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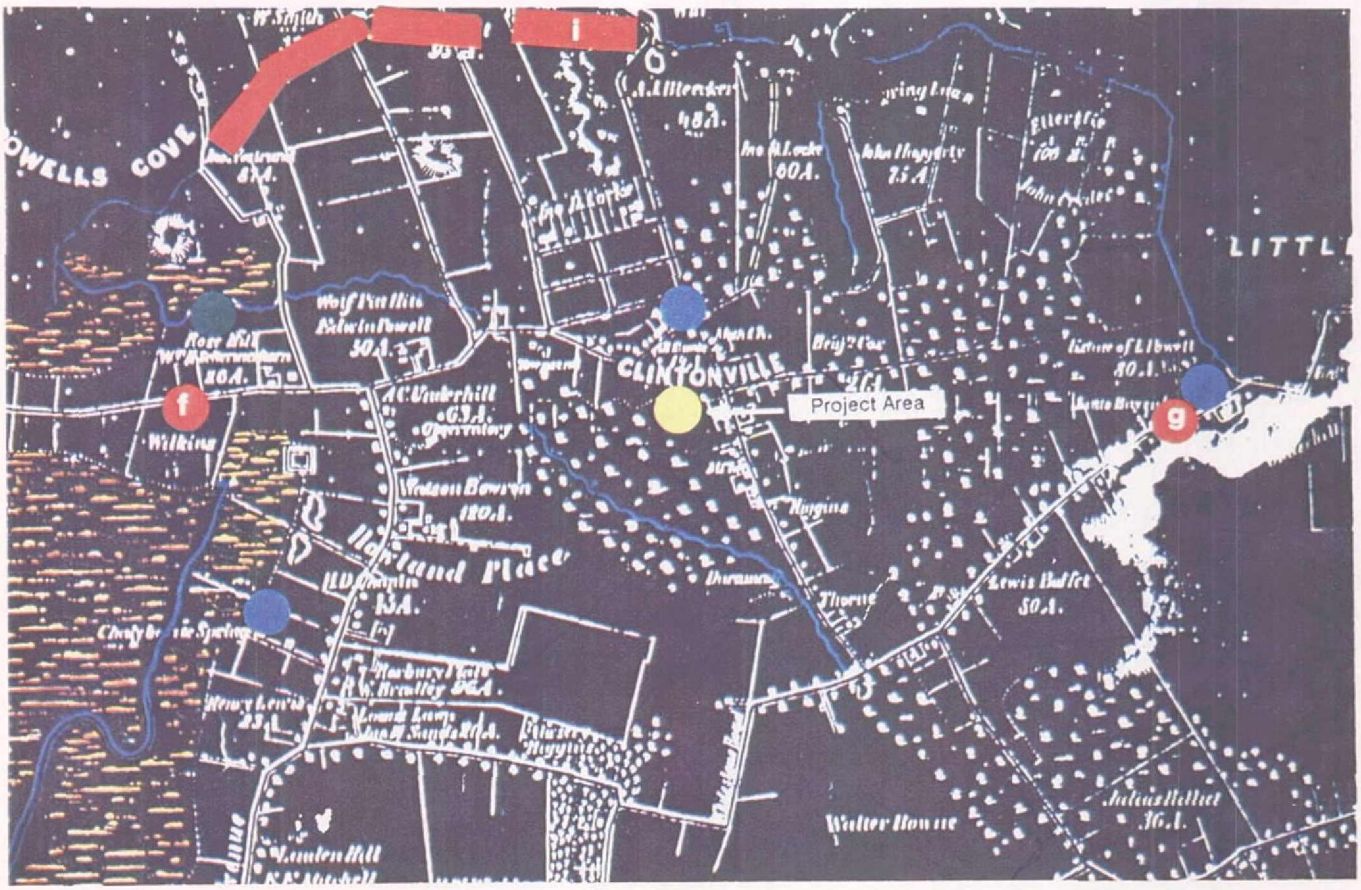
Stage IA Archaeological and Historical Sensitivity Evaluation of the Romano Property (Lot 31, Block 4697)

CEQR Project No. 129-92-CQBSA



Prepared for:

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Queens, NY

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Grossman and Associates, Inc. March, 1993

Executive Summary and Impact Evaluation

This Stage IA Archaeological Sensitivity Evaluation has been conducted in accordance with the standards and guidelines of the New York City Landmarks Preservation Commission. The evaluation is based on the review of published and primary archival records and map sources with the aim of establishing the potential archaeological sensitivity of the 150 ft. by 50 foot Romano parcel (CEQR 129-92-CQBSA) within the Whitestone section of Queens. In addition to the review of relevant secondary sources, historical characterizations of the Whitestone area, and insights from previous cultural resource surveys in the area, this study involved the focused investigation of two main archival and documentary sources to establish the distribution and proximity to the project lot of previously identified historic and prehistoric resources in the area.

The first line of inquiry used the traditional historical accounts, archival and newspaper sources, and the scaled computer generated sequential comparison of 18th and 19th century historic maps to reconstruct the settlement history of the Whitestone area, and the relative age of identified historic resources which formerly existed in, or adjacent to, the project parcel from the 17th century to the present.

In addition to the identification of potential historic resources, the study utilized the historic map depictions of the former environmental setting, land use patterns, former property owners, and roadways to develop a more accurate reconstruction of the location of previously identified prehistoric and contact period Native American sites on the Whitestone peninsula, as well as the distribution of the location of former historic water powered mills, stream courses, springs, and formerly extensive tidal marshes which represented critical resources for both pre-contact and 17th century Indian inhabitants, as well as for the early 17th, 18th, and 19th century European settlements.

In particular, the effort resulted in the ability to define a pattern of prehistoric site distribution which correlated with the availability of fresh water sources in general, and also showed that the pre-contact Indian sites were concentrated, or focused, not simply next to streams, but actually adjacent to the former fastland boundaries of 17th century tidal marshlands, or estuary meadowlands, which were subsequently extensively landfilled and/or drained. This environmentally based settlement distribution study and effort to correlate published archaeological site locations with relative past environmental conditions and historic land use patterns versus the contemporary and much altered urban landscape added a new level of information concerning the location and distribution of what in many cases have repeatedly been reported as ill defined site locations. This effort also indicates that the project parcel did not correlate geographically or environmentally with either any of the resource based settlement distribution patterns in

general, or with any previously identified pre-contact site locations in particular. No known prehistoric sites were identified in the immediate vicinity of the project parcel, nor were any sites found to be located in a comparable environmental zone as the inland project parcel, away from marshlands, streams, and springs which formed the focus of the reconstructed prehistoric site distribution patterns for this section of modern Queens.

The potential historic sensitivity of the project parcel was initially raised by the Landmark's staff due to its location in the vicinity of the early to mid 19th century settlement of Clintonville. However, based on archival and cartographic evidence which document the relatively late date (ca. 1886) of the earliest historic structures relative to the documented date for the introduction of municipal water service (1892), the available sources suggest that the potential for encountering historic cultural resources, specifically cisterns or privies which may have existed in the rear yard areas of the 19th century parcels (which are intersected by modern lot 31) is relatively low. The potential for encountering historic resources is also deemed to be low given the extent and depth of documented 20th century grading operations within the contemporary Romano parcel. Specifically, the topographic reconstruction of the changing landform and surface elevations has graphically documented that the original high ground (with an original surface elevation of 70 to 75 feet) has been graded on at least two occasions, down to depths of between 8 to 10 feet. This level of soil removal would have effectively obliterated what constituted the rear yard portions of the 19th century parcels within which historic features may have been situated.

Based on these lines of evidence, it is our conclusion that the potential for encountering either surviving prehistoric or historic remains within this particular block is very low. No prehistoric sites were identified either within or near the project parcel. For the historic period, given the removal of the former surface deposits, the potential survival through the 20th century would be highly improbable. Likewise, given the late date (ca. 1886) of documented historic structures relative to the availability of municipal water (ca 1892), we furthermore conclude that the potential for encountering historic cisterns or privies is equally low, if they were ever built at all. Therefore, it is the recommendation of this Stage IA Archaeological Sensitivity Evaluation that the project parcel currently contains no demonstrable archaeological or historic sensitivity and does not warrant further archaeological investigation.

I. The Project Setting: Current and Past

The Romano project parcel is currently located within Block 4697, on Tax Lot 31, in the Whitestone section of Queens. The 0.16 acre parcel is oriented approximately north-south, parallel to and west of Clintonville Street, and east of 150th Place. The parcel is irregular, "arrow" shaped, 50 feet wide, 100 feet long along its western boundary, and 156 feet long along its eastern boundary. The property is situated 4,000 feet inland from the modern shoreline, approximately one mile west of Little Bay and the Clearview Expressway, and 4,000 feet east of the Whitestone Expressway in what is the central interior portion of the Whitestone Peninsula. The southern border of the parcel was truncated at an angle of ca. 53 degrees by the construction of the Cross Island Parkway in the 1930's. The east/west alignment of the parkway cut through and obliterated the entire southwest corner of the block and the former 19th century structures which existed along 150th Place. Because of the superimposed alignment of the access road and Parkway, the southern edge of the property measures 95 feet along the access road (Cross Island Blvd.) curbside, and as a consequence defines an arrow shape with the point facing south, and a 25 foot triangular spur off the western edge which forms the barb of the arrow (See Figure 24). Prior to the construction of the Parkway the former 19th century lots were oriented east/west; the modern project parcel (Lot 31) is perpendicular to this original historic alignment, parallel to Clintonville St. to the east and 150th Place on the west. After the Parkway's construction, the lot was reoriented 90 degrees to be roughly perpendicular, and open onto Cross Island Blvd. The north/south orientation of the modern lot configuration crosscuts the rear sections of at least four (east/west) mid to late 19th century lots which were formerly oriented perpendicular to 150th Place.

As detailed below in the discussion of recent 20th century impacts to the parcel, the current surface grade of Lot 31 is presently 10 feet lower than the original 1908 historic grade on the eastern, "uphill", side of the property. The western "downhill" edge of the parcel also indicates extensive prior grading activity and currently ranges between 1 and 3 feet below the original grade. Based upon the comparison of turn of the century maps, the former topographic setting of the study lot originally consisted of a ca. 35 foot high ridge, or hill, above the surrounding terrain which rose from ca. 50 feet in elevation at its western edge, to 85 feet at its highest point ca. 45 feet to the east of the parcel (See Figure 16, and Figure 24). The modern elevation of the existing grade within the parcel suggests that the parcel has been graded down by at least 3 to 10 feet (from contour elevation 76 to 65 feet) below the historic period surface.

In addition to the surface alterations within the parcel, and in addition to the obliteration of the southwest portion of the block from the construction of the Cross Island Parkway in the 1930's, the northern half of the block between the project parcel and 14th Road (formerly 17th Street) has also undergone several major landform changes since the 19th century. The 1908 topographic map of Queens documents that the former roadbed of the post 1868 Whitestone rail spur (formerly situated immediately north of the northern boundary of the project parcel) was cut down as a long trench between 149th and 152nd streets into a 30 foot deep by 100 foot wide channel which was subsequently filled in the early 20th century to form the northern half of block 4697 as it appears today (See Figures 16, 24, and 25).

Despite the density of 20th century gridded streets, residential, and commercial development within the Whitestone area today, and the intensity of late 19th and early 20th century alterations to the historic environmental setting, both the history of human occupation and the landscape history of Whitestone can be traced with some clarity back to the 17th century. Many of the modern streets and avenues cross the north/south east/west alignment of the 20th century grid based street system at odd angles, and in fact, represent the former colonial era roads and in some cases Indian trails which transected the Whitestone peninsula (Bolton 1922). These early historic roads connected the settlements of Flushing on the southeast side of Flushing Bay with Douglaston at the head of Little Neck Bay, through Clintonville in the center of the peninsula. What is today Parson's Blvd. was formerly Whitestone Avenue, which in the 19th century linked Flushing to both Clintonville and the major port in the area at the time at Whitestone Landing on the north shore of the peninsula along the East River. What is today Willets Point Road appears to parallel, or overlap, with a former 17th century Indian trail (Lucas 1962). Finally, the major east/west road, known in the 1850's as the Flushing to Bayside Road, parallels the alignment of a colonial era Indian path which was identified by Bolton at the turn of the century (Bolton 1922).

In addition to the continuity of the 17th, 18th, and 19th century roadways, the former landscape of the Whitestone area was characterized by the location and extent of four embayments which cut into the north shore creating both protected harbors, and rich resource habitats of tidal estuaries and salt marshes, which became the focus of both early historic settlements and, based on the reconstruction of prehistoric site distribution patterns, the focus of pre-contact Native American settlement as well (See Figure 4). Within this reconstructed map based environmental context, the Whitestone peninsula can be described as a broad peninsula facing the East River to the north, bounded on the west by Flushing Bay and Creek, and on the east by Little Neck Bay. In addition to these two major areas of streams, bays, and marshlands, the Whitestone peninsula also was defined by two smaller bays on the north shore of the landform; the first consisting of Little Bay to the east of Whitestone Landing, which formed the eastern boundary of the

Whitestone promontory, and the second consisting of Powell's Cove to the west which is separated from Flushing Bay by a spit of land which is today known as College Point. Each of these East River embayments or coves played a significant role in defining the location of colonial and 18th century settlements by the Europeans, and, as has been reconstructed in this report, the former location of Native American sites in this region as well.

Four major fresh water streams formerly crosscut the Whitestone peninsula, which in addition to a series of freshwater and mineral springs which were mapped in detail on the 1852 Conner-Dripps map, provided both fresh water for the historic settlements, and power for late 18th and early 19th century water powered mills along the course of the streams. On the north half of the peninsula three major streams crosscut the inland half of Whitestone prior to being landfilled or heavily impacted in the mid to late 19th century (See Figure 4). In addition to the primary north/south courses of Flushing Creek, segments of which are still visible next to Shea Stadium, two major tributaries flowed south and east with confluences on the eastern side of the creek. The northernmost of these streams ran from the north through the extensive meadowlands which separated College Point from the main settlement of Flushing. This tributary flowed directly into Flushing Bay near the mouth of Flushing Creek, and was formerly associated with a grist mill in the mid 19th century on the west side of what is now College Point Blvd., formerly Lawrence Street.

The next major stream on the western side of the Whitestone peninsula consisted of a tributary known as Mill Creek, which joined Flushing Creek through Kissena Lake (a mill pond) which is now the property of the Queens Botanical Garden. This major tributary was significant in both pre-contact and historic periods, because it was the focus of what appears to represent a series of prehistoric site locations, and because it formerly provided water power to at least three historic mills, one in the approximate setting of the Van Wyck Expressway at its confluence with Flushing Creek, and the other two, known as the Upper and Lower Mills, 1.5 miles to the east, on the edge of Kissena Lake.

The third stream flowed from the interior, beginning at the intersection of Whitestone Ave. and Clintonville St., and flowed to the northwest with its outlet at the head of Powell's Cove. This stream, also the focus of an historic 19th century mill, was southwest of Clintonville about 1/4 to 1/2 a mile from the project site. In total, the 1852 Conner-Dripps Map documents the location of five historic mill sites of potential archaeological significance to the economic history of Whitestone. While it is often common to project the past environmental context of identified pre-contact Native American sites as being situated along the shores of freshwater streams (Solecki 1941, Pickman 1989), their location can now be shown as more consistently being associated with the edges of the tidal

or estuary marshlands, through which the streams once flowed, often hundreds of yards from the edge of dry land.

In addition to these primary fresh water sources, the landscape of the peninsula in the mid 19th century was dominated by extensive tracts of nursery and garden plots, and by large areas of tidal marsh, or meadowlands, which bordered Flushing Creek and extended to the north between Flushing Bay and Powell's Cove forming an isolated peninsula or near island at College Point. When plotted relative to the 19th century topography, the identified prehistoric resources are consistently found concentrated at the headwaters of these protected zones, associated with the fresh water streams, but more importantly in association with, and next to, the former extent of the tidal marshlands.

II. Potential Prehistoric Sensitivity

The pre-European history of Native American settlement extends back in time over ten thousand years, from at least 8,000 B.C., through to the 17th century (Strong 1983,8). Archaeological evidence concerning the number, location, and cultural characteristics of Indian coastal occupations in this area are limited in coverage to, and predominantly reconstructed from, early to mid 20th century surveys, conducted mostly along the East River shoreline of Queens. From these early sources, and from a number of fortuitous discoveries during construction, it is apparent that the north shore of the Whitestone peninsula and the bay were formally the focus of nearly contiguous coastal shell middens and temporary seasonal encampments. While New York State files show only limited coverage for the area based on sites identified by Parker in 1920, other sources document a number of prehistoric sites throughout the general area of the Whitestone Peninsula. Four early archaeological studies, each attempting to compile and interpret a range of site location and excavation reports produced between 1900 to 1950, have together helped to establish the former location and distribution of a number of archaeological sites bordering the East River shore of the Whitestone promontory and along the fringes of the extensive tidal estuaries and meadowlands feeding Flushing Bay, Powell's Cove, and the headwaters of Little Neck Bay which bordered the Whitestone area (Beauchamp 1900; Parker 1920; Bolton 1922 and 1934; Solecki 1941; Smith 1944 and 1950).

The earliest of these aboriginal settlement studies was published by Beauchamp in 1900, and treated Queens County as the first and westernmost section of the Long Island study areas. As such, many of his opening comments in his discussion of Queens were meant to hold for the rest of the Island as well. In addition to distinguishing three different archaeological sites or areas within Whitestone, between Little Neck and Flushing

Bay, Beauchamp also characterized this north shore section of Long Island as a zone of "frequent shell heaps where natives were ..."feasting of shell fish in the summer but drying large quantities of oysters and clams for winter use" (Beauchamp 1900:137). He noted that Long Island was formally known as the land of shells, or shell beads, by the local Indians, the "Matinecoc's" according to the local Algonquian dialect (Ibid). In his summary, Beauchamp observed that while relatively few large "village" sites are known:

....."in many places shell heaps continuously line the shores of the bays..."(Beauchamp 1900:137).

At the turn of the century, Beauchamp identified three discrete archaeological areas, two consisting of burial sites (Sites 1 & 2), in the vicinity of Flushing, and a third general area (Site 3) covering the entire shore of Little Neck Bay, with a specific reference to Douglas Point near the Douglaston Rail Station. Beauchamp's first site (Site 1) was highlighted because of the 1841 discovery of eleven skeletons which were found in the "Linnaean garden" in Flushing. Although no longer marked as such on modern maps, the 1852 Conner-Dripps map (See Fig. 4 in red), shows a "Hines Linnaean Gardens and Nursery", as well as many other gardens, on the east bank of Flushing Creek and meadowlands, bordering what was then known as Lawrence St., and is today College Point Blvd. This corresponds to the modern intersections of Sanford Ave., and both sides of College Point Blvd. which currently runs along the eastern shore of Flushing Meadows to the west, and the Kissena Arboretum to the south. Beauchamp's second burial site described as a "cemetery" was located a mile from Flushing on the farm of "Thomas P. Duryea". Although not subsequently pinpointed by later authors or regional surveys, the mapped location of the Duryea house and farm from the 1852 Conner-Dripps map, provided the basis for reconstructing the location of Beauchamp's sites relative to both contemporary conditions and the past 19th century landscape.

Aside from these generalized site identifications and locations, Beauchamp also added a caveat that:

....."The Matinecocs had large settlements at Flushing, Glen Cove, and Cow Harbor". Beauchamp did not identify their location on his map, nor did any of his numbered sites correspond with any of these referenced Contact Period ethnohistoric settlements, although Bolton later reported the main settlement to have been located at the site of the Flushing Rail Station (Bolton 1922:182)(See Figure 4,c).

The second of the published site distribution surveys by Arthur C. Parker highlighted the presence of nearly a mile of shoreline as being zones of shell heaps or kitchen middens (Parker 1920). Parker also mapped the location of what he characterized as four discrete Native American sites (numbered 1 through 4 on his 1920 outline map), as well as two other sites that were unnumbered but shown as a symbol representing "camp" sites on the west side of Flushing Creek, and on the east bank of Flushing Creek. Site 1, was a burial ground located south of the Flushing Railroad Station. Parker's Sites 2 and

3, were situated in comparable terrain and denoted with his symbol for a burial ground next to, and east of, the Flushing Railroad Station. His Site 3, located ca. 1/4 mile to the northeast of the Flushing Railroad Station is unambiguously depicted by a "tepee"symbol as being a major village. While Parker did not identify any sites in the vicinity of Whitestone Station, or along the central shoreline area of the peninsula, he did record a large site on the east shore of Flushing Bay. Designated as Site 4 on Parker's map, he recorded the presence of both a village and a burial site situated along the northeast shore of Flushing Bay within what is now College Point. He described the site as being within the E. Platt Stratton estate within which "skeletons were found in 1861, when excavating for the foundation of Knickerbocker Hall." (Parker 1920:672) However, in addition to the text, Parker's map showed two burial and village sites, all referenced as number 4. The relative placement of this site depiction suggests that human remains were recovered in the vicinity of central College Point, and also that a major village site had been previously identified along the shore of Flushing Bay, to the north of College Point proper, formerly Strattonville. Parker's site map showed an unnumbered site, depicted by an "x", which he characterized with the symbol for a "camp site or other indications covering small area" on what formerly constituted the high ground bordering the north side of Flushing Creek and tidal marsh at the inlet of Flushing Bay. Finally, Parker depicted a second unnumbered and undescribed "camp" site on the western shore of Flushing Creek, and a line of middens and "traces of occupation" along the east bank of Flushing Creek, to the south of the eastern tributary which flowed through Kissena Lake. This zone of identified sensitivity correlated with the map based location of a freshwater spring on the east bank of Flushing Creek as depicted on the 1852 Conner-Dripps map (See Figure 4,j).

In addition to including Parker and Beauchamp's previously identified site locations, a subsequent survey of archaeological sites long the North Shore of Long Island published by Bolton in 1934 identified a new site, designated Site 128. Although roughly located in the same shoreline strip of land as Parker's general depiction of a zone of undifferentiated midden for this section of the peninsula, Bolton identified a discrete location on the East River which he described as a "fishing camp" based on the appearance of "shell deposits". Bolton also identified a second site in the Whitestone area, designated Site 129, which appears to represent the same site as Parker's site at College Point (Site 4)(See Figure 4,e). This site is located on both maps due west of Whitestone along the protected eastern shore of Flushing Bay (Parker 1920, Plate 208; Bolton 1934:148; Pickman 1989:3). Finally, Bolton's inventory also included three other sites to the south away from the East River, two were shown next to the Flushing rail line and station on high ground, above, and to the north of, the stream leading into Flushing Bay. Designated Sites 126 and 127, they appear to be the same as Parker's original Sites 1 and 3 in his 1920 survey. A fifth site located next to the tidal marsh of Flushing Bay on the east bank of the estuary was identified by Bolton in the same approximate location of

Parker's earlier depiction of an "X", indicating what he interpreted as a "campsite" (Bolton 1934). This area is close to, or the same as, the projected location of Beauchamp's Site 1 in the Linnaean Garden identified above (See Figure 4,b).

Finally, during and following WWII, two more recent site distribution surveys were published by Smith in 1944 and 1950, and by Solecki in 1941. Both sets of surveys re-identified some of the previously known sites, and added new site locations to the local inventory of confirmed pre-contact period Native American sites. Smith identified three discrete sites within Whitestone between Flushing Creek and Little Neck Bay. Of these, his Site 18, which he called the Grantville site, in College Point was located in the same general vicinity as Parker's Site 4, and Bolton's Site 129 (Smith 1950). However, in his earlier survey, Smith identified a second site which he called Site 2, or the Wilkins site, which was described as being off of Fourteenth Ave. in Whitestone (Smith 1944). As part of an earlier attempt to pinpoint its location in a previous cultural resource survey by A. Pickman, a review of Smith's original field notes established that the "Wilkins" site was actually located "south of 14th Ave. at 142 St. in College Point" ca. 3,700 feet west of the project parcel (Pickman 1989:3). Based on the former predominance of marshland in the south end of Powell's Cove in the mid-nineteenth century, the site was probably located on a mound shown on the 1852 Conner-Dripps map which formed a spit of high ground beside the inlet stream and the cove edge. Based on excavation of 18 pits with artifacts, food remains, and pottery, Smith assigned the site to the Late Woodland, Bowman's Brook phase which he dated to ca. 1100 to 1400 A.D. (Smith 1944:50). However, the recovery of shell remnants from the production of wampum, or beads, has suggested to others that this site may have been occupied through the historic period and was involved with the Contact Period European and Indian production of wampum for exchange in the fur trade (Ceci 1977,Table 1).

The second new site identified by Smith was designated the "Clearview" site (Smith 1950, Site 32). Subsequent comparison with historic maps and deeds pertaining to the former property owners in the area, provided the basis for fixing the location of the site at Willets Point Blvd. and 201st St. on a ridge of high ground along the East River and Little Bay. The site is located parallel to the Clearview Expressway and the western shore of Little Bay, across the bay from Fort Totten. Aside from being located next to a protected cove, this site was also apparently situated next to a fresh water spring (Conner-Dripps Map 1852) and beside a major indian trail which crossed the peninsula between Little Neck and Flushing Bay (Bolton 1922).

When evaluated as a group relative to the location and extent of former 19th century tidal estuary marshlands, streams, and springs which were clearly delimited on the Conner-Dripps 1852 map of Queens, each of the identified Native American sites are found situated on areas of high ground adjacent to protected inlets or shore areas beside

extensive tidal coves and marsh areas. The sites were located on the edge of Flushing Creek at the head of Flushing Bay, on a protected spit of land at the mouth of the stream and marsh zone opening into Powell's cove, and finally next to a spring on the western shore of Little Bay. While extensive areas of shoreline shell midden were formerly reported by Parker along the East River shore north of Clintonville and modern Whitestone, each of the identified occupation sites can now be shown to be consistently restricted to not only the protected crux, or southern ends, of coves next to either springs or streams, but also next to the tidal marshes and meadows (shown on Figure 4 in brown) which covered nearly a third of this section of Queens prior to being landfilled along Flushing Creek and between Powell's Cove and Flushing Bay . Thus in addition to the seasonal exploitation of shellfish along the East River shore during the summer months, several archaeologists have postulated (Ceci 1977), the association of identified "village", "campsite", and "burial" sites with tidal marshlands also suggests the probable importance of both the shore birds which inhabited these tidal zones, and also the material value of these marsh grasses as well. As discussed below, when the Indians officially lost their lands to the European settlers in the early 18th century, the local Indian population retained access and harvesting rights to only one resource, the tidal marsh grasses.

This environmentally based reconstruction of known site distributions in the Whitestone area suggests that none were located in or near the project parcel. Although two of these confirmed site localities, Clearview and Powell's Cove, are located both due east and west of the project parcel, their environmental setting (consisting of marshlands and protected coves) in the colonial period was not matched by that of the inland study parcel. Furthermore, the project parcel's position over half a mile from the East River shore suggests a low probability for encountering prehistoric cultural materials in the immediate vicinity.

III. General Development History of the Whitestone Peninsula

The potential archaeological and historical sensitivity of the project parcel derives from the fact that it is situated several hundred feet from the main colonial road which led through the 17th and 18th century coastal settlement of Whitestone which developed around the Dutch port, or dock, of Whitestone Landing, initially established sometime after 1645. Local histories attribute the establishment of the 17th Century community to a group of Quakers who moved into the area from Flushing following the British takeover of New York (Gleason 1964; Pickman 1989). The small coastal and port related community, initially known as Whitestone, derived its early name from the presence of a large white rock located off shore at a point where the East River and the Long Island Sound meet at high tide. Used by sailors as a local navigation guide, the rock is today reported to have been situated where the 20th century light and buoy were

placed off shore (Lucas 1963:30; Newspaper article n.d., Queens Borough Public Library).

The area's current designation as Whitestone underwent several name changes in the 19th century. For a brief period in the first half of the 19th century the residents voted to change the name of the settlement to Clintonville, after the then Governor of New York State, DeWitt Clinton, who was noted for being both a local resident, and the inventor of one of America's first steam locomotives (The Whitestone Herald, 1944). The community reverted back to its old name of Whitestone in 1854 with the establishment of the first municipal Post Office. The town's first Postmaster, Augustus H. Kissam, was also the original land owner of the early 19th century 14 acre parcel, within which the current project was located (Lucas 1962:10,31; Conner-Dripps Map 1852). Finally, in the last quarter of the 19th century, a section of Whitestone near the shore landing was also known by the name of "Cookie Hill" commemorating the unexpected appearance of a seller of baked goods at the port. According to local tradition and news accounts, sometime around 1875:

> "...a cake and candy woman was carried away from Manhattan by accident on board the steamer Lynneus (other accounts refer to the Throggs Neck Ferry) which was bound up the Sound, and she was put ashore at Whitestone. Disposed to make the best of her misfortune, she walked boldly up the settlement and sold her stock to an idle crowd of men and boys among whom the incident was the subject of great mirth and gossip." (Whitestone Herald Dec. 20, 1945).

Although unverified in subsequent historical accounts, this legend became popular throughout both Manhattan and Long Island and formed the basis for referring to the shore area of Whitestone as "Cookie Hill" (ibid).

Local historical accounts refer to this area as having formally belonged to Indian inhabitants who were referred to as the "Matinecocs" by the earliest Dutch settlers. These early 17th century Dutch farmers are also reported to have "purchased" the fifty acre parcels in exchange for one "strong Dutch axe" for each parcel of land (The Bugle 1950). These early acquisitions by the Dutch were intensified and formalized during the last quarter of the 17th century, and following the British takeover of New York in 1664, with the formal transfer of all Native American holdings in the Whitestone area to the European inhabitants in 1684. As of this date, all lands in the Whitestone and Flushing sections of Queens were acquired through treaty which encompassed all rights and privileges to:

> ..."hunting, hawking, fishing, fowling, feeding, marshes, marsh grounds, woods, meadows, underwoods, waters, ponds, liberties, franchises and permissions to the buyers and successors." (Linton, June 8,1933).

No reimbursements comparable to the traditional Dutch axes were explicitly mentioned, except for one concession which granted:

> ..."That the Indians...have reserved the liberty to cut bulrushes [in the tidal estuary marshes] for them and their heirs forever in any place within the tract of land" (ibid).

By 1724, the local Indian population had been both drastically reduced, and stripped of all lands, and/or access to them, making Whitestone an exclusively European settlement.

In addition to these limited historic accounts which focus on European land acquisition, the local historical record also mentions the fact that the local Native American inhabitants played a key role in supplying the primary currency for the early Colonial settlers through their production of ground shell beads, or wampum. In addition to their use for decoration, the ground and drilled shell beads of periwinkle and cockleshells were sewn into long strands or belts which served as the basic standard of commerce for both the Indians and European settlers until 1691. As of that date, the Colonial Governor, Henry Sloughter, issued the first printed money for New York which also used the Indian wampum as the basic standard against which the paper currency was valued (Linton 1933).

The only other, often repeated secondary historical references to the 17th century economic history of Native American and European interaction, appeared as an oblique reference to the fact that the early settlers noted that the Indians did not appear to place much value on, or take advantage of, local high grade deposits of red clay in the Whitestone coastal areas. These shoreline banks of red clay were coveted by the early Dutch and British settlers because the material turned white when baked and was used by the early settlers for the production of white clay smoking pipes (Linton 1933). By the end of the 18th century, this local resource became a primary source of income from both the manufacture of clay pipes and the sale of lands containing clay deposits by the local farmers. The clay deposits also became the basis for one of the first non-agricultural business ventures in the region, which in turn led to a short term land boom . "...farmers forgot about corn and cabbages to "raise" pipes" (Whitestone Herald, 1945). One early 18th century newspaper account highlighted this development in the local economy by advertizing ..."The widow of Thomas Patrington offers for sale her farm at Whitestone, opposite Throggs point. It has twenty acres of clay ground fit for making tobacco pipes" (ibid).

In the 18th century, the Whitestone area was noted for the presence of both British and American troop movements and defensive emplacements which were manned both before and during the American Revolution. Various accounts tell of the former existence of a shoreline fortification, purported to have been initially built during the French and Indian War and then rebuilt during the Revolution. Located along the shore of the East River and 16th Avenue, later 160th Street, this fortification began as a small defen-

sive redoubt which was first constructed during the French and Indian War, and then expanded by American troops under the command of Reuben J. Munson in 1776, prior to the Battle of Long Island. After the British occupation of Long Island, the defensive position was rebuilt into a larger fortification which incorporated and expanded upon the earlier American redoubt (Gleason 1964; Lucas 1962; Munsell 1882; Pickman 1989). As summarized earlier by Pickman, the fort at Whitestone was subsequently occupied by Col. Hamilton's Loyal Queens Militia, and in 1781 by Col. Janeke's Hesse-Hanau Jager's and the Brunswick and Anhalt-Zerbst recruits (MacMaster 1961:6; Pickman 1989:6). Local news and oral accounts suggest that the ruins of the fort were still visible at the intersection of 16th Ave. and the East River in Beechhurst. The surface remains of this Colonial and Revolutionary fortification were graded and landscaped in the 1920s by the Shore Acres Reality Company in the process of building a large beachfront resort home for an actress which subsequently became known as "Summerslea" (Whitestone Herald Dec. 20, 1945). A later news account of the property printed five years after the Second World War suggested that not only were remnants of the fort still visible, but that also subsurface remains may still survive intact. As reported in 1950,

> ..."The lawns of the beautiful showplace, 'Summerslea,' still show traces of a deep trench, cut...in Revolutionary days by General Howe's troops to make their escape unnoticed by Washington across the way at Fort Schuyler."(The Bugle, March 16, 1950).

For the first two hundred years of its history, the shore settlement of Whitestone existed based on the dual economic foci of being an entry port for the flow of traffic and goods between western Long Island and New Amsterdam in lower Manhattan, and as a predominantly rural farming community which consisted of widely spaced homesteads dispersed among large ca. 50 acre plots of land (The Bugle, March 16, 1950). Until ca.1800 the community consisted of no more than a "dozen" farmsteads and one community store (Lucas 1962).

Ferry service for this predominantly agricultural community was established to Throgg's Neck across the East River by the time of the American Revolution, primarily for the transport of cattle and horse drawn wagons. Later a second "horse boat" ferry was established to Old Ferry Point in Westchester. Both ferries were out of service by the 1850's (Lucas 1962). Rural farming dominated the local economy until the 1850's, when in 1855 the first factory for the production of tin, "Japan" and copper products was established by John D. Locke, which both provided a new and independent source of income for the local residents, and acted as a magnet to spur the growth of non-farming residents in the settlement. With the increase in the non-farming population and given its access to road, rail, and interborough shipping routes, other light industries followed. These mid-nineteenth century concerns included The Hollow Spar and Boat Co., the Forge

Works, a shipyard, the Box manufacturer, and the McWilliams and Keeler Coal Companies (Lucas 1962:9).

During this period, between the mid-19th century and the turn of the century, the local population grew from ca. 3,000, mostly rural, residents to 11,000 people who required better public facilities and services (Lucas 1962:10; The Bugle, March 16,1950). With the exception of the establishment of the first church, a multi-denominational Meeting House established by Samuel Leggett, a Quaker, in 1838, the first publicly funded school house was opened in 1853 (the date attributed to the opening of the first public school house varies according to the source. Lucas stated that "...the first publicly [sic] funded school house was opened in 1853..." [Lucas 1962:6]. However, a prior newspaper account appearing in the March 16, 1950 edition of The Bugle reported that "Whitestone's first public school was erected about 1818." [The Bugle, March 16, 1950]), the first post office in 1854, and the first volunteer fire company, the Hook and Ladder Co. in 1871 (Lucas 1962).

The demographic and economic growth of Whitestone accelerated with the extension in 1868 of the Long Island Railroad off of the main spur to Whitestone Landing where the steamers from Manhattan docked and passengers could then travel by rail to other sections of Long Island. This development is of immediate relevance to the study parcel because the expansion of the rail line required extensive grading through the higher ground between 159th and 154th St. As depicted on the 1908 Topographic Map of Queens, this grading effort involved the excavation of a 150 foot wide by 1,200 foot long trench to a depth ranging between 30 and 50 feet below grade (Lucas 1962:10) (See Figure 16). This large post-Civil War rail trench ran parallel to, and 100 feet to the south of, 14th Road (formerly 17th Street). It originally ran through the northern half what later became Block 87, currently Block 4697, which encompasses the project parcel (Lot 31). The northern, or rear end of the lot, abuts the southern edge of the former rail road embankment. Now landfill, its construction obliterated all resources in the northern end of the Block.

IV. Block Specific Developmental History

The settlement history of Block 4697 was traced through the comparison of mid to late 19th Century historic map depictions which begin with detailed coverage of the 1852 Conner-Dripps map of Queens (See Figures 4, and 5). This early depiction shows what is today Clintonville Street (a.k.a. 11th Avenue) and 14th Road (formerly 17th Street) as a major intersection along the primary artery which ultimately led to Whitestone Landing. At this time, 14th Road (formerly 17 Street) was also the principal east to west roadway linking the cove at Little Bay to the east, with Clintonville in the center of the

peninsula, and to what would become College Point (then called Strattonport), a planned development of gridded streets in what was formerly the Stratton Estate bordering the east side of Flushing Bay.

The 1852 Conner-Dripps map shows what would become the project parcel in the center of a 14.1 acre rectangular tract of land bordered by Clintonville Street (a.k.a. 11th Avenue) to the east, and 14th Road (formerly 17th Street) to the North. The future location of the project parcel corresponds with the letter "T" in Clintonville. Although not individually named or numbered, this low resolution map clearly documents that at least one structure bordered Clintonville Street (a.k.a 11th Avenue) near its intersection with 14th Road (formerly 17th Street). No structures are shown in the center of the 14.1 acre parcel, originally owned by Kissam, within which the current Romano parcel lies (See Figures 5, and 6).

While the Conner-Dripps map shows extensive development on the north side of 14th Road (formerly 17th Street) and the east side of Clintonville Street (a.k.a. 11th Avenue), no other structures are depicted within the parcel as of 1852. No indications of any lot subdivisions are apparent at this time.

The next available depiction of the area, the 1859 Walling Map (See Figure 7), shows the same general pattern of settlement in the area with two lines of structures along the east side of Clintonville Street (a.k.a. 11th Avenue) and to the north of 14th Road (formerly 17th Street). As was the case for the earlier 1852 Conner-Dripps map, the Walling map showed only one structure on the west side of Clintonville Street (a.k.a. 11th Avenue), outside of the project area, as of 1859 (See Figure 8).

The next detailed block and lot specific map coverage jumps in time to the 1873 Beers Atlas (~~See Figure 11~~). As of 1873, two major developments are apparent for the original Kissam parcel. The block was then designated Block 87 (modern Block 4697), and was shown as subdivided into a series of east-west rectangular parcels with the northern end of the block bisected by the post-1868 Whitestone Railroad line. The north end of the property abutting 14th Road (formerly 17th Street) was shown as belonging to the railroad company with a small structure on its eastern edge facing what is now Clintonville Street (a.k.a. 11th Avenue). All of the initial lot subdivisions were depicted south of the railroad right of way with a central property line common to all lots running north - south down the center of the block. In addition to a parcel of railroad property, with a structure immediately adjacent to the railroad line, only three lots were shown with property owners' names or structures.

Figures 9 + 10

For the eastern series of lots facing Clintonville Street (a.k.a. 11th Avenue), the third lot from the corner was shown with a residence as being owned by Collins. To the north, a large rectangular block of lots was shown in the possession of Kissam, the

original owner of the property. The final lot on the eastern side of the block shows the presence of a square structure but with no property owner's name shown associated with it.

On the western side of the block, a number of lots were shown subdivided along 150th Place (formerly 10th Avenue). Only one, a large rectangular parcel, is shown with indication of ownership as belonging to A.J. Provost. No other lots, except for the thin parcel next to the railroad belonging to the railroad company, are shown with either names of owners, structures, or lot numbers as of 1873.

When overlaid to scale relative to modern lot and block designations, the project parcel shown in yellow (See Figure 10) constitutes an arrow shaped slice of land which borders the center line of the block subdivided on the east, and the railroad company to the north. Accordingly, this modern parcel subdivision alignment crossed the rear of 19th Century lots. Both the 1873 depiction and the later maps make it clear that the shape and orientation of the modern project parcel is offset by 90 degrees from the traditional late 19th Century lot alignments. This current north/south configuration came about only after the construction of the Cross Island Parkway. The 1873 map evidence suggests that no historic structures were present within the parcel as of this date.

The next most recent map depiction of the project area was represented by the 1886 Sanborn Insurance Map (See Figure 11). Despite the earlier subdivision of the property, the 1886 Sanborn map shows the presence of the first confirmable residential structure on one of the historic east-west lots facing 150th Place (formerly 10th Avenue) which are transected by the Romano parcel. As of this date, the 1886 Sanborn Map shows the presence of three structures in three equally spaced east-west lots designated with Street Address/Lot numbers as 711, 712, and 713 which were subsequently intersected by the north/south orientation of the Romano parcel. Lot 711 became what was later Lot 31, Lot 712 became Lot 32, and Lot 713 became what was later Lot 34. Lot 714 next to the old railroad property appears to have become what was subsequently Lot 36 on the 1926 Belcher Hyde map (See Figure 15).

Based on the 1886 Sanborn map, three late 19th Century structures shown along 150th Place (formerly 10th Avenue) were present within lots which were subsequently crosscut by the Romano parcel. Lot 711 (Lot 31) showed the presence of a two story dwelling with a single story addition in the rear. Lot 712 (Lot 32) showed the presence of a 2 1/2 story dwelling with an unmarked rear single story extension. The rear portion of this lot overlapped with the "head", or barbed southern end of the Romano parcel. Two lots to the north, Lot 713 (Lot 34) shows the third extant building consisted of a single story addition at the rear and the added feature of a kitchen housed in a separate structure, behind the center portion of the residence, however both were to the west of the western boundary of the Romano parcel. No other structures are shown belonging to

property which either abuts, or overlaps with, the subsequent north/south configuration of the modern Romano parcel.

In addition to these two structures, and of immediate relevance to the potential survival of the historic cisterns and privies, the 1886 Sanborn map also clearly shows the presence of 4 inch waterlines down 150th Place (formerly 10th Avenue) and down the center of 14th Road (formerly 17th Street) as of this date. It is not clear from the available map data whether these lines represent "as-builts" or instead, the projected location of proposed watermains as of 1886.

The subsequent 1891 Wolverton map (See Figure 12) lacked both street address and lot numbers and also did not depict the proposed waterlines shown on the earlier 1886 Sanborn Map (See Figure 11). The 1891 Wolverton map shows the names of three property owners in three of the east-west lots fronting 150th Place (formerly 10th Avenue). The first of these lots was shown as being owned by M. Wormes, which was subsequently renumbered as Lot 31 on the 1926 Belcher Hyde map. The second of these two lots was shown as being owned by J. Fowler, a parcel which was subsequently renumbered as Lot 32 on the 1926 Belcher Hyde map. The next lot to the north, corresponding with what became Lot 34, was shown belonging to W. Hulin. No ownership was depicted for the northernmost parcel which was subsequently designated as Lot 36 on the 1926 Belcher Hyde map. Based on the limited information depicted on the 1886 Sandborn map, the Wormes, the Hulin, and the Fowler parcels correspond with the three residences suggesting that these parcels had been continuously occupied from 1886-1891, but with no additional development on adjacent parcels (See Figure 13).

Following the 1891 Wolverton map, the next most recent lot specific map depiction was represented by the 1903 Sanborn Insurance Map (See Figure 14) which showed the same structures in Lots 31, 32, and 34 as were first shown on the 1886 Sanborn Insurance Map. Each of these structures was depicted with the same number of stories, structural details, and out building configurations as the 1886 map suggesting that Sanborn may have copied the data from the earlier depiction. This version of the Sanborn map shows the alignment of 4 inch and 6 inch water pipes down the center of each street which were all shown as dashed lines, again leaving open the question of whether they represented existing "as-builts", or instead projected watermains.

Finally, the 1926 Belcher Hyde map (See Figure 15) is significant for a number of reasons, most important of which is that this map showed the revised (as of 1979) as well as the former block designations. The 1926 Belcher Hyde map is also important because it depicted for the first time the impact to the block from the construction of the Cross Island Parkway, partially completed in 1939, and shown on the 1979 revision of the 1926 map. This revised, or altered, rendition of the original Belcher Hyde survey map shows the western edge of the service road bordering the Cross Island Parkway cutting at an

acute angle from east-west across what was once Lots 31, 32, and 34, each of which was impacted by the construction of the Cross Island Parkway. Lot 31 was completely obliterated or cut through by the service road construction. Lot 32 suffered ca. 84% destruction of its western end, leaving only a triangular sliver surviving within the south-western end of what became the Romano parcel. Lot 34 was truncated at an angle across its western end which shortened it by some 70-75 ft. The westernmost lot, Lot 36, was largely unaffected by the Parkway construction and was the only parcel on the 1926 map which showed a structure present within any of the lots facing 150th Place (formerly 10th Avenue).

When scaled to the lot alignments of the early maps, it is apparent that the structure on Lot 36 was chronologically and structurally different from and much later than the three previously identified residences in what were formerly Lots 31, 32, and 34. Thus, this building represents a relatively recent addition which clearly postdates the 1903 Sanborn Insurance map, and may in fact postdate 1926, as the Belcher Hyde 1926 map was revised as of March 1979.

Based on this comparison of historic map data, it is apparent that the earliest residential structures appear to have dated to at least 1886, survived in place to at least 1903, and were then destroyed, as a result of the construction of the Cross Island Parkway in 1939. The maps also indicate that the structure in Lot 36 was located in a different lot than the earlier structures. Based on the fact that no residence was depicted on this lot on any earlier maps, it can only be surmised that this structure postdates 1903; and as discussed above may, in fact, postdate 1926. Because this lot was shown as being vacant prior to 1926 and because the municipal waterlines appear to have been installed by at least 1892, or slightly later, it can be assumed that this structure was connected to the street watermains and would not have required cisterns or backyard privies. However, given the 1886-1939 time frame of the earlier structures, the question of the potential presence of cisterns and privies is contingent on two historical variables: 1) the date of the availability of the municipal waterline hookups on 150th Place (formerly 10th Avenue) relative to the documented age of these three structures, and 2) the nature and severity of subsequent impacts to these former rear yard parcels from the subsequent grading and cutting operations which took place on at least two occasions within the Romano property.

V. The Historic Water Supply and the Issue of Cisterns:

The survey of the general economic and demographic history of the area helps to define the age and range of any potential resources which may have existed in or near the project parcel. In addition to the map and document based reconstruction of the parcel's

developmental history, it is the history of the local water supply which provides one of the primary bases for projecting the potential historic archaeological sensitivity of the parcel. The date of installation of the municipal water supply, and the dates of house-to-house hookups with piped water relative to the age of any structures within a parcel can help to establish the potential presence of historic water related features. Specifically, given the widespread use of circular stone and brick cisterns (which were generally located immediately adjacent to the rooflines of structures) for the collection of rain or well water prior to the advent of municipal water service, the timing of historic water-main installation and domestic hookups in turn determine the potential for encountering such historic features in association with any former dwelling locations. If the documented presence of a structure predates the advent of piped water hookups, the potential exists for encountering such features, with the cisterns generally located next to the structures and the privies located in the rear portions of the property. If, however, the documented presence of dwellings can be shown to postdate the installation of piped municipal water, the potential for encountering such features is significantly lower, aside from the separate issue of any subsequent impacts to the property.

The generic issue of cisterns versus the availability of piped water is complicated for this area of Queens due to the former availability of numerous wells and natural freshwater and mineral springs which once existed throughout the Whitestone peninsula, between Flushing and Little Neck Bays. Local histories of the area suggest that privately dug wells represented the main source of water supply until the third quarter of the 19th century (Lucas 1962:15). One of the well known community wells which was a prime source of water for Clintonville in the mid-nineteenth century was reported to have been located at 10th Ave. and 17th St. (Lucas 1962:15). Although its precise location could not be pinpointed, this general reference places it in the vicinity of the corner of 150th Place and modern 14th Road, most probably to the north side of the intersection, to the northwest of the project block.

The history of water supply in Queens was also heavily influenced by the number of springs which were documented in past news accounts, local histories, and by otherwise unpublished depictions on historic maps, specifically the 1852 Conner-Dripps map. One local newspaper account from The Bugle in 1950 contained references to an old mineral spring near the intersection of Whitestone Ave and 14th St., adjacent to a small access road which was named Spring Lane located nearly a mile to the west of the project area. Although not represented on modern subdivision and street maps, this mineral spring, known for its high iron content, was clearly marked on the 1852 Conner-Dripps Map (See Figure 4). Known as the Iron Springs, an early chemical evaluation by a nineteenth century chemist, Dr. Chilton, M.D., concluded: " This is purely tonic water and commends itself to the attention of the medical men having patients under their charge who require the invigorating effects of iron when administered in the most efficient state of

Combination." (The Bugle 1950). The Municipal Water Department tried in the 1920's to include this source in the municipal supply, but was forced to shut down their wells when the residents complained that the iron rich water stained their clothes with rust (ibid).

Although these often cited references to the two springs have been used repeatedly to characterize the availability of nineteenth century water supplies in the Whitestone area, the use of earlier mid-nineteenth century maps has also documented the former presence of a large number of additional springs on the peninsula which provided fresh water for both the early European settlers and the Native American inhabitants before them. Specifically, in addition to the two springs referenced above, the 1852 Conner-Dripps map explicitly identified five other springs in the area which were not commonly referenced in the subsequent published accounts. Three were located adjacent to Flushing Creek and its eastern tributary, Mill Creek, which ran through Kissena Lake, one along old Whitestone Ave, and the last near the western shore of Little Bay (See Figure 4). Together, these springs provided a much broader and diversified range of fresh water sources than has been commonly recognized for the area when evaluating the potential location and distribution of Native American sites and early 17th and 18th century European settlements. While not the single determining factor, this added line of information highlights the need to utilize historic map sources when attempting to project the potential archaeological sensitivity of an area, beyond the often redundant references contained in traditional accounts of prehistoric settlement history for this and other, now densely populated urban areas.

For this section of Queens, the history of the municipal water supply underwent several permutations before the Village of Whitestone was incorporated into the City of New York by the Act of Consolidation in 1898 (White 1987:44). Through the consolidation of Queens with Manhattan, the new borough was provided access to, and began to be supplied by, Manhattan's Croton System of reservoirs in the Croton, Delaware, and Catskill watersheds, all connected by 12 to 15 foot wide rock tunnels deep underground (ibid).

Prior to the hookup with the Croton system, both for Manhattan and for the outer boroughs, the availability of, and reliable access to, potable water was both limited and problematic. The problems faced by Queens residents before the hookup of municipal water, were also faced by other areas of the metropolitan area, including Manhattan. As one account portrays, the problematic availability of a reliable water supply was inconvenient, unsavory, and a clear and present health hazard up until the mid-19th century for Manhattan, and until the 1880's for the borough of Queens. As depicted by Talbot Hamlin, in his Greek Revival Architecture in America, and as quoted by White in his more recent history of New York's infrastructure:

"New York's shortage of water up to the time of the completion of the Croton aqueduct [accounted for the shortage of water closets and plumbing in the metropolitan area]...Privies in the rear of the back yard, often connected with the houses by attractive wooden colonnades or trellises or porches, were standard even in large and expensive New York houses until the 1840's" (White 1987:46).

The function and domestic consequences of pre-piped water supplies is further characterized by White in his "New York, A Physical History" as follows:

"Prior to the Croton's coming, water for washing and other household uses was collected through leaders from the roof, which emptied into underground backyard cisterns. Unfortunately, the nearly contiguous privy permeated the ground, sullying these private [water] reservoirs. Drinking water was brought by itinerant vendors whose tank carts delivered door to door..." (White 1987:47).

As White points out, the privies were, as a rule, located in the rear of the parcel, the cisterns near the corners of the houses within reach of the roof gutters. Thus given the portion of the Romano parcel across the rear of the three late 19th Century lots, any historic features would probably have been restricted to privies, while the cistern would have been outside to the west of the Romano property line associated with the former house location.

It is therefore seen that prior to the installation of piped water systems with house to house hookups, 18th and early 19th century dwellings in both Manhattan and Queens were characterized by the common occurrence of cisterns in association with the dwellings and rear yard privies which are now archaeological features. Because of the problem of water contamination and the aging of the water collected in a cistern, and due to the propensity for privies to fill over time, it was not uncommon for these structures to have been upgraded and replaced on a number of occasions throughout the tenure of a residential structure's history of occupation, a factor which often led to the occurrence of a number of such features, each filled with historic refuse and cultural materials relating to the period of use and abandonment. Therefore, as relatively short term recepticals of refuse and artifacts, these historic archaeological features also commonly represent a primary source of information on the cultural, ethnic, and economic status of the occupants. The documentary and map based process of reconstructing the date of initial municipal water hookup relative to the age of the historic structure therefore becomes a prime variable in determining the potential historic archaeological sensitivity of parcels within and adjacent to historic districts such as the mid-nineteenth century settlement of Clintonville.

While no specific documents concerning the date of water hookups to the original east-west lots along 150th St. were identified in the literature search, it is clear that piped water was being supplied to the area residents as of 1892. However, as past news ac-

counts make clear, the establishment of a Municipal water company was neither smooth or free from claims of wrong doing. The move to supply water through a publicly funded waterworks was initiated by the attempt to let a $45,000 bond in July of 1891 (Lucas 1962:16). Despite an early injunction, and published claims that a municipal Water Works would cost $4,000 annually, versus $2,000 from a private contractor, the move to a publicly funded water works prevailed, and by 1892, the town Water Works was in operation (Lucas 1962:17).

As stressed above, the potential presence of backyard cisterns for the collection of water can often be determined by establishing the date of the installation of municipal water hookups, relative to the age of historic structures identified within the study parcel. If the earliest historic structures predate the installation of municipal water pipes and house hookups, the possibility for encountering cisterns and on-site wells for water collection exists. If they postdate, or are roughly contemporaneous with the date of municipal water supplies, the potential in significantly reduced. For this specific area and project parcel, the potential for the presence of historic cisterns is accordingly deemed to be relatively low. The earliest evidence of residential structures within the former lot area has been established as of 1886, as depicted on the Sanborn Insurance map of that date. While this map shows either existing or proposed water pipes in the streets, it is unlikely that water was actually supplied by municipal lines until after 1892, when the Municipal Waterworks was established. 1873 - 1892 is the 'window'

Therefore, based on the identified primary and secondary sources, it can be established that the earliest late nineteenth century structures with rear lot segments that overlapped in space with the realigned Romano parcel were present at least by 1886, and that the maps which indicated this date also indicated the presence of planned or already installed water lines in the street fronting these parcels. While the graphic depiction of water lines in the street does not necessarily imply that they were either installed or hooked up as of this date, if not however, the local municipal water supply was providing water through public watermains within five to six years of this date following the establishment of the Municipal Water Works in 1892.

Thus, if present, any cisterns for the collection of rain water for domestic use which may have been present would have had to been built within a six year period between 1886 and 1992, and therefore would have been in use for a very short time, if at all. Furthermore, the presence of a public well or spring at the northeast corner of the project block at the intersection of 150th Place and 14th Road, raises the question of the need for individual cisterns in the area at all. Sold by horse drawn wagon vendors, this local supply may have in fact precluded the need for individual rear yard cisterns, at least for the immediate vicinity of the public well. Finally, even if once present in the rear yards of the three ca.1886 residences which formally overlapped with the current north-south

privies?

orientation of the Romano parcel, the documented removal of some ten feet of soil in the 20th century would have, in all probability, obliterated any traces of all cisterns which once may have been present.

VI. 20th Century Alterations and Impacts

In addition to the reconstruction of the past settlement history of Block 4697 in general, and the project parcel (Lot 31) in particular, the potential archaeological sensitivity of the parcel was evaluated for 20th century alterations and impacts to the original topography of the lot relative to the projected rear yard location of potential historic 19th century features (i.e. privies). Three lines of evidence were used to reconstruct the landform changes between the original historic topography and modern surface conditions. The "original" surface topography was derived from the 1908 contours depicted on the 1921 street map of the Borough of Queens (Section 57) as revised in 1953 (See Figure 16). The degree of alteration to the project parcel between this period and 1987 was documented on a survey plan for Lot 31 which was provided by the applicant, and showed topographic elevations as of May 26, 1987 produced by R. Hayes, a licensed surveyor. The most recent representation of current topographic conditions was taken from a 1988 boring plan which showed the location and elevation of two boring holes and a percolation test pit within the parcel (See Figure 17).

When compared in profile, the composite computer generated east/west and north/south transect reconstruction of past and current site elevations, performed by our office, documented that the project parcel was severely impacted by at least two prior episodes of deep grading and land alteration. As depicted by the 1908 contours on the Borough of Queens street map (section 57) and rendered in the computer generated composite profile, the original surface topography sloped east to west from 74 to 67 feet in elevation. The north/south profile along the long access of the project parcel ranged between 76 and 74 feet in elevation as of 1908. The two most recent survey and boring plans document that at some time after 1908 the project parcel was altered through grading and soil removal to a total depth of 3 to 10 feet. The 1987 survey plan, shows that the surface of the lot had been graded down to between 71 - 72 foot elevation contours, which indicated the removal to a depth of three feet below the original grade throughout the parcel (See Figure 25).

Following this initial episode of alteration, the elevations depicted on the subsequent 1988 boring record document that the parcel was subsequently graded down to between 65 and 66 feet in elevation along the north/south profile, an absolute drop of ten feet between 1908 and the current 1993 elevation. This extreme soil removal resulted in a loss of ten feet on the east side of the parcel and one to three feet on the western edge

of the parcel. The area of deepest soil removal corresponds with the former rear lot sections of the original east/west 19th century lots. Thus if any historic remains were present, only the lower segments, deeper that ten feet below the historic 1908 surface could have survived.

Given the fact that the 1908 contours appear to reflect the "original" historic topography, and given the lack of any evidence of 19th century landfilling in the immediate area, the two episodes of grading operations suggest strongly that both the prehistoric and historic topography has been heavily impacted through the process of vertical soil removal. Given these documented impacts, and that despite the fact that no confirmed prehistoric or historic remains were identified for the rear sections of the project parcel, it is our judgement that the potential for surviving prehistoric or historic cultural material is very low.

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Figure 1 A 1981 false color infrared air photograph of Queens taken from an altitude of 22 miles documenting the density of urban development, with areas of green vegetation rendered in red [source: NASA, EROS series].

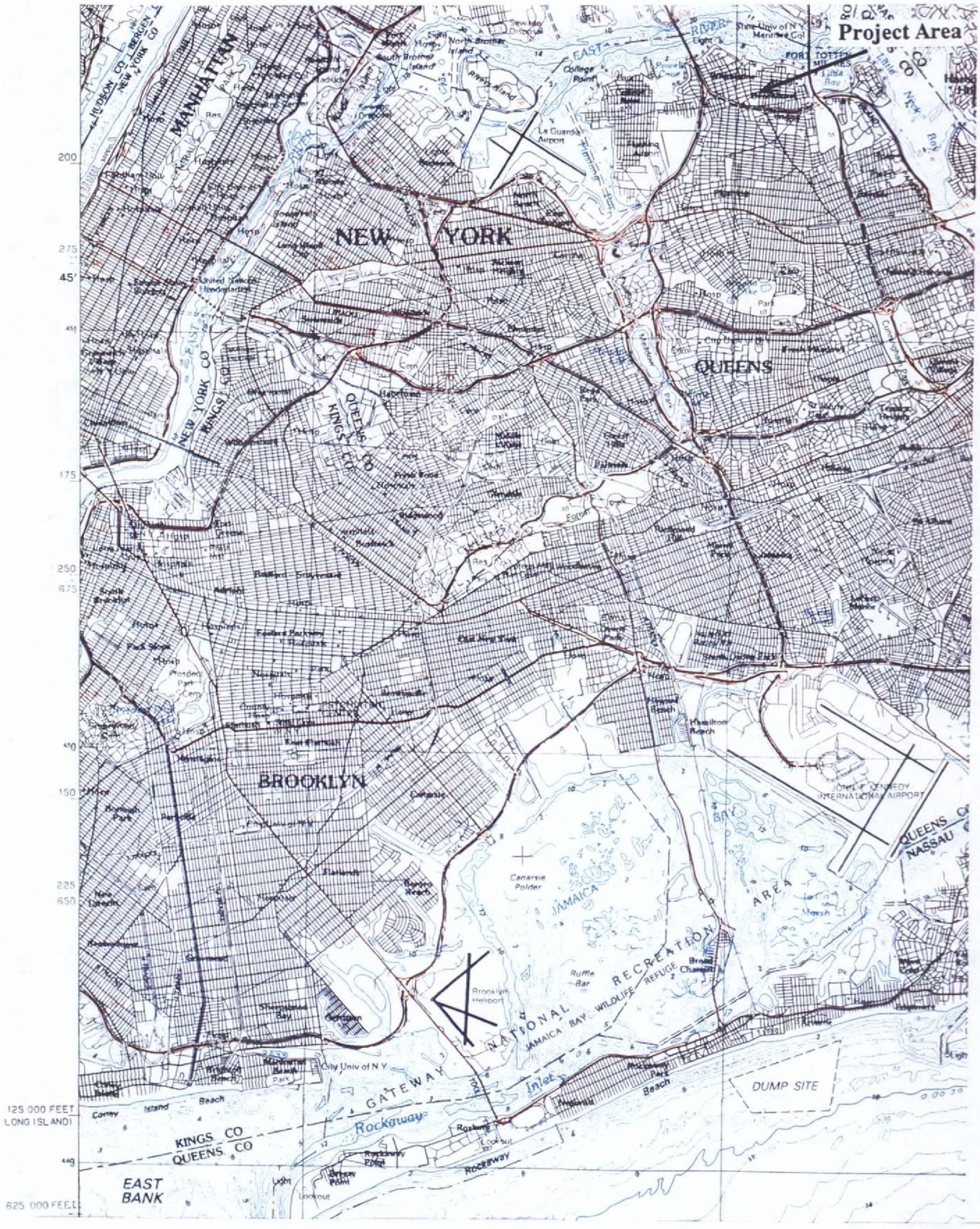

Figure 2 A 1984 NOAA map of the Long Island Sound showing the project area relative to Manhattan, the East River, and the south shore of Long Island.

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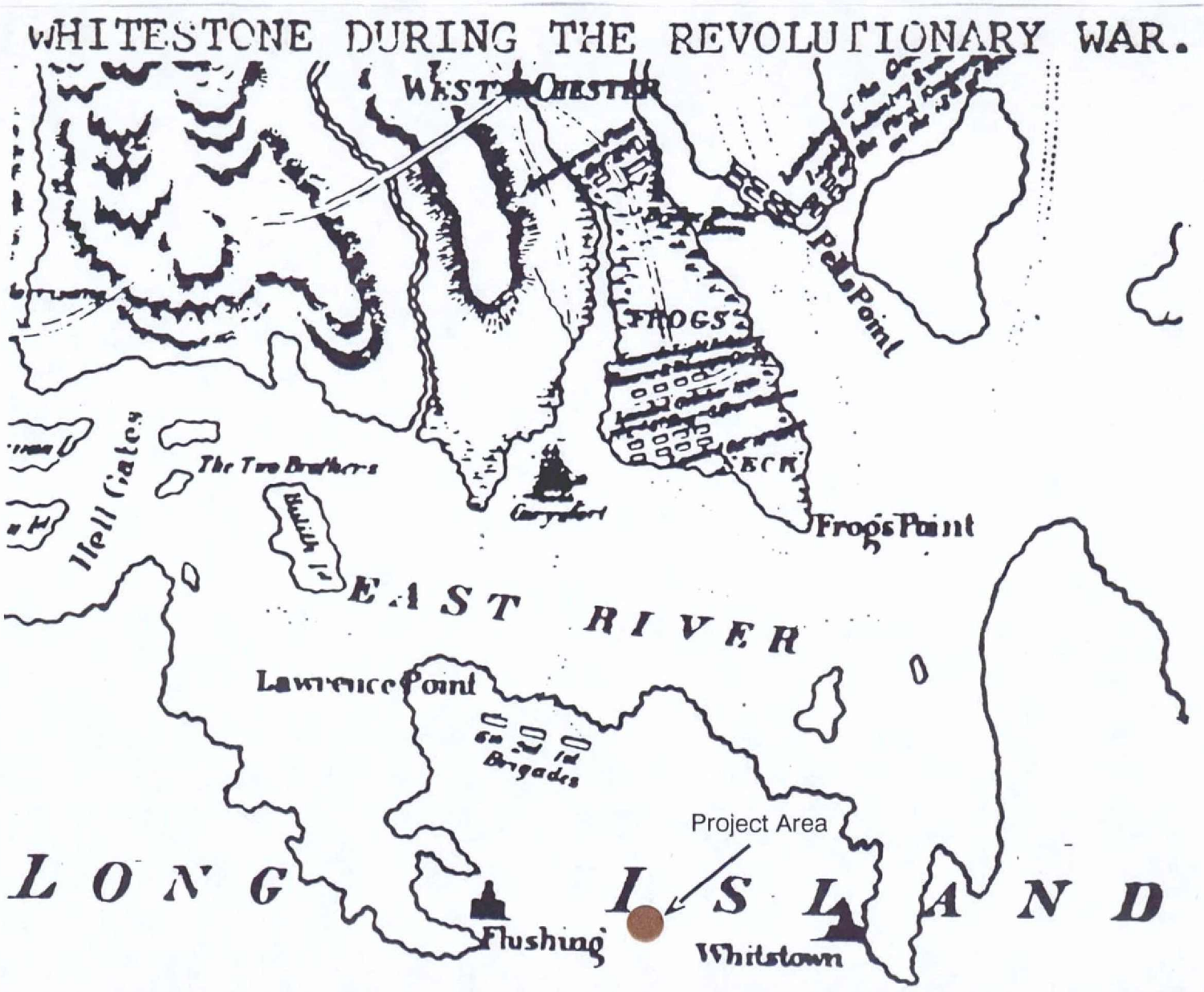

Figure 3 Enlargement of an original 1777 Faden map depicting the location of British Hessian brigades between Lawrence Point and Whitestone, to the west of the project area, prior to their embarkation across the East River to attack American forces at "Frogs Neck" (Throggs Neck) in October of 1776. [New York Public Library]

Figure 4 A 1:1 reproduction of the 1852 Connor-Dripps map of Long Island showing Clintonville in relationship to the Long Island Sound, early roadways, streams, marshlands, and surviving forest areas. Because of the clear depiction of the 19th century environmental and landscape features, as well as roads and property owners, this map was used to reconstruct the location and distribution of previously ill defined archaeological sites (red), historic water powered mills (green), fresh water and mineral springs (blue), shoreline shell midden deposits (red rectangles) and the Project Area (yellow) (see Table 1 for the prehistoric site reference key).

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Table 1 : Prehistoric Sites Reference Key

	Beauchamp, 1900	Parker, 1920	Bolton, 1934	Smith, 1944/1950
A	Site 1, Linnaean Garden	Site 1	Site 127	
B	Site 2, Thomas A. Duryea	Site 2		
C		Site 3	Site 126	
D		Camp Site "X"	Flushing Bay	
E		Site 4	Site 129	Site 18, Grantville Site
F				Site 20, Wilkins Site
G				Site 32, Clearview Site
H		Camp Site "X"		
I	Shell Heaps	"Traces of occupation"	Site 128, Fishing Camp	
J		"Traces of occupation"		
K	Site 3, Douglas Point (not shown on Figure 4)			

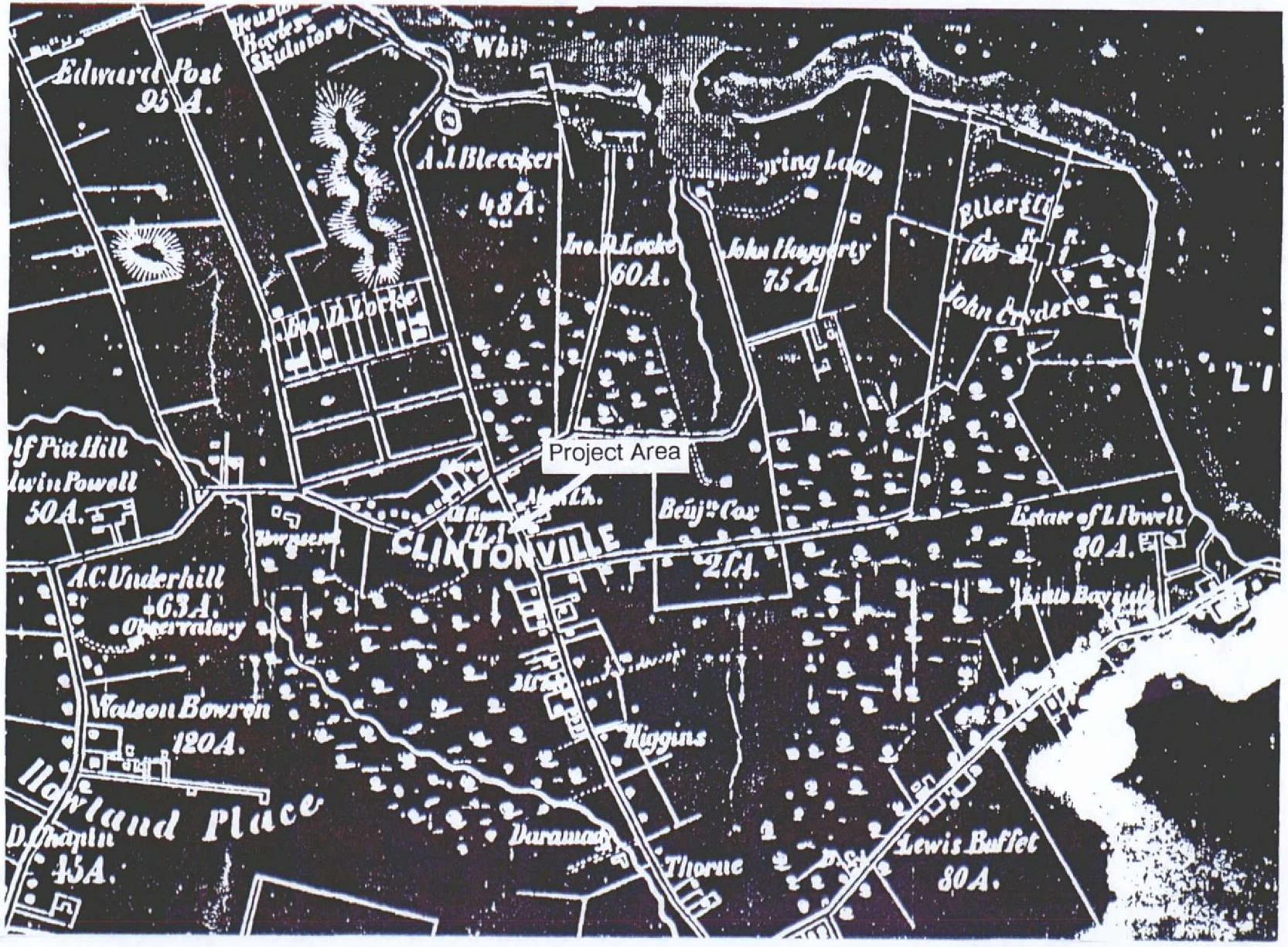

Figure 5 A 100% enlargement of the 1852 Connor-Dripps map showing the location of the project parcel immediately above the "T" in Clintonville within the 14.1 acre plot belonging to A.H. Kissam, the first Postmaster of Whitestone, formerly Clintonville.

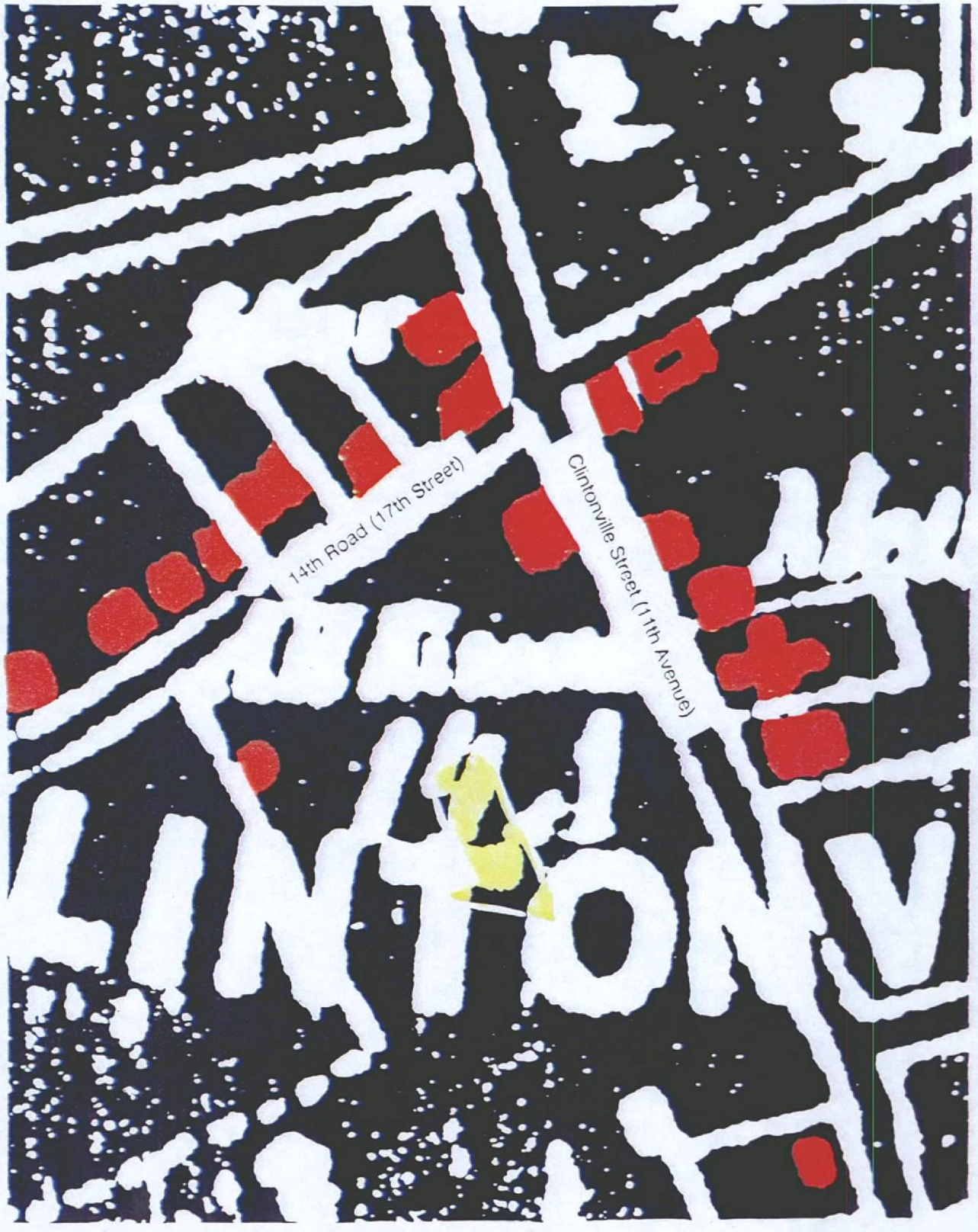

Figure 6 An extreme 1300% enlargement of the 1852 Connor-Dripps map showing the presence of mid 19th Century structures bordering Clintonville Street (a.k.a. 11th Avenue) to the east and 14th Road to the north (formerly 17th Street) in the mid 19th Century. Although a number of buildings are depicted (in red) along the roadside borders of the property, none are shown within the limits of the proposed project parcel (in yellow), as of 1852.

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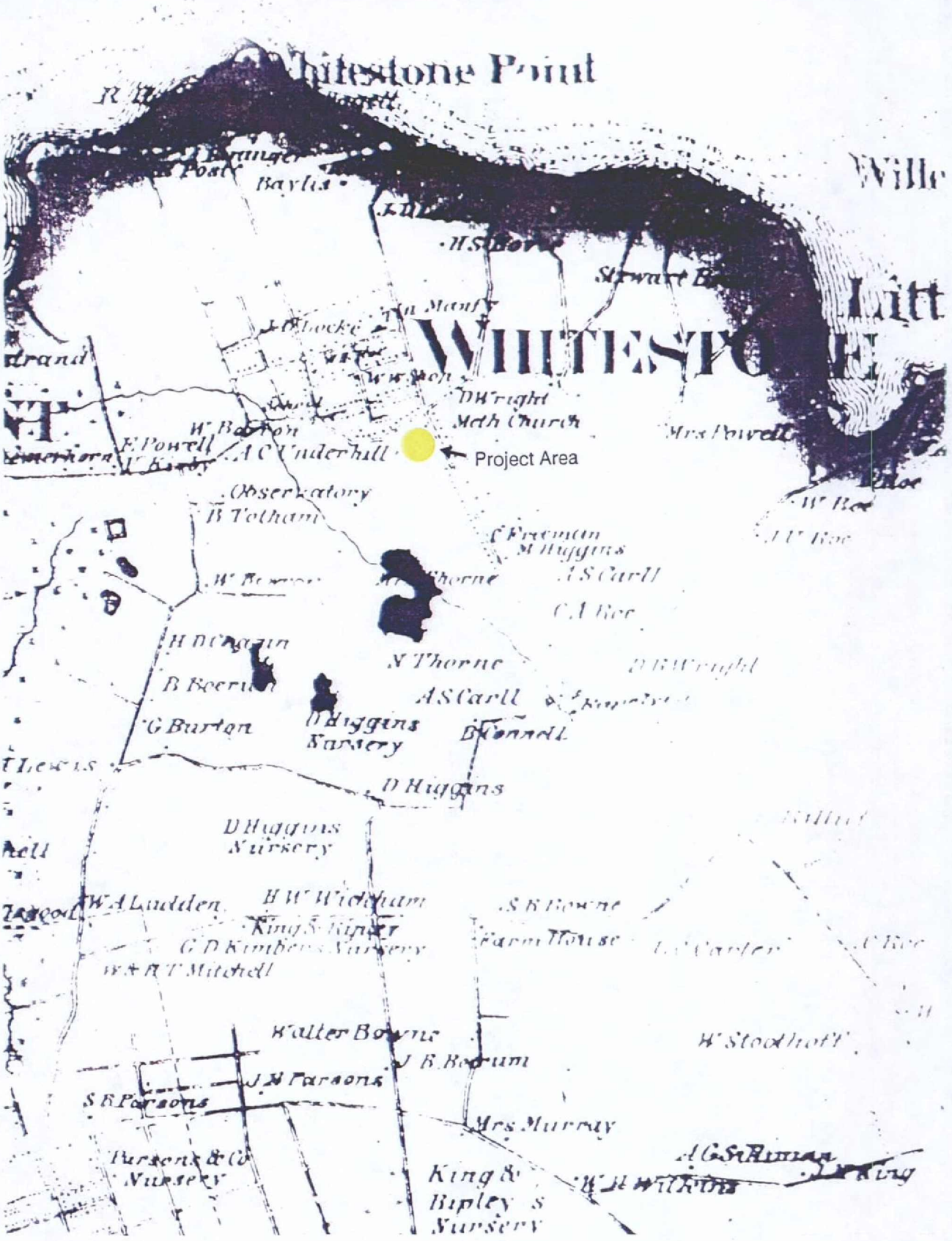

Figure 7 A microfiche copy of the 1859 Walling map of the Clintonville area showing the intersection of Clintonville Street (a.k.a. 11th Avenue) and 14th Road (formerly 17th Street) depicting the schematic placement of roadside structures in the vicinity, but not within, the project parcel as of this date.

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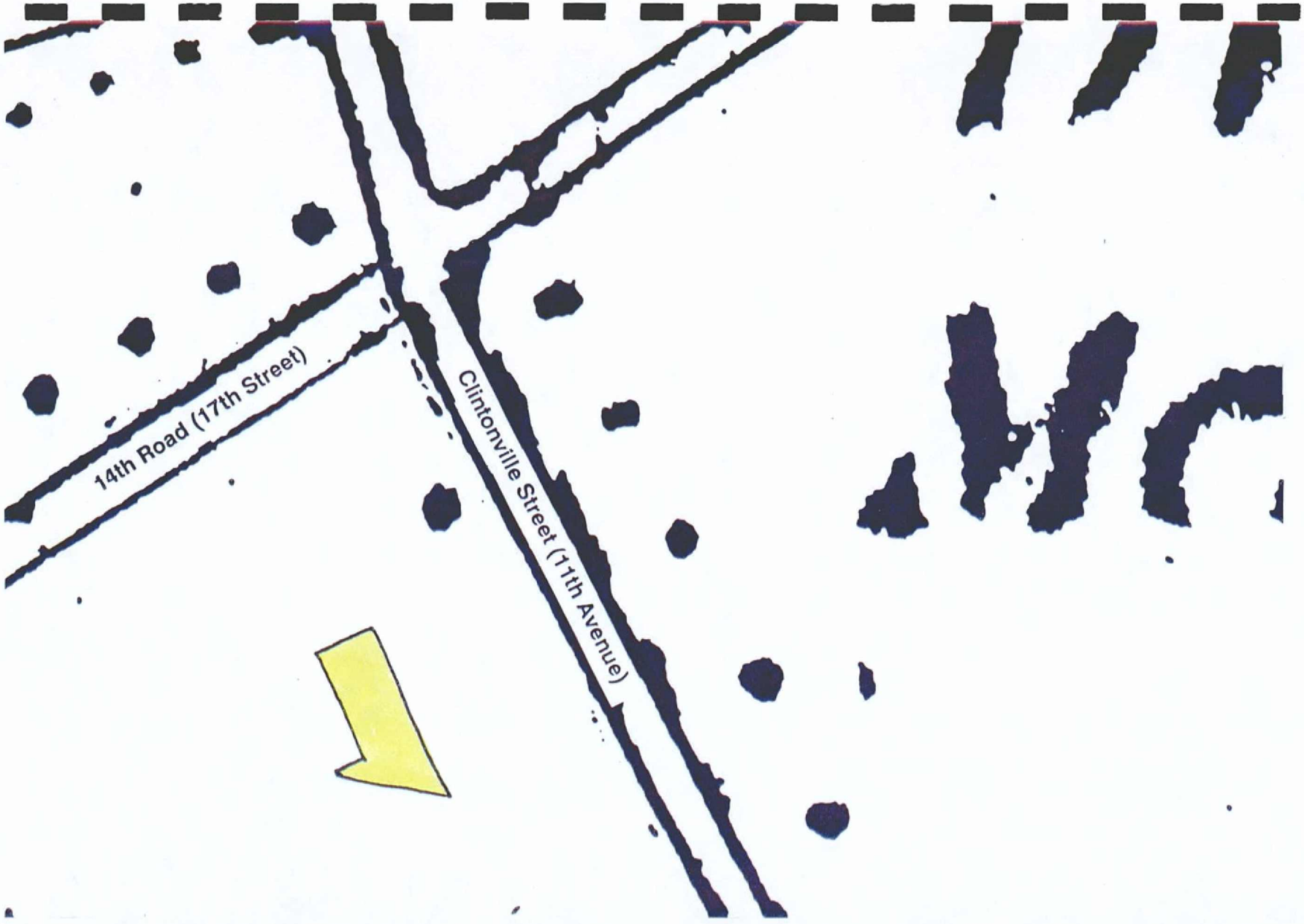

Figure 8 An enhanced enlargement of the 1859 Walling map showing two lines of structures concentrated on the east side of Clintonville Street (a.k.a. 11 Avenue) and the north side of 14th Road (formerly 17th Street). With the exception of a single structure on the west side of Clintonville Street, no residences or commercial structures are depicted within, or adjacent to, the area of the project parcel as of this date.

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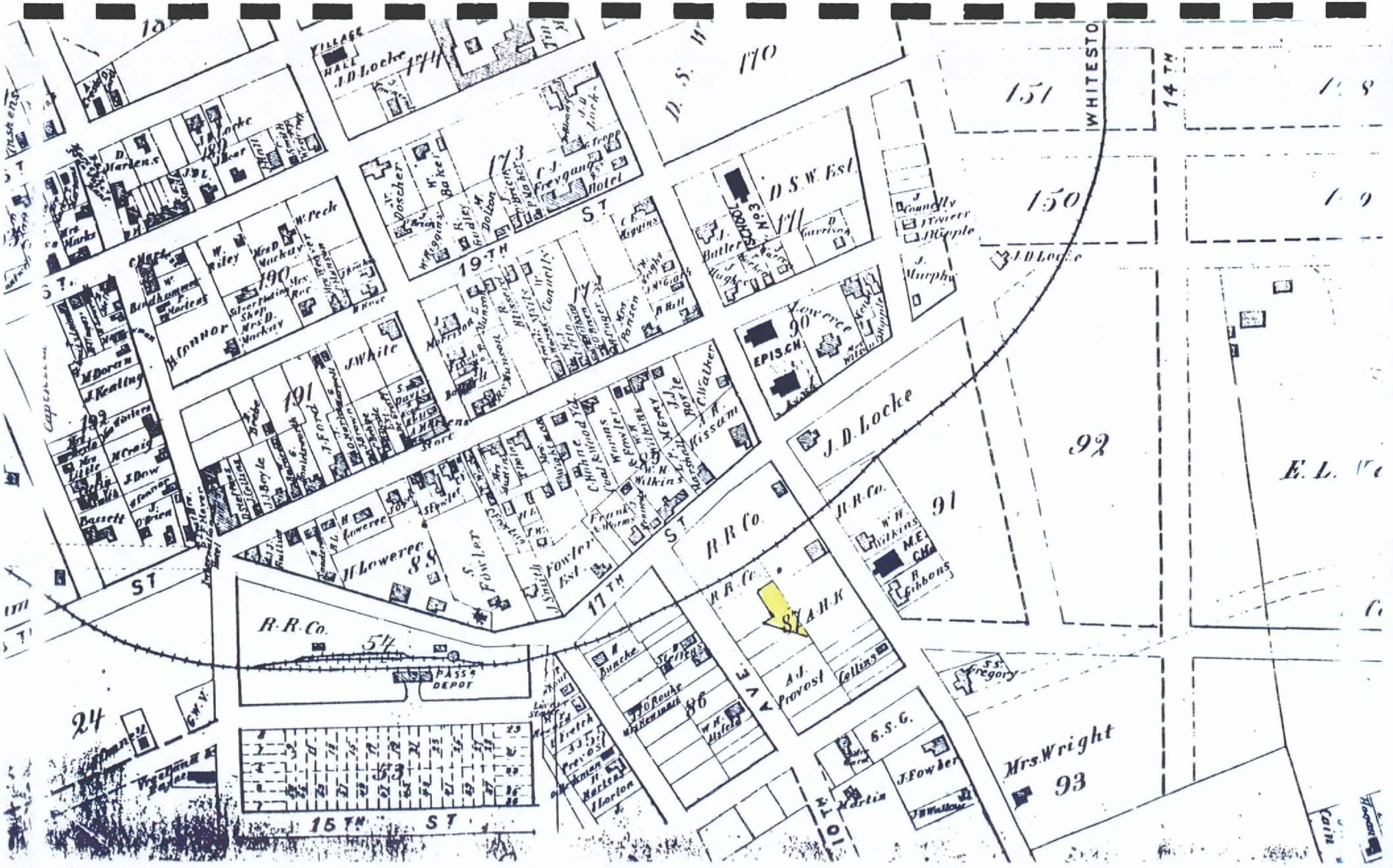

Figure 9 A section of the 1873 Beers Atlas reproduced at 1:1 scale, showing the first recorded lot specific subdivisions within Block 87 with the owners' names and structures depicted at the approximate scale.

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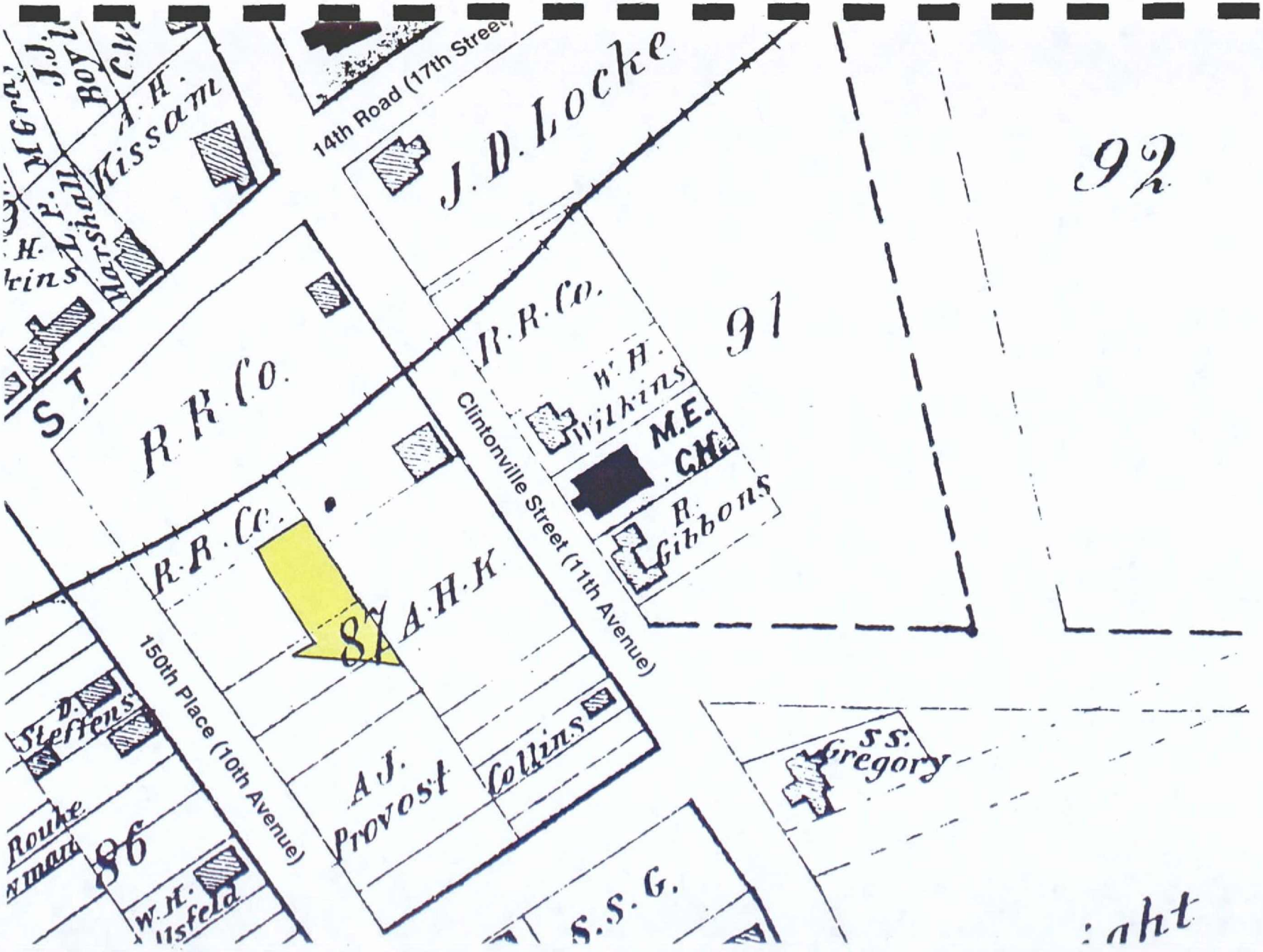

Figure 10 A 250% enlargement of the 1873 Beers Atlas showing the future location of the project parcel cutting across the rear, and at right angles, to three subdivided lots, both depicted without structures or owners' names, suggesting that none were present as of this date.

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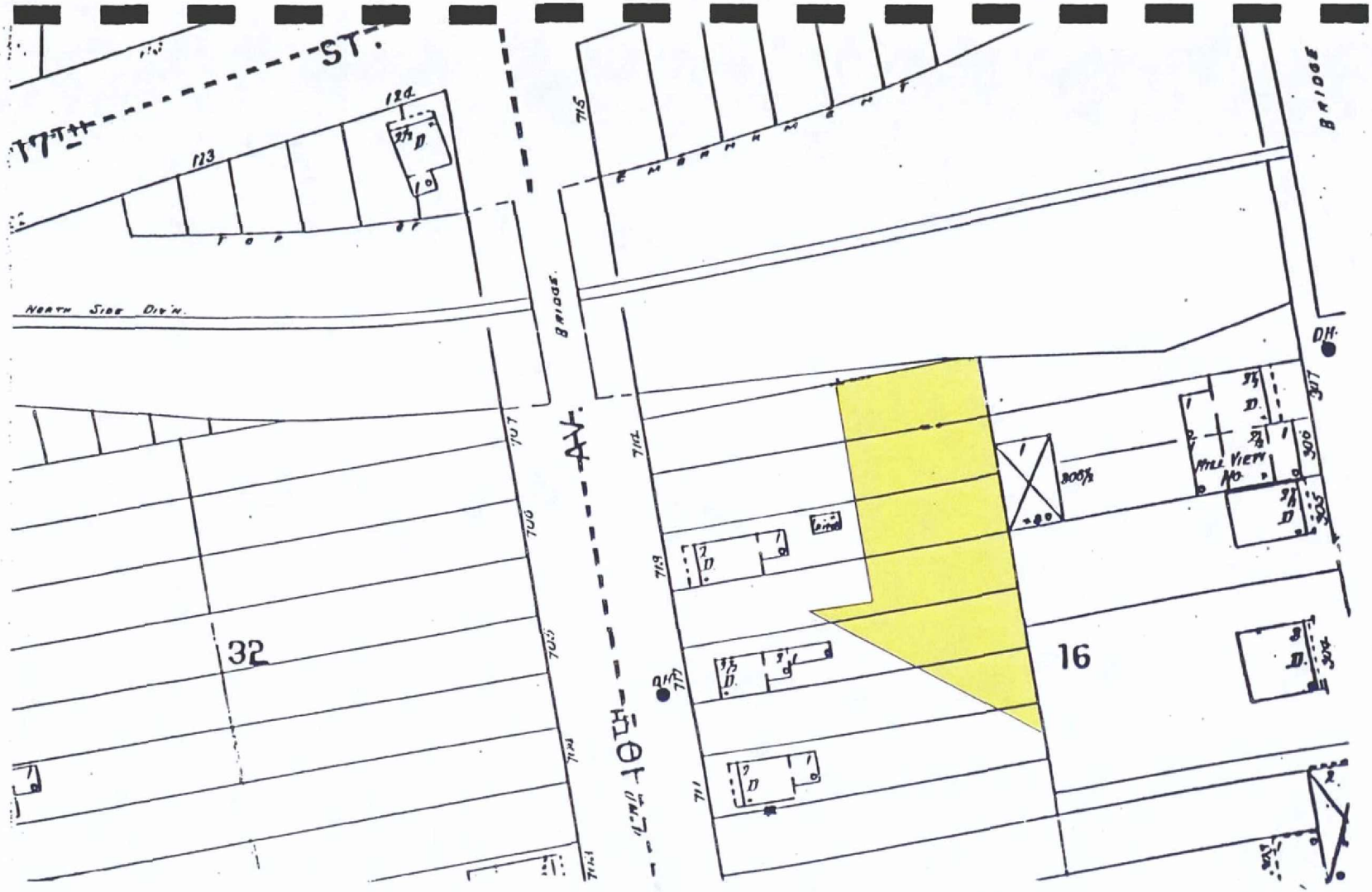

Figure 11 A photocopy of the 1886 Sanborn insurance map showing the scaled location and the orientation of the first three residential structures within the late 19th Century in Lot numbers 711, 712 and 713 (corresponding to Lot numbers 31, 32 and 34 on the Belcher Hyde 1926 map), depicting the modern project parcel cross cutting, and at right angles to the rear of six 1886 lots. Based on this map evidence, the earliest identified historic structures appear to pre-date 1886. Note the presence of a 4" water pipe down the center of 150th Place (formerly 10th Avenue) suggesting that the earliest depicted residential structures were shown in association with the municipal water lines as early as, or soon after, 1886. It is not clear from the map data if these water lines were meant to represent extant "as built" utilities or instead, the proposed locations of future water pipes.

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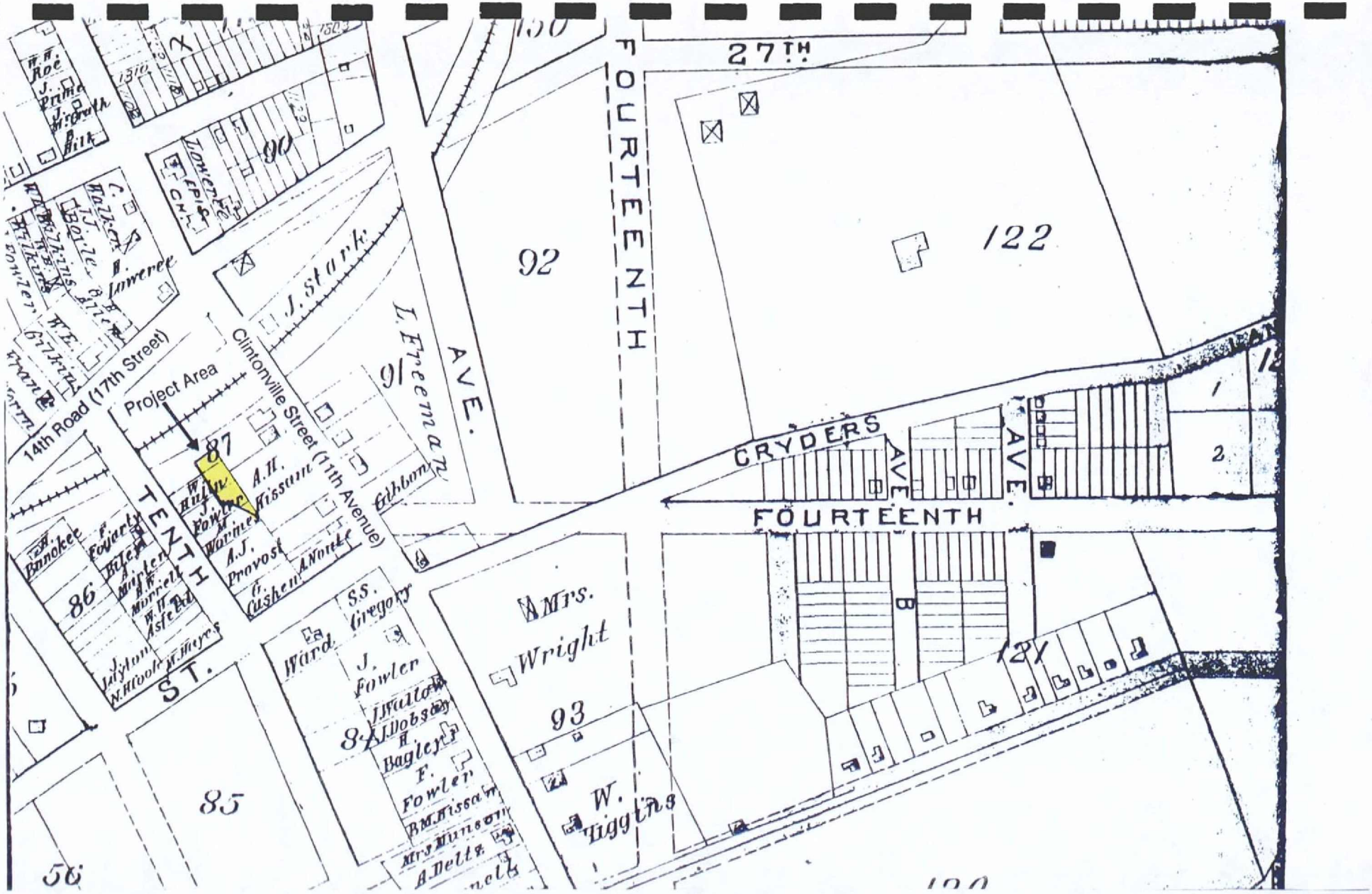

Figure 12 A section of the 1891 Wolverton map of Queens showing the 19th Century shifting lot lines, names of property owners, and scattered building locations within the project Block number 87.

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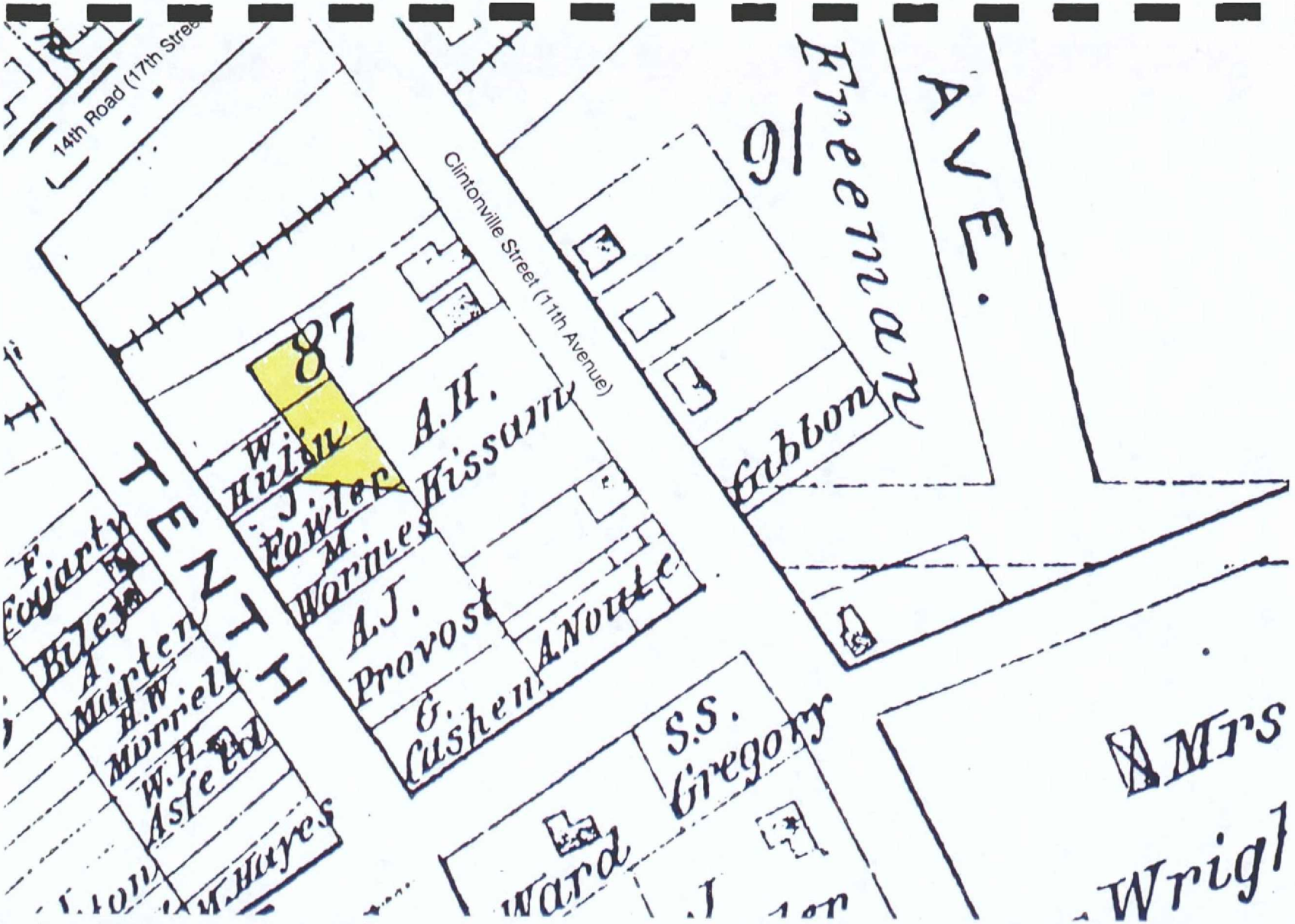

Figure 13 A detailed enlargement of "Block 87" (modern Block 4697) on the 1891 Wolverton map showing the names of property owners, M. Wormes, W. Hulin and J. Fowler, for three lots which overlap with the "front" end of the perpendicular, modern project parcel, shown in yellow. Immediately to the east of the project property line, and center line of the block, is a large, square parcel which continued to be held by the original land holding family, A.H. Kissam, who controlled the original 14.1 acre parcel which became Blocks 86 and 87 in the mid 19th Century, and Block 4697 in the 20th Century.

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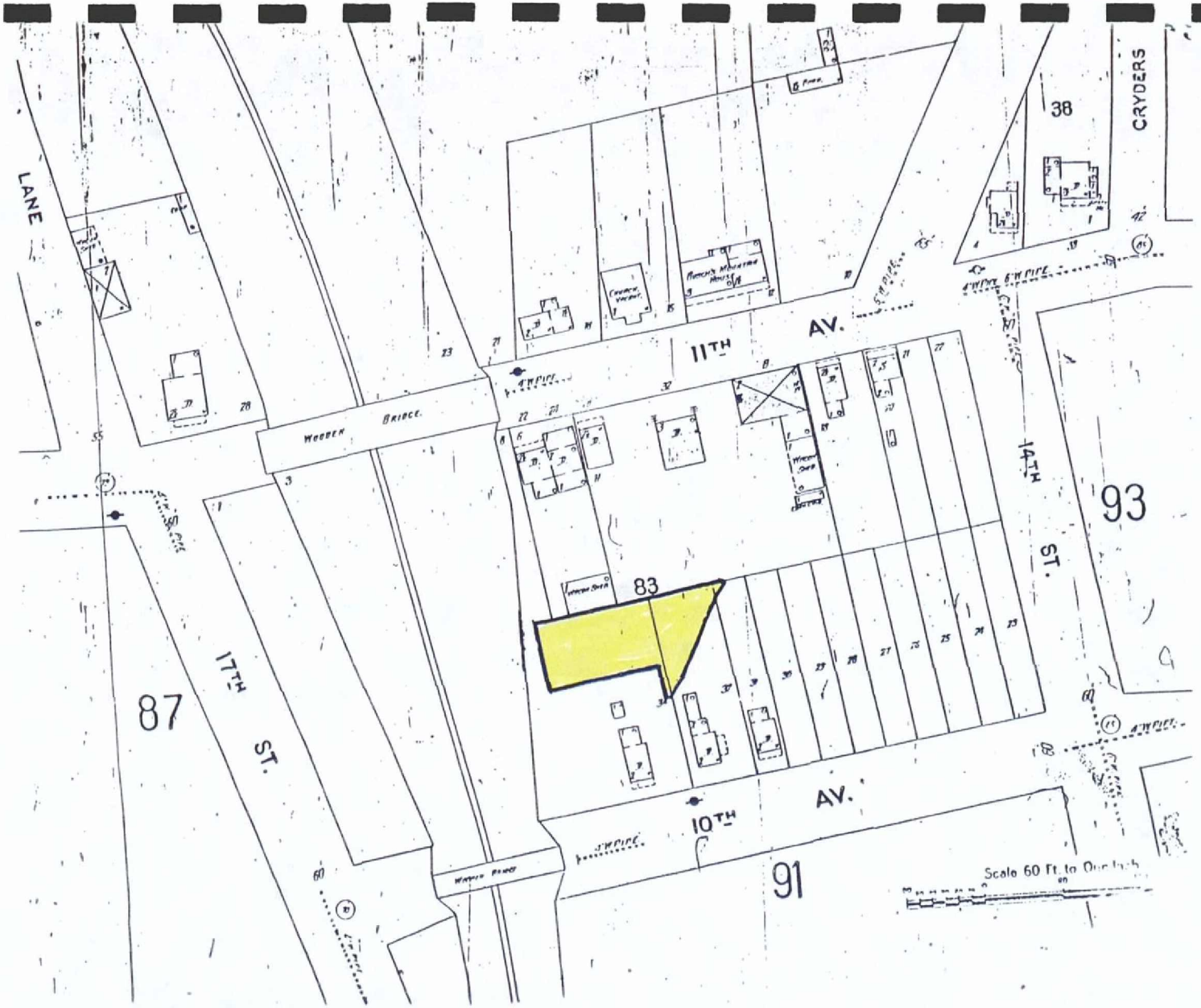

Figure 14 A detailed enlargement of the 1903 Sanborn insurance map showing the presence of three structures in Lots 31, 32 and 34, all of which were subsequently cross cut in their rear portions by the modern project parcel. What was formerly Block 87 was renumbered as Block 83. This 1903 plan also shows the presence of 4 inch water mains in 150th Place, (formerly 10th Avenue), in association with the depicted residential structures.

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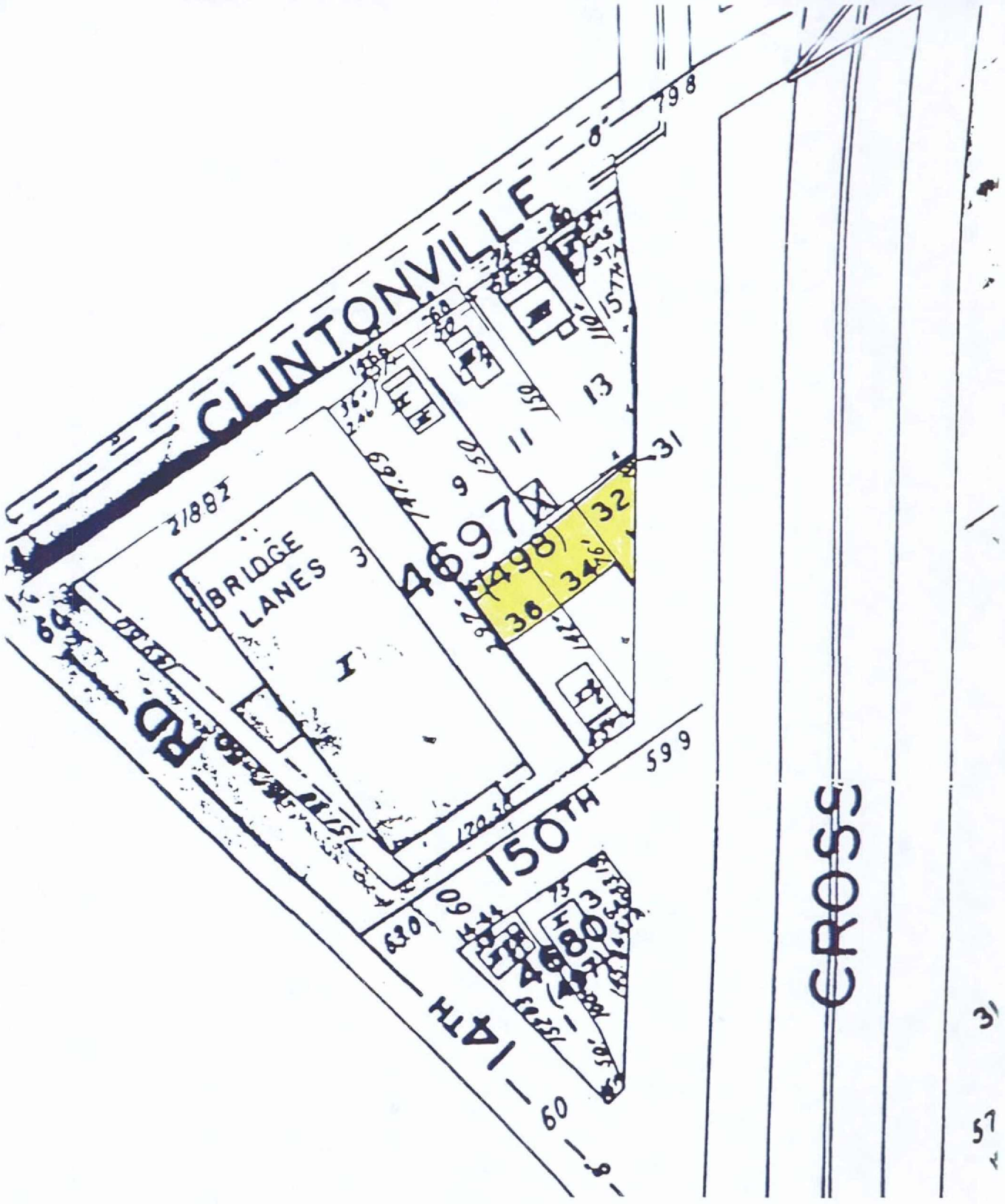

Figure 15 A detailed enlargement of the 1926 Belcher Hyde map, corrected as of 1979, following the partially completed construction of the Cross Island Parkway in 1939, depicting the modern project parcel area cross cutting the rear area of Lots 32, 34, and 36 and showing that the original 19th Century structures in Lots 32 and 34 as no longer standing. The addition of a new structure on Lot 36, which was not depicted on 1903 or earlier maps, suggests that it was constructed sometime after 1903 and prior to 1926, following the installation of water mains down 150th Place (formerly 10th Avenue).

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MAP

SHOWING STREET SYSTEM FOR THE TERRITORY, DESIGNATED AS

SECTION 57

the Final Maps of the Borough of Queens

Dated: New York, May 23rd 1921.

Clifford Collens
Consulting Engineer

Engineer in Charge.

President of the Borough.

56

CITY OF NEW YORK, BOROUGH OF QUEENS

OFFICE OF THE PRESIDENT

Topographical Bureau

Scale

NOTE: Date for contours on this map was obtained in the year 1908.

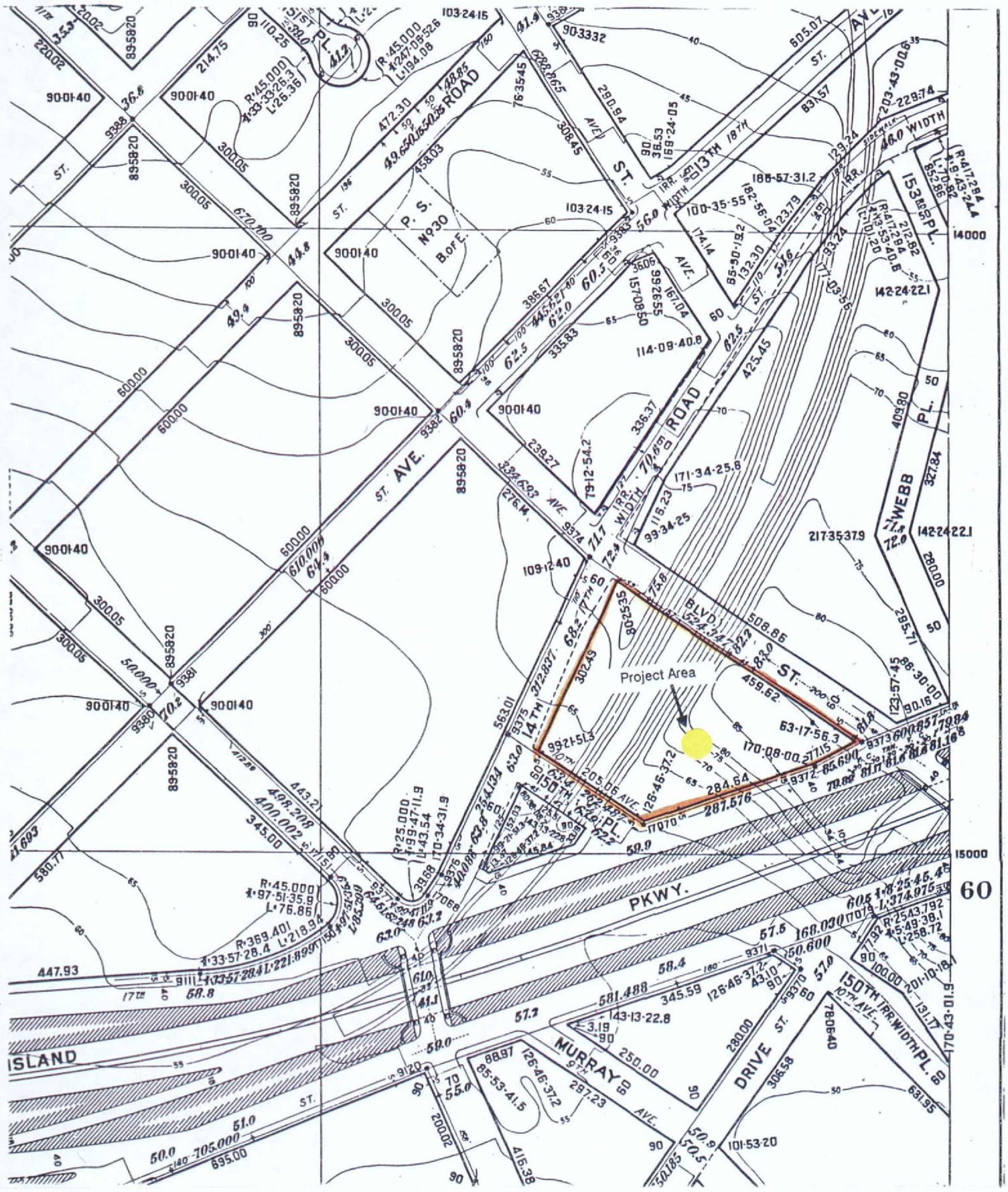

Figure 16 The Bureau of Queens 1921 Topographic Map (section 57), corrected as of 1953, showing the original 1908 topographic contour lines of the project area prior to modern impacts. The 1908 contours confirm that the project block and parcel corresponds with what was formerly an area of high ground which rose above the surrounding grade of ca. 50 ft. in elevation, to a 35 ft. high knoll ranging between 65 and 85 ft. in elevation within the project block. This historic topographic data, combined with the modern parcel specific survey data, documents that the project parcel and the former rear yard portions of Lots 32, 34, and 36 had been graded and cut to a depth of at least 10 ft. below the 1908 topographic grade or surface.

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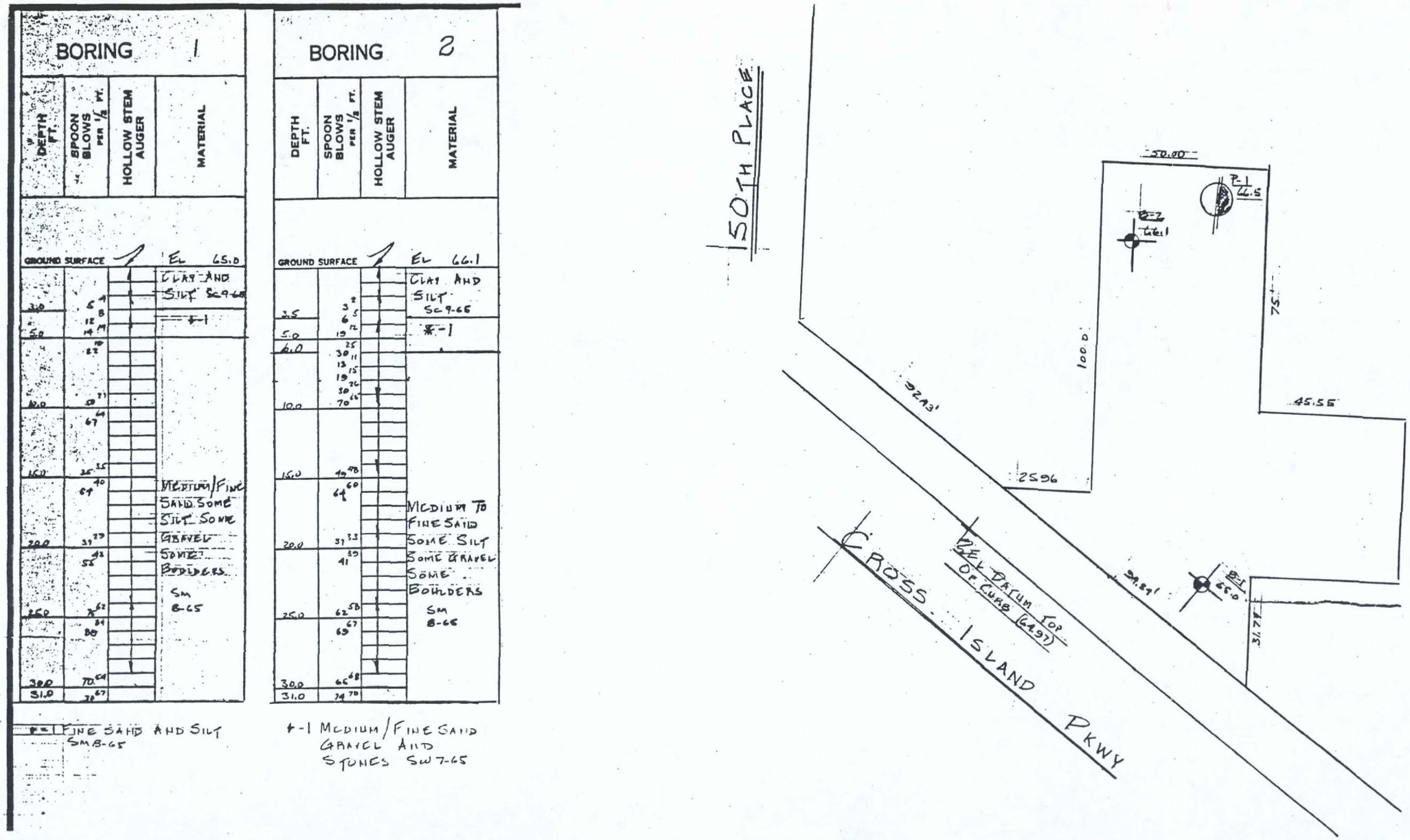

Figure 17 The boring log record plan showing the location and the elevation of two 1988 borings, and one percolation test, showing that the topography as of 1988 ranged between 65 and 66.5 ft. between the south and north ends of the parcel. The survey data, in conjunction with the 1908 topographic map, documents that the grade as of 1988 had been cut to a depth of 10 ft. on the east side and 1-3 ft. on the west side, below the original 1908 grade throughout the length of the project parcel.

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Figure 18 General view of modern lot 31 looking north from Cross Island Boulevard showing the sloping bank cut down from the original grade on the right, and eastern side of the parcel. To the rear, beyond the fenced property line, the modern stucco building and the truck trailer delimit the northern boundary in the former location of the Bridge Lanes Bowling Alley over the landfilled former course of the Whitestone-Westchester Railroad.

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Figure 19 View looking northeast toward the eastern bank of lot 31 showing the original surface and the parking lot to the rear of the apartment complex facing Clintonville Road.

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Figure 20 Detail of the eastern embankment showing the partially exposed section of the unmortared stone retaining wall.

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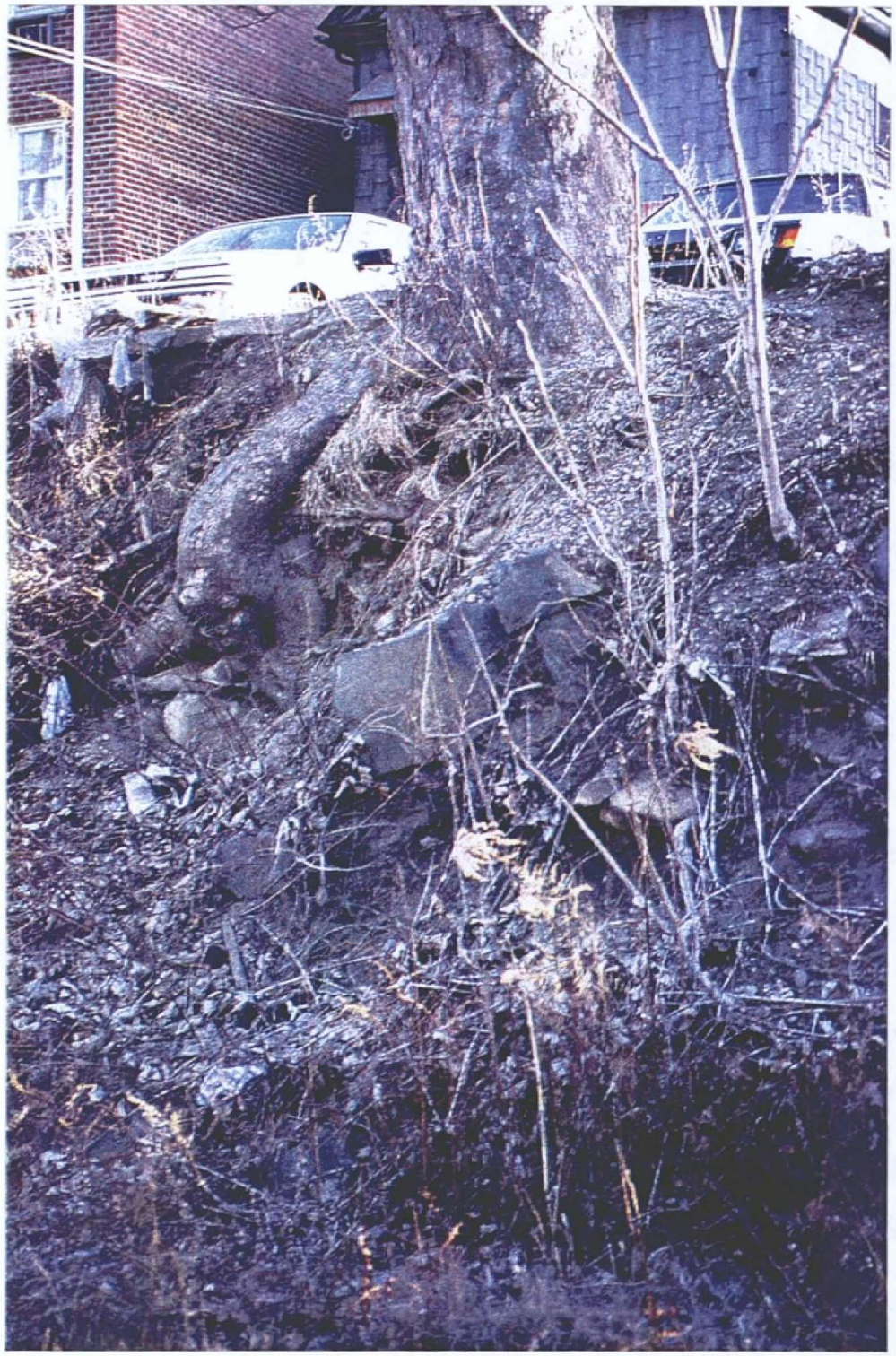

Figure 21 Detail of the eastern embankment showing the exposed root system of a large tree along the edge of the property, which indicates that the original cutting and grading operations were more recent than the age of what appears to be a 20th century tree.

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Figure 22 View looking due east towards Clintonville Road towards the rear of a modern apartment complex to the left, and a two story, early 20th century residential structure on the right.

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Figure 23 Close up of standing structures on the east side of the property, facing Clintonville Road, looking from the edge of the cut line and original surface grade.

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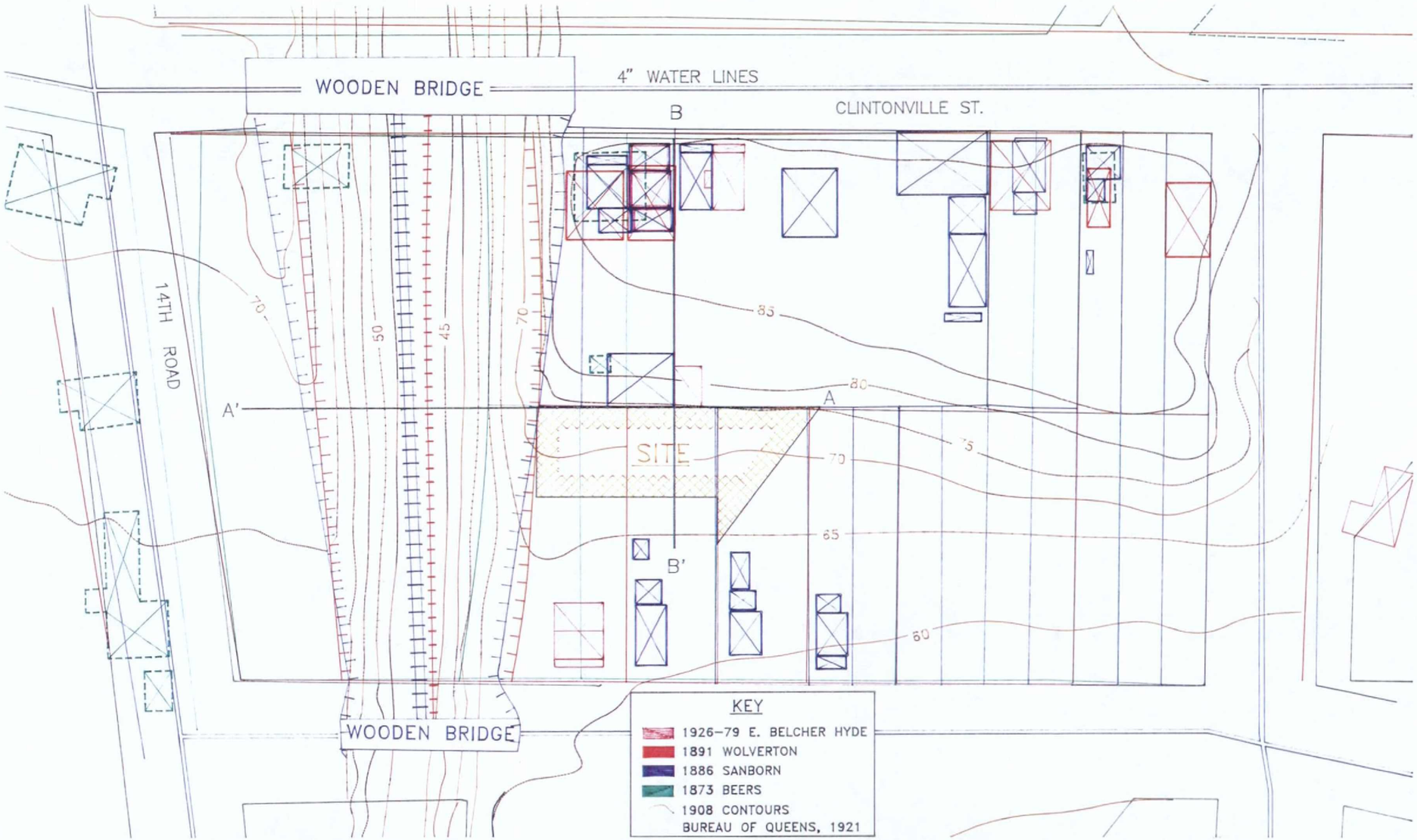

Figure 24 Computer generated scaled composite overlay map of block specific historic cartographic coverage between 1873 and 1979 showing the relationship of shifting lot lines and building locations through time, relative to contemporary conditions and the impacts to Block 4697 (87) from the Cross Island Parkway construction, which determined the location and orientation of the Romano parcel.

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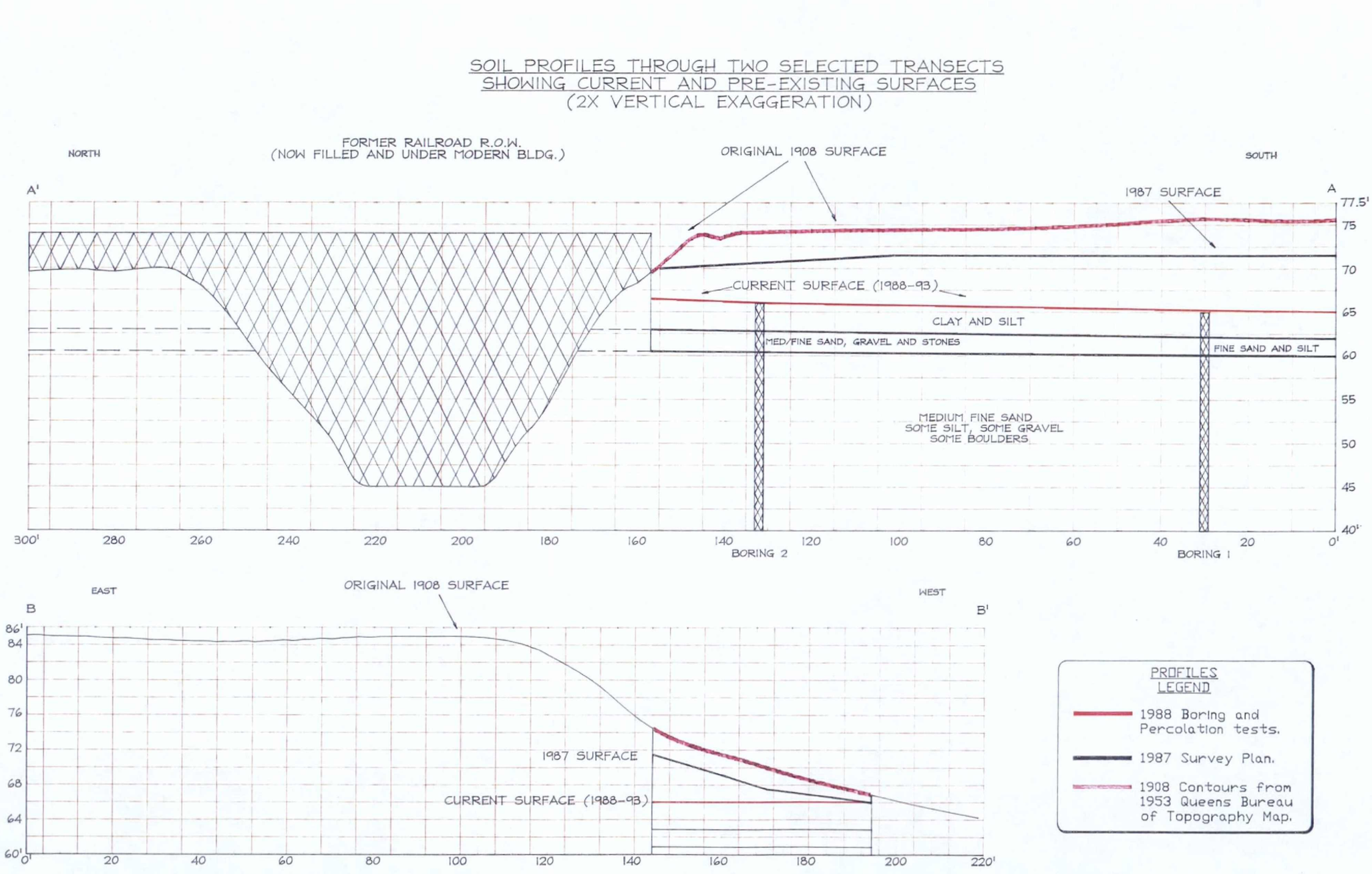

Figure 25 Computer generated north-south, east-west profile sections through the project parcel extrapolated from the comparison of the 1908 contours to the modern survey and boring log elevations which documents the extraction of 3 to 10 feet of soil below the original grade.

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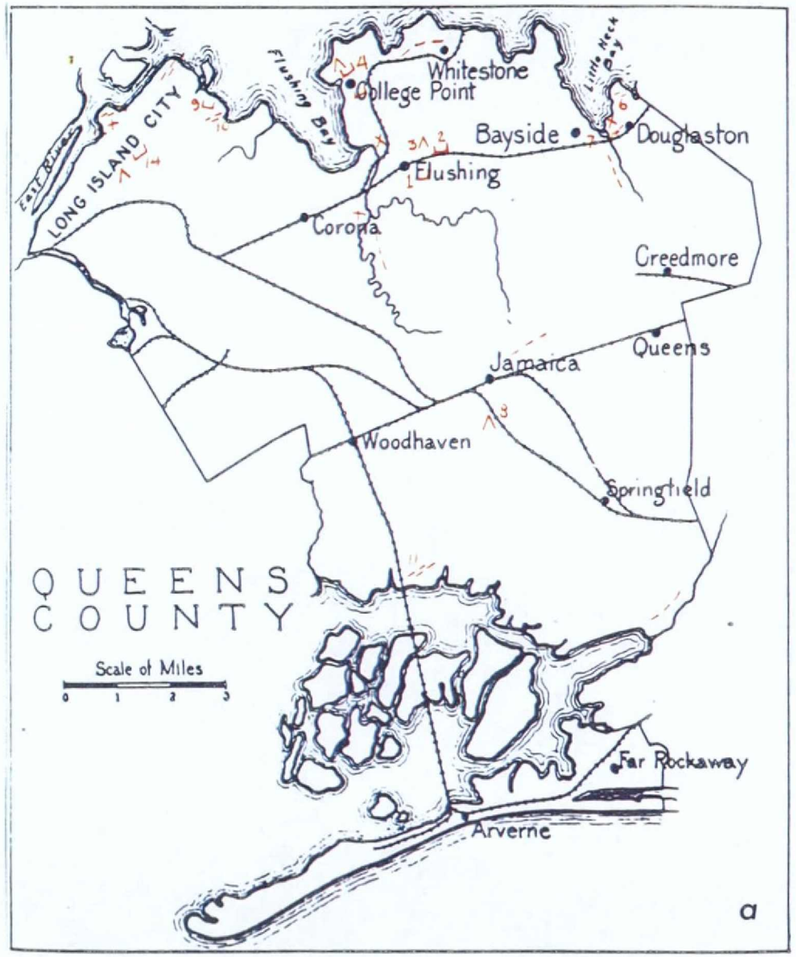

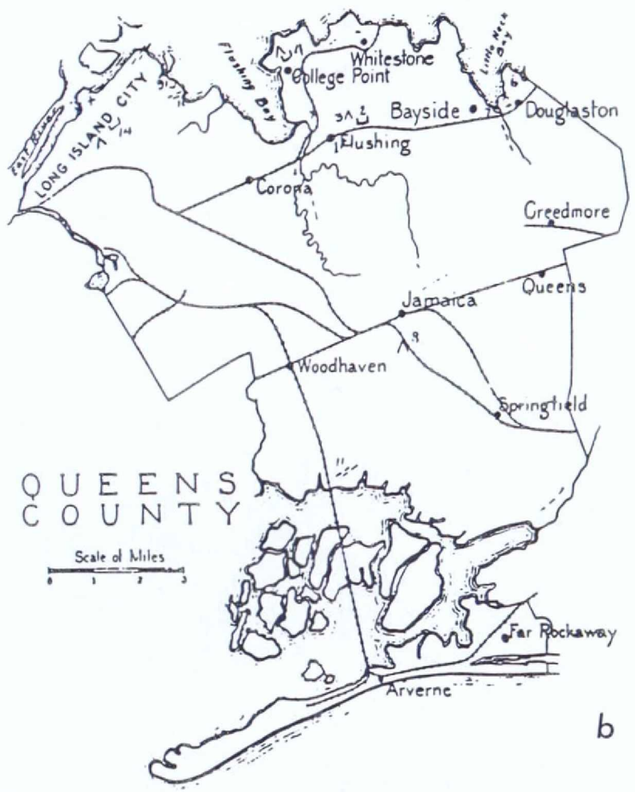

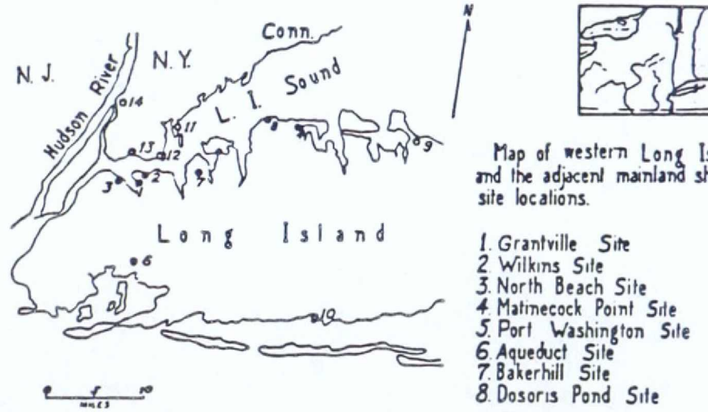

Figure 26 Photo copies of the original small scale site distribution maps by a) Parker, (1920); b) Bolton, (1934); and c) Smith, (1944); which provided the general background information for the reconstruction of the detailed prehistoric site locations depicted in Figure 4.

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Contemporary Lot and Block Configuration