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ARCHAEOLOGICAL AND HISTORICAL SENSITIVITY
EVALUATION OF THE TOWERS PROJECT PARCEL
BLOCK 1841

September 16, 1986

Joel W. Grossman

Grossman, Inc.

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List of Participants

Joel W. Grossman, Ph.D.	- Principal Investigator; Computer Graphics; Author
Leo Hershkowitz, Ph.D.	- Historical Research
Diane Dallal	- Documentary & Archival Research; Co-Author
Rosemarie C. Garvin	- Research Assistant
Jo Goldberg; Argiro Agelerakis	- Graphics
Josh Nefsky	- Cartographic Photographer
Paula Kacher	- Word Processing

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The following study represents an initial historic overview and evaluation of the potential subsurface archaeological and historical sensitivity of the Towers project area. The report is divided into two major sections with accompanying graphics and photodocumentation.

Section I of this report represents an Executive Summary of major findings and conclusions. Section II contains a detailed chronological rendition of the history of Block 1841 based primarily on comparisons, through time, of historic maps and atlases.

SECTION I

The initial proposal raised two issues which required further in-depth research and evaluation. The first issue dealt with the possible institutional and functional significance of the surviving outbuildings and/or their subsurface remains, which might have been associated with medical activities which took place at the New York City Cancer Hospital and/or its latter transformation into the Towers Nursing Home - information not otherwise available through documentary sources. The second issue pertained to the possible presence and survival of subsurface remains relative to the Revolutionary War or War of 1812 period. While no significant evidence was discovered relative to the activities of the secondary support buildings such as the no longer extant small morgue and the laundry and boiler room, detailed plans of these recent subsurface remains exist in the historic building records. Given that the fill in these subsurface outbuilding remains represent post-1920's debris, we feel that an archaeological investigation of the secondary hospital structures would be of limited research potential. However, a number of independent lines of evidence do point to areas of possible sensitivity in the undisturbed backyard area. These pertain to Revolutionary War activity on or near the site.

Three independent lines of evidence - 18th and 19th century maps, primary documentary references, and computer-assisted subsurface topographic reconstructions - suggest that Block 1841 may contain surviving remains of Revolutionary War military defensive positions or encampments. The evidence appears strong enough to warrant a recommendation to the Landmark Preservation

Commission that limited subsurface tests in specific areas be undertaken to establish the presence or absence of any 18th century war remains. Briefly stated, these three lines of evidence can be summarized as follows:

Revolutionary War Sites

Historical sensitivity of this area of Manhattan and upper Central Park was recognized in the 19th century. A report by the Central Park Conservancy stated that prior to Olmsted and Vaux's redesign of the Central Park area, Central Park "contained a steep wooded stream valley and a brook flowing through a break in a series of low bluffs, which had served as fortified lookout points during the Revolutionary War and the War of 1812" (Central Park Conservancy 1985:22). Harlem Heights, located between the Hudson River and the Harlem Creek Marsh, was described as a "natural battlement" not easily crossed except for the narrow McGowan's Pass (ibid:57).

Evidence from the study of historic maps and documentary written accounts indicate that the project area served on several occasions as a forward defensive position or encampment for both British and American troops in September of 1776. The military importance of the area derived directly from its topography prior to 19th century grading and alterations and from its proximity to primary roadways which ran north and south on Manhattan Island. The area of 105th and 106th Streets today, adjacent to and on both sides of Central Park West, was near two high knolls or ridges divided by "McGowan's Pass." These points of high ground provided visual and military control of north-south transportation routes and of the Hudson shoreline for both the British and American forces at various times. This area in particular was the focus of the Battle of Harlem Heights. On September 15, 1776, General George Washington was recorded as having formally supervised the construction of defensive earthworks in an east-west line across these defensive ridges of high ground. On September 16, 1776, this area was the focus of a skirmish between advance scouts of both the American and British forces at which there were reports of one death and a number of casualties. In general, there is ample evidence that the immediate area of 106th Street (the present Tower site) contained British defensive positions on either side of what would later become Eighth Avenue or Central Park West. These locations are indicated on an 1897 composite map reconstructed by

Henry P. Johnston in his authoritative and important study, "The Battle of Harlem Heights" (Figures 2 & 3). In fact, Johnston stated that prior to the Battle of Harlem Heights on Sept. 16, 1776, the British Army under General Howe constructed a "line of works running across from Jones on the left, through upper Central Park, on the line of 106th or 107th Street, to McGowan's Pass" (Johnston 1897:52). That Dr. Johnston would specifically cite the strategic significance of the 106th and 107th Street line directly on the project parcel highlights the potential archaeological and historical sensitivity of this former war zone area of upper Manhattan. Corroborating evidence was found in a letter written by the American General George Clinton, who observed that on Sept. 15, 1776, the British were "encamped on the heights extending from McGowan's Pass and the Black Horse (Tavern) into the North River" (Stokes 1926:1015). A contemporary journal of the day also noted that after the landing of the British troops on the above date, "... a survey of their works the day after find... a chain of redoubts and works from (Judge) Jones's house across the island..." (Kemble in Stokes 1926:1016). Johnston's map is particularly important because it shows the presence of defensive positions or redoubts (earthworks) facing north on both sides of what later was to become Central Park West. To the east, one of these earthworks is shown located on what is now the Great Hill of northern Central Park. A complex of 2-3 military constructions or fortifications is also illustrated on the western side of what eventually became Central Park West. Although no cross streets are shown relative to these defensive positions, a note on the map next to these westerly constructions is marked "106th Street," which would place the military positions in the immediate vicinity of, if not directly in our project area. Marianne Cramer of the Master Plan Office of Central Park, kindly gave the Grossman & Associates staff a recent composite map of historically sensitive areas within the park. These illustrated the presence of British defensive positions and American encampments, as well as subsequent remains of defensive positions from the War of 1812 on the Great Hill to the east of Central Park West (Figure 4). Both the Great Hill and the military positions identified are situated in line with the project area on the opposite side of Central Park West. In addition to Johnston's map showing the actual military defensive installations and firing positions, a second and independent 1868 map in Valentine's Manual shows comparable topography and the general location and direction of American and British

troop movements (Figure 5). While this map specifically does not physically illustrate the actual military defense positions, it does show that the Great Hill of Central Park and the Tower Project area was a major point of mobilization for troops moving north. Although the actual location of British and American forces fluctuated considerably between September and October of 1776, these cartographic sources confirm that both the Great Hill and the area of the Towers project parcel itself were the focus of 18th century British and American defensive positions.

The War of 1812

The vicinity of the project area was also perceived as being of critical strategic importance during the War of 1812. Fearing a British land invasion, the Committee of Defense made a formal announcement on August 19, 1814, that a chain of forts would be erected on Harlem Heights for the defense of the city under General Swift. Ordinary citizens which included butchers, students, lawyers, and others worked at a frenzied pace to erect a Blockhouse located on the Great Hill "approximately 14 yards south of 109th Street and 7 yards west of 7th Avenue" (Hall 1905:22). This blockhouse still stands today. In addition, a redoubt on Benson's Point near 106th Street and 3rd Avenue was erected. A stone tower was built between 113th and 114th Streets and 9th and 10th Avenues. Others were erected on the south side of 121st Street approximately 110 yards east of 10th Avenue, and on the south side of 123rd Street approximately 54 yards east of 10th Avenue. Fort Laight was erected at Manhattanville, 20 yards north of 124th Street and 120 yards east of 11th Avenue (Hall 1905).

Archaeological Discoveries in the Vicinity of the Project Area

During our research and review of existing Central Park documents and archives, we asked if throughout the long history of the park's development, any Revolutionary War or War of 1812 materials had been encountered. In fact, we were able to locate a published account documenting that historic artifacts and military structural remains were discovered on the Great Hill of Central Park adjacent to the Towers project area in the middle of the 19th century. An 1864 Annual Report of the Board of Commissioners of Central Park recorded that:

in making some excavations on the northerly slope of the Great Hill about two feet below the surface, the remains of a military encampment were found. The ground in spaces of about 8 feet square was compactly trodden and in a corner of each space was a recess, rudely built of stone, for a fireplace where scraps of iron seem to have been used in cooking. Shot and bayonets were also found in the vicinity (Board of Commissioners 1865:8).

Although the whereabouts of these historic artifacts are unknown, we encountered a second early historic reference to the discovery of artifacts in the Park in the same area. This reference appeared to have been paraphrased from the initial report but with some added information indicating that the author may have actually seen some of the artifacts. In his book, McGowan's Pass, Hall commented on the Park discovery and noted that "pieces of strap iron bent in the shape of the letter 'S' for the purpose of hanging kettles over a fire are almost invariably accompaniments of Revolutionary campsites..." (Hall 1905:22).

Since the location of above mentioned finds is unknown, it is impossible to accurately identify or date these artifacts to the Revolutionary War or War of 1812 periods on the basis of these fragmentary references alone. This east-west band at the northern end of the Park on what is now the Great Hill also contained a line of American defensive fortifications built for the War of 1812. However, given the fact that late 19th and early 20th century accounts speak of the 1812 remains as being visible on the surface while the excavated weapons and cooking utensils referenced above were found 2 feet below the 19th century surface, it seems more likely that these discoveries may have derived from the Revolutionary War period. Thus, documentary evidence points to archaeological survival of Revolutionary War artifacts and structural remains in the immediate vicinity of the Towers Project parcel which is known to have contained Revolutionary War fortifications and encampments.

Potential Archaeological Survivals within the Project Parcel

The third issue which has been addressed involves attempts to reconstruct the original topography of the project area prior to the grading and land alterations associated with the Park's development and the street

grading of upper Manhattan in general, and in particular, an evaluation of past subsurface impacts to the project parcel itself. A reconstruction of subsurface topographic conditions shows that (1) the buried rock surface conforms in shape to 18th century map renditions of the project area depicting a ridge or bluff with a dropoff at 106th Street, and (2) despite 19th century alterations to the landscape, the presence of between 4 and 6 feet of subsurface deposits surviving in areas which were not affected by 19th century building activities related to the construction of the Towers Hospital and secondary outbuildings. The available engineering borings, both from the Project Engineer's Report and from the NYC Department of Engineering Subsurface Division were combined with basement depth information from historic building records where available, and were computer processed to produce a 3-dimensional topographic reconstruction of the rock surface below modern grade (Figure 6). This computer model showed an average depth below surface of 4 to 6 feet for approximately three-quarters of the project parcel on the Central Park West and 105th Street side of the lot. However, the northwest corner shows a general dropoff of 10 to 13 feet below surface on what can be interpreted as the edge of a ridge or bluff. This coincides with the historic topographic map by Viele (1874) which shows the project parcel on the edge of a plateau or area of high ground which drops off into a stream valley to the north (Figures 7 & 8).

Secondly, the location and depth of all documented basements and foundations of the 19th century hospital complex were plotted to show areas of 19th century disturbance. This plan drawing of past subsurface disturbances was digitized with a computerized area measuring system at our facility. Excluding the standing structures, all of which had basements between 4 and 10 feet below present grade, the total rear yard covers an area of 15,200 sq. ft. out of a total of approximately 42,200 sq. ft. Taken together, the secondary rear yard buildings and their basements disturbed 3,360 sq. ft. Minus these 19th century intrusions, these measurements indicate a survival of potentially undisturbed remains in an area of approximately 11,438 sq. ft. of rear yard area, or approximately 26% of the total project site. Based on existing plans, the new building activity would destroy approximately 8,200 sq. ft. of potential 18th century deposits. Thus, regardless of the size of the new building foundation, between 8 and 11,000 sq. ft. or

between 19 and 24% of the total project area may contain archaeological information of relevance to the Revolutionary War military positions. Given the documented depth of bedrock and the lack of apparent construction activity in at least 20% of the project area prior to and during the building of the Towers complex as a whole, we feel strongly that sufficient evidence exists to warrant a recommendation that limited subsurface archaeological tests be conducted to establish the presence or absence of historically significant archaeological remains.

Engineering Boring Results and Subsurface Stratigraphic Indications

Available information on near grade subsurface conditions are limited to 6 engineering borings in the rear yard area of the present hospital complex (Figure 10). With the exception of Boring 1 located in the northwest corner of the parcel in the center of the former laundry and boiler room complex (now destroyed), which shows the presence of brick, sand, cinders, wood, and silt fill to a depth of 10 ft, all others showed a consistency in their vertical profiles (Figure 13). For Borings 2-6, three primary deposits or layers are indicated: a surface deposit of fill to depth of between 1.6 and 2.6 ft. below grade, followed by a second deposit which is uniformly described as decomposed rock or rocks which, for Borings 2, 5, and 6 were found to a depth of between 3.6 and 5 ft. below grade, with an average indicated thickness of 2.5 - 3 ft. However, borings 3 and 4 showed this decomposed rock deposit to a depth of between 11.5 and 12 ft. Below this decomposed rock, all borings shifted in their descriptions to bedrock which, as shown in the computer reconstruction, ranges in depth to between 3.6 and 13.5 ft. below grade throughout the project parcel. With the exception of the near surface descriptions of fill, which may or may not contain historic materials, the characterization of the second layer, identified as decomposed rock, is of limited utility for the projection of potential archaeological sensitivity. While its geological composition may indeed be that of decomposed rock, its archaeological composition is an open question.

The Past and Present Environmental Setting

Although it is difficult to reconstruct the original setting and subsequent alteration of complex urban environments such as Manhattan, an attempt to do so in this case is critical for helping to evaluate the

potential archaeological sensitivity of the Towers project site. That alterations in the form of cutting, grading and filling took place in the general area is known; however, the extent and depth of these activities in the immediate project area is difficult to establish. The available data can be interpreted in a number of ways and is not, in itself, adequate to establish if the area was or was not disturbed and altered enough to negate the possibility of any remains being preserved. Pertinent data is available from a number of sources: (1) generalized accounts of sheet alteration activities in the late 19th century; (2) general documentary accounts of the area before and after the modern street grid was established; (3) historic boring records from the New York Dept. of Engineering (Subsurface Division); (4) several specialized descriptions of landfilling in Smith's historic Wells and Springs of Manhattan (1938); and (5) historic topographic renditions of this area of Manhattan surviving from 18th century British War Maps as well as the 1820 Randel Farm Maps. Finally, our staff was able to locate photographs (ca. 1868) at the New York Historical Society which show intensive grading in the immediate area of the project site (Figure 12).

Although diverse resources are limited in their depth of coverage and specificity, this area of Manhattan was not developed until the late 19th century. The general grid pattern of avenues and streets was on paper as early as 1807 (Bridges 1807/1811). However, roadwork and grading of primary avenues to the elevation of 8th Avenue was not undertaken in this area until the 1860's which accounts for the availability of photo coverage of these activities. It is also the case that the general alteration of the landscape and the laying out of the streets in this section of Manhattan was intimately connected with the overall development and construction activities associated with Central Park. Both for the sake of levelling the north-south avenues and in order to build a uniform wall around the Park, it is known that road construction activities and the wall itself were delayed by the difficulties of blasting and cutting heavy rock outcrops formerly demarcating the northern end of what is now Central Park. According to Central Park Historian, Ethan Carr, work in the vicinity of Central Park West was not completed until the 1870's and the wall itself not finished until the 1880's (Carr, personal communication, May 16, 1986). With the exception of these general accounts, data about the

extent and depth of these cut and fill operations are difficult to tie down with any precision or viability.

The former topography of this area is best illustrated in a series of 18th and 19th century maps. In addition to Viele's 1874 topographic reconstruction, one of the clearest renditions of the original topography comes from Dr. Johnston of the City College of New York who shows the presence of high bluffs in the form of rock outcrops and hills running east-west with a dropoff at what is now 110th Street. This point of high ground and the access to McGowan's Pass accounts for the critical strategic importance of this series of knolls or rock outcrops during the Revolutionary War and War of 1812. In other words, it was the northern defense point for 18th century Manhattan and an ideal location for both defensive positions and gun batteries. Just how much this ridge of high ground formerly dropped off is difficult to pinpoint without detailed topographic reconstructions which would need to cover a much larger area than the immediate project site. In his historic study of the wells and springs of Manhattan, Smith (1938) noted that the original southeastern base of this hill near 8th Avenue was buried 40 feet under the present land level in that vicinity. He also stated that local residents recalled that the former elevated railway at 110th Street and 8th Avenue "was raised 110' above the visible bases of the supporting columns" (Smith 1938:35). He also noted at the time of his writing (mid-1930's), that "of that 110' of space, 40' have since been filled in to bring it up to the level of 8th Ave" (ibid).

From these observations, it is clear that the northern edge of these east-west bluffs and north of 110th Street (the former lowlands) were subsequently raised with at least 80 ft of fill in order to bring 8th Avenue and the more northerly cross streets up to uniform grade. It is also apparent from other sources, including contemporary boring records, that W. 106th Street constituted the southern extent of these major fill operations. South of 106th Street, the landscaping activities focused on extensive cutting and grading of the Great Hill in order to provide a level grade for 8th Avenue. That 106th Street constituted the north-south edge of these two land alteration activities is confirmed by the computer reconstruction of the underground rock surfaces beneath the project site derived from recent and past rock boring data.

The question is: given the fact that the present site represents the juncture of these cut and fill operations, to what extent does the existing surface represent a filled in and sealed environment or, instead, a drastically altered artificial manmade surface produced by the cutting operations associated with 8th Avenue or Central Park West. Three possible interpretations of survival potentials are addressed in the separate testing recommendations addendum.

That 8th Avenue was cut down is not questioned. Rock outcrops on the high hill are visible at Central Park West on 105th and 106th Streets. Drill hole core impressions are visible today in the western face of the rock outcrop in Central Park (Photo 3). Although apparently altered somewhat by Moses in the 1930's, the Great Hill of north Central Park still maintains a semblance of the original topography. At its highpoint, the Great Hill today has an elevation of approximately 120 ft to the edge of the project area. (Central Park Conservancy 1985).

Historic rock data maps (1937) show the elevation of 8th Avenue at 106th Street to be 6'1", which suggests the possibility that during construction, 8th Avenue was cut down at least 40 ft below original surface. The depth of cutting along Central Park West is further confirmed by two nearly identical historic photos (one is shown as Figure 12) preserved in the New York Historical Society which show 19th century rock grading activity in a view looking north up 8th Avenue from 106th Street (north of the project area). These photos, however, do not give any clue as to the extent of cutting activities south of 106th Street. Thus, the nature of these subsurface deposits beneath the present surface of the Towers Block 1841 remains an open question. One line of evidence implies intensive cutting or grading of the original surface. A second line of evidence suggests that this cutting activity may have been confined to the area north of the project area. However, a more detailed reconstruction of present vs. past conditions is beyond the scope of this initial sensitivity study. The recommendation for testing is based on the assumption that at least a portion of the original grade may lie buried beneath the non-structure areas of the present project site.

SECTION II

Prehistoric and Revolutionary War Sensitivity

As part of the project evaluation process, this sensitivity study surveyed published sources of known prehistoric and Revolutionary War site locations within an approximate 10 block radius of the proposed Towers Development Project. The purpose of this survey, although not inclusive of all of Manhattan Island, was to help evaluate the likelihood of encountering archaeological remains in this now heavily developed area of Manhattan.

Historic references document the location of no less than four prehistoric sites within a 10 block radius of Block 1841. Four additional prehistoric sites were documented outside of this arbitrary 10 block radius of upper Manhattan and are shown in Figure 11.

Near 94th Street and Park Avenue, Bolton listed the possible temporary residence of the Chief of the Rechevac tribe circa 1670 (Bolton 1921). "Rechewa's Point," located at 110th Street and Hell Gate Bay may have been the tribe's winter quarters ca. 1675. A shell midden was reported at the "Point" by Skinner (1914:47) and Park (1920:626). Another possible winter quarters site was identified as being in the woodlands between the Harlem Plains and Broadway (Skinner 1914:47).

Projectile points were reported between 114th and 120th Streets, between Amsterdam Avenue and Broadway on the site of the Columbia University campus (Skinner 1914:44).

Two possible Revolutionary War sites were identified within the arbitrary 10 block radius of Block 1841. Previously discussed in detail (see "Revolutionary War Sites"), these sites include a military campsite on the northerly slope of the Great Hill in Central Park where military objects and a Revolutionary War fireplace were discovered (Board of Commissioners 1865:8-9) as well as a large area between the Hudson River and Park Avenue from 103rd to 110th Streets which may contain defensive fortifications and/or artifacts relating to the presence of British and American troops who occupied the area in September of 1776 (Johnson 1897 map).

Street History

Block 1841, is bounded on the east by Central Park West, on the west by Manhattan Ave., on the north by 106th St., and on the south by 105th St. (Fig. 1). It was previously known as Block 917.

The section of 8th Ave. located between 59th - 110th St. was named Central Park West on Feb. 7, 1883, several years after the completion of Central Park (Street Openings and Closings Map 1935). The Board of Commissioners of the Central Park was responsible for the laying out and grading the northern streets of Manhattan. Grading was not completed along 8th Ave. until the 1880's; the wall around Central Park was also not completed until the same time period (Carr, personal communication, May 16, 1986). The 11th Annual Report of the Board of Commissioners of the Central Park, dating to 1868, stated that the grades of the streets between 11th and 8th Avenues south of 110th Street would require modification to adapt them to the existing grades of 8th Avenue (1868:140).

West 106th Street or Duke Ellington Boulevard stretches from Riverside Drive to Central Park West. It was named for "Duke" Edward Kennedy Ellington, the noted composer, band leader and pianist. An 1849 deed stated that 105th and 106th Streets were to be "kept open as a free and common carriage and passageway" until those streets "be opened according to law" (L. 527, p. 460). 106th and 105th Streets were officially opened in 1869. Manhattan Avenue, originally called New Street, was opened in 1871. "It is proposed to lay out an avenue on a line parallel to the 9th Avenue commencing at 106th Street, midway between the 8th and 9th Avenues below the rocky bluff to connect with the Avenue St. Nicholas at 124th Street" (Board of Commissioners of the Central Park 1868:148).

Historic Overview

This summary of building developments is based on three primary documentary sources: (1) a year-by-year comparison of all 17th-20th century maps and atlases; (2) original deeds; and (3) building plans and records.

The purpose of this overview is to provide documentation of former building locations, changes in the function and location of structures and, where avail-

able, evidence for the nature and depth of foundations and basements.

17th and 18th Century History of the Project Area

The landholding history of the project site was traced back in time to the original 17th century colonial land grants of Manhattan.

Block 1841 was originally part of the land granted to Isaac Bedlow by Governor Richard Nicholls on February 13, 1667/8. This large patent included part of the Lawrence Kortwright Farm which is now included in Central Park and the Striker's Bay, Herman LeRoy and John Clendening Farms. Bedlow died intestate in February of 1673 and a commission was appointed to "supervise, State, and Audit" his accounts (Stokes, 1928:69). Theunis Idens van Huyse, yeoman, purchased the Bedlow tract ca. 1688. A survey of early 17th and 18th century maps revealed no residential or business structures within the immediate boundaries of Block 1841 until the late 19th century; however, the Manatus map circa 1670 located Johannus de la Montagne's bouwerie and farmhouse near McGowan's Pass in Central Park, several thousand feet east of the project block.

In 1720, van Huyse conveyed a portion of his land to his son-in-law, the weaver Abraham De Lamontains (L. 30, p. 137), and a portion to a second son-in-law George Dyckman (Dikeman). It is believed that Dyckman purchased De Lamontains' property in 1729 (Riker in Stokes, p. 115). Although the deed is no longer extant, the "General Statement of Early Title for Block 1841" located in the New York County Clerk's Office stated that "this block (1841) lies wholly within the George Dyckman Farm" (1917).

Records dealing with Block 1841 conflict over the 18th century chain of title. By March 2, 1786, John Jones was the owner of record (L. 43, p. 297). No deeds were recorded between 1787 and 1789; however, it is known from a deed recorded August 28, 1800 that the merchant Herman LeRoy had owned the property for some time prior to 1796 (Index of Reindexed Conveyances 1917; L. 59, p. 9). Stokes 1928 map of Original Grants and Farms (Figure 9) shows the extent of the LeRoy farm. It appears that by 1796, LeRoy had conveyed the western portion of the block to George Arnold (deed recorded October 13, 1810) (L. 89, p. 171).

The eastern portion of the block which includes the major portion of the project impact area was sold to Samuel Borrowe, physician, in 1796 and 1799 (Index of Reindexed Conveyances, 1917). Borrowe's house was located at the corner of Central Park West and 104th Street.

19th Century

In 1806, a William Rogers was the owner of record (Index of Reindexed Conveyances 1917) of the western portion of Block 1841. In his will, Rogers bequeathed the property to his wife Ann (54 Wills, p. 277). In turn, her will (70 Wills, p. 80) authorized the executors to sell the land and in 1835 it was purchased by Carl Klauberg, a "cutler."

The earliest 19th century map was Bridges 1807/1811 "Commissioners' Plan" which proved to be of limited utility as it was only an idealized plan of Manhattan and shows no structures. The topographically correct Randel Maps of Manhattan, circa 1820, showed that Block 1841 was still undeveloped during this time period. On April 13, 1825, the property, which included the project impact area, passed to Joseph Sands (L. 189, p. 201) who bequeathed it to his son Edwin (Index of Reindexed Conveyances, 1917). The heirs of Edwin Sands conveyed the property to Orsamus Bushnell, counsellor of law, on May 1, 1835 (L. 328, p. 490). A year later, Bushnell sold it to the broker, Dwight Browning (L. 353, p. 363). After the foreclosure of a mortgage, the Browning property was sold to Thomas W. Olcott and James Vanderpoel (L. 420, p. 463). In 1852 or 1853, this land was conveyed to Henry T. Morgan (L. 644, p. 231).

The Dripps 1851 map of New York City located a structure near the corner of Block 1841 along 8th Avenue (Central Park West) and 105th Street (Photo 9). Two other structures were located west of the line which historically separated the Borrowes' and Rogers' properties. A fourth structure was located directly in the center of what became 105th Street at the corner of 8th Avenue. Dripps' map was the only document to illustrate structures on Block 1841. However, experience with various Dripps maps has often shown them to be grossly inaccurate. The fact that the topography on this particular Dripps' 1851 edition was incorrect, as well as being at odds with both the highly acclaimed Randel Maps (1820) and the Viele 1874 map, makes it

unlikely that the illustrated structures ever existed on or near the project area.

References to property transactions concerning Lot 23, today's Lot 25 and the present location of the Cancer Hospital, are often obscure and at times conflicting. An inventory of all deeds pertaining to the project impact area is included as Appendix I below.

The 1867 Dripps Atlas illustrated the Towers block in relationship to Central Park. The names of R.T. and H. Morgan Ave. are written across the project impact area (Photo 10). The structures shown on the 1851 map were no longer extant by 1867; however, three structures were located in the western portion of the block which had, as yet, not been divided by Manhattan Avenue.

Viele's 1874 map (Figure 7) contained the most accurate topographic information of New York City in general, and Block 1841 and the Great Hill, in particular. This document revealed the project impact area at the top of a ridge which sloped down to the west towards Manhattan Avenue as an extension of the Great Hill directly across 8th Avenue in Central Park.

By 1879, the block (called #917 at this time) was undeveloped, but had been divided into lots (Bromley 1879). Bromley (1879) showed the width of the project area along 8th Avenue (Central Park West) as identical to the present day width of 201.10 ft (Photo 11).

Although the upper West Side was "beginning to be developed...following the opening of the Ninth Ave elevated railroad in 1879" (Landmarks Preservation Commission 1976), Robinson and Pidgeon's 1884 atlas depicted the upper West Side in the vicinity of the project area as a series of blocks with empty lots (Photo 12). This 1884 atlas showed that lots within the project impact area were initially numbered 29-36 along 8th Avenue (Central Park West), lots 37-41 along 106th Street, and lots 23-24 on 105th Street. This and adjacent blocks were initially occupied in the decades of the 1880's with a number of related institutional developments. Robinson and Pidgeon's atlas showed the existence of The Home for Indigent Females at Riverside Avenue between 103rd and 104th Streets and The Home for Aged and Infirm Hebrews between 105th and 106th Streets and Amsterdam and Columbus Avenues. Although not illustrated here, the Leake and Watts Orphan Asylum between Morningside and Amsterdam Avenues at West 112th

Street and the Bloomingdale Insane Asylum on the site of present-day Columbia University at 117th Street between 10th and 11th Avenues were all built in the vicinity.

The Tower Nursing Home, previously the New York Cancer Hospital and General Memorial Hospital for the Treatment of Cancer and Allied Diseases, "was founded in 1864 to further the study and treatment of cancer and built by Charles Coolidge Haight, a noted architect of that time period" (Landmarks Preservation Commission, 1976). John Jacob Astor funded the first building, and the cornerstone was laid in 1884. Although construction was essentially completed by 1886, the formal opening was delayed until 1887 due to the difficulty "in establishing proper sewer connections and the necessity of erecting two additional buildings; one which would serve as a small "mortuary" and the other a laundry, servants' quarters and boiler house facility, both no longer extant (ibid).

The original "Detailed Statement of Specification for the Erection of Buildings" stamped October 31, 1884 and located in the Department of Building Records stated that "the depth of foundation walls, from curb level or surface of ground" will be 2 - 8 ft and laid on rock (NB1477/84).

The land for the hospital was acquired from John E. Parsons, Henry E. Pellew and Joseph W. Drexel on August 2, 1884 (L. 1816, p. 343), from John L. Brewster on February 6, 1885 (L. 1851, p. 197) and from Henry Gilman on July 13, 1892 (L. 9, p. 277).

The original building at the corner of 106th Street and Central Park West, known as the Astor Pavilion and housing female cancer patients, was opened in 1887. A second addition for male cancer patients on Central Park West and 105th Street, also founded by Astor, was erected between 1889-1890. A report by the Building Inspector on the application for the addition of the second main hospital building, dated August 5, 1889, stated that the foundation wall was 6 ft below the curb and built on rock. A chapel located between the two buildings was added simultaneously, called the Chapel of St. Elizabeth of Hungary, and was a memorial to one of the founders of the hospital, Elizabeth Hamilton Cullum, a cousin of Astor's wife, Louise (New York Times Nov. 26, 1892; Landmarks Preservation Commission 1976).

The 1891 Bromley atlas showed the "Cancer Hospital" as consisting of the main hospital building, the 1889-90 annex for male cancer patients, the chapel and the laundry and boiler building (Photo 13). Several three-story brick and stone fronted structures were located on several of the rear lots behind the project area, west of the hospital complex. At this point in time, the major hospital buildings were labelled as being four stories high with the laundry being three stories. These structures were located on what were lots 29 and 36. A "New Building Application" dated September 27, 1886 for the erection of a "laundry" three stories tall or 54'6" high was located in the Department of Building Records (NB 1681/86). The boiler house extension was projected to be one story or 8 ft high. The depth of the foundation walls from curb level or surface of the ground were to be 6'6" laid on rock and 20" thick. Charles Haight was the architect. This document also mentioned a "brick fence wall 10' high and 16" thick with gateway... to be built from Hospital Buildings to boiler house on street line" (ibid). The 1898 Bromley atlas which was updated to 1902 labelled the main hospital buildings as five stories tall and the laundry and boiler building only two stories with a basement (Photo 14).

As of 1899, the name of the New York Cancer Hospital was changed to General Memorial Hospital for the Treatment of Cancer and Allied Diseases. However, this name change was not reflected in the 1898-1902 atlas. The hospital property was depicted as being 210.10 ft. wide and 250 ft long and was located on Lot 23 at this time. Two unidentified iron structures were located at what eventually became 37 West 105th Street to the rear of the 1889-1890 Annex for Male Cancer Patients. These iron structures might have represented the temporary tool houses mentioned in a letter to the New York City Building Inspector by the builders Robinson and Wallace in 1889 at the time of the erection of the large additional hospital building. According to the letter, the location of the tool sheds had not yet been determined. The three story brick structures to the rear of the hospital might have been the "solid rows of cheap apartments" or "flats...crammed and crowded with" clerks, mechanics, and merchants as described by Ziesloft (1899).

In addition to residential buildings, the atlases showed an Ironworks on 108th Street between Columbus and Amsterdam Avenues and an additional "Home for the Aged"

at West 106th Street between Columbus and Amsterdam Avenues.

The 1908 Bromley atlas showed that a rapid burst of development had occurred in the vicinity of the project area (Photo 15). Numerous brick residential structures were erected as well as churches and schools. One block southeast of General Memorial Hospital was a "Protestant Half Orphan Asylum" which was located at Manhattan Avenue between 104th and 105th Streets.

In 1916, a morgue building along 106th Street and a three-story laboratory with a one story attachment at 37 West 105th Street were erected on the site of the iron "tool sheds". The 1914 Bromley atlas which had been updated to 1920 corroborated that a three story laboratory had been erected at 37 West 105th Street on the site where the two iron structures had been identified ca. 1898. Although located outside of the project impact area, this building is important because of its immediate association with the hospital. The research lab at 37 (or 19) West 105th Street was described in Alteration Record 2025/255, dated September 22, 1925, as follows: "building is occupied for research work - 1st floor as machine shop and morgue. 2nd and 3rd stories and proposed new penthouse for research work only." It was proposed that the present building be raised to the same level as an existing penthouse, that an existing animal room be extended, and a new roof constructed. The height of the building was originally three stories, but here was shown as four stories tall. The building foundations were to be "not less than 4'6" below grade" and "all footings were to be laid on solid rock" according to building "specs" presented by the architects, Palmer and Hornbostel (New Building Record 301/16). The 1914-1920 atlas showed that pathways had been established to provide access to the hospital structures from the rear courtyard area. Most insurance atlases labelled the number of stories of existing structures. Sometimes these linked up with building records and reflected changes and alterations to building structures. At other times, they seemed arbitrary and capricious. For example, the 1914-1920 atlas depicted the laundry building as two and one-half stories and the boiler house as one story tall - different, yet again, from previous maps and atlases (Photo 16).

The 1934 Bromley atlas reflected the addition of several new buildings between 1916 and 1934 (Photo 17).

It illustrated a one-story addition erected in 1916 between the 1889-1890 hospital "annex" and the four story "laboratory" previously mentioned. Additional lab space was created by the erection of an irregularly-shaped building between the two towers along the 105th Street side of the project area ca. 1921. Located between the towers of the newer wing of General Memorial Hospital, approximately 130 ft. from the northwest corner of Central Park West and 105th Street, this "laboratory" was used for the housing of electrical apparatus used in x-ray therapy. Jules J. Diemer was the architect (ALT 1822/21). In 1925-1926, a two story "x-ray building" was erected at the corner of Central Park West and 105th Street (451 Central Park West). A glass-walled passageway was built between this x-ray structure and the Astor Pavilion at or about the same time.

Just outside of the project area at 34-36 105th Street in what was once Lot 41, a five story "Nurses Home" with basement was erected in 1926. The foundation depth below curb was projected to be 5 ft and laid on rock. Alteration Application 1904 dated August 20, 1926 described the "Nurses Home" behind the boiler house and laundry and illustrated a courtyard which was located behind the boiler house. This document stated that the 5th floor of the Nurses Home was utilized as a laboratory. The alteration "specs" mentioned that the laundry was to be altered "by the addition of a new fireproof wing to the west to be utilized as a residence for 44 female nurses housed on the first to fourth floors." The fifth floor was to be distinct from the rest of the building and "used as a research laboratory space and connected to the fourth floor of the present lab building on 105th Street by a bridge" (ALT 1904/26). It is not clear if these alterations ever took place. No evidence is visible today.

A later alteration record (ALT 2683/36), dated October 22, 1936, mentioned a "new" building, which appeared to be a small addition to the rear of the two story x-ray building at the corner of 105th Street and Central Park West. This tiny structure was not depicted on any subsequent atlases, but it exists today.

The hospital complex was built as a series of additions between 1884 and the most recent in the 1930's. Of these additions, all but the boiler and laundry room are still standing. The walls of the morgue/guardhouse are still standing as cinder-block wall elements on the northern boundary of the property.

Central Park

The development of the project parcel can only be understood in the context of larger area developments of this upper Central Park area of Manhattan. This section of the upper West Side was designed as an integral part of the Central Park plan and both the layout and timing of street and block subdivisions were conceptualized and managed by the Board of Commissioners of the Central Park.

During the mid-nineteenth century, the center of Manhattan's population was approximately two miles away..."the residential West Side had not even been built" (Central Park Conservancy 1985:2). Plans for Central Park had been proposed as early as 1850, but the property was not purchased until 1856. At this time it was a "scrubby and disorganized tract of woodland, dotted with a few gaunt farms and a number of squatters' shanties, at the center of which were the receiving reservoirs of the Croton water system" (Kouwenhoven 1953:295).

Designed and created by Frederick Law Olmsted and the architect Calvert Vaux, Central Park was a "completely man-made landscape" (Central Park Conservancy 1985:2). As part of the City's work-relief program, construction of the park began in either 1857 (Kouwenhoven 1953:295) or 1858 (Central Park Conservancy 1985).

SUMMARY OF RESULTS

The documentary and cartographic evidence identified to date has provided strong evidence that this area in general and Block 1841 in particular are presently located in what was once a major strategic battlefield and logistical point of deployment for the British and American Revolutionary War forces in 1776. Nineteenth century accounts from the Board of Commissioners of the Central Park verify this interpretation by providing documentation of the discovery of historic, presumably Revolutionary War, artifacts and structural remains which had been encountered in the immediate vicinity of the project parcel along the flanks of the Great Hill, adjacent to and across the street from project site. These multiple lines of evidence make it difficult to avoid the conclusion that the project site itself may contain buried archaeological evidence relating to these Revolutionary War activities.

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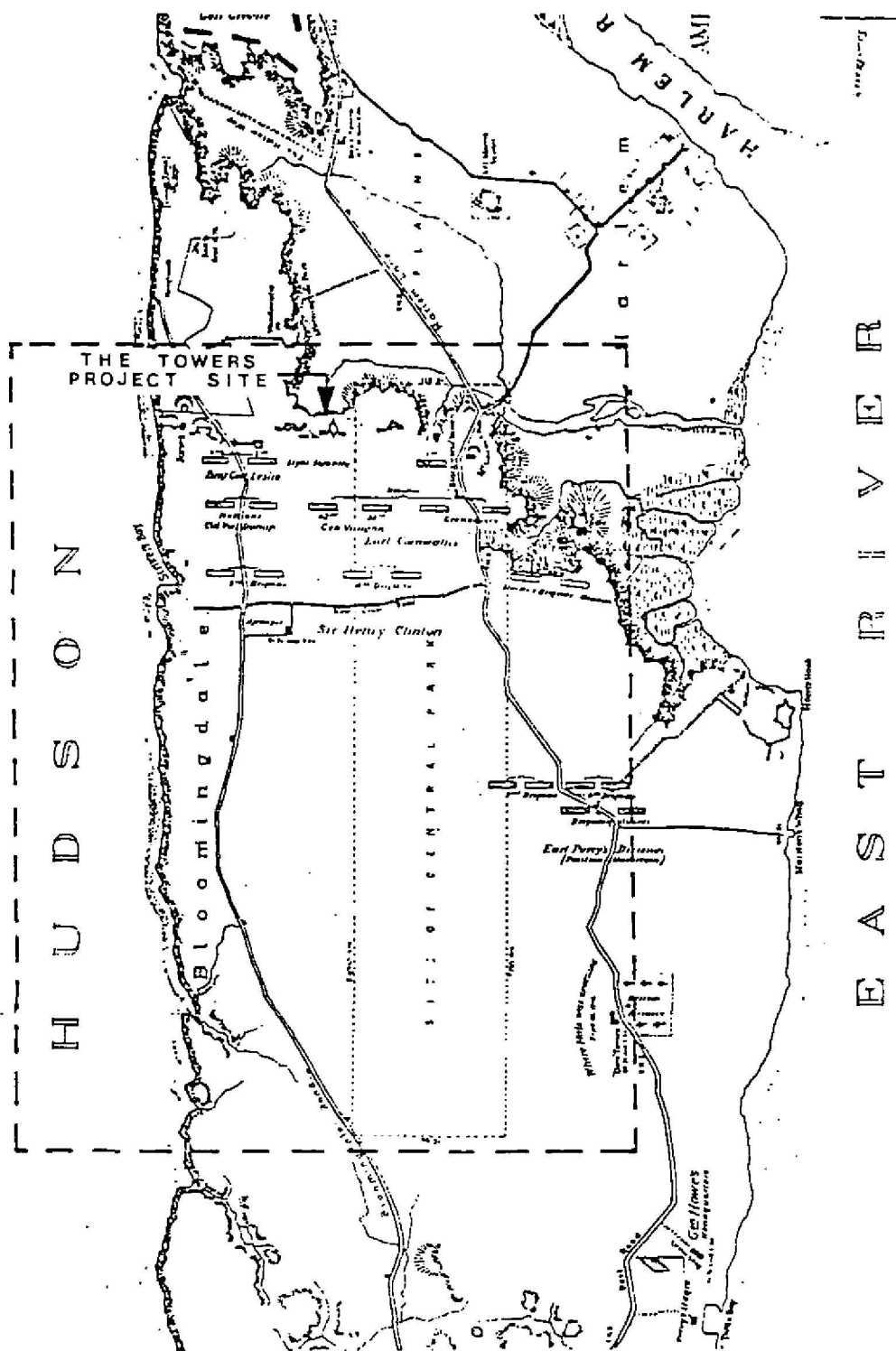


Figure 2

Johnston's 1897 Map of the position of the American and British Armies near Harlem from Sept. 16 to Oct. 12, 1776. (General View)

U D S O N

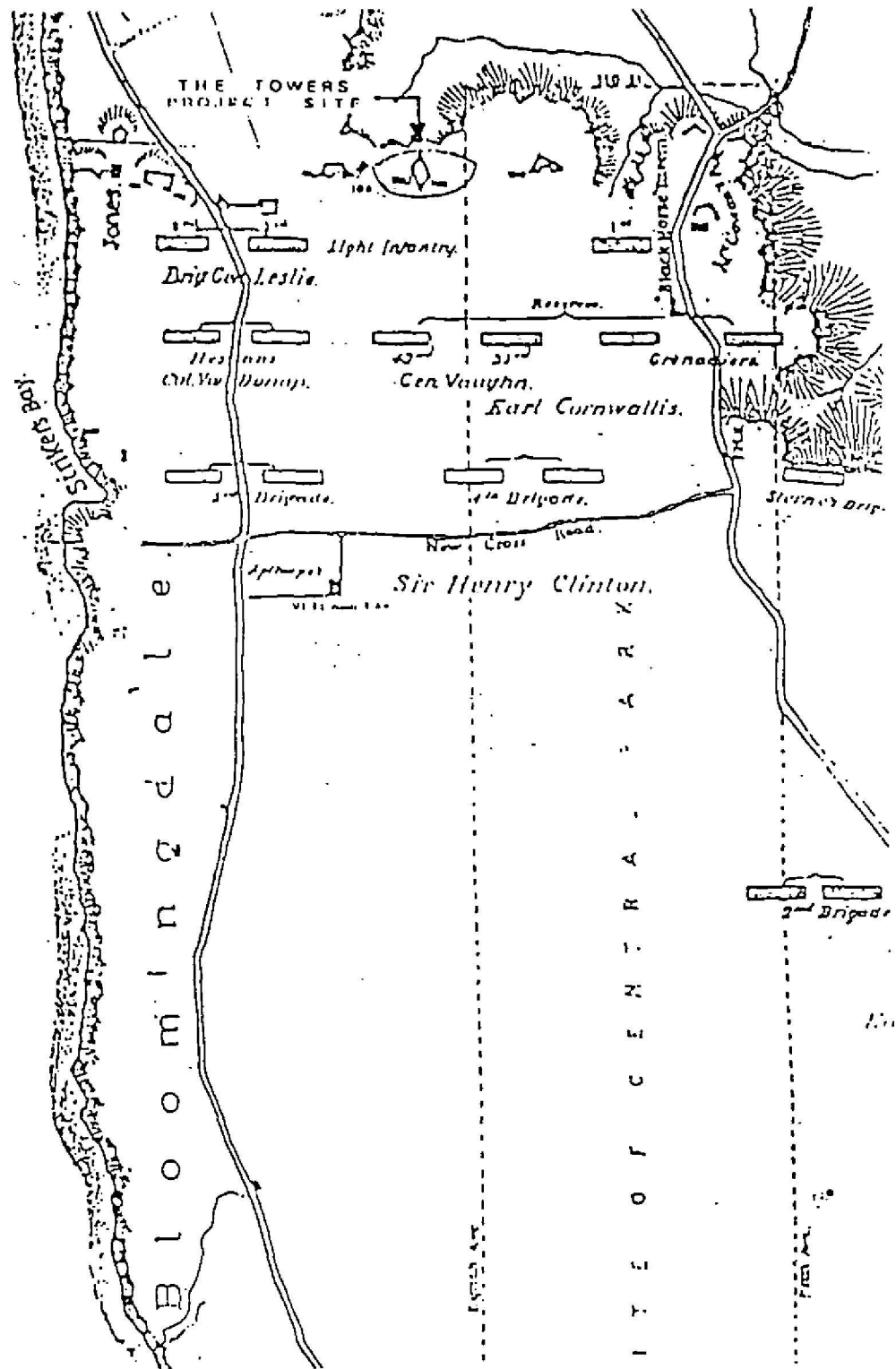


Figure 3

Closeup of Johnston's Map showing east-west line of defensive positions in the vicinity of 106th Street and the project area.

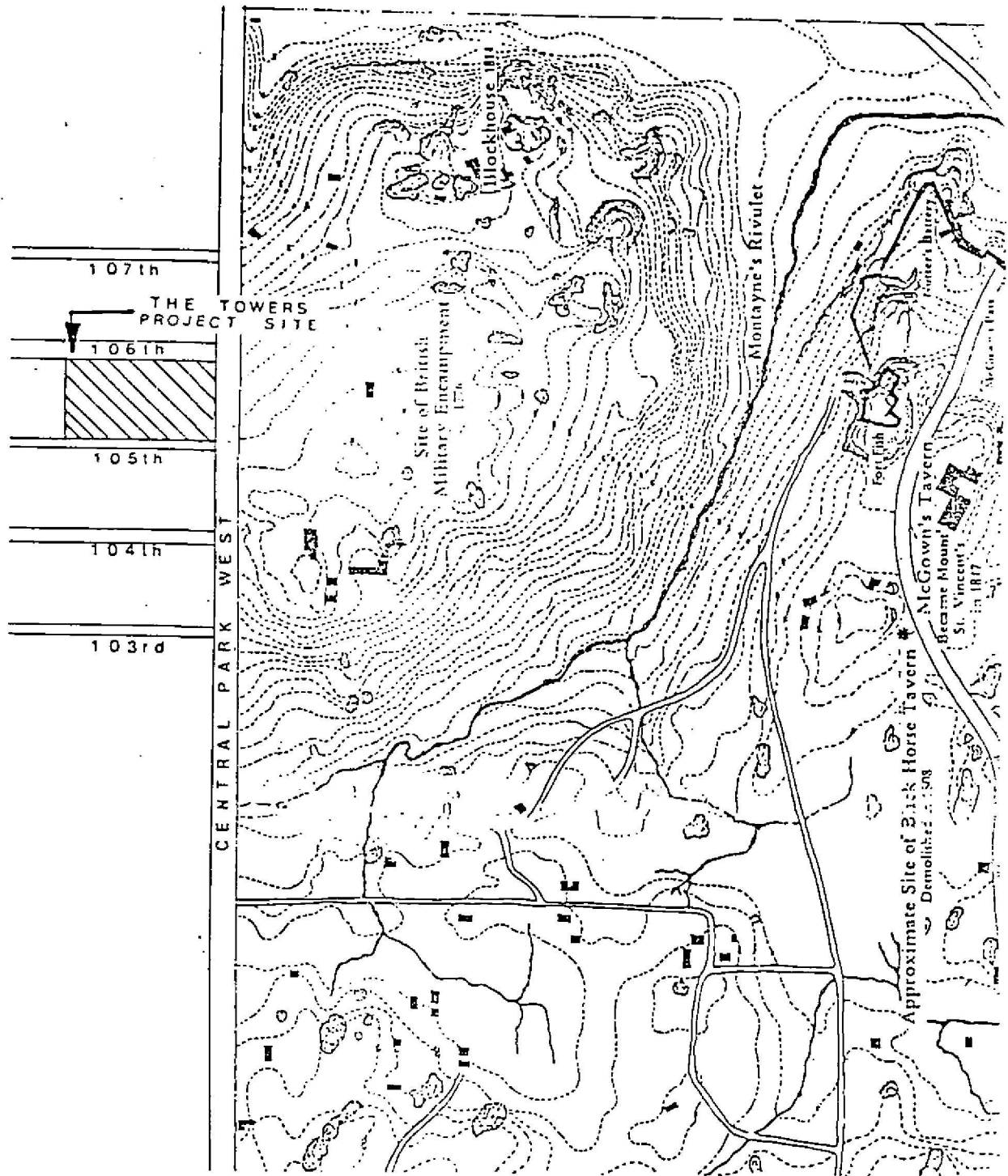


Figure 4

Map of encampments and fortifications in Central Park in the vicinity of the project area. NYC Park Commission topographic map of upper Central Park showing the Great Hill and general location of 18th c. British encampment and War of 1812 fortifications.

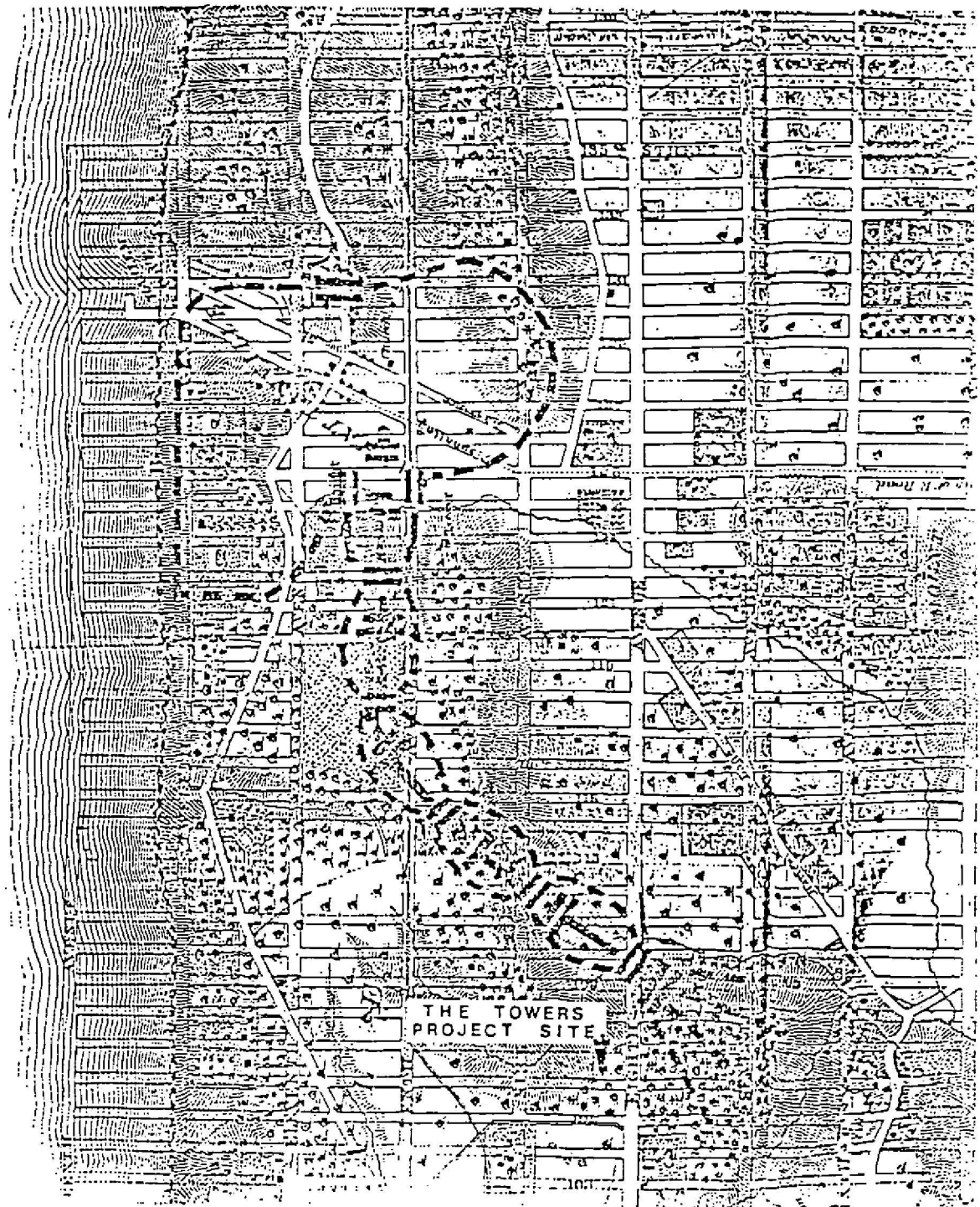


Figure 5

Pre-Central Park plan of upper Manhattan and project area showing original topography and general thrust of British and American troop movements. Note location of project site on western edge of the Great Hill.

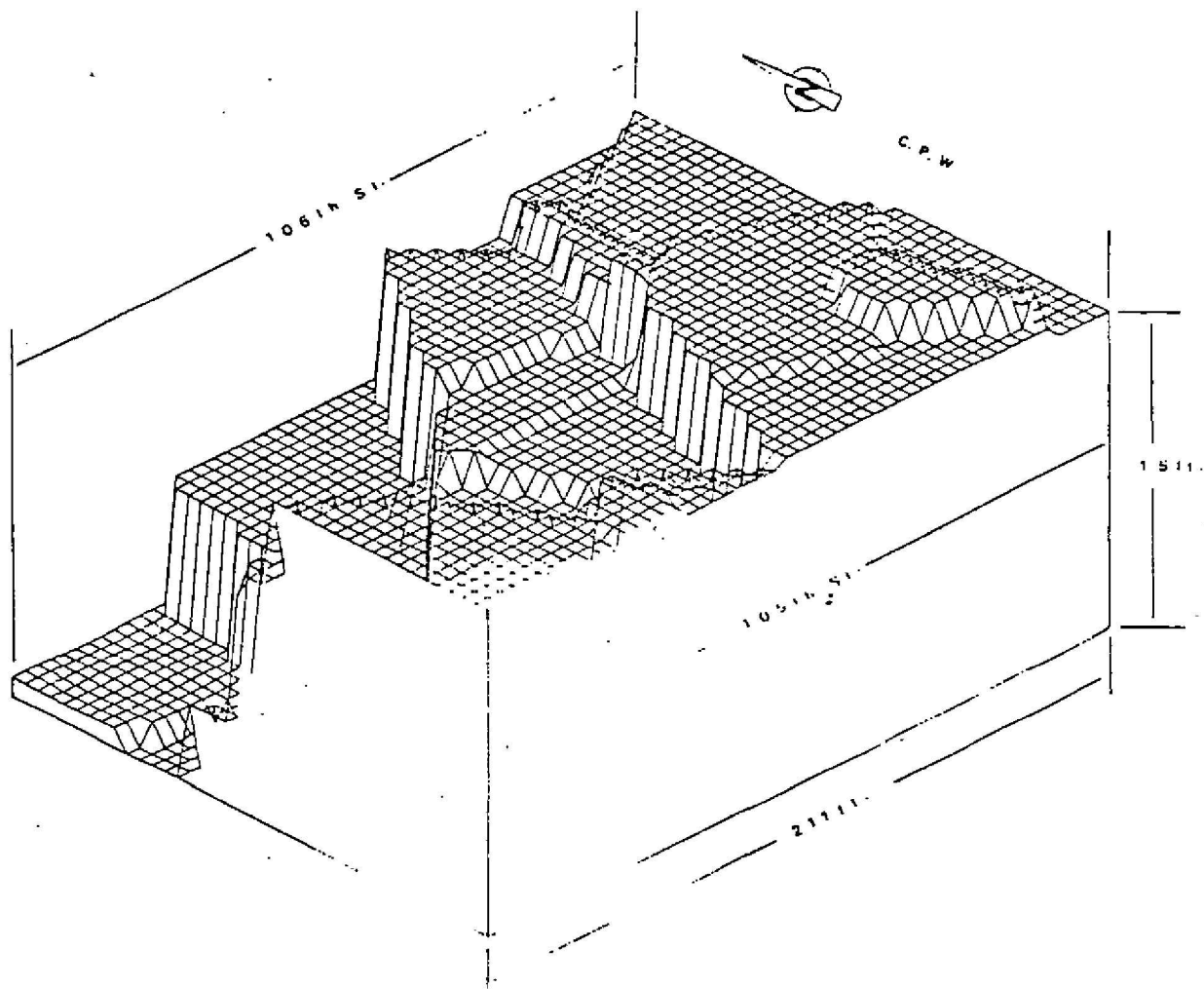


Figure 6

Computer generated reconstruction of subsurface rock topography under project site showing the general location of site on the western edge of Great Hill.

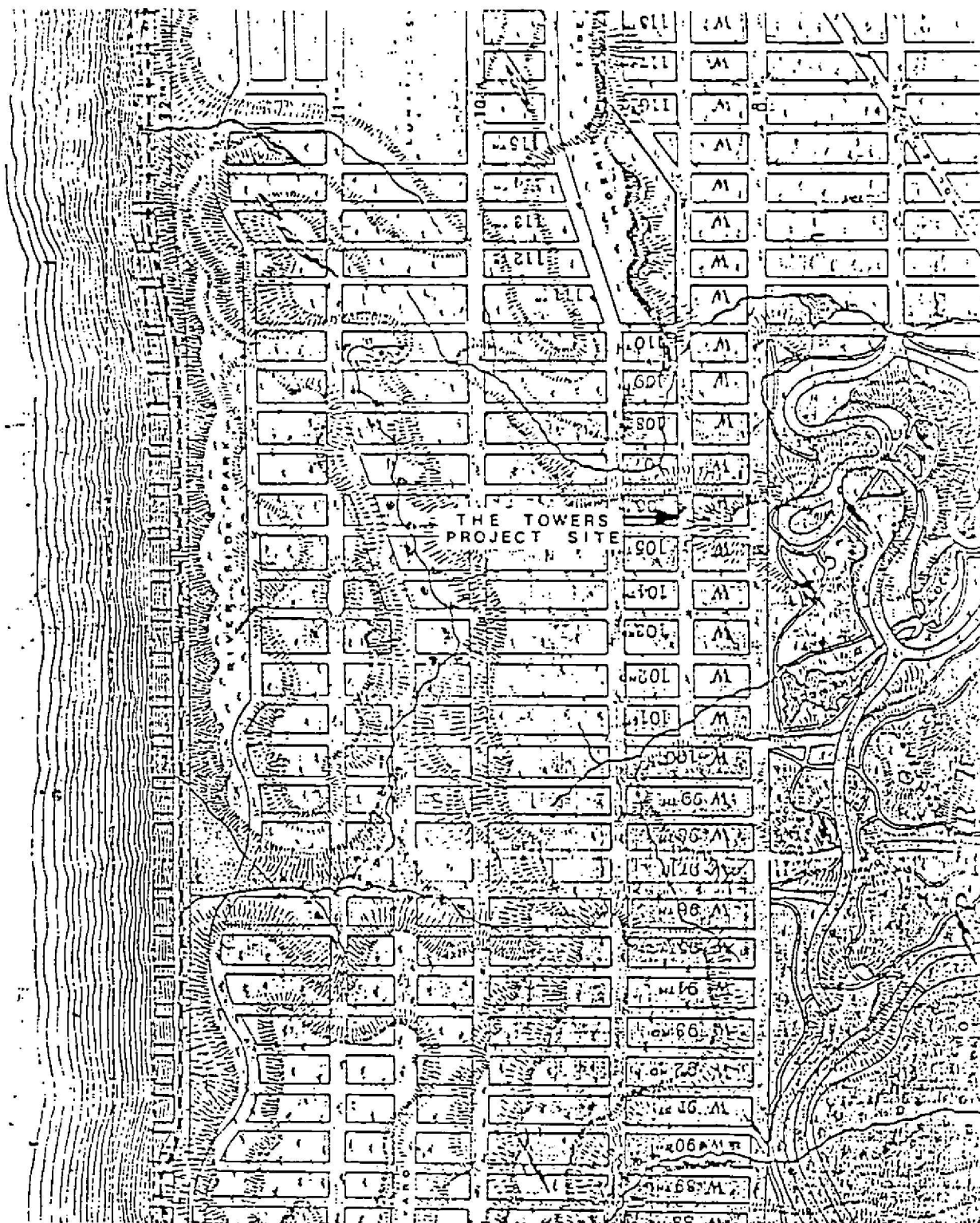


Figure 7

Detail of 1874 Viele Map showing project site and general topography.

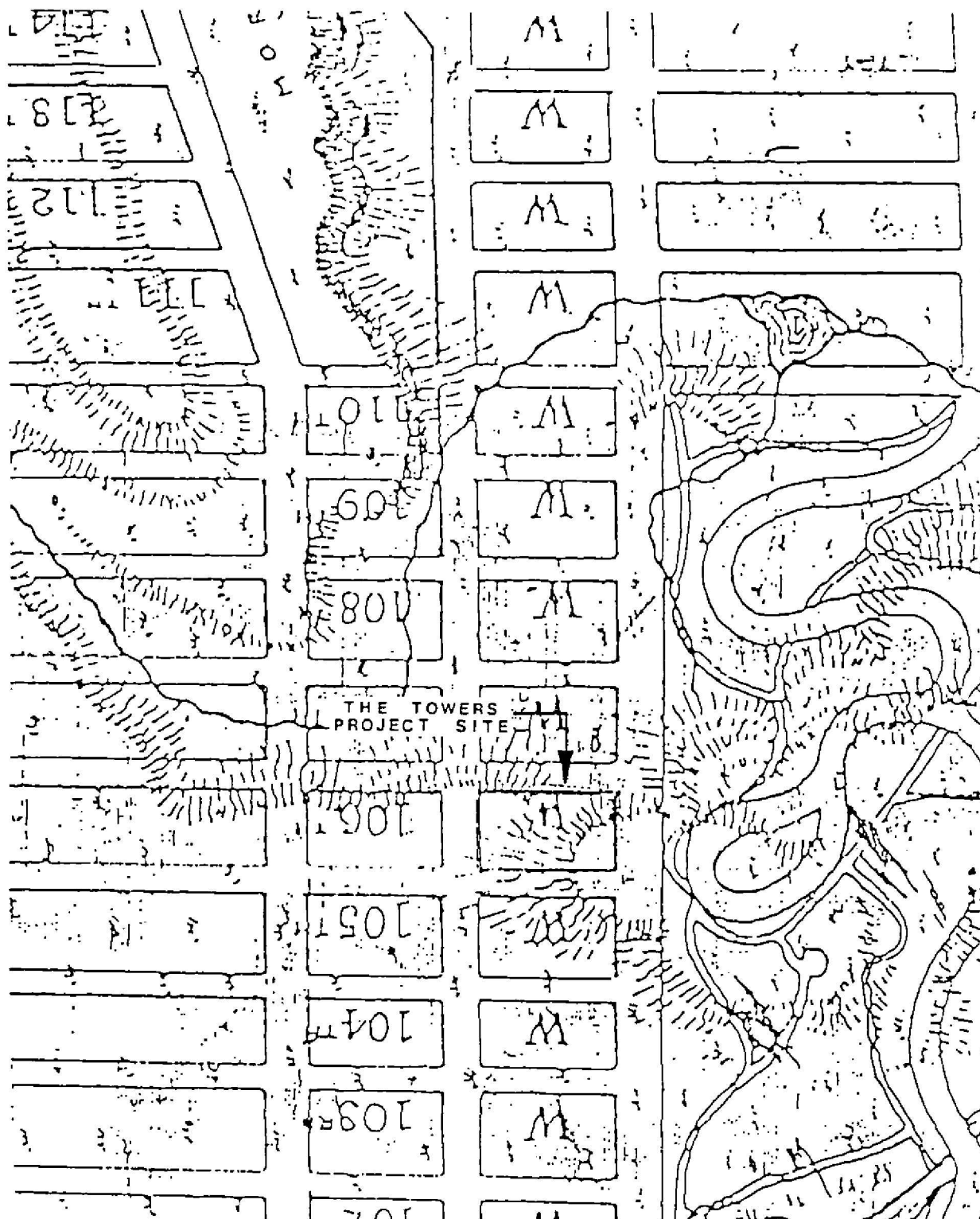


Figure 8

Closeup of Viele Map and project vicinity showing Towers parcel on edge of ridge and western extent of Great Hill.

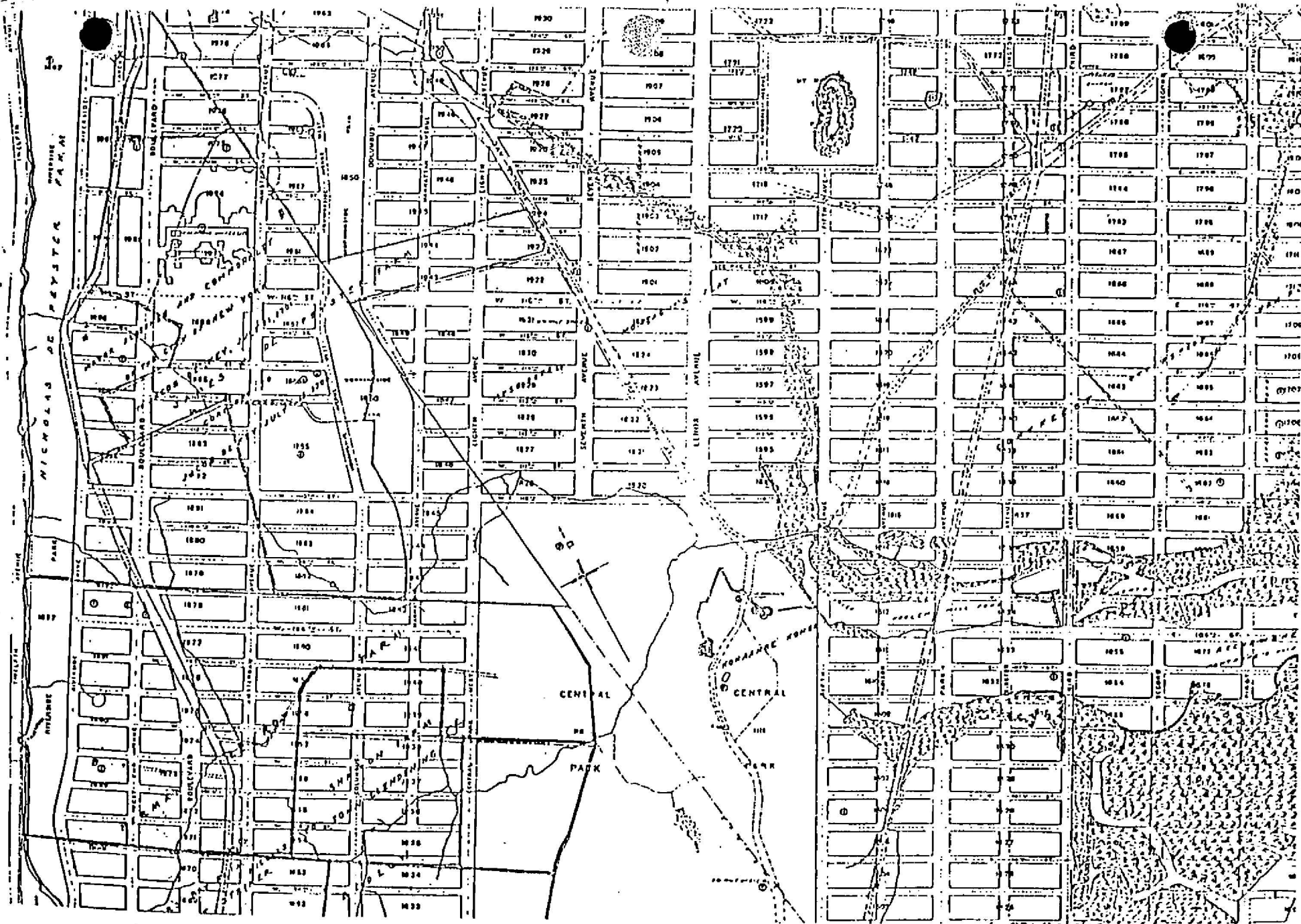


Figure 9

Stokes 1928 Map of Original Grants & Farms showing the boundaries of the LeRoy Farm.

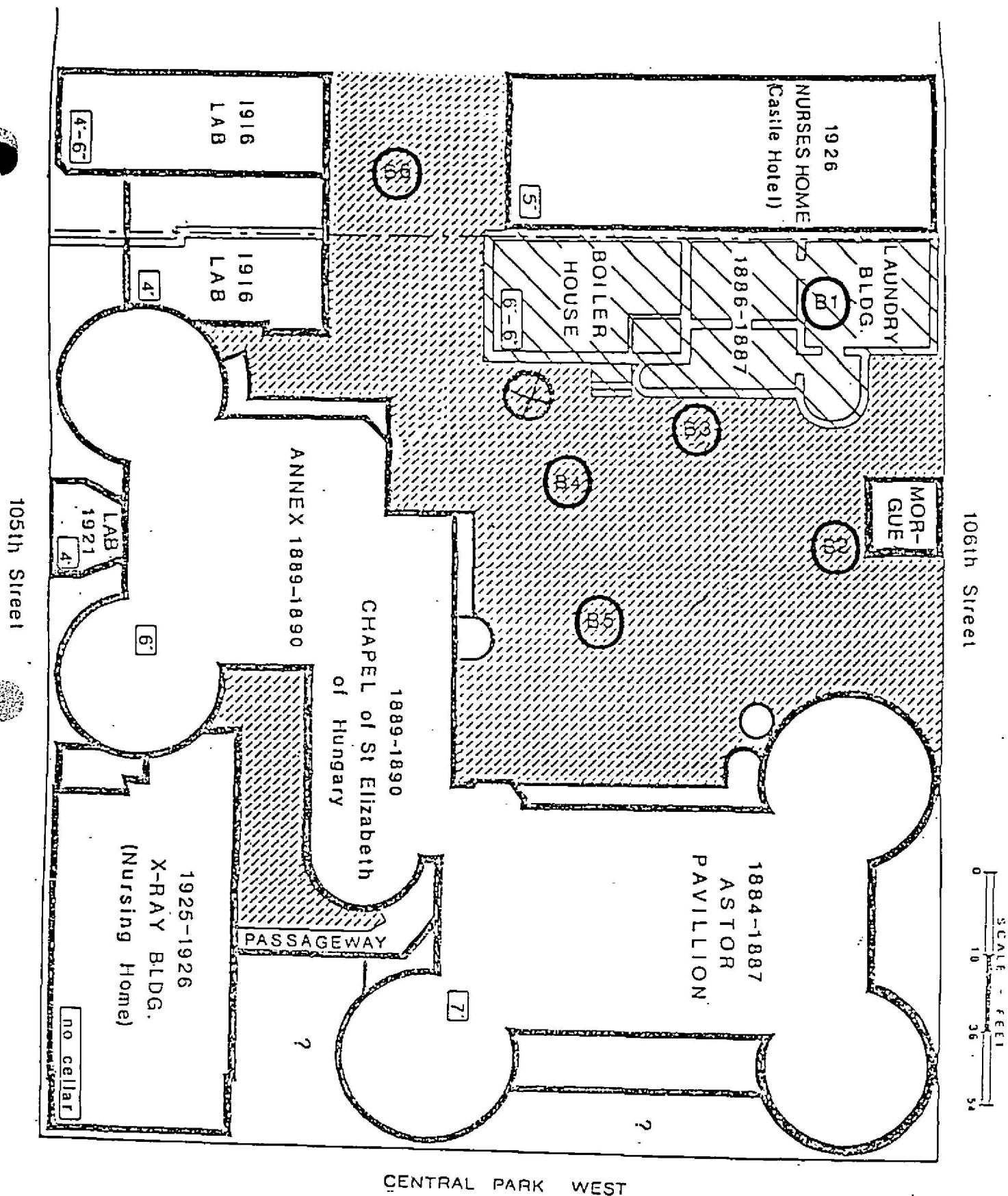


Figure 10

Project sensitivity map showing the date of construction and basement or foundation depths. The hatched areas represent areas of potential undisturbed subsurface deposits. B = boring

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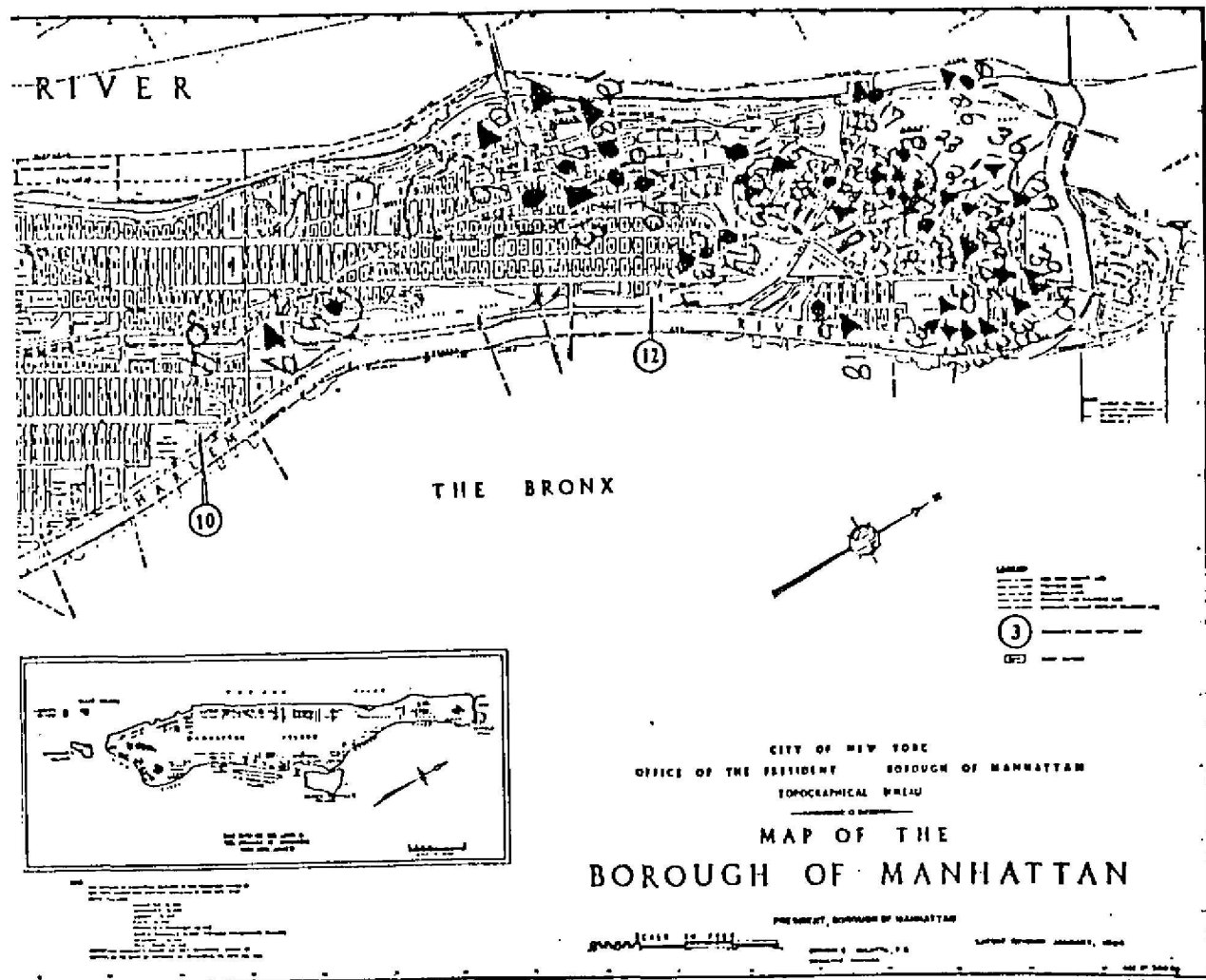
lowing

▲ = Prehistoric Excavations or Finds

△ = Historic References to Prehistoric Sites

● = Revolutionary War Sites or Finds

○ = Historic References to Revolutionary War Sites



KEY TO FIGURE 11
PREHISTORIC SITES

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
1		77th St. and Avenue B			One grooved stone axe	Skinner (ca. 1914:44)
2		81st St. and Hudson River	William Calver		One projectile point	Skinner (ca.1914:44)
3		Near 94th St. & Park Ave.	Historic reference	Possible residence of Rechewac		Bolton (n.d.: 21)
4	"Rechewa's Point"	110th St. and Hell Gate Bay	Historic reference	Possible winter quarters 1675	Shell midden	Skinner (ca. 1914:47), Park (1922:626)
5	Columbia University	Btw. 114th & 120th Sts., Amsterdam Ave. & Broadway			Projectile points	Skinner (ca. 1914:44)
6		Woodlands btw. Harlem Plains & Broadway	Historic reference	Possible winter quarters 1675		Skinner (ca. 1914:47)
7		118th St. and 9th Ave.	William Calver 1889		One projectile point, one stone axe	Skinner (ca. 1914:41)

PREHISTORIC SITES

(ii)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
8		Btw. 120th & 121st Sts., Pleasant Ave.	Excavation for cellar 1885		Projectile points	Skinner (ca. 1914:42), Park (1922:629)
9	"Supposed cave"	157th St. and 9th Ave.	R.P. Bolton ?	Possible cave occupied by Indians		Bolton (1916: 80)
10		172nd St. and Hudson River	R.P. Bolton ?	Possible Indian occupation	Shell midden	Bolton (1916: 80)
11		175th St. and Hudson River	R.P. Bolton ?	Possible Indian occupation	Shell midden	Bolton (1916: 80)
12	Fort Washington Point	Near West 181st St.			Shell midden & potsherds	Finch (1909: 79)
13		Btw. 174th and 181st St., just west of B'way		Possibly occupied/used by Indians	Maize field	Bolton (1916: 80)
14		Btw. 191st and 196th Sts, Amsterdam and St. Nicholas Aves.			"Native Objects" found throughout area	Bolton (1916: 79).

PREHISTORIC SITES

(iii)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
15		Btw. 194th and 198th Ave, Bennett Ave.		Overhanging rocks, possible shelter for Indians		Skinner (ca. 1914:45)
16	Zerrenner's Farm	194th St. and Broadway		Camp site	"Camp site debris"	Skinner (ca. 1914:45)
17	"The Knoll"	SW corner of Dyckman St. & Sherman Ave.	William Calver, John McGuey, Alexander Chenowith	Possible camp site		Finch (1909:68)
18		West bank of Harlem River and 202th St.			"Indian remains"	Bolton (1916:79)
19	Inwood Station site	Foot of Dyckman St. and Hudson River		Occupied from Early Paleo to 1780's	Shell midden projectile points, sherds	Skinner (ca. 1914:45), Pagano (1985:164)
20	Seaman Ave. site	Academy St. and 204th St., Seaman & Cooper Ave.		Middle woodland, possibly early and/or late woodland. Extensive camp site	Shell, stone tools (red jasper), pot sherds	Skinner (ca. 1914:45), Pagano (1985:164)

PREHISTORIC SITES

(iv)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
21	Indian Burial	Seaman Ave.	Uncovered by construction workers	Burial	Female skeleton	Skinner (ca. 1914:52)
22	Indian Burial	Corbett's Garden, btw. Academy St. & 204th St.	1907	Burial	Human skeleton, oyster shell	Skinner (ca. 1914:49)
23	Indian Burial	Near foot of Inwood Hill & Seaman Ave.	Alexander Chenoweth	Burial	Male skeleton	Skinner (ca. 1914:52)
24	Indian Burial	20 ft from 204th St. & Seaman Ave.		Burial	Female skeleton, oyster shell	Skinner (ca. 1914:50-52)
25	Indian Burial	204th St. & Seaman Ave.	William Calver & Alanson Skinner 1908	Burial	Male & female skeleton, oyster shell	Skinner (ca. 1914:50-2)
26	"Old Century" or Nagel property	213th St. & Hudson River	R.P. Bolton & William Calver		Banner stone, projectile points, pestle, paint cup, bone	Park (1922:629)

PREHISTORIC SITES

(vii)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
39	Harlem Ship Canal	220th St., west side of Broadway	1895	Late woodland	Large shell midden	Skinner (ca. 1914:46), Pagano (1985: 162)
40		220th St. and Broadway	1886	Possible Indian camp	Shell midden, projectile points, potsherds	Skinner (ca. 1914:42), Park (1922:629)

KEY TO FIGURE 11

REVOLUTIONARY WAR SITES

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
1		Hudson River to Park Ave., 103rd to 110th St.	Map reference (Johnston's 1897 map)	Possible Rev. War sites	Camp found on the Great Hill, Central Park (see #3)	Johnston (1897)
2		Hudson River and 135th St.	Historic reference	Possible military camp		Bolton (1916: 35-36)
3		Northerly slope of the Great Hill, Central		Military camp	Military objects, fireplace	8th Annual Report of Board of Comm. of Central Par (1865:8-9)
4		152nd St. and St. Nicholas Ave.	Historic reference	Possible military camp		Bolton (1916: 35-36)
5	Washington's Headquarters at the Roger Morris House	158th St. and 163rd St. overlooking Harlem River		Military camp/ headquarters	Military objects	Bolton (1916: 49)
6	Musketeer von Donop camp	From 168th St. to 181st St., from Ft. Washington Ave. to east side of Broadway		Military camp, possible wagon yard	Fireplace, domestic building & military items	Calver & Bolton (1950:3-4), Bolton (1916: 36,60-2)

REVOLUTIONARY WAR SITES

(11)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
7	"Garrison burying ground"	Ft. Washington Ave. and 181st St.		Hessian graveyard		Bolton (1916: 411)
8	Fort Washington	Btw. Ft. Washington Ave. & Pinehurst Ave., 183rd St.	New York Historical Society, Field Exploration Committee, 1922	Fort and outbuildings, refuse areas	Military & domestic objects	Calver & Bolton (1950:43-5)
9		Bennett Ave. & 184th St.	Historic reference	Possible Army hospital		Bolton (1916: 35)
10		Bennett Ave. to Broadway, North of 181st St.	William Calver 1909-12	Refuse area for Ft. Washington & military camps	Military items	Calver & Bolton (1950:3-4, 115)
11	Fort Tyron	193rd-195th St. Ft. Washington Ave.		Fort	Military buttons	Bolton (1916: 40) Calver & Bolton (1950: 3-4, 113)
12		Nagel Ave. to Broadway	1911, excavating for new street	Military hut camp	Firepits, military & domestic objects	Bolton (1916: 130-1)

REVOLUTIONARY WAR SITES

(iii)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
13		192nd St. and Audubon Ave. adjacent to Fort George	New York Historical Society, Field Exploration Committee 1923	Camp	Buttons (military)	Calver & Bolton (1950: 14-17)
14		Fort George Hill, 194th St. Laurel Hill		Camp		Bolton (1916: 45)
15		Arden St. & Thayer St.	Leslie Spier	Military Hessian hut camp	Military & domestic objects, fireplaces	Calver & Bolton (1950:3-4), Bolton (1916: 132-3)
16	Holland Ferry Station	Harlem River shore, 9th Ave., 201st St. & Academy Ave.	1890-3 W. Calver; 1894 construction; 1904 "Systematic Excavation"	Camp	Military & domestic items, bone, shell	Bolton (1916: 185)
17	Inwood Station site	Foot of Dyckman St. & Hudson River			"Revolutionary War materials"	Skinner (ca 1914:45)
18	Dyckman Farm	From Academy St. to 204th St. along eastern part of Inwood Hill to btw. Prescott (Payson) and Seaman Ave.	New York Historical Society Field Exploration Committee ca 1912-15	Military Hut camp of about 12 buildings	Military & domestic items, fireplaces	Skinner (ca 1914:45), Calver & Bolton (1950:11-29)

REVOLUTIONARY WAR SITES

(iv)

No	Site	Approx. Location	Archaeologist(s)	Description	Materials	Reference
19		Seaman Ave. and 204th St. (Hawthorne St.)	A. Skinner & W. Calver 1908	Military camp fireplace	Military & domestic items, ash, wood, charcoal	Skinner (ca 1914:49-50)
20		207th St. & Broadway	Discovered by construction workers ca. 1911	Either burial or battleground; skeleton of Patriot soldier	Skeleton, bullets, buttons	<u>New York Herald</u> article (9/17/1911)
21	"Old Century" or Nagel House	213th St. & Hudson River	William Calver and others	House occupied by the British during War	Military objects found in immediate area	Bolton (1916:196-20)

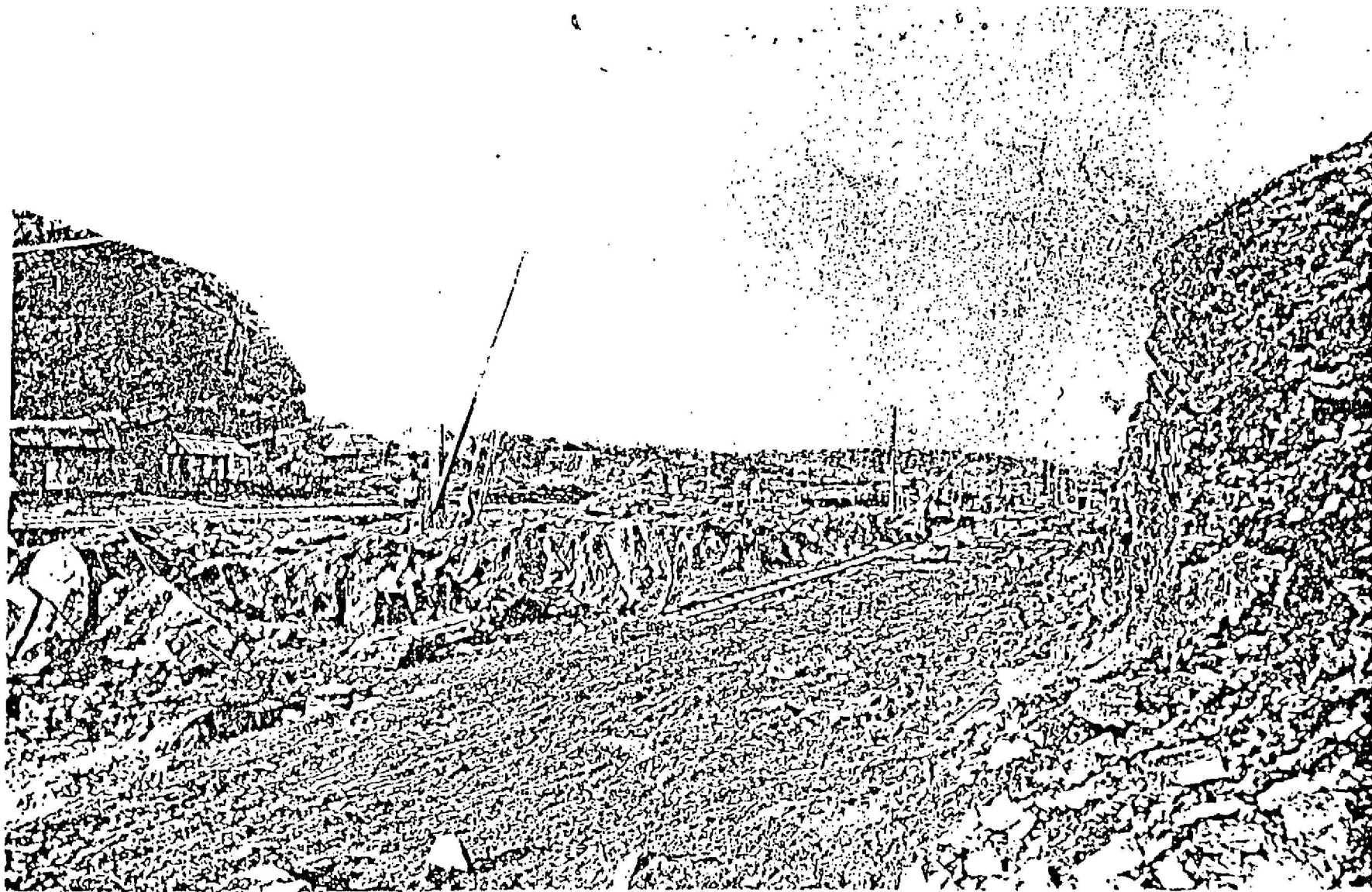


Figure 12

Regulating and Grading Eighth Ave., looking north
from 106th St. ca. 1870 (Central Park West Folder:
Photo Archives of the New York Historical Society)

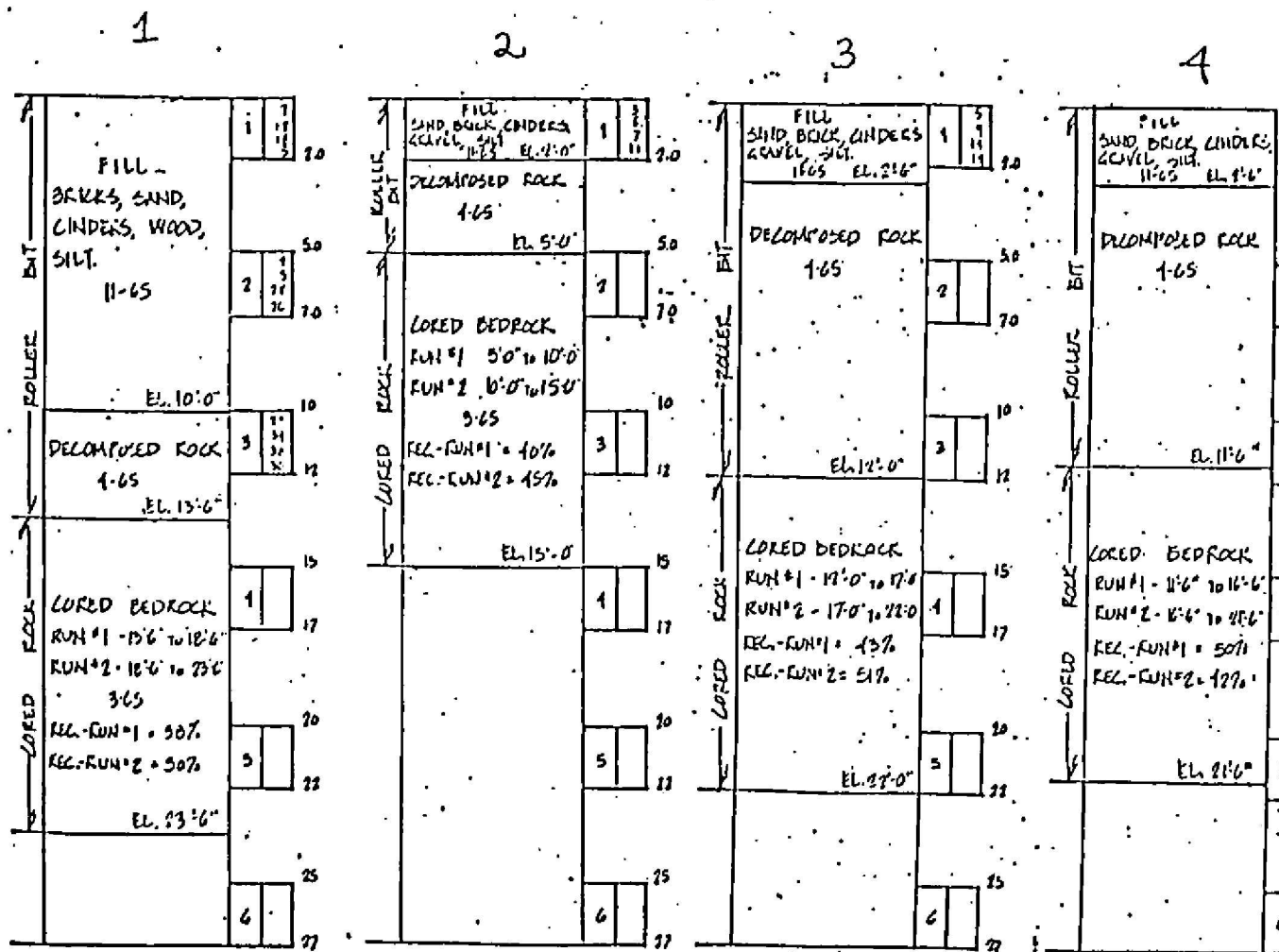


Figure 13

Summary of six engineering split spoon boring logs showing overlying bedrock or decomposed rock to a depth of 2' project parcel.

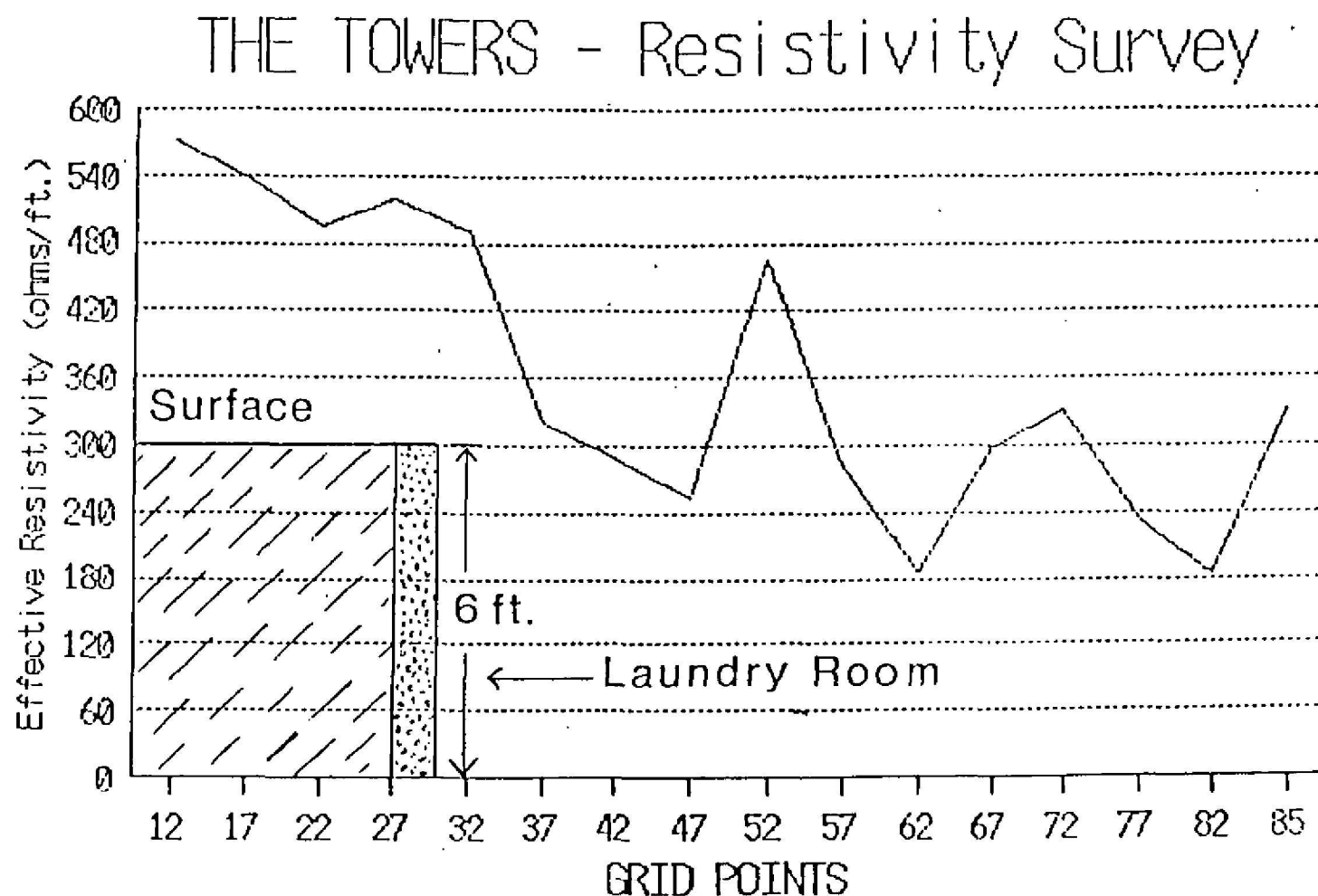


Figure 14

East-west resistivity transect across buried foundation and fill of former backyard laundry room of hospital complex. High resistivity readings correlate with known location of filled laundry room basement.

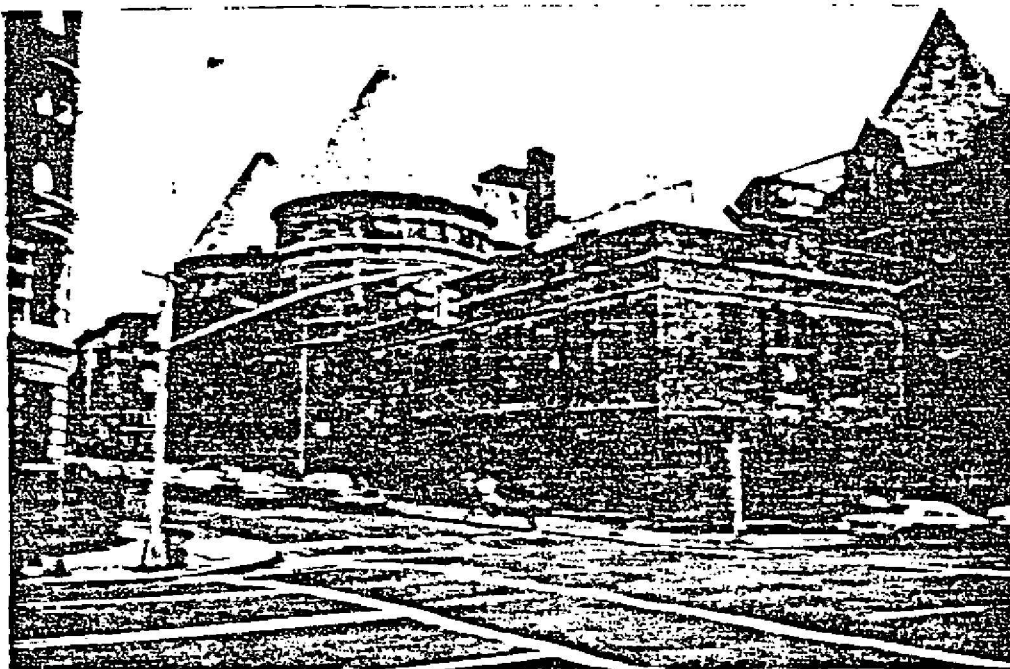


Photo 1: View looking northwest at the corner of Central Park West at 125th Street showing the post 1926 x-ray laboratory.



Photo 2: View looking north on Central Park West showing the Towers on left and exposed outcrop from Great Hill on right.

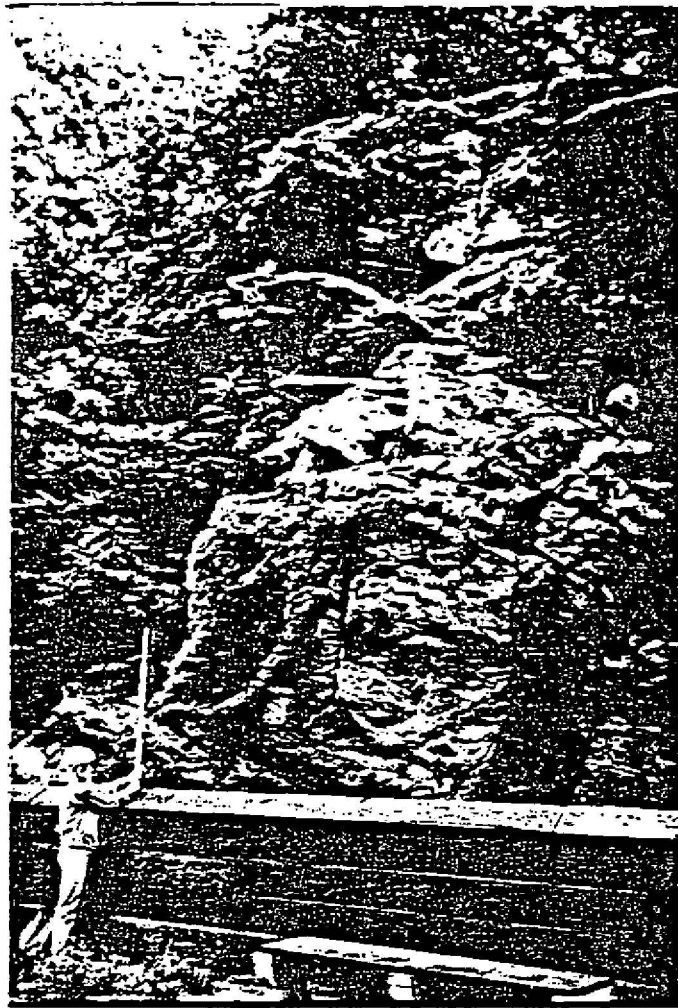


Photo 3: View looking east from Central Park West showing portions of rock outcrop from Great Hill cutaway to Park wall.



Photo 4: Interior 6'-7' basement depth range of the Astor Pavillion at northeast corner of project area.



Photo 5: Exterior crawlway showing 3-1/2'-4' foundation depth on Hospital Annex.

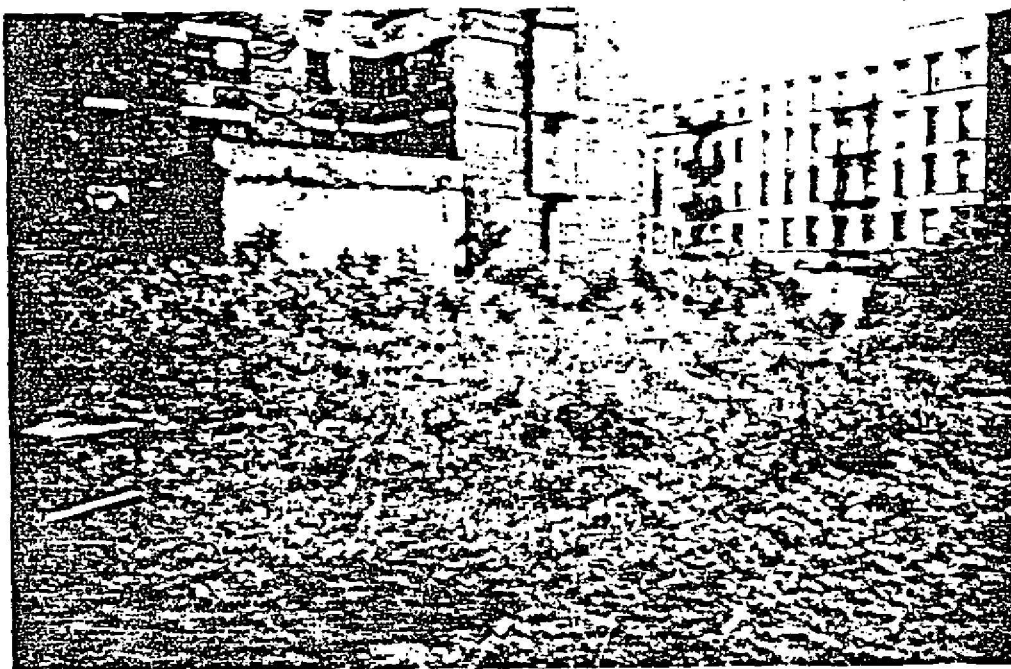


Photo 6: General interior view northwest of interior rear courtyard.



Photo 7: Grossman & Assoc. staff recording resistivity probes in east-west yard area to test remote sensing susceptibility of subsurface deposits.



Photo 8: Detail of GEOM-3 resistivity meter measuring differences of subsurface conductivity in a test to detect the location of now-destroyed boiler and laundry building. As illustrated by the computer generated graph, the survey showed high readings over the former building and generally low readings outside.

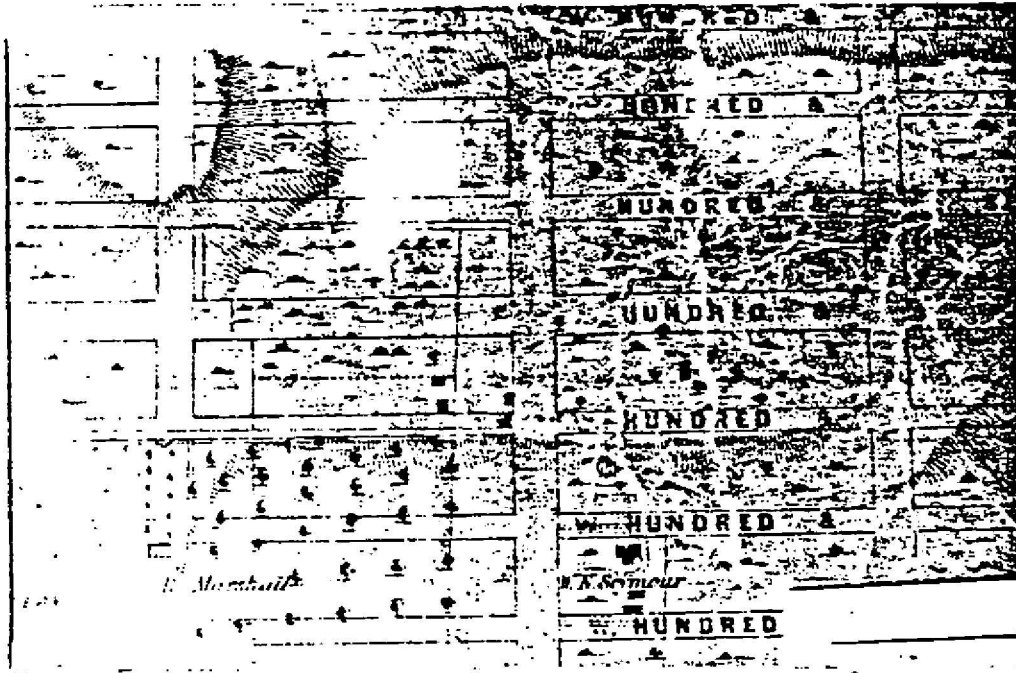


Photo 9: 1851 Dripps' Map showing one structure on project impact area and two structures to the rear. This map is believed to be incorrect and cannot be verified from other sources.

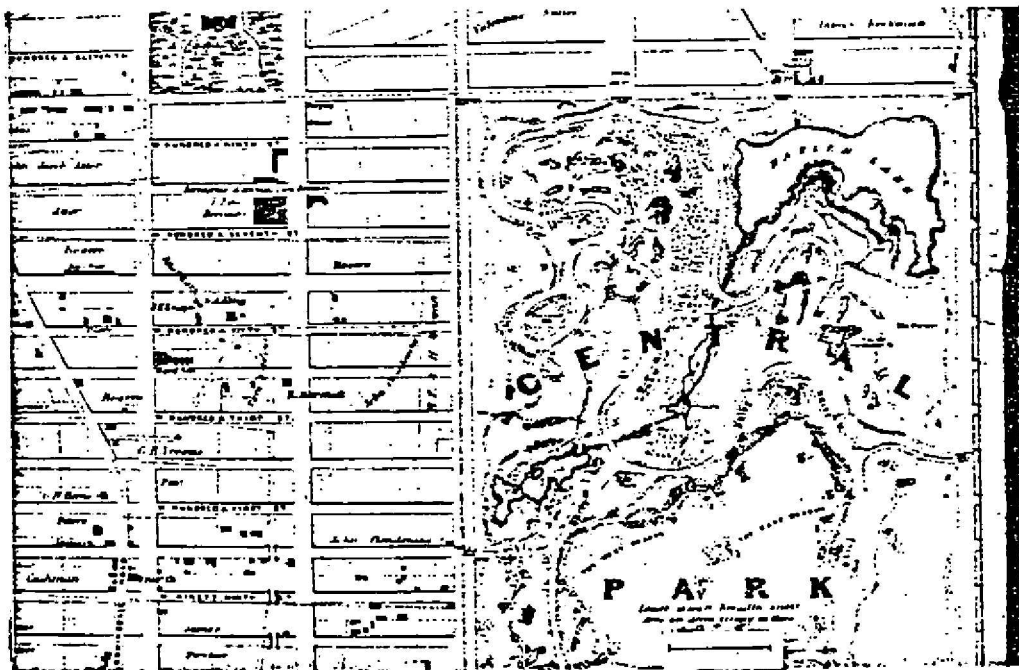


Photo 10: 1867 Dripps' Atlas showing the project impact area in relation to the newly built Central Park.

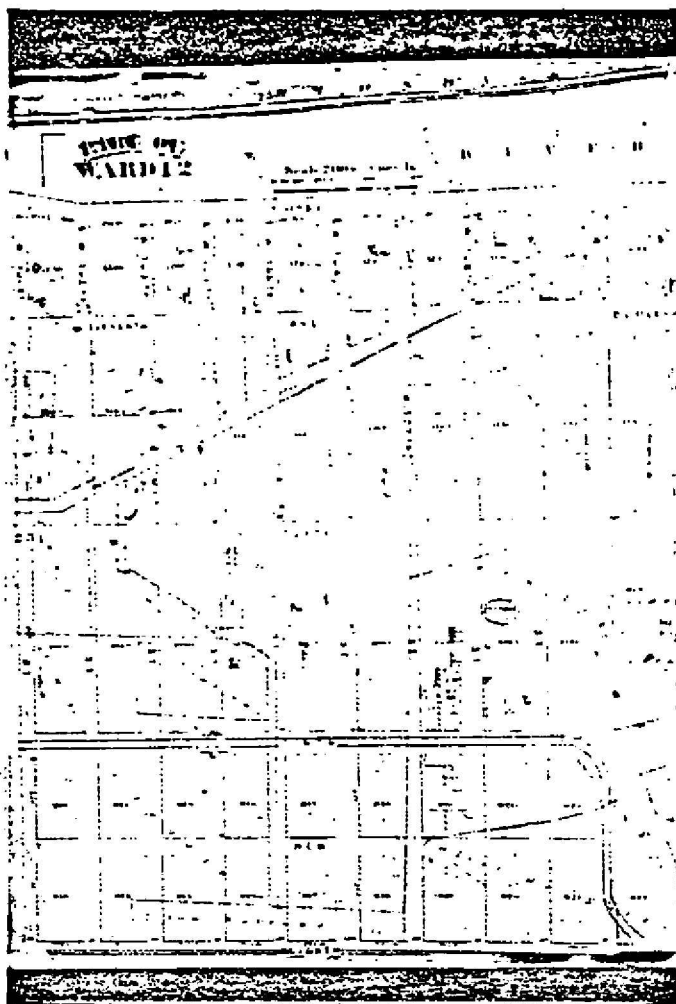


Photo 11: Bromley's 1879 Atlas showing undeveloped project block as Block No. 917 and divided into numbered lots. Atlas shows the vicinity as largely undeveloped at this time. Manhattan Avenue is called "New Street."

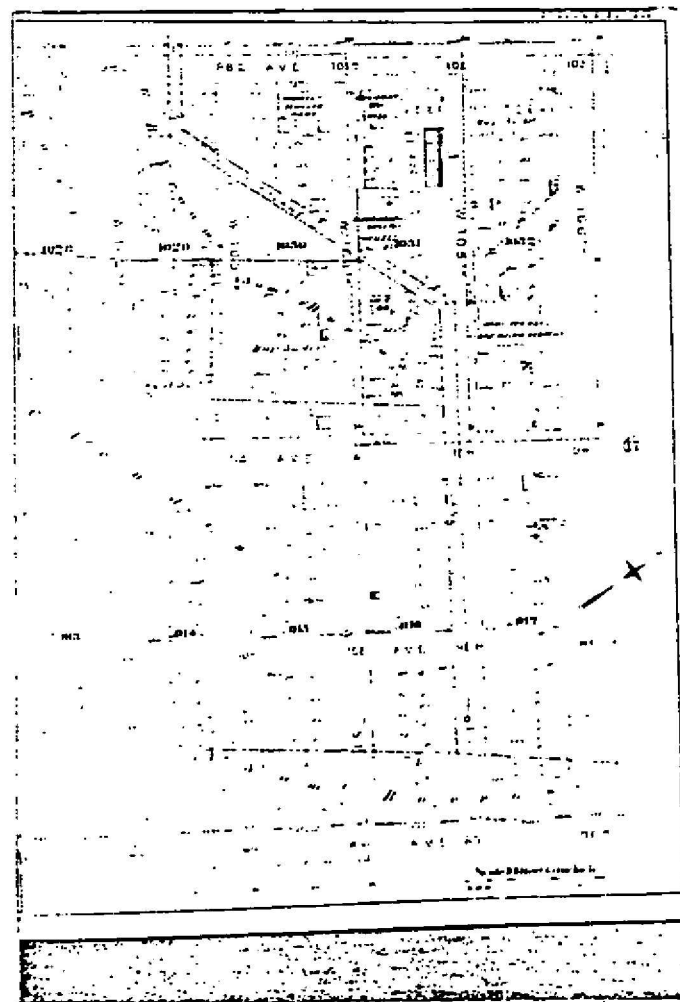


Photo 12: Robinson and Pidgeon's 1884 Atlas showing project area and vicinity as still largely undeveloped.

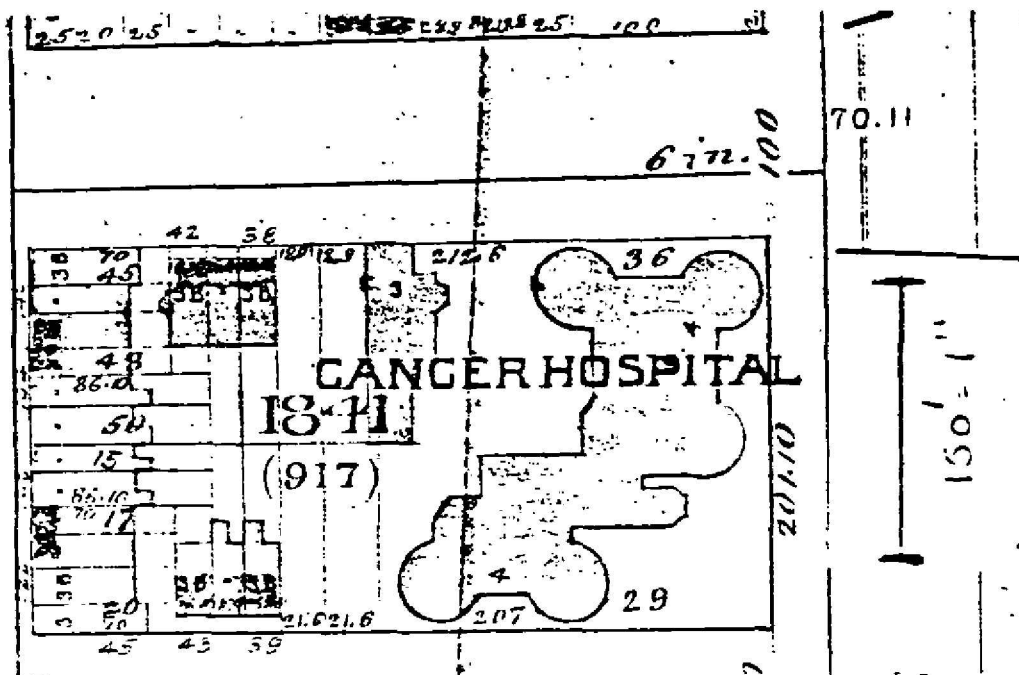


Photo 13: Bromley's 1891 Atlas showing the NY Cancer Hospital complex for the first time, including the Astor Pavilion (4 stories), the Annex for Male Cancer Patients (4 stories), the Chapel and the Laundry/Boiler Building (3 stories). The entire western portion of the block has been developed.

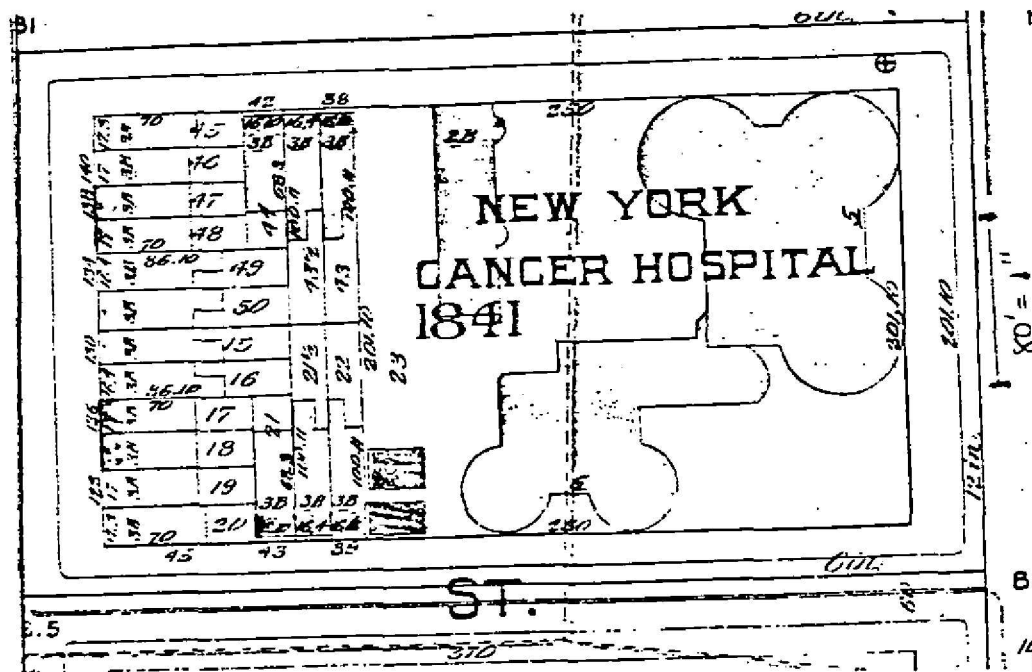


Photo 14: Bromley's 1898 Atlas updated to 1902 showing two iron structures (tool sheds?) behind the hospital complex on site of subsequent lab buildings built in 1916. This atlas shows the main hospital buildings as 5 stories tall, the laundry/boiler building 2 stories tall.

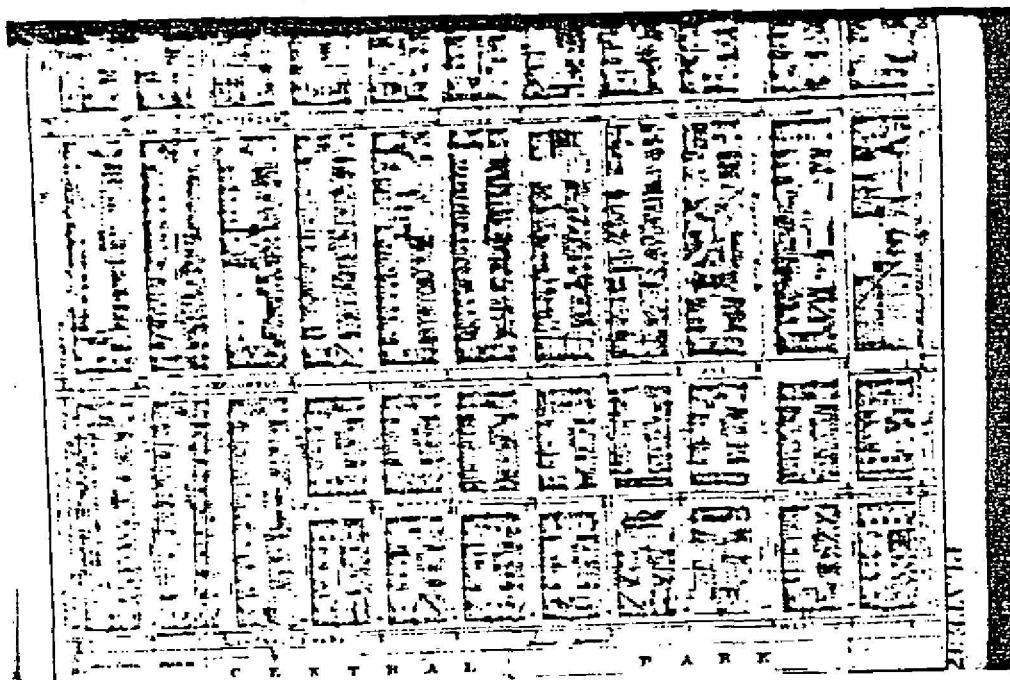


Photo 15: Bromley's 1908 Atlas reflecting rapid development of the upper West Side in the first decade of the 20th century.

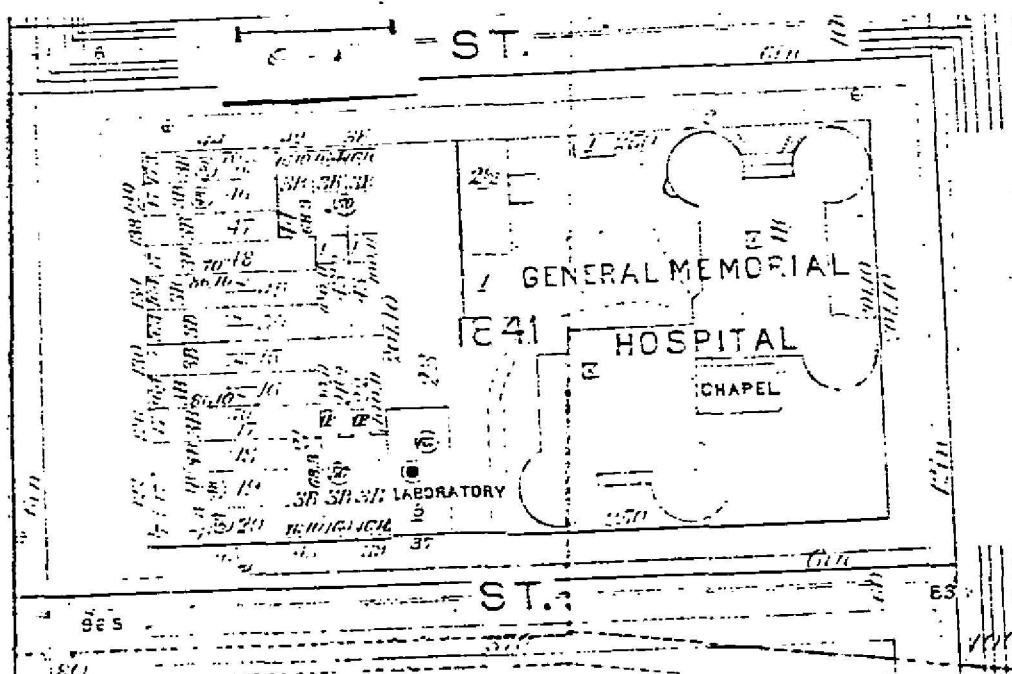


Photo 16: Bromley's 1914 Atlas updated to 1920 showing addition of lab building at 37 W. 105th St., 1 story morgue building on W. 106th St., and walkways.

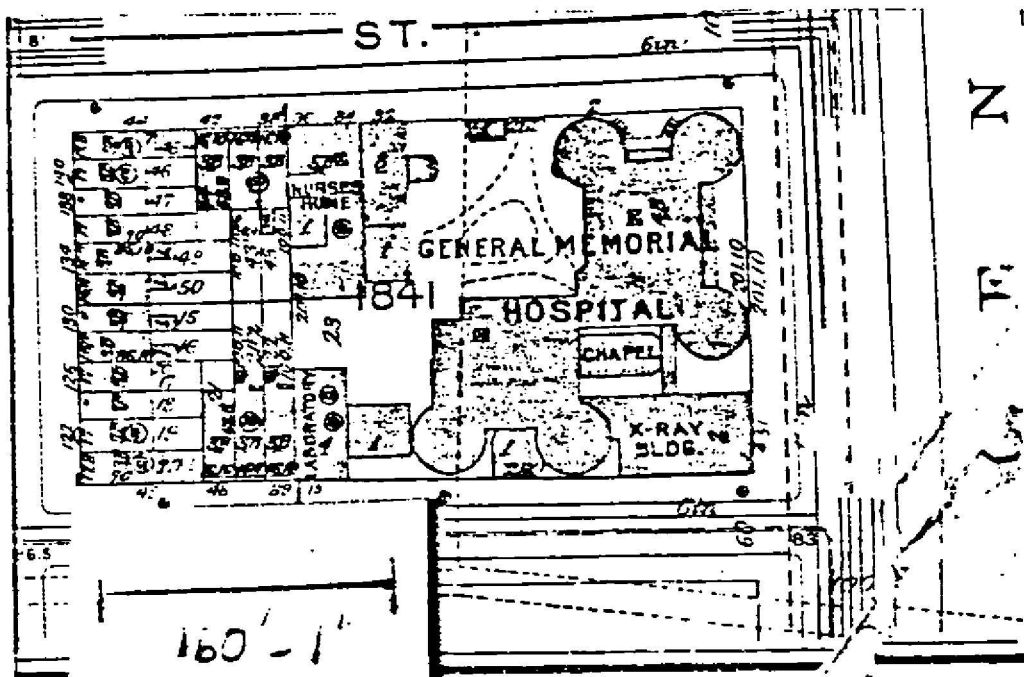


Photo 17: Bromley's 1934 Atlas showing additional buildings erected between 1916 and the 1930;s related to the hospital complex.

APPENDIX I

INDEX OF REINDEXED CONVEYANCES

Grantor	Grantee	Date of Recording	Liber	Page	Lot
No Instruments of Record 1654-1719					
Thomas E. van Huyse (Theunis Eidesse [idens] van Huyse)	Abraham DeLamontains.	March 1, 1720	30	137	"not lotted"
No Instruments of Record 1721-1785					
Margaret Jones, plaintiff	John Jones	March 2, 1786	43	297	Entire Block
No Instruments of Record 1787-1700					
John Jones	Herman LeRoy	Aug. 28, 1800	59	9	Entire Block
No Instruments of Record					
Herman LeRoy	Samuel Borrowe	March 6, 1805	69	121	"not lotted"
Herman LeRoy	Samuel Borrowe	March 7, 1805	69	125	105th Street
No Instruments of Record 1806-1808					

APPENDIX I

INDEX OF REINDEXED CONVEYANCES

(11)

Grantor	Grantee	Date of Recording	Liber	Page	Lot
Herman LeRoy	Samuel Borrow	March 6, 1809	69	121	23
Herman LeRoy	George Arnold	Oct. 13, 1810	89	171	1-64 incl.
George Arnold	John N. Macomb	Oct. 13, 1810	89	176	1-64 incl.
John Macomb	Alexander Macomb	Oct. 13, 1810	89	179	"not lotted"
Alexander Macomb	William Rogers	Oct. 13, 1810	89	182	"not lotted"
Herman LeRoy	John Goodeve James N. Brown	May 18, 1814	105	591	"105th Street, Manhattan Ave."
John Goodeve	John Clendening	May 28, 1814	105	633	"105th Street"
Thomas Bolton, Master in Chancery	Joseph Sands (merchant)	April 13, 1825	189	201	Lot 23
Heirs of Sands	Orasamus Bushnell	May 1, 1835	328	490	23
Orasamus Bushnell	Dwight Browning (broker)	May 2, 1836	353	363	23

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Grantor	Grantee	Date of Recording	Liber	Page	Lot
Master in Chancery	Thomas W. Olcott	Nov. 18, 1841	420	463	23
Carl Klauberg (Cutler)	Filip Werner	Dec. 31, 1841	421	347	23
Francis B. Cutting (Counsellor at Law)	Phillip Werner	Nov. 2, 1849	527	460	23
Thomas Olcott	Richard J. Wells	June 10, 1852	611	111	23
exrs. of James Van Derpoel	Henry F. Morgan	July 12, 1853	644	231	23
Richard Wells	Henry Morgan	July 12, 1853	644	233	23
Philip Werner (upholsterer)	Conrad Backer (upholsterer)	Dec. 2, 1853	639	585	23
Philip Werner	William Klinkel	Jan. 5, 1854	658	138	23
William Kinkel	Ernst Rudolphus Knorr (U.S. Navy)	May 28, 1856	708	609	23

APPENDIX I

INDEX OF REINDEXED CONVEYANCES

(1)

Grantor	Grantee	Date of Recording	Liber	Page	Lot
Philip Werner	Ernest Knorr	Sept. 1, 1856	710	409	23
Plaintiff	Peter Wilson	May 27, 1864	897	629	23
Peter Wilson	Ezra B. Weston	Nov. 26, 1864	921	205	23
Peter Wilson	Frances A. Weston	Feb. 6, 1869	1088	298	23
Ezra B. Weston	James W. Weston	March 7, 1876	1357	336	23
Ezra B. Weston plaintiff	Reuben Ross	March 28, 1879	1489	214	23
Alexander Morgan	Edwin D. Morgan	Dec. 20, 1879	1521	245	23
Henry I. Morgan	Alexander C. Morgan	Dec. 20, 1879	1521	247	23
excrs. Edwin D. Morgan	John R. Syndam	Dec. 15, 1883	1760	320- 333	23
Ernest Knorr	John L. Brewster	April 16, 1884	1774	436	23

APPENDIX I

INDEX OF REINDEXED CONVEYANCES

(v)

Grantor	Grantee	Date of Recording	Liber	Page	Lot
John E. Parsons Henry E. Pellew Joseph W. Drexel	New York Cancer Hospital	Aug. 2, 1884	1816	343	23
John L. Brewster	New York Cancer Hospital	Feb. 6, 1885	1851	197	23
Reuben Ross	Richard C. Voth	Oct. 16, 1890	2350	375	23
Richard C. Voth	E. Clifford Potter	Oct. 20, 1890	2333	473	23
E. Clifford Potter	Henry Gilman	April 24, 1891	2	292	23
Henry Gilman	New York Cancer Hospital	July 13, 1892	9	277	23

APPENDIX II
BUILDING DEPTHS

Location	Foundation or Building Depth	Year	Citation
Lab/Apts. 19(37) West 105th St.	4'6"	1916	NB 301/16
Small "lab" behind Annex for male cancer patients	4'	1916	NB 301/16
Boiler House & Laundry	6'6"	1886	NB 1681/86
Nurses Home (Castle Hotel)	5'	1904	ALT 1904/26
Annex (male cancer patients)	6'	1889	Report of Bldg. Inspector
Irregularly shaped lab 130' from corner of CPW and 105th Street	4'	1957	Elev 152/57
Astor Pavilion	6-7' ("2-1/2-8'")	1884	NB 1477/84

APPENDIX II
BUILDING DEPTHS

(11)

Location	Foundation or Building Depth	Year	Citation
Chapel	unknown	—	—
Emergency x-ray bldg. corner CPW & 105th St.	"no cellar"; "first story on ground"	1926	—
Small 1936 addition behind x-ray building	unknown	—	—
Morgue/Gatehouse	unknown	—	—