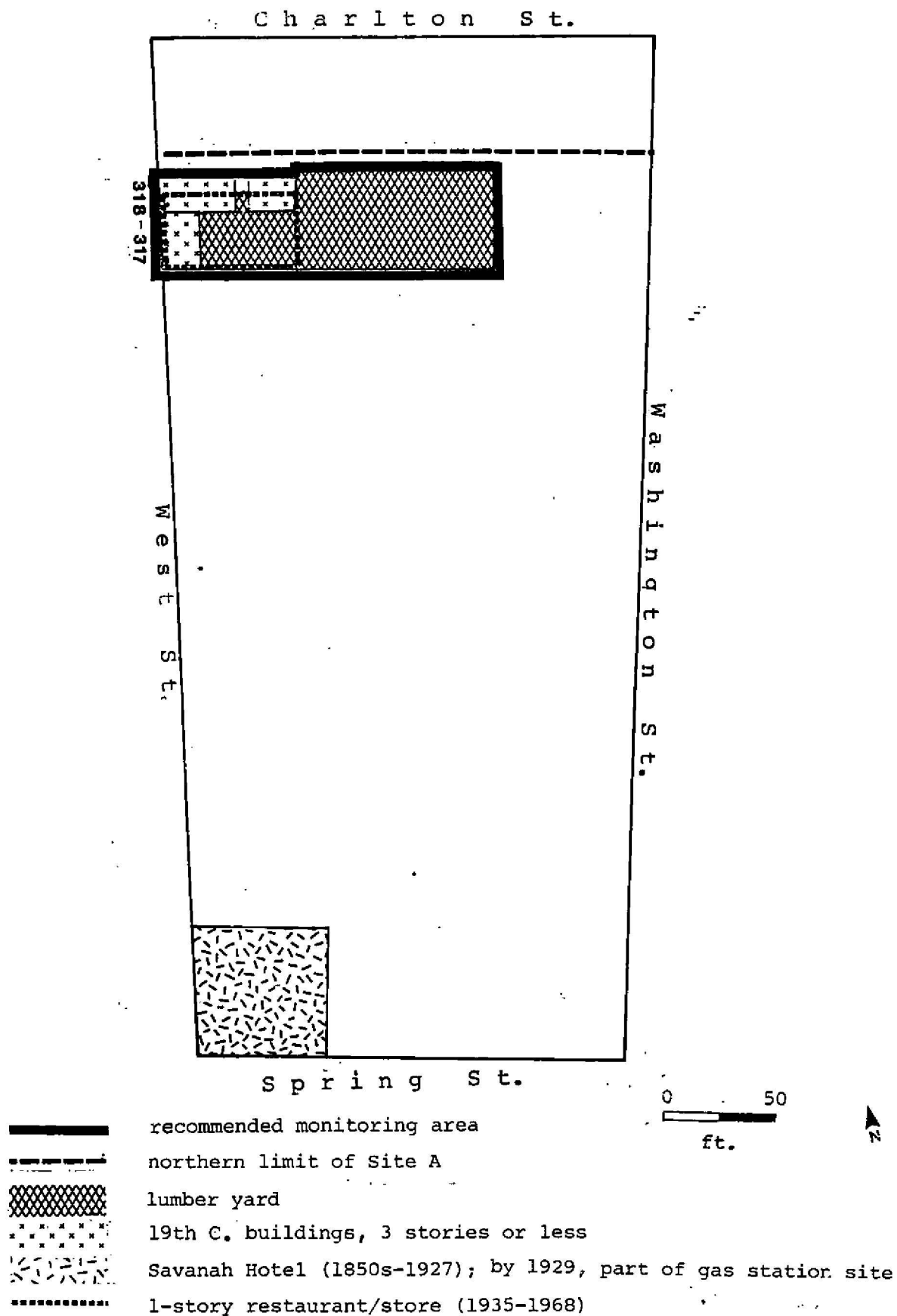


42 Site B during foundation excavations (9/12/47) looking south from near Charlton Street. Columns on west side of site are in place. Note Site A, a parking lot, and the produce distribution platform and building in Figure 39 is now a diner (arrow). (Photo courtesy of NY-NJ Port Authority TT-515)

indicating that at least 8-ft. footings were called for that would have required even deeper foundation trenches and a great deal of auxiliary disturbance (Port of Authority 1947:drawings 3, 4). These trenches cut through the yard area indicated in 1932 and may also have extended to the former privy site which was located under the warehouse.

As noted before, it is the question of landfill structures and the landfill itself at Site A that can best be addressed at the UPS Manhattan South Facility site. If, as it is believed from this research, no new foundations were laid on the site in 1931-1932, there will also be foundation walls remaining from demolished nineteenth century buildings, but these are not archaeologically significant; however, privies or cisterns associated with the small structures at 317-318 West Street that once fronted this lot may be encountered. If so, they should be sampled in the monitoring process.

Figure 43 illustrates the position of 317-318, the lot recommended as the focus of the monitoring program proposed for this site (see the summary and recommendations found at the beginning of this report).



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UPS BLock Building Files--Block 596 Lot 50

Key: NB=new building application; C of O=certificate of occupancy;
P&D=plumbing and drainage; BN=building notification

1 301 West Street

6/11/1940 Application #1156
Electric Sign - Owner Sonny's Service Station
Contents of sign: Flying Horse - Mobilgas
Sign size 4ft. 6in. x 4ft. 6in.
Sign weight 751 lbs.
Sign made by Sign Tenn Enamel Co.
This is the only information on 301 West St. in the folder.

2 303-351 West Street (also, 500-582 Washington St., 64-74 Clarkson St., 335-353 Spring St.) [St. John's Park Term. Bldg.

1931 NB 38-31 * Block #596-598-599-600 Lot #1 to 50; 1 to 27; 1 to 21; 1 to 22. 1 bldg, 12 stys, fp, Railroad freight Hs, and storage, 1266ft. 3 7/8in. and 1266ft. 11 7/8in. x 190ft. 6 5/8in. and 282ft. 1in. x 192ft. 3/4 in. and 1266ft. 11 7/8in. high. N.Y.C.R.R. owner, 466 Lexington Ave., Patrick E. Crowley Pres., Edw. A. Dougherty Arch., 466 Lex. Ave. Appl Cmcd 6/23/31 Est. Cost \$2,500,000. Foundation compd 12/17/32.

* Original plan for St Johns Park Terminal Building included block #596 Spring to Charlton Sts. never built. This information only is from the Docket Book, new building application not located.

1932 NB 122-32 (Note: although foundation begun in 1932, this "application" supercedes NB #38-31.) Block 596 - 600 Lot #1 - 1, the address is now shown as 321 to 351 West Street, 532 to 582 Wash. St. and 64 to 74 Clarkson St. with the building shortened by one block. 1 bldg, 3 stys, fp, storage railroad freight facilities, offices and manfg. 798ft. 11in. and 802ft. 7in. x 282ft. 1in. and 224ft. 4in. x 64ft. 6in. high. N.Y. C.R.R. Co. owner, 466 Lexington Ave., Frederick E. Williamson Pres. Archt. not given. Est. Cost \$2,500,000 before cmcd 12/16/32 Compd 7/19/34.

3/8/32 Permit #319 for standard workman's compensation insurance was approved for all work except for caisson foundation (see xerox sheet).

11/29/32 Disapproval of NB application #122-32 with 17 objections listed. Item #1 states that work on NB 38-31 approved for these premises has been commenced. This application should be withdrawn and filed as an amendment to NB 38-31.

- 12/16/32 NB 122-32 Application contains an agreement between the City of New York and the N.Y.C.R.R. which states the following in item #1 (page #9) "All work under application NB 38-1931 has been omitted except caissons completed in area covered in this new application. For foundation for this application refer to NB 38-1931." Although no cellar depth is noted, item #4 (page 9) states "the number of occupants in the cellar in amount of 75 males is estimated at 25 persons per section working part-time in connection with storage of merchandise ..." the depth can be estimated.
- 3 303-304 West Street
5/3/1944 Location of building - N/E/C Spring Street
Application for Demolition #54. Application was for use of water during the demolition process. The application was approved 5/3/44. The building was inspected 6/27/44.
Plot size: 75ft. x 100ft. - 7,500sq.ft. Plot diagram available (diagram 5 not shown here)
- 4 317 - 318 West Street
8/20/1934 Location of building area E S 365ft. North of Spring Street. Block #596, Lot #1.
NB 107-34 - Lessee listed as Harry Crane. Lot size is: running east 50ft., north 35ft., west 50ft., south 35ft.
8/22/34 NB 107-34. Specifications for ordinary buildings; district unrestricted; number of buildings to be erected 1; no buildings demolished.
Size of building at street level: 35ft. front, 50ft. deep, 13ft. 6in. high. Stories 1. Est. cost \$2,500. Occupancy; restaurant, 15 males, 15 females, total to be 30 people in all safe carrying capacity of floors per sq. ft. 100lbs.
Foundation: solid con port cem 1-2 1/2-5 - fine dry sand, 3 tons.
Upper walls: Brick, mortar - cement 15% hydrated lime
Partitions: 2 x 4 wood stud, wire lath + 3/4in. cement mortar.
Roofing: Ruberoid:
The interior finish to be wood; the floor surface wood; trim, sash, doors, wood frame with plate glass flush with building. Fireproofing: all IB over 4ft. long supporting brick work to be fireproofed with wire lath and 2 coats of cement mortar.
8/22/1934 Inspection report sheet created for new building site (see attached copy of report #1 [not included]).
P&D Application 1148 submitted. The plan was approved 9/18/34. Tests were run 9/28/34. Final testing was 11/9/34 and final approval was issued 11/20/34.
8/23/34 NB107 Block 596 filed.

L1 317-18 West Street; 1 bldg, 1 sty, nonfp, restaurant, 35ft. x 60ft. x 13ft. x 6in. high
 Owner: New York Central Railroad Co. 466 Lexington Avenue, New York City, F.E. Williamson Pres. S. Millman & Son Architect, 1780 Pitkin Ave. B'klyn.
 Estimated cost of building \$2,500. DOCKET OF APPLICATIONS FILED - MANHATTAN 1934 VOLUME #58.

8/23/34 P&D Application #1148
 1 building, new, 1 story, front and rear 35ft., deep 50ft., height 13ft. 6in., restaurant 15 males - 15 females. Drainage and sewage is by public sewer. House sewers: 1 earthenware, diameter 6in. fall per foot 3/4in. House traps: 1, 4in. diameter. Fresh air inlets: 1, diameter 3/4in. as front R B above grade. House drains: 1, diameter 4in. fall per ft. 3/4. Soil lines: 1, diameter 4in. Waste lines -. Vent lines: 1, dia. 2in. Refrigerator waste pipes; 1, dia. 1 3/4in. Roof drainage inside leaders: 1, dia 4in., dia. of traps 4in. Floor and base of W.C. - tile. W.C.: earthenware, wash down 4 sinks, 1 wash tub, 3 W.C.'s.

9/5/34 NB 07-34 - 317-318 West St. Block #596 - Lot 1.
 Work was reported to have begun 9/4/34.
 P&D was requested 9/21/34 and finalized 11/19/34.

9/20/34 P&D Certificate received by Dept. of Buildings.
 Plumber: William Yudin, 128 Riverdale Ave., B'klyn.
 Owner: Harry Crane.
 Yudin stated that he employs no labor and does all the work himself.

10/8/34 NB 2-1931 Approved for Harry Krane, lessee, 131 E. 93rd. St. B'klyn, owner - Owner, N.Y.C.R.R. East side of West Street - 365ft. North of corner of West St. and Spring St. running East 60ft., North 35ft., West 60ft., South 60ft. Block #596 Lot #1.
 Amendment: To erect at rear 1 sty brick extension of size 9ft. x 9ft. height 10ft. Foundation walls of solid con port cem 1 - 2 1/2 - 5, 4ft. below grade. Flat roof, rubber pid. omit present W.C. compartments as shown on original plan and erect new ones in new extensions (see copied sheet #3 [not included]).

10/8/34 P&D Application calls for omission of W.C. in main restaurant building and installation of 2 W.C.'s, 1 urinal, 2 washbasins in new extension. Same to be connected to a 4in. soil line. New extension roof to pitch to original x hci leader. The depth of the building is now stated as being 60ft.

10/19/34 Permit to Build #2563 Application #107-34
 Granted to Max Sklarsky. Workman's comp. binder, U.S, Fidelity and Guar. Co. Owner N.Y.C.R.R.

11/7/34 Amendment - To provide new outside cellar stairs, to be covered with trap doors, when shown on amendment plan. Disapproved - 1. present here Highway Permit if Charlton St. is a public highway for work beyond building line.

11/26/34 Amendment - Permit from Bur. of Highways is not necessary as formerly Charles St. now private roadway. Property of same owner. See letter on file.

11/30/34 Final Report of Iron and Steel Inspector. All iron and steel girders, beams and columns are of size shown in application and are properly set. Work was completed 9/27/34.

11/30/34 C of O application gives building size as 35ft. x 50ft. height 13ft.6in. lessee Harry Krane.

12/8/34 An application for a C of O was denied, reason: "The wooden partitions forming store rooms in the cellar are contrary to approved plans." A letter was sent to: Ben Levy, 516 Bristol St., B'klyn, about the denial of the C of O from the Buildings Department.

2/20/35 A request for a reinspection was honored and it was found that the partitions were removed and a C of O was issued 2/26/35.

2/28/35 C of O - 1 story - 35ft. front - live loads 100lbs. per sq.ft. - persons accomodated 30 - cellar for storage - 1 story - stores. This was sent to Ben Levy, 516 Bristol St. B'klyn. Unrestricted dist. Business building. N.F.P. construction.

5 317 West Street and 319 West Street

7/23/1968 Sigmund Sommer - Investment builder, 666 - 5th Ave. 10019. Authorized DeMello Wrecking and Excavating Corp., 30-30 - 14th. St. L.I.C. 11106, to demolish the premises (letter to Dept. of Buildings).

7/30/68 Certificate of Workmens's Compensation Insurance. DeMello Wrecking and Excavating Corp. and Sigmund Sommer Const. Corp. The location of the operations is listed as 317, 319 West Street. Job description: wrecking buildings described as 2 - 1 story buidlings. Certifcate #2518709. This was filed to correct Cert. #2518561 (job #1).

7/30/68 Dept. of Buildings Demolition Costs: \$1000. Number of buildings 2, both 1 story. The occupancy had been stores - were now vacant. Dimensions: height 16ft., (the buildings were set on the building line), front 36ft., rear 36ft., deep 59ft. A note attached states that they will protect and preserve all party walls (however none were noted above to exist). Sigmund Sommer Const. Corp. is listed as the owner.

8/20/68 Request (separate one filed for each building) for inspection prior to demolition was filed with the Dept. of Buildings (form 26c 10/58). The buildings did not have party walls or walls enclosing an adjoining building. The buildings were vacant at the time.

6 500 Washington Street

11/6/1939 Affidavit (form 17) owner N.Y.C.R.R., John P. Gallagher archit., 466 Lex. Ave.
Location: North side of Spring ST. 19ft. 0in. north of the corner of Spring and Washington Streets. running 152ft. 0in. north, 86ft. 0in. west, 171ft. 0in. south 22ft. 0in. east, then 19ft. 0in. north then 64ft. 0in. east - part of lot #1.

11/8/39 NB 210-39, B596, L pt. of 1.
500 Washington St. 1 story, frame, commercial building, 150ft. x 10ft. 6in. x 13ft. 6in. and 15ft. 6in. high. The N.Y.C.R.R. Co. owner, 230 Park Ave. Frederick E. Williamson Pres. John Gallagher archt., 466 Lex. Ave. Est. cost \$2,500.
DOCKET OF APPLICATIONS FILED, MANHATTAN, 1939, VOLUME #83

11/30/39 Application for frame buildings - dist. unrestricted. Height 2 - Area A - Est. cost \$2,500.
Commercial building - no cellar - first floor: office and loading platforms - 2nd floor: none - Attic: none. Building at street level. 150ft. 0in. front, 10ft. 0in. deep, 150ft. 0in. rear, - building area 1575 sq.ft. Height from curb to roof 13ft. 6in. and 15ft. 6in. cubic contents 20,090. Soil coarse sand. Footings: plain concrete class A - 1:5 1/2, depth below curb 4ft. 0in.
Foundation - plain concrete Class A - 1: 5 1/2 -
Frame: Fir and structural steel - sills 3in. x 12in. - corner posts 4in. x 4in. - enteries 4in. x 4in. - plates 4in. x 4in. - studding 2in. x 4in. - platform frame beams, fir 2in. x 12in. - columns, steel 6in. x 6in. See Plot Diagram #4 [not included].

12/5/39 Permit #5109 - Agent for contractor Alexander W. Blyth for Miller Blyth Inc. N.Y.C. Owner N.Y.C.R.R.

12/13/39 Insurance issued by Travelers to Miller Blyth Inc. Contractor, 441 Lex. Ave. for produce platform - N.Y.C.R.R. #500 Washington St.

12/22/39 Amendment - Soil change - footings will be set in filled ground - well compacted and at least 10 yrs. old. 1 ton capacity.
Work started.

12/29/39 C of O - Soil examination - "found fill in soil to be well compacted and recommend same for one tun per sq. ft." R. Kramer Sup. Inspect.

6/21/40 Iron and Steel report filed and work was satisfactory.

3/27/41 New Building Objections - Construction not lawful within fire limits, must provide toilet and the construction details.

2/25/42 NB - reissued 1/21/41 for addition to present structure on which nothing has been done to date - expired by the limitation.

7 318 to 330 Washington Street and 307 to 320 West Street

- 6/26/39 C of O Application for vacant lot owned by the New York Central Railroad, 446 Lex. Ave. (here the address is actually listed as 518 to 530 Washington Street).
- 7/6/39 C of O (the address is now listed as shown in heading) objections were filed calling for a sketch of the plot showing the dimensions and curb cuts.
- 8/16/39 Letter from the City of New York Dept. of Housing and Buildings - " Re: application for C of O (dated 6/26/39) for use of above premises for parking of automobiles evidence should be filed showing curb cut permits exist or new permits should be obtained for the existing curb cuts." Hand written note on letter "Curb cut permit M340 issued on Oct. 10, 1939.
- 10/18/39 C of O - Ground level lot area 210ft. x 290ft. Parking and Storage of more than 5 motor vehicles. Area unrestricted (here address is 518 to 530 Wash. St. again).

8 503 Washington Street

- 2/14/44 Application #3442-44 for minor structure etc. filed by John Hailer, 319 Greenwich St. agent for owner Gerard Marotta. Rebuild elevator motor and controller; rewire and repair hatch limits; reline brake; repair winding machine, speed governor, car safety; renew car floor; cover underside of car floor with sheet iron; renew hoist, operating cables; redlead overhead beams.
Building, old construction, brick, 4 stories occupied as warehouse. Cost \$1300.
- 3/21/44 Application for elevator #342-44 - work was begun 2/24/44.
- 4/20/44 Plumbing Mechanical Equipment and Tank Installation Application #329-44, 503 Wash. St. East side of street north of Canal St. - Owner, M. Marotta and sons, same address, Michael Marotta Pres., Gerard Marotta V. Pres. Archt. Edwin L. Gleason 227-9 Fulton St. Contractor Gould Sprinkler Co. address 227-9 Fulton St. To install sprinkler system - automatic - dry pipe - through out building - building old - construction ordinary - class 3 - dimensions: 4 stories (42ft. high) front 20ft. deep 75ft. - occupied: paper stock - est. cost \$3,000. Approved 5/19/44.
- 5/2/44 Hydrant test flow conducted in vicinity of building - done by Gould Sprinkler Co. - Cost \$10.
- 5/4/44 Final Report of Inspector - work on elevator completed 5/2/44.

9 315 West Houston Street

- 10/2/49 Application for Electric sign #1263-49, Block 599 Lot #37, area unrestricted. Sign to be parallel to building - projection 1in. beyond building line - const. metal - height 10ft. above level of sidewalk.

Est. cost \$400 - dimensions 1ft. 6in. high, 24ft. long, name - Houston Diner (lessee) non-flashing neon sign. Owner Port of New York Authority. Location - Union Terminal Freight Station #2

10 590 - 596 Greenwich Street and 596 - 573 Washington Street
(N/S West Houston Street)

1/7/46 Application for Demolition #15-46.

11 588 Greenwich Street (N.W. corner of West Houston Street)
7/10/33

P&D Application #851-33 - Public sewer - House sewers 2 earthenware, 2 w.c.s, 2 wash basins, 1 wash tub. There is also a mention of cellar steps to be covered with trap doors. Plumber: Jack Lichtenberger, 27-29 Sullivan Pl. Bronx, shop at 508 Canal St. Mann. N.B. Application #76-33 - 1 building to be erected. Building size at street level - 14ft. front, 48ft. deep, height 10ft. 8in., 1 story. Cost \$2,500. Dining car and kitchen - occupants 15 male and 10 female; carrying capacity of floor 75 lbs. per sq. ft. Foundation: P.S.C. concrete; foundation walls brick and concrete; upper walls frame and cement block; partitions 4in. wood studs plastered both sides; roofing rubberoid and metal.

8/3/33 Permit # 1302 NB 76-33. To have entire work done by Ben Levy (see above).

12/17/33 NB 76-33. Work commenced 7/20/33 and completed.

11/16/33. Approved. No structural steel in building. Front 14ft., depth 48ft., height 10ft. 8in., 1 story frame. Dining car and kitchen, owner J. Munson Diner Inc., Fay Zellin, Pres. 603 Lefferts Ave. Bklyn. Architect, Max Cohen 682 E. 52nd St. Bklyn. Gen. Con. Ben Levy, 516 Bristol ST. Bklyn. 5/5/37 Altered Building Application #1693-37. 1 building on front of lot. Cost \$250. Dining car, no changes in occupancy. Existing building: size at street level 25ft. 1in., 60ft. deep, height 12ft. (1 story), non fire proof. Proposed to extend present kitchen a distance of 17ft. by 8ft. 6in. to be used as storage room in connection with the dining car. Foundation: dry, hard clay. Foundation walls: cinder concrete blocks, 12in. thick, depth below curb 4ft., upper wall approved cinder concrete block, portland cement mortar, walls 8in. thick, no party walls, interior walls are to be wood.

5/5/37 Alteration Application #1693-37, cellar storage, 1st floor of lunch wagon and restaurant, exit conditions stairway.

5/5/37 Land beginning west of Greenwich Street, 0ft. 0in. from corner formed by West Houston and Greenwich Streets, running thence west 72ft. 6in., thence 25ft., thence east 73ft. 2in., thence 25ft. 1in.

10/21/37 Permit #4026-37 to build 1693-37. Owner Samuel Zellin. Filed by A. Osakofsky 111 Story St. Bklyn. for owner, to do carpentry work.

- 12 322 - 328 West Houston Street (567 - 569 Washington Street)
- 5/6/35 P&D 682-35. Dimensions 71ft. 4in. front and rear, 40ft. deep and 17ft. high. Occupied as storage and loading.
- 5/6/35 Affidavit NB 79-35 for P&D. Dimension - N. E. corner of Wash. and W. Houston Sts. running north 50ft. then east 74ft. then south 50ft. then west 72ft. 6in.
- 6/10/35 Application for Demolition #136-35. 4 buildings (only the 3rd and 4th stories), class A multiple dwelling (old tenement law) 4 stories. Dimensions 71ft. 4in. front and rear, 40ft. deep. Contractor -----, owner Carl P. Knudson 126 West St. Mann.
- 6/12/35 Permit to build #1321-35 Block #600, lots# 39, 40, 41, 42 submitted for masonry and carpentry work.
- 7/31/35 Drop Curbs Application #1649 - Storage building and loading platform. Cut curb 12ft. and 14ft. work to be done as soon as possible.
- 8/1/35 Amendment to NB 79-35. Proposed to amend approved plans as follows: install cellar in front portion of extension approx. 13ft. deep measuring from the front building line. Cellar floors to be 4in. concrete with 1in. cement finish. Ceiling height of cellar approx. 6ft. 6in clear. Ceiling, metal lath and 3/4in. cement plaster. Steps leading to cellar to be covered by trap door. Cellar to be used for storage. Address is listed as 324 - 328 W. Houston St.
- 8/21/35 Amendment to curb cut application #102. Curb to be cut for a total width of 31ft., starting 20ft. 4in. from curb on W. Houston St. and running north 31ft. on east side of Wash. St. in front of large doorway on Wash. St. side of building, completed 10/4/35.
- 9/30/35 Application for C of O, NB 79-35. Size of building: front 50ft., deep 71ft. 4in., height 17ft., 1 story, persons accommodated 10 female and 10 male, and 1st story extension the same. Cellar storage, 1st floor loading and storage and restaurant.
- 10/8/35 NB 79-35 Work completed 10/7/35.
- 10/17/35 C of O Cellar storage - 1st story live load 100-200 lbs. per sq.ft. - storage, loading platform and store. Archt. Jos. Lau, 24 Furman Ave. Bklyn.
- 11/18/35 Altered Building Application #3133-35 - use, unrestricted, height 2, area A occupancy: garage, storage, and loading platform, 1st floor store, restaurant, extension. Size at street level 50ft. front, 71ft. 4in. deep, height 20ft., 1 story.
- 11/18/35 Affidavit by archt. Jos. Lau - dimensions: n 50ft., e 74ft. 6in., s 50ft., w 72ft. 6in., height 17ft.
- 6/2/39 Affidavit #1879-39 Archt. Jos Lau 119 Nassau St. Mann. for Carl P. Knudson 322-328 Wash. St.
- 7/6/39 Alteration Building Permit #1879-39. To convert store to storage space, live load 200 lbs. in both 1st floor and extension. Front and rear 71ft. 4in., deep 50ft., height 17ft. 1 story, 3,566.5 sq. ft. Remove

5/2/40 store and extend main storage.
Misc. Installation Application #309-40 - Lot #42 - M.
& R. Trans. Co. (owner/lessee) for 1 550 gal. gasoline
tank and 1 pump - for owners use.

The following information was obtained at the Buildings Dept. at
60 Hudson Street.

- 13 350 West Street
no date BN #4524-70 Block 596 lot #92. Owner or lessee is
Merrill, Lynch, Pierce, Fenner and Smith.
Authorization for elevator repairs. Permit #6154,
building 3 stories, offices and factories
- 14 313 Greenwich Street
1/20/66 S/E corner. Electric sign application 2ft. 6in. high,
20ft. long, parallel to building - metal - tenant
name: Munson Tavern - owner/lessee Spring Diner Co.
See xerox copies from folder.

Microfiche files information.

- 15 588 Greenwich Street
5/4/37 N.W. corner W. Houston St. Samuel Zelling
owner/lessee. Archt. Louis B. Santangelo 100
Morningside Ave. Beginning at point west side of
Greenwich St. running west 72ft. 6in. then 25ft. then
73ft. 2in. east then 25ft. 1in. Blueprints show
cellar 5ft. 8in. in height with cement floor 14ft.
by 34ft. under dining car section of restaurant only.
Microfiche repeats info in archives.

- 16 Union Motor Truck Terminal
1/27/50 Letter to Buildings Dept. discussing curb cuts and
sketches of curb cuts - info same as archives.

Sanborn Map Information

- 11/?/46 Transfer date for block #596 lot #92 building 160ft.
by 999ft. 3 stories.
- 1/?/28 Transfer date block #600 lot #38 building size 132ft.
by 32ft. garage, 1 story.
- 5/?/76 Transfer date block #596 lot #50 building privately
owned shown as vacant. No dimensions.

- 17 C of O Files
6/25/20 C of O #1935 for 325 Spring Street. Block #596 lot
#95 Existing nfp, cellar, basement, 3 stories - cellar
storage. Basement existing - store existing - 1st
floor 10 persons kitchen and dining room -
2nd floor private dwelling - 3rd floor 12 persons -
"emigrant" lodging house. Owner Aveline C. Goures.

LOG OF BORING

BORING NO. 1
 SURFACE ELEV. Not Available
 COMPLETION DATE 11/25/86

WATER LEVEL : *
 DATE :
 CASING DEPTH :

DEPTH FT	SAMPLES	STANDARD PENETRATION	RESISTANCE	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
0	■	77				FILL - Miscellaneous rubble, cinders
5	■	55				
10	■	12				
15	■	3	26		SP	Dark gray fine to medium sand, trace silt, with lenses of black organic silt (loose)
20	■	3				
25	■	3	64		OH	Black organic clayey silt (soft)
30	■	18			SM	Red-brown fine to medium sand, little silt, trace mica (medium dense)
35	■	15	26			
40	■	30			ML	Red-brown silt, and fine sand, trace mica (medium dense)
45	■	23	26			
50	■	24	24		SM	Red-brown fine sand, some silt, trace mica (medium dense)

CONTINUED ON FOLLOWING PAGE

LOG OF BORING

BORING NO. 1 cont'd
SURFACE ELEV.
COMPLETION DATE

WATER LEVEL :
DATE :
CASING DEPTH :

DEPTH FT	SAMPLES	RESISTANCE STANDARD PENETRATION	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
					CONTINUED FROM PREVIOUS PAGE
50-	■	24	24	SM	Red-brown fine sand, some silt, trace mica (medium dense)
55-	■	29	21		
60-	■	26	25		-grading with silt seams @ 61'-0"
65-	■	26	26	ML	Red-brown silt, and fine sand, trace mica (medium dense)
70-	■	27	26		
75-	■	32	27	SM	-grading to red-brown fine sand, and silt, trace mica (dense) @ 76'-0"
80-	■	24	25		-medium dense @ 81'-0"
85-	■	29	17		-grading with some silt @ 85'-0"
90-	■	18	27		
95-	■	29	30		
100-	■	45	13		-dense @ 101'

CONTINUED ON FOLLOWING PAGE

LOG OF BORING

BORING NO. 1 cont'd
 SURFACE ELEV.
 COMPLETION DATE

WATER LEVEL :
 DATE :
 CASING DEPTH :

DEPTH FT	SAMPLES	PENETRATION STANDARD	MOISTURE &	SYMBOL	DESCRIPTION
					CONTINUED FROM PREVIOUS PAGE
100-	■	45	13	SM	Red-brown fine sand, some silt (dense) -grading to red-brown fine to coarse sand, some silt, some fine gravel (dense) @ 102'-0"
105-					BORING COMPLETED @ 102'-0" *GROUNDWATER LEVEL ENCOUNTERED @ 12'-7" ON 12/11/86 12'-5" ON 12/12/86 12'-8" ON 12/15/86
110-					
115-					
120-					
125-					
130-					
135-					
140-					
145-					
150-					

LOG OF BORING

BORING NO. 2
 SURFACE ELEV. Not Available
 COMPLETION DATE 12/2/86

WATER LEVEL : 13'-2"
 DATE : 12/2/86
 CASING DEPTH : —

DEPTH FT	SAMPLES	RESISTANCE STANDARD UNITS	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
0	■	29			FILL - Miscellaneous rubble, and cinders
5	■	5			
10	■	25			-red-brown silty sand (medium dense) @ 10'
15	■	73		SM	Gray fine to medium sand, some silt, little fine to coarse gravel (dense)
20	■	18			
25	■	12		SP/SM	Red-brown fine to medium sand, trace silt, with occasional clayey silt layers (medium dense)
30	■	13			
35	■	22			-grading brown @ 36'-0"
40	■	22		SM	-grading with some silt @ 41'-0"
45	■	19			-grading with frequent clayey silt lenses @ 46'-6"
50	■	16		SM	-grading to light brown fine sand, and silt, trace mica (medium dense) @ 51'-0"

CONTINUED ON FOLLOWING PAGE

LOG OF BORING

BORING NO. 2 cont'd
 SURFACE ELEV.
 COMPLETION DATE

WATER LEVEL :
 DATE :
 CASING DEPTH :

DEPTH FT	SAMPLES	PRESTANDARD STANDARD TEST RESULT	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
					CONTINUED FROM PREVIOUS PAGE
50	■	16		SM	Light brown fine sand, and silt (medium dense)
55	■	16			-grading red-brown @ 56'-6"
60	■	24		SP/SM	Red-brown fine to medium sand, trace silt, trace mica (medium dense)
65	■	17		SM	Red-brown fine sand, some silt, trace mica (medium dense)
70	■	25			
75	■	24			
80					BORING COMPLETED @ 77'-0"
85					
90					
95					
100					

LOG OF BORING

BORING NO. 3
 SURFACE ELEV. Not Available
 COMPLETION DATE 12/1/86

WATER LEVEL : *
 DATE :
 CASING DEPTH :

DEPTH FT	SAMPLES	RESISTANCE STANDARD PENETRATION	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
0	■	100/6"			FILL - Miscellaneous rubble and cinders
5	■	12			
10	■	5		SP/SM	Red-brown fine to medium sand, trace silt, little fine to coarse gravel (loose) (possible Fill)
15	■	5			-grading green-brown @ 15'-6"
	■	7			
20	■	27		SM	Dark gray fine to coarse sand, some silt, and fine to coarse gravel (medium dense)
25	■	5			
	■	11			
30	■	22		SP/SM	Red-brown fine to medium sand, trace silt, trace mica (medium dense)
35	■	21			
40	■	22			
45	■	37			
50	■	27		SM	-grading to fine sand, little silt (medium dense) @ 50'-6"

CONTINUED ON FOLLOWING PAGE

LOG OF BORING

BORING NO. 3 cont'd
 SURFACE ELEV.
 COMPLETION DATE

WATER LEVEL :
 DATE :
 CASING DEPTH :

DEPTH FT	SAMPLES	RESISTANCE STANDARD PENETRATION	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
CONTINUED FROM PREVIOUS PAGE					
50	■	27		SM	Red-brown fine sand, little silt, trace mica (medium dense)
55	■	16			
60	■	25		SP/SM	-grading to fine to medium sand, trace silt (medium dense) @ 60'-6"
65					BORING COMPLETED @ 62'-0" *GROUNDWATER LEVEL NOT RECORDED
70					
75					
80					
85					
90					
95					
100					

LOG OF BORING

BORING NO. 4
 SURFACE ELEV. Not Available
 COMPLETION DATE 12/1/86

WATER LEVEL : 14'-0"
 DATE : 12/1/86
 CASING DEPTH : —

DEPTH FT	SAMPLES	RESISTANCE STANDARD PENETRATION	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
0	■	31			FILL - Cinders and miscellaneous rubble
5	■	8			
10	■	13	10	SM	Red-brown fine to medium sand, little silt, trace fine gravel (medium dense)
15	■	27	10	SP/SM	Brown fine to medium sand, trace silt, trace fine gravel (medium dense)
20	■	18	14		-grading with little fine to coarse gravel @ 21'-0"
25	■	11	22	SM	Red-brown fine to medium sand, some silt, trace mica (medium dense)
30	■	10	24		-grading with trace silt (wet) @ 30'-6"
35	■	11	25		-grading with some silt @ 36'-0"
40	■	22	24	SM	-grading to green-brown fine sand, some silt (medium dense) @ 41'-0"
45	■	16	27		-grading to red-brown fine sand, and silt, trace mica (medium dense) @ 46'-0"
50	■	28	24		-grading with some silt @ 52'-0"

CONTINUED ON FOLLOWING PAGE

LOG OF BORING

BORING NO. 4 cont'd
 SURFACE ELEV.
 COMPLETION DATE

WATER LEVEL :
 DATE :
 CASING DEPTH :

DEPTH FT	SAMPLES	PENETRATION STANDARD	RESISTANCE	MOISTURE CONTENT %	SYMBOL	DESCRIPTION
CONTINUED FROM PREVIOUS PAGE						
50	■	28	24	SM		Red-brown fine sand, and silt, trace mica (medium dense) -grading with some silt @ 52'-0"
55	■	26	24	SP/SM		-grading with trace silt @ 57'-0"
60	■	20	34			-grading to silt, and fine sand, trace mica, with frequent layers of red-brown clayey silt (medium dense) @ 61'-0"
65	■	19	26			
70	■	34	23			-grading to red-brown fine sand, and silt, trace mica @ 70'-6"
75	■	29				
80	■	23	27			-grading with some silt @ 81'-0"
85	■	76			SM	Red-brown fine to medium sand, some silt, trace mica, with occasional silt seams (very dense)
90	■	38				-dense @ 91'-0"
95	■	38				
100	■	75				-grading with little silt, and rock fragments (very dense) @ 101'-6"

BORING COMPLETED @ 102'-0"

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-107

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 1 OF 4

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

BORING CONTRACTOR Warren George Drilling Co.

ELEVATION 97.9

GROUND WATER MEASUREMENTS

DATE	TIME	DEPTH	CASING	TYPE	CASING	SAMPLE	CORE	TUBE
7/17/87	7:15 AM	11'-6"		DIA.	None	S.S.		
7/17/87	11:00 AM	10'-0"		WT.	Mud	2" O.D.		
7/17/87	2:00 PM	10'-0"		FALL		140 lb.		
						30"		

DATUM Site

DATE START 7/16/87

DATE FINISH 7/17/87

DRILLER R. Gregory

FIELD REP. A. Riccobono

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
1					
2					
3					
4					
5					
6		S-1	2 4 3	Miss Fill (Brks. wd, br cks, t. Cy \$, s. m f G)	<u>Fill - Brown coarse to fine SAND,</u> with brick and concrete fragments, decayed wood, glass, etc. (SP)
7					
8					
9					
10		S-2	3 4	Br cfs, t. \$, s. m f G	
11			3 4	petroleum odor to sample	
12					
13					
14					
15		S-3	2 3 4	Br c + f S, t. \$, l. f G	
16			3 4	slight petroleum odor to sample	<u>Brown and gray coarse to fine SAND,</u> <u>trace Silt, little to some medium</u> <u>to fine Gravel (SP)</u>
17					
18					
19					
20		S-4A	2 3	Gr cfs, a. O \$, chls.	
21			4		
22		S-4B	4	DK gr OS	<u>DARK gray ORGANIC SILT (OH)</u>

2' 5 1/2"

21.0

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-107

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 2 OF 4

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
23					23.5'
24					
25					
26		S-5	5 12 8 20	Rd-br mfg a., f.S, l. \$, shl frag.	<u>Red-brown medium to fine Gravel and, fine Sand, little Silt, shell fragments (GM)</u>
27					
28					
29					
30					
31		S-6	1 12 7 10	Rd-br fS, a. \$, mica	<u>Red-brown and brown fine Sand and Silt (SM/ML)</u>
32					
33					
34					
35					
36		S-7	6 13 20 19	Br \$, s. fS, mica	
37					
38					38.5'
39					
40					
41		S-8	4 9 5 9	Rd-br mFS, l. \$	<u>Red brown medium to fine and coarse to fine SAND, trace to little Silt (SP)</u>
42					
43					
44					
45					
46		S-9	2 7 11 11	Rd-br cfs, t. \$	
47					
48					

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.					TEST BORING LOG	BORING NO. B-107
PROJECT NAME U.P.S. Distribution Facility					LOCATION New York, N.Y.	SHT. NO. 3 OF 4
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-67115-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
50			4		Lyrd rd-br & a., cfs; & br fs, s. \$, mica	<u>Layered red-brown SILT with some fine sand, and brown fine SAND with some Silt (SM/ML)</u>
51		S-10	6			
52			8			
53			13			
54						
55			6		do	
56		S-11	3			
57			3			
58			6			
59						
60			8		Br fs, s. \$, mica	
61		S-12	10			
62			8			
63			9			
64						
65			8		Br mfs, l. \$	<u>Brown medium to fine Sand and Silt (SM/ML)</u>
66		S-13	11			
67			14			
68			13			
69						
70			9		do	
71		S-14	13			
72			16			
73			18			
74						
75		S-15	1		Br \$ s., fs, mica	

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. 2107	
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 4 OF 2	
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-67115-01	
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION	
77		S-15	21		Br & s., fS, mica		
78			25				
79							
80			10				
81		S-16	14		Br m f S, l. &, mica		
82			21				
83			23				
84							
85			9				
86		S-17	13		Br f S, s. &, mica		
87			15				
88			14				
89							
90			16				
91		S-18	22		No Recovery		
92			23				
93			24				
94							
95		S-19	21		Br c f S, l. &, t. fG	95.5	
96			100/6"		wthrd mica schist	Highly weathered MICA SCHIST 96.5	
97			Min/2"				
98			18		Run No. 1		
99		R-1	18		97.0 to 102.0		
100			19		Rec = 50" = 93%		
101			17		RQD = 50" = 83%		
102			19				
						End of Boring 102.0	

Brown medium to fine Sand
and Silt (SM/ML)

28.5'-

Brown coarse to fine SAND,
little Silt, trace fine Gravel
(SM/SP)

95.5'

Highly weathered MICA SCHIST 96.5'-

Gray MICA SCHIST, fresh,
very intensely foliated, medium
to very hard, 75° dip

End of Boring 102.0'

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-108

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 1 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

BORING CONTRACTOR Warren George Drilling Co.

ELEVATION 99.2

GROUND WATER MEASUREMENTS

DATE	TIME	DEPTH	CASING	TYPE	CASING	SAMPLE	CORE	TUBE
				DIA.	None	S.S.	Nx	
				WT.	Mud	2"	2 1/8"	
				FALL		140 lb		
						30"		

DATUM Site

DATE START 7/14/87

DATE FINISH 7/15/87

DRILLER R. Gregory

FIELD REP. A. Riccobono

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
1					
2					
3					
4					
5			3		
6		S-1	4	Misc. Fill (Brks, conc., rk frags.)	<u>Fill</u> - Gray-brown to brown SAND, little to trace Silt, ash, pieces of brick and concrete
7			3		
8			6		
9					
10			7		
11		S-2	8	Misc Fill (Brks, S, t. \$, a. m f s, pec brk)	
12			7		
13			6		
14					
15			8		
16		S-3	16	Misc. Fill (Gr br c s, l. S, ash, pec. brk conc., pecs dig gr c s)	- pockets Organic Silt <u>17.0 ft</u>
17			13		
18			15		
19					
20			10		
21		S-4	4	Br m f S, s. \$	<u>Red-brown and brown fine Sand and Silt (SM/MC)</u>
22			6		
			5		

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-108

PROJECT NAME U.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 2 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 89-6-115-0

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SYN	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
23						
24						
25			6			
26		S-5	7		do	
27			9			
28						
29						
30			7			
31		S-6	12		Br S, c. fS, smS, SuC	
32			13			
33						Red-brown and brown fine Sand
34						and Silt (sm/ml)
35			14			
36		S-7	23		Red-brown S a, fS, mica	
37			25			
38			27			
39						
40			3			
41		S-8	4		Br fS, l. S, mica	
42			8			
43			10			
44						
45			4			
46		S-9	5		Br fS, a. S, mica	
47			5			
48			10			

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-108	
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 3 OF 3	
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-67115-01	
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION	
50			7			Red-brown and brown fine Sand and Silt (SM/MC)	
51		S-10	8		Rd-br fS, s.s., mica		
			12				
52			12				
53							
54							
55			7				
56		S-11	13		Zd-br s.s., fS, mica		
			16				
57			22				
58							
59							
60			13				
61		S-12	16		Br m f s, L.s.		
			18				
62			22				
63							
64							
65			13				
66		S-13	22		No Recovery		
			25				
67			21				
68							
69							
70							
71		S-14	12		Br Cy s.s., fS, mica		
			15				
72			22				
			23				
73							
74							
75		S-15	9		Br fS, s.s., mica		

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG	BORING NO. B-108
PROJECT NAME U.R.S. Distribution Facility				LOCATION New York, N.Y.	SHT. NO. 4 OF 5
CLIENT Lev Zetlin Associates, Inc.					PROJ. NO. 87-67115-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6" SYN	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
77		S-15	14	Br fS, s.s., mica	<u>Red brown and brown fine Sand and Silt (SM/ML)</u>
78					
79					
80					
81		S-16	16	do	<u>82's +/-</u>
82			17		
83			28		
84					
85			16		<u>Brown coarse to fine SAND, little to trace Silt, trace to and fine Gravel (SP/GP)</u>
86		S-17	17	Br c+s, s.s., g.s.	
87			24		
88			30		
89					<u>95's +/-</u>
90			31		
91		S-18	30	Br m-G s., c+s, g.s.	
92			36		
93			38		<u>Brown and light brown fine Sand and Silt (SM)</u>
94					
95			26		
96		S-19	28	Br m+s, s.s., mica	
97			33		<u>102'0</u>
98			32		
99					
100		S-20	41	lt br fS, s.s.	
101			100%		<u>Gray MICA SCHIST</u>
102					

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-108

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 5 OF 5

CLIENT Lev. Zetlin Associates, Inc.

PROJ. NO. 87-67115-0

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION.
103			14.5		Run No. 1	
104		R-1	12.0		102.0 to 107.0	Gray MICA SCHIST: fresh,
105			14.2		Re: = 55" = 90%	very intensely foliated, very hard
106			11.0		RQD = 55" = 90%	
107			11.5			
108						End of Boring 107.0
109						
110						
111						
112						
113						
114						
115						
116						
117						
118						
119						
120						
121						
122						
123						
124						
125						
126						
127						
128						

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.					TEST BORING LOG			BORING NO. B-109	
PROJECT NAME U.P.S. Distribution Facility					LOCATION New York, N.Y.			SHT. NO. 1 OF 5	
CLIENT Lev Zetlin Associates, Inc.								PROJ. NO. 87-67115-01	
BORING CONTRACTOR Warren George Drilling Co.								ELEVATION 101.1	
GROUND WATER MEASUREMENTS					CASING	SAMPLE	CORE	TUBE	DATUM Site
DATE	TIME	DEPTH	CASING	TYPE	F.S.	S.S.	1x		DATE START 7/21/87
7/22/87	6:30 A.M.	3'-0"	10'-0"	DIA.	5" S.S.	2" S.S.			DATE FINISH 7/22/87
7/22/87	2:15 P.M.	12'-0"		WT.		140 lb			DRILLER R. Greorru
				FALL		30"			FIELD REP. A. Riccobono

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SY	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
1						
2						
3						
4						
5						
6		S-1	6		Fill (lt. br. c.s., l.c.s., l. fg, pos. brk)	Fill - Light brown coarse to fine SAND, little Clayey Silt, little fine Gravel.
7						
8						
9						
10		S-2	2		Fill (brk Gravel)	
11			100			
12						
13						
14						
15						
16		S-3	1		br m.f.s., l.s., l. fg	Dark gray to gray medium to fine SAND, little Silt, trace fine Gravel (SP)
17			0			
18						
19						
20						
21		S-4A	2		br m.f.s., l.s.	
22		S-4B	3		bl o.s., shls.	Black ORGANIC SILT (OH)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-109	
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 2 OF 5	
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-67115-01	
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION	
23						<u>Black to dark gray ORGANIC SILT</u> (OL)	
24							
25			20				
26		S-5	16 14 15		DK gr OS		
27						27.0 +/-	
28							
29							
30			5				
31		S-6	4 4		DK or br m ⁺ s, l.s., mica		
32			8				
33							
34						<u>Red brown to brown medium to fine SAND : little silt (SM/SP)</u>	
35			6				
36		S-7	20 17 12		Rd-br mfs, l.s., mica		
37							
38							
39							
40			1				
41		S-8	2 13 24		pos G	- Coarse Gravel	
42							
43							
44							
45			6				
46		S-9	13 8		Rd-br m ⁺ s, l.s.		
47			16				
48							

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-109

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 3 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SYN	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
50			14			
51		S-10	13 14 11		Br mfs, l. s, mica	
52						
53						
54						
55			14			
56		S-11	18 19 13		do	
57						
58						
59						
60			13			
61		S-12	14 21 22		Rd-br mfs, l. s, mica	
62						
63						
64						
65			13			
66		S-13	16 17 20		Zd-br fs, a. s, mica	
67						
68						
69						
70			3			
71		S-14	14 16		do	
72			22			
73						
74						
75		S-15	16		Br mfs, l. s, mica	

Red brown to brown medium
to fine SAND, little Silt (sm/ss)

- fine Sand and Silt

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. 3-109

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 4 OF 4 (5)

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
77		S-15	12		Br mfs, l. \$, mica	
78						
79						
80			8			
81		S-16	13		do, lvs. br \$ s., ss	
82			25			<u>Red brown to brown medium to</u>
83			26			<u>fine SAND, little Silt (SM/SP)</u>
84						
85			16			
86		S-17	19		Br mfs, l. \$, mica	
87			21			
88			22			
89						
90			8			
91		S-18	12		do	
92			17			
93			19			
94						93.5 +/-
95			14			<u>Red brown coarse to fine SAND,</u>
96		S-19	20		Red-br cfs, l. \$, t. SG	<u>little Silt, trace fine Gravel</u>
97			21			<u>(SP/SM)</u>
98			22			98.0
99						
100			Min/Ft		Run No. 1	<u>Gray MICA SCHIST, fresh, very</u>
101		R-1	11:25		99.0' to 104.0'	<u>intensely foliated, very hard</u>
102			9:00		Rec = 58" = 97%	
			11:35		ROD = 58" = 97%	

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-109	
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 5 OF 5	
CLIENT Lev. Zetlin Associates, Inc.						PROJ. NO. 87-67115-01	
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SY M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION	
103		R-1	13:05			Gray Mica SCHIST	
104			13:00			End of Boring 104.0	
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
121							
122							
123							
124							
125							
126							
127							
128							

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-110

PROJECT NAME U.P.S. Distribution Facility LOCATION New York, N.Y.

SHT. NO. 1 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

BORING CONTRACTOR Warren George Drilling Co.

ELEVATION 101.7

GROUND WATER MEASUREMENTS

DATE	TIME	DEPTH	CASING	TYPE	CASING	SAMPLE	CORE	TUBE
				DIA.	None	S.S.		
				WT.	Mud	2" 22"		
				FALL		140 lb		
						30"		

DATUM Site

DATE START 7/23/87

DATE FINISH 7/24/87

DRILLER R. Gregory

FIELD REP. A. Riccobono

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y N	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
1						
2						
3						
4						
5						
6		S-1	7 6 4 15		2d br cfs, s. Cy, \$, s. mfg, brks	FILL - Brown coarse to fine SAND, little to some Clayey Silt, little to some fine Gravel, bricks, wood.
7						
8						
9						
10						
11		S-2	9 5 6 3		3r cfs, l. \$, l. fg	
12						
13						
14						
15						
16		S-3	12 13 11 17		Wd	12.5 +/- Gray brown coarse Sand (SP)
17						
18						
19						
20						
21		S-4	7 11 13 7		Gr br cfs, t. \$, s. mf + G	
22						

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-110
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 2 OF 5
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-67115-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
23						23.5 +/-
24						
25			12			
26		S-5	7		Br mfs, l.s.	
27			6			
28			5			
29						Brown to red-brown medium
30						to fine SAND, little to some
31		S-6	7		Br s.s., fs, mica	<u>Silt (SM)</u>
32			6			
33			8			
34			10			
35						
36		S-7	14		Rd-br mfs, l.s.	
37			7			
38			10			
39			10			
40						
41		S-8	12		Rd br mfs, s.s.	
42			8			
43			8			
44						43.5 +/-
45			10			
46		S-9	9		Br fs, l.s., sms. br s,	Brown Silt and fine Sand
47			11		l. fs	(ML/SP)
48			10			

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-110
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 3 OF 5
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-67115-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SAMPLE IDENTIFICATION AND REMARKS		STRATA DESCRIPTION
50			12	Rd-br fs, s.s., mica		
51		S-10	11			
			13			
			19			
52						
53						
54						
55			10	do		
56		S-11	16			
			17			
			16			
57						
58						
59						
60			7	Br s.s., fs, mica		
61		S-12	14			
			13			
			16			
62						
63						
64						
65			9	do		
66		S-13	12			
			15			
			17			
67						
68						
69						
70			9	do		
71		S-14	10			
			11			
			21			
72						
73						
74						
75			12	do		
		S-15	13			

Brown and red-brown fine
Sand and Silt (SM/ML)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.		TEST BORING LOG	BORING NO. B-110
PROJECT NAME	U.R.S. Distribution Facility	LOCATION	New York, N.Y.
CLIENT	Lev Zetlin Associates, Inc.	SHT. NO.	4 OF 5
		PROJ. NO.	87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
77		S-15	12		Br s a., f S, mica	
78						
79						
80			9			
81		S-16	12		Br f S, s. s., mica	
82			25			
			26			
83						
84						
85						
86		S-17			Br s, a. f S, mica	
87						
88						
89						
90			11			
91		S-18	13		do	
			17			
92			23			
93						
94						
95			7			
96		S-19	12		do	
			13			
97			26			
98						
99						
100			29			
101		S-20	28		Br c f S, t. s., s. mfg	
			28			
102			23			

Brown fine Sand and Silt
(SM/ML)

93.5 +/-

Brown coarse to fine SAND, trace
Silt, medium to fine Gravel (SP)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-110
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 3 OF 5
CLIENT Lev. Zetlin Associates, Inc.						PROJ. NO. 87-67115-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y N	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
103						
104						
105						
106		R-1				
107						
108						
109						
110						
111						
112						
113						
114						
115						
116						
117						
118						
119						
120						
121						
122						
123						
124						
125						
126						
127						
128						

Run No. 1

104.0 to 105.0

Rec = 54" = 98%

RQD = 54" = 98%

Gray Mica Schist, fresh, very
intensely foliated, very hard

End of Boring 109.0

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-111

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 1 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

BORING CONTRACTOR Warren George Drilling Co.

ELEVATION 101.3

GROUND WATER MEASUREMENTS

DATE	TIME	DEPTH	CASING	TYPE	CASING	SAMPLE	CORE	TUBE
7/20/87	7:15 A.M.	12'-0"		DIA.	None	S.S.	Nx	
7/21/87	10:35 A.M.	12'-0"		WT.	Mud	2' 0.5'	2 1/8"	
				FALL		140 lb		
						30"		

DATUM Site

DATE START 7/17/87

DATE FINISH 7/21/87

DRILLER R. Gregory

FIELD REP. A. Riccobono

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	STRATA DESCRIPTION
1				Fill - coarse to fine Sand, ash, brick fragments.
2				
3				
4				
5				
6		S-1	3	Misc. fill (asn, brk. frags, cfs)
7			3	
8				
9				
10			6	
11		S-2	6	DK rd-br cfs, l.s. lyrs br fs, a. s
12			4	
13				
14				
15			3	
16		S-3	4	Red br cfs, l.s., l.s.g
17			2	
18			3	
19				
20			3	
21		S-4	3	do
22			4	

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-111

PROJECT NAME U.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 2 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
23					<u>Red-brown coarse to fine SAND,</u> <u>little Silt, little fine Gravel (SP)</u>
24					
25					
26		S-5A	6	Or-br cf S, l. \$, pkts. P.	<u>Gray medium to fine Sand and</u> <u>Organic Silt (SM/OH)</u> 26.5
27		S-5B	24	Gr mfs, a. O\$, shls.	
28					
29					
30			12		
31		S-6	6	Br mfs, l. \$, mica	
32			5		<u>Brown and red-brown medium</u> <u>to fine SAND, little to and Silt</u> <u>(SM/ML)</u>
33					
34					
35			18		
36		S-7	8	Br mfs, a. \$	
37			8		
38					
39					
40			1		
41		S-8	8	Or-br mf+s, s. \$, mica	
42			8		
43					
44					
45			9		
46		S-9	11	Br fS, s. \$, mica	
47			11		- fine Sand and Silt
48					

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-111
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 3 OF 3
CLIENT Lev Zetlin Associates, Inc.						PROJ. NO. 87-6715-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
50			4			
51		S-10	8 12 16		do	
52						
53						
54						
55			9			
56		S-11	11 13 15		Rd-br FS, a. \$, mica	
57						
58						
59						
60			11			
61		S-12	16 18 14		Br mfs, l. \$, mica	
62						
63						
64						
65			11			
66		S-13	19 19 17		Lyrd rd-br mfs, l. \$, & gn br \$ s., fs	
67						
68						
69						
70			10			
71		S-14	11 17 18		Rd-br FS, a. \$, mica	
72						
73						
74						
75		S-15	13 12 11		Br mfs, l. \$	

Brown and red-brown medium
to fine SAND little to and Silt
(SM/ML)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG	BORING NO. B-111
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.	SHT. NO. 4 OF 5
CLIENT Lev Zetlin Associates, Inc.					PROJ. NO. 87-67115-01
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
77		S-15	21 25	Br mf + S, l. + \$	
78					
79					
80			7		
81		S-16	11 16 19	do	
82					
83					
84					
85			12 17		
86		S-17	20 22	No Recovery	
87					
88					
89					
90			15		
91		S-18	19 21 24	lyrd rd-br Cy \$, s. fS, \$ br mfs, l. \$	
92					
93					
94					
95			2		
96		S-19	16 19 22	No Recovery	
97					
98					
99					
100			MIN/Ft 17:10	Run No. 1	
101		R-1	14:25	99.0 to 104.0	
102			14:25	R ₆₀ = 60" = 100%	
			14:25	R ₁₀₀ = 60" = 100%	

Brown and red brown medium
to fine Sand; little to and Silt
(SM / ML)

92.0

Gray MICA SCHIST, fresh,
Very intensely foliated, very hard

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.				TEST BORING LOG		BORING NO. B-111	
PROJECT NAME U.P.S. Distribution Facility				LOCATION New York, N.Y.		SHT. NO. 5 OF 5	
CLIENT Lev. Zetlin Associates, Inc.						PROJ. NO. 87-67115-01	
DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION	
103		R-1	12:09			Gray MICA SCHIST	
104			13:10			End of Boring 104'0	
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
121							
122							
123							
124							
125							
126							
127							
128							

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-112

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 1 OF 5

CLIENT Lev Zeplin Associates, Inc.

PROJ. NO. 27-67115-01

BORING CONTRACTOR Warren George Drilling Co.

ELEVATION 100.8

GROUND WATER MEASUREMENTS

DATE	TIME	DEPTH	CASING	TYPE	CASING	SAMPLE	CORE	TUBE
				DIA.	5" S.S.	2"	2" S.S.	
				WT.		140 lb		
				FALL		30"		

DATUM Site

DATE START 7/13/82

DATE FINISH 7/14/82

DRILLER R. Gregory

FIELD REP. R. Deuber

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
1						
2						
3						
4						
5						
6		S-1	5 4		Brk. a., concrete frags.	Fill - coarse to fine Sand with brick and concrete rubble
7			5 4			
8						
9						
10						
11		S-2	3 3		No Recovery	
12			4			
13						
14						
15		S-3A	2		Gr. br cfs, f. s, s. mfg	
16		S-3B	2		Lt. or br mfg s., cfs	
17						
18						
19						
20						
21		S-4	10 7 9		Rd. br fs, s. s, lys br mfs	
22			10			

18' 0" ±

Red-brown medium to fine
SAND, little silt (SP/SM)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-112

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 2 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
23						
24						
25			1			
26		S-5	12 6		Rd-br mfs, t.s.	
27			7			
28						
29						
30			3 4			
31		S-6	4 6		Rd-br mfs, t.s., mica	
32						
33						
34						
35			4 5			
36		S-7	9 8		Co	
37						
38						
39						
40			14 13			
41		S-8	13 16		No Recovery	
42						
43						
44						
45			5 8			
46		S-9	8 7		Rd-br fs, s., s., mica	
47						
48						

Red brown medium to fine
SAND, trace to little Silt
(SP/SM)

11.0 +/-

Red-brown and brown fine
Sand and Silt (SM/ML)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-112

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 3 OF 5

CLIENT Lev Zetlin Associates, Inc.

PROJ. NO. 87-6715-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	STRATA DESCRIPTION	SAMPLE IDENTIFICATION AND REMARKS
50					
51		S-10	4		Br & a., fS, mica
52			10		
53					
54					
55			10		
56		S-11	9		Br mf + s, s.s., mica
57			10		
58			12		
59					
60			4		
61		S-12	8		lyrd br fS, s.s.,
62			13		sms br s, l. fS, mica
63			21		
64					
65			7		
66		S-13	8		do
67			13		
68			21		
69					
70			13		
71		S-14	13		Br fS, s.s., mica
72			10		
73			16		
74					
75		S-15	9		Br & a., fS, mica

Red-brown and brown fine Sand
and Silt (SM/ML)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.		TEST BORING LOG	BORING NO. B-12
PROJECT NAME U.P.S. Distribution Facility		LOCATION New York, N.Y.	SHT. NO. 4 OF 5
CLIENT Lev Zetlin Associates, Inc.		PROJ. NO. 87-67115-01	

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
77		S-15	16 18		Br & a, fS, mica	
78						
79						
80			7 9			
81		S-16	16 19		do	
82						
83						
84						
85			10 12			
86		S-17	13 16		do	
87						
88						
89						
90			8 10			
91		S-18	11 12		Br fS, s.s., mica	
92						
93						
94						
95			7 11			
96		S-19	12 18		do	
97						
98						
99						
100			26 46			
101		S-20	73		No Recovery	
102					pc of Gravel stuck in spoon tip	

Red-brown and brown fine Sand
and Silt (SM/ML)

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

CONVERSE ENGINEERING CONSULTANTS, P.C.

TEST BORING LOG

BORING NO. B-112

PROJECT NAME U.P.S. Distribution Facility

LOCATION New York, N.Y.

SHT. NO. 3 OF 5

CLIENT Lev. Zetlin Associates, Inc.

PROJ. NO. 87-67115-01

DEPTH FT.	CASING BLOWS	SAMPLE NO.	SAMPLE SPOON BLOWS PER 6"	S Y M	SAMPLE IDENTIFICATION AND REMARKS	STRATA DESCRIPTION
103		R-1			<u>Run No. 1</u> 103.0 to 108.0 Rec = 53" = 88% RSD = 53" = 82%	<u>Gray MICA SCHIST</u> , fresh, very intensely foliated, very hard
104						
105						
106						
107						
108						End of Boring 108.0
109						
110						
111						
112						
113						
114						
115						
116						
117						
118						
119						
120						
121						
122						
123						
124						
125						
126						
127						
128						

FOR INTERPRETATION OF SOIL, ROCK AND GROUNDWATER CONDITIONS, SEE TEXT OF CONVERSE REPORT, OF WHICH THIS LOG IS A PART.

ACKNOWLEDGMENTS

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