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Linda Stone  
2006

REPORT ON  
PRE-CONSTRUCTION ARCHAEOLOGICAL TESTING  
AND CONSTRUCTION MONITORING  
FOR NEW SEWERS  
IN AND AROUND BUILDINGS 107, 108, 125 AND 135  
ON GOVERNORS ISLAND  
NEW YORK, NEW YORK

LPC docket # 05-7341



Pre-construction archaeological shovel testing in front of Building 125.

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## EXECUTIVE SUMMARY

This is a report on archaeological shovel testing and monitoring during construction excavations for new sewer alignments near Buildings 107, 108, 125, and 135 on Governors Island, New York City, within the Governors Island National Historic Landmark District and the New York City Landmark district. This archaeological report is being conducted to comply with environmental review regulations and meets the standards of both the New York State Office of Parks, Recreation and Historic Preservation (SHPO) and New York City Landmarks Preservation Commission (LPC). The work was conducted under the auspices of the Governors Island Preservation and Education Corporation (GIPEC).

Prior to testing, it was determined the project could encounter archaeological evidence of the prehistoric period in previously undisturbed areas and evidence of historic use as well, most particularly military use.

The project was comprised of three sections of new sewer alignment. They were 15, 54 and 214 feet (4.6, 16.5 and 65.2 meters) in length. Each segment was sloped for drainage purposes and the depth of the excavations ranged from three to seven feet (91 - 213 cm). Fifteen shovel tests were completed and three trenches monitored. In general, soils encountered in shovel testing and monitoring contained artifacts dating from prehistory through modern time. No buried original ground surface was encountered. Therefore it was concluded the soil deposits had been mixed. No features were identified in the work done near Buildings 107/108. Two features, as well as several small pockets of demolition-type debris, were found in the work near Buildings 125/135. One of the features was an ash-filled brick-lined feature of undetermined period and use. The other feature was a stone well which had been in use around 1867. The project was redesigned to avoid the well. The well had not been filled prior to its being covered with a capstone and/or metal plate. At one point in time, the well had been damaged and repaired, as evidenced by a variation in construction at the top on the north side. A State Site Inventory Form for the well was filed by GIPEC with the SHPO. Recommendations were made for archaeological evaluation of the well and ash-filled feature when additional below ground work is planned.

## MANAGEMENT SUMMARY FORM

SHPO Project Review Number (if available):

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc): GIPEC

Phase of Survey: 1B

### Location Information

Location: Governors Island, New York City

Minor Civil Division: n/a

County: New York

### Survey Area (Metric & English)

Length: 283 feet (86.3 m) combined length

Width: 3 - 10 feet (91 - 305 cm)

Depth: (when appropriate): 3 - 7 feet (91 - 213 cm)

Number of Acres Surveyed: n/a

Number of Square Meters & Feet Excavated (Phase II, Phase III only): n/a

Percentage of the Site Excavated (Phase II, Phase III only): n/a

USGS 7.5 Minute Quadrangle Map: Jersey City, NJ - NY

### Archaeological Survey Overview

Number & Interval of Shovel Tests: 15 tests at 15 foot intervals

Number & Size of Units: n/a

Width of Plowed Strips: n/a

Surface Survey Transect Interval: n/a

### Results of Archaeological Survey

Number & name of prehistoric sites identified: n/a

Number & name of historic sites identified: n/a

Number & name of sites recommended for Phase II/Avoidance: 1 well, 1 ash-filled brick feature

### Results of Architectural Survey

Number of buildings/structures/cemeteries within project area: n/a

Number of buildings/structures/cemeteries adjacent to project area: n/a

Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts:

n/a

Number of identified eligible buildings/structures/cemeteries/districts: n/a

Report Author(s): Linda Stone, RPA

Date of Report: August 7, 2006

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## INTRODUCTION

The Governors Island Preservation and Education Corporation (GIPEC) is in the process of repairing and replacing sewers in the vicinity of Buildings 107, 108, 125 and 135 on Governors Island (see Figures 1 and 2 for location). This area is within the Governors Island National Historic Landmark District and the New York City Landmark district.

The scope of work for field testing was submitted on April 14, 2005 (see Appendix A). After work in the Building 107/108 area began, there was a change to the plans for the Buildings 125/135 area work. A new archaeological scope of work was submitted on June 10, 2005 to address the changes (see Appendix B). Both scopes of work were reviewed and approved by GIPEC, the State Historic Preservation Office (SHPO) and the Landmarks Preservation Commission (LPC). Ultimately, the work involved placing new sewer alignments in three locations (see Figure 3). Two of these are in front of Building 108 and one between Buildings 125 and 135 and near the side of Building 125. The two new sewers at Building 108 connect to existing manholes and catch basins. The Building 108 trenches were planned to be about 3 feet wide and 3 to 4 feet deep. One was planned to be about 40 feet long and located between manholes numbered 5 and 6 on Figure 3 and the other about 15 feet long and located between the catch basins numbered 5A and 5B<sup>1</sup>. The Building 125/135 proposed work included the alignment of a new sewer (about 214 feet long) as well as two new manholes and a new catch basin. The trench was planned as four feet wide and 6 to 7 feet deep. The new manholes and catch basin would be about seven feet square and require excavation up to three feet deeper than the trench. The area of potential effect (APE) for this project is defined as the below ground impacts from the excavation of the trenches, manholes and catch basins. Archaeological shovel testing prior to construction was recommended and approved for the APE. This was to be followed up by archaeological monitoring of trench excavations.

This report will present the findings of archaeological testing and monitoring conducted for the utility excavations. The work has been done in accordance with the guidelines of both the New York State Office of Parks Recreation and Historic Preservation and the New York City Landmarks Preservation Commission. This report was prepared by Linda Stone, RPA for Bedford Construction Corporation. The archaeological fieldwork described in this report was conducted by Ms. Stone over several dates from May 3 to September 26, 2005 (5/3, 8/9, 8/10, 9/13, 9/14, 9/23, and 9/26), partially with the assistance of Ada Prieto. The weather was clear on all dates. The author would like to acknowledge the support of Joe Lione and D. J. Banks of Bedford Construction Corporation and Claire Kelly of GIPEC for facilitating the project.

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<sup>1</sup> The section of the alignment planned to be 40' long was actually 54' long between the exterior of the manholes.

## SITE HISTORY AND ARCHAEOLOGICAL POTENTIAL

In 2003, the University of Massachusetts prepared an Archaeological Overview and Assessment of Governors Island National Monument. That report is used as the basis for much of the information on history presented here. Additional information comes from the 1996 New York City Landmarks Commission Designation Report for the Governors Island Historic District (Pearson 1996).

The New York Arsenal originally built and used Building 107 as a storehouse for gun carriages. It was later converted to offices and storage space by the Army. The western section was built in 1856/7. It was burned down in 1904 and rebuilt. The eastern section and southwest corner were built in 1908/18 and the southeast corner in 1940. The Entry porch was built c. 1980. Building 108 was built in 1945 as an office building for the First Army (Pearson 1996: 100, 102; U.Mass. 2003:123-24).

Building 125 was constructed in 1934 as the headquarters building for the Second Corp of the First Army, subsequently called Pershing Hall (Pearson 1979: 105). It was built at the site where another store house and quarters once stood (U.Mass 2003:77). Building 135 was originally two free-standing buildings. The first was built c. 1835 as a storehouse. In 1839, officer's quarters were added. The officer's quarters were expanded in 1852, joining the two buildings. Porches were added in 1879 and another story in 1884 (Pearson 1979: 120).

The 1879 Map of Governors Island shows Building 135 as numbers 29 and 32 and the buildings formerly located in the footprint of where Building 125 now stands as numbers 28 and 31 and (see Figure 4). Numbers 28 and 29 were called New York Arsenal, Officers' Quarters and numbers 31 and 32 were the Ordinance Store Houses. Building 107 was then number 33, also an Ordinance Store House. There was no structure depicted in the location of Building 108. There were no known previously existing buildings in the areas between Buildings 107 and 108 nor between Buildings 125 and 135.

Previous archaeological research done on Governors Island indicates that the potential to encounter previously unrecorded Native American archaeological resources is "extremely high" in locations which have not been since disturbed (U.Mass. 2003: 132,143). Historic period disturbances within the road in front of Building 108 and in the parking lot adjacent to Buildings 125 and 135 are mainly from utility work. These areas otherwise remain relatively undisturbed. Other potential resources include material from the Dutch period, the British occupation, the French and Indian War Garrison, the Revolutionary War, post-1812 military uses (U.Mass 2003: 133, 144).

## METHODOLOGY

The scopes of work for archaeological testing and monitoring are attached as Appendices A and B. The basic approach was to conduct standard archaeological shovel tests at 15 foot intervals (457 cm). In areas which were covered with paving, the contractor agreed to remove the paving mechanically and then shovel tests were excavated in the soils beneath. The shovel testing was followed by monitoring during construction excavations. This monitoring plan included the ability of the archaeologist to temporarily halt excavations should any potentially significant archaeological resources be encountered during contractor excavations.

### Shovel Tests

A total of fifteen shovel tests were placed at fifteen foot (457 cm) intervals along the path of the planned new sewer alignments. Each test was about 1.5 feet (46 cm) in diameter and excavated to the depth of non-artifact bearing subsoil, unless an impediment obstructed the test. All soils excavated from the shovel tests were screened through ¼ inch hardware mesh for the recovery of artifacts. Soils, stratigraphy and artifact inclusions were recorded on forms. Changes in soil color or texture were recorded as separate strata. Soil color descriptions were made using comparisons to the Munsell Soil Color Charts. Shovel test locations were mapped on the site plan. Photo documentation and drawings were done as appropriate. The shovel test stratigraphy is included here as Appendix C.

### Monitoring

The scope of work established a monitoring protocol giving the archaeologist authority to halt contractor excavations to document any archaeological resources, should they be encountered. Shovel tests were completed before monitoring began. A total of three trenches were monitored. One was in the Building 107/108 area and the other two were at Building 125/135<sup>2</sup>. When no features were encountered, measurements were made, photographs taken and profiles of stratigraphy were drawn. The scope specified if archaeological features were encountered, they would be archaeologically exposed, measurements taken for field drawings and photographed. Redesign would be considered as an option. If the feature could be removed by hand, associated soils would be screened.

There were two features identified during monitoring. Both were located along the long trench between Buildings 125 and 135. One was a well and the other was an ash-filled brick feature. The documentation of these features is discussed below. GIPEC consulted with the SHPO and LPC and decided to redesign the trench to avoid the well. Because of the identification of the well and decision to redesign around it, what was originally to be one trench was divided into two.

### Artifact Processing

GIPEC had asked for all artifacts to stay on Governors Island, including during artifact processing. They provided a space for washing and storage, as well as access to it. All recovered artifacts were washed and rinsed in tap water and left to air dry before labeling and rebagging in clean 4-mil zip-lock bags. Most artifact categories, with the main exception being metal, were individually labeled with the site abbreviation (GI), the project identifier (either 108 or 125) and the context number. All zip bags were labeled with the same information. Some smaller pieces were labeled with only the context number.

Unique context numbers were assigned for each field bag of artifacts recovered. Artifacts known in the field to be non-diagnostic modern materials or to be associated with known fill deposits were noted in the field and generally either sampled or not retained. These artifacts are noted in right-hand column of the stratigraphy data base (Appendix C). All ceramic and glass artifacts are sherds, unless otherwise noted in the inventory (Appendix D). Ceramic identification and date ranges of manufacture for white-bodied refined earthenwares were based on style of decorations, when available, and are referred to in the inventory as "refined earthenwares". If identifications and/or dates of manufacture were also based on ware type, such as creamware/pearlware/whiteware, then these types are used as identifiers in the inventory. Governors Island is the current repository for all artifacts recovered during the conduct of work described in this report.

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<sup>2</sup> Originally, there were to be two trenches monitored at the Building 107/108 area and one at Building 125/135. However the Building 125/135 trench ended up being excavated in two sections, one on either side of the well, and one of the Building 107/108 trenches was above the existing utility disturbances and not monitored (see below).

## RESULTS

### Building 107/108

#### **Shovel Testing**

Four shovel tests were completed in the Building 107/108 area. Three were located along the path of the planned sewer between manholes 5 and 6 and one near catch basin 5A (see Figure 5). The tests were placed primarily to identify the presence or absence of cultural material from either prehistory or military history. Tests were an average of 15 feet (457 cm) apart. The one test placed near catch basin 5A was only 6 feet (183 cm) south of it. This was because most of the remainder of the alignment was previously disturbed by other utility work, as evidenced by patches in the pavement (see Photo 1). All shovel tests were excavated within the paved roadway and parking area in front of Buildings 107 and 108. The contractor cut and removed the paving in three foot squares (91 cm) and the shovel tests were excavated in the soils within the square openings beneath the level of the paving.

#### *Stratigraphy*

The paving was asphalt over concrete (Stratum 1). This was underlain with a gravel bed (Stratum 2). The average depth of the paving and gravel was 1.2 feet (37 cm). Shovel test stratigraphy is detailed in Appendix C. The uppermost level of soil (Stratum 3) was described as brown silty sand or dark yellowish brown sand. It was found to a depth of from 1.4 to 2.4 feet (0.43 – 73 cm) below the top of paving. However this soil was not encountered in Shovel Test 4 (near catch basin 5A). The culturally sterile subsoil was directly beneath the paving gravel in Shovel Test 4 and was beneath Stratum 3 in Shovel Tests 1 through 3. Subsoil within the APE is strong brown sand. All four tests were excavated to an average depth of 3.9 feet (119 cm) below the top of the paving and into non-artifact bearing soil.

#### *Artifacts*

A variety of artifacts were encountered within the Building 107/108 shovel tests. Shovel Test 1 only contained artifacts within Stratum 3. These included a bone button (see Photo 2) which could date from as early as 1800 (Noel Hume 1969: 90-91). However it also contained a pencil top with the eraser missing (20<sup>th</sup> century). Shovel Test 2 had a variety of material present in the same stratum, including fragments of concrete, oyster shell, gravel, slag, coal. This stratum also included a possible quartz flake (see Photo 3) and a piece of curved amber glass. The glass sherd is similar to a beer bottle. This type of glass was first manufactured in the mid-1800s (Fike 1987: 13). Artifacts were also found in the upper part of the subsoil in Shovel Test 2, likely mixed in from above during excavation. These included 2 brick fragments, coal and slag. Shovel Test 3, Stratum 3 also contained a possible quartz flake (see Photo 3) as well as a sherd of creamware, brick fragments, glass, concrete, coal and slag. Shovel Test 4 soils did not contain any artifacts.

#### **Trench Monitoring**

The section of the alignment between manholes 5 and 6 was called Trench 2 and was a total of about 54 feet (1646 cm) long. The trench was about 3 feet (91 cm) wide and a maximum of about 6 feet (183 cm) deep. There were a number of existing utilities criss-crossing this trench (see Figure 6). There were also sections of seemingly undisturbed soil (see Photo 4). Figures 7 and 8 are sections of the soil profile of the trench. The sections are keyed to the plan view (Figure 6). The stratigraphy is consistent with the shovel test stratigraphy. Yellowish brown sand (Stratum 3) was underlain with strong brown sand (Stratum 4). At depths below that of the shovel tests, the trench reveals a dark yellowish brown soil. There was only one artifact observed in the profile. It is a sherd of stoneware and is shown on Figure 7, Profile 1 at about 2.3 feet (70 cm) below ground surface (bgs).

As mentioned above, the section of the sewer alignment between catch basins 5A and 5B was traversed with existing utilities (see Photo 1). The new sewer was to be at elevations higher than those existing utilities and therefore was previously disturbed by their installation and archaeological monitoring was not needed.

## Discussion

The natural slope of the area of the Building 107/108 work is down from south to north. This may explain why Shovel Test 4, being the southernmost/highest test, did not contain the uppermost soil stratum which was encountered in the other Building 107/108 shovel tests. The other three tests and the trench all contained stratigraphy which was also consistent with earlier testing on the Island (PAL 1997). These cultural bearing soils had a mix of artifacts within them ranging from possible prehistoric origin to modern materials. The temporal range of artifacts found within the same strata is an indication of mixing and/or redeposition.

## Building 125/135

### Shovel Testing

Eleven shovel tests were completed in the Building 125/135 area along the path of the planned sewer (numbered 101 - 112) (see Figure 9). Eight of them (101 - 108) were in the yard between Buildings 125 and 135, beginning just up slope from Carder Road and continuing west to just off the southeast corner of Building 135. The other three of the shovel tests (110 - 112) were at the east edge of the parking lot between Buildings 125 and 135. Shovel Test 109 was planned, but was not excavated because it fell within an area identified as previously disturbed on the contractor's plans. That disturbance extended to the west through the area of the planned new catch basin, eliminating available space for another shovel test east of Shovel Test 110. The tests were placed to identify the presence or absence of cultural material from either prehistory or military history. Tests were an average of 15 feet (457 cm) apart.

### *Stratigraphy*

The tests within the parking lot were beneath asphalt paving over concrete. The stratigraphy was somewhat different from the shovel tests done for Building 107/108. The paving was an average of 0.7 feet (21 cm) thick. The location of Shovel Test 110 also had some gravel base beneath the paving. Shovel Test 110 was slightly different from the other two tests in the parking lot. It was underlain with yellowish brown sand to 3.1 feet below the top of paving. That was underlain with dark yellowish brown sand and then silty sand. The silty sand did not contain any cultural material. In the other two tests in the parking lot, the paving was underlain with yellowish brown or dark yellowish brown silty sand, similar to Stratum 3 in the Building 107/108 shovel tests. This deposit extended to depths of 1.0 and 1.8 feet (30 and 55 cm) below the top of the paving. It was underlain with brown or strong brown sand to about 2.4 feet (73 cm). The basal stratum of these two tests was brown or strong brown silty sand, culturally sterile subsoil (Stratum 4). The average depth of excavation for these three tests was 3.5 feet (107 cm).

The yard between Buildings 125 and 135 slopes down toward the east, toward Carder Road. Of the eight shovel tests done within the yard, the first five, those along the eastern end of the alignment, were covered in grass, while the grass was worn at the three tests closest to the parking lot. While there was some variation in stratigraphy between these tests, some generalizations can be made. The uppermost soil level was brown or dark grayish brown loamy or sandy silt. It extended to about 0.7 feet (21 cm) bgs. That was typically underlain with brown silty sand to 1.3 feet (40 cm) bgs. This was equivalent to Stratum 3 in the Building 107/108 shovel tests. The subsoil, or base of excavation, was generally strong brown sand or silty sand, as it was in the Building 107/108 tests. The average depth of the Building 125/135 shovel tests was 2.5 feet (75 cm) bgs. However three of the tests were impeded. Shovel Test 103 encountered possible paving stone at 1.1 feet (34 cm) bgs. Shovel Test 104 hit what appeared to be mortared rock at 1.9 feet (58 cm) bgs. Shovel Test 108 was impeded by tightly packed rock at 1.2 feet (37 cm) bgs.

### *Artifacts*

The artifacts found in the three tests located in the parking lot were varied. Shovel Test 110 contained some non-diagnostic material in the upper levels; one brick fragment, slag, and a corroded nail. However, Stratum 4 contained two possible prehistoric artifacts (see Photo 3), as well as some coal. One of the artifacts is a possible preform for a stone tool. The other artifact is part of possible hammerstone. The pitting is not pronounced.



Shovel Test 111, Stratum 2 contained three small ceramic sherds, from one to two centimeters in diameter. Two are white tin-glazed earthenware and the other is creamware. No other diagnostic artifacts were found in that test. Shovel Test 112 did not contain any diagnostic artifacts.

A variety of artifacts were also encountered within the shovel tests in the yard area. The upper soil level contained clear window glass and plastic. The brown silty sand stratum contained a sherd of redware with clear glaze and a small refined earthenware sherd with an embossed curlicue and blue and green hand-painted underglaze decoration. It also contained flat and curved glass sherds and plastic, as well as the ubiquitous coal, slag and brick fragments. Shovel Test 101 contained a possible preform in this stratum (see Photo 3). The cortex is visible on one side, along with some evidence of bifacial shaping. The prehistoric artifacts are either found in the same stratum as or in a stratum above modern artifacts, indicating mixing and/or redeposition. While the strong brown soil was culturally sterile in most of the earlier tests, it contained artifacts in some of the Building 125/135 tests. These included sewer pipe fragments, coal and slag in Shovel Test 101. However that test was obstructed by a large sewer pipe fragment at the top of the strong brown stratum and contamination may have resulted from its removal. The soil beneath was culturally sterile dark yellowish brown silty sand. Shovel Test 102 contained 4 brick fragments, a piece of coal and one corroded nail and Shovel Test 106 had only a brick fragment in the strong brown soil.

### **Trench Monitoring**

Trench excavation monitoring was preceded by testing for unexploded ordinance in the grassy area between Buildings 125 and 135. The firm of UXB conducted the work. They basically used a metal detector followed by ground truthing. They found two targets, or potential loci of unexploded ordinance (see Figure 10). One was located just west of Shovel Test 102 and the other between Shovel Tests 105 and 106. The target near Shovel Test 102 (eastern target) produced several pieces of metal that were found about 0.8 feet (24 cm) bgs. These included a cannon ball fragment, a piece of possible PSP (perforated steel planking) and a pin or nail (see Photos 5 - 7). The UXB experts conclusively identified the small cannonball fragment based on their years of experience with similar pieces, although to the untrained eye the artifact looks unremarkable. UXB described PSP as something used to cover soft ground so that military equipment can drive over it safely without sinking into the mud. However they could not conclusively identify the recovered artifact. The target between Shovel Tests 105 and 106 (western target) produced one large metal spike or pin (1.5 feet or 46 cm long) buried about 0.9 feet (27 cm) (see Photo 7). These artifacts recovered by UXB were all given the same context number for purposes of the artifact inventory; T 1.1. This context also included a piece of burned refined earthenware found at the location of the eastern target.

Trench excavation monitoring began from the eastern end of the planned alignment and headed west. This section was called Trench 1. The trench was only three feet deep (91 cm) at the eastern end and became seven feet (213 cm) at its deepest. It was generally about 3 feet (91 cm) wide. Figures 11 - 13 are a continuous profile of the north side of the trench. The trench began within a disturbance, previously identified by the contractor, from a concrete encased electrical duct bank buried about three feet (91 cm) bgs. The only other utility encountered in this trench was a defunct cable television line at 107 feet on the profile drawing. This cable was also encountered in Shovel Test 108. A number of anomalies were identified during the excavation and documented. These included several pockets of rocky or stony soil and demolition debris, as well as an ash-filled brick feature (Feature 1) and a stone well (Feature 2). The two features will be discussed below.

There were a total of five pockets of rock. These are seen on the profile drawing at 13, 26, 41, 49, and 55 feet. They varied in size averaging about 2.4 feet (73 cm) wide and 1.8 feet (55 cm) deep. Three of them were directly beneath the topsoil (located at 41, 49, and 55 feet on the profile). The other two were beneath the same overlying strata (located at 13 and 26 feet on the profile). These two were located toward the eastern end of the APE and had stratigraphy similar to Shovel Tests 101 and 102. The overlying strata are the same soils found in Shovel Test 101 Stratum 3 and Shovel Test 102 Stratum 2. Although no artifacts were associated with these features, the overlying strata contained some cultural material. However the only diagnostic artifact was a piece of embossed glass found in Shovel Test 101 Stratum 2. The tightly packed rock at 26 feet on the north profile was also observed on the south profile. These pockets of rock could be the result of landscaping.

There were four pockets of rubble or demolition-type debris encountered in the trench. They are shown on the profile drawing at 20, 32, 35, and 96 feet. The demolition debris was mainly mortar, stone and brick rubble. Context numbers were assigned for artifact provenience and were only used for pockets of debris where artifacts were recovered. Context number T 1.3 was assigned to the pit at 32 feet and Context T 1.4 to the pit at 20 feet. T 1.3 contained a piece of creamware and a sample of mortar was recovered from T 1.4. Context T 1.2 was assigned for miscellaneous finds from the trench backdirt (a piece of pearlware and a corroded nail). It is possible Shovel Test 103 was impeded by the debris identified at 32 to 35 feet on the profile drawing. This rubble observed on the north profile was also seen along the south profile, indicating Context T 1.3 likely extended across the trench. However it appeared to be one, rather than two, pockets of debris on the south side (see Photo 9). These pockets of building debris could be from a number of sources. The paucity of diagnostic artifacts recovered precludes associating the debris with a particular time of deposition.

As mentioned above, the trenching for the alignment at Buildings 125/135 was ultimately done in two sections because of the identification of a well (see Figure 13). The section to the east of the well was just presented and was depicted in Figures 11 – 13. The alignment as it went through the parking lot area between Buildings 125 and 135 was excavated in three separate “pits” rather than as a continuous trench because of the existing utility lines crossing the path of the trench (see Figure 14). The new sewer alignment would be at an elevation above the existing utilities and sloping down from north to south. The southern pit was about 14 feet (427 cm) long, up to 10 feet (305 cm) wide and 5.8 (177 cm) feet deep. The center pit was about 18 (549 cm) feet long and 7 feet (213 cm) wide. The northern pit was 20 feet (610 cm) long, 5.5 (168 cm) feet wide and about 3.2 feet (98 cm) deep. The stratigraphy within the three pits was fairly uniform and consistent with undisturbed soil documented in other parts of the alignment. It contained mostly strong brown sand beneath the paving. Photo 10 is a view of the northern pit.

#### *Feature 1 – Ash-Filled Feature*

During monitoring excavation for Trench 1, which began from the eastern end of the trench, the second pass of the backhoe at about 64 feet on the profile drawing (see Figure 12) brought up a large chunk of mortared brick. The remaining brick in the trench profile was two courses thick and about 10 to 12 courses high (2.5 feet or 76 cm). It appeared as a small “wall”. This feature could be seen in both the north and south profiles of the trench. The base of the profile was trowel probed to determine that the base of the brick was also the base of the excavation. Excavation continued and it was observed that the soils to the west of the brick feature were different from those to the east. Several buckets of soil from the deposit to the west of the brick were screened for artifact recovery. Ultimately, excavations continued and another brick “wall” was found at the 75 foot mark of the trench. The feature is described as a brick-lined ash-filled feature because of large pockets of ash documented on its interior. It can be seen from 63 to 77 feet on the north profile drawing (see Figure 12).

The location of Feature 1 corresponds to the area between Shovel Tests 105 and 106, roughly the location of the UXB target where the large metal spike was recovered. The feature was just below the topsoil and extended the width of the trench, and therefore beyond. It was 12.3 feet (375 cm) from end to end along the trench profile. The brick was unmarked and was two courses thick with solid mortar (see Photo 11). The mortared brick was about 2.5 feet (76 cm) from top to bottom. The brick at the western end of the feature was directly beneath the topsoil, however the brick at the eastern end was beneath and adjacent to a brown sandy silt deposit. This is the same deposit that was encountered in Shovel Test 105. It could possibly be part of a builder’s trench. The western brick was underlain with strong brown sand. The base of the brick was just at the base of excavation in the eastern side of the feature and the strong brown sand abutted it.

The ash was in large pockets within a matrix of stony sand, unlike the soil matrix outside of the feature. There were two distinct ash pockets in the profile. One was about three feet (91 cm) across and the other over four feet (>122 cm) and both about one foot (30 cm) thick. Two artifacts were recovered while trowel scraping the profile; a mortared brick and a corroded square-shank nail (Context F 1.1). As stated above, a sample several buckets of the ashy deposit and matrix were screened for artifact recovery (Context F 1.2). This did not produce

any diagnostic artifacts. Samples of cinder, coal and slag were retained as was the only piece of glass. The glass is light aqua window-type glass.

#### *Feature 2 – Well*

A dry-laid stone well was identified near the western end of Trench 1, located on the profile drawing from about 107 to 114 feet (see Figure 13). The stone was exposed at about 2.2 feet (67 cm) bgs as the backhoe was moving east to west (see Photo 12). A metal plate had been covering the well (see Photo 13). It was also covered with a large piece of bluestone, possibly a capstone. The plate was two by four feet (61 x 122 cm) and one inch thick and had a circular hole in the middle measuring six inches (15 cm). The stone was about 3.5 feet (107 cm) long, one foot (30 cm) wide and 0.3 feet (9 cm) thick. The plate and stone were removed along with a stone or two from the top edge of the well as the backhoe first passed the feature. At this point in time, excavation stopped. GIPEC was notified of the find and immediately came to inspect the well. Archaeological documentation of the well continued as GIPEC, SHPO, LPC and the contractor were making decisions as to what to do about the sewer project as a result of this major finding. After consultation, the decision was made to redesign the sewer alignment so as to preserve the well.

The well was buried about a foot (30 cm) below the surface. Its internal diameter is 3.5 feet (107 cm). It does not appear to have been intentionally filled as it was mostly empty, except for standing water, silt and some stone. At least one stone from the rim of the well had fallen in. One could measure down to a depth of 17.5 feet (533 cm) bgs until the tape measure hit an obstruction. The bottom of the well contained about 0.7 feet (21 cm) of standing water. The water was pumped out to facilitate documentation. This took the water level down to 0.3 feet (9 cm). The base of the well was probed with the blade of the trowel and contained at least 0.4 feet (12 cm) of silt. Probing indicated that there was also at least one large stone at the base of the well.

The individual stones which make up the well are about 1 to 1.3 feet (30 – 40 cm) wide and 0.5 – 0.7 feet (15 – 21 cm) high. They are about 0.6 – 0.7 feet (18 – 21 cm) deep, making the outer diameter of the well about 4.8 feet (146 cm). However, it was not possible to take a direct outer measurement without removing more soil and that was not feasible because of concern for destabilization the well. Photo 14 shows a section of the well had been repaired. The stones in the northern end are not consistent with those in the rest of the well (compare Photos 12, 14 and 15). They are somewhat smaller and are chinked. The fact the well was damaged and repaired leads to speculation on the whereabouts of the replaced stones. It is suspected there may be additional stones in the base of the well since the rim is at various elevations and an historic repair had been made (see Photo 15 and Figure 13). There was a very large flat stone at the base of the well which was removed. It was about 3.3 feet (101 cm) long, one foot (30 cm) wide and 0.3 feet (9 cm) thick. It was bluestone and appears to be the same type and size as the possible capstone removed by the backhoe as the well was first identified.

Three artifact contexts were established for the well. Context F 2.1 was backdirt from the trench excavation adjacent to the well. Context F 2.2 was assigned for miscellaneous finds from within the trench adjacent to the well. Context F 2.3 was inside the well. Three buckets of silt were taken from the base of the well for artifact recovery. The soil inside of the well was wet dark grayish brown silty sand. Artifacts recovered from this deposit include a pearlware sherd, sewer pipe fragment, a devitrified glass sherd and a piece of twentieth-century green bottle glass, along with other non-diagnostic material (see Appendix D).

Ultimately, the sewer work was redesigned to avoid the well. The well covered with the capstones and metal plate and reburied. The new alignment was to be within a previously existing utility trench disturbance and no further monitoring was done.

#### **Discussion**

The obstructions encountered in three of the shovel tests at the Building 125/135 area were identified during Trench 1 excavations. The obstruction found in Shovel Test 103 corresponds to the area of the brick and rubble pocket seen at 32 – 35 feet on the north profile (see Figure 11). Shovel Test 104 was placed in the area of the pocket of rocks at 49 feet on the profile and Shovel Test 108 was possibly impeded by the capstone from the well.

The pockets of rock observed in the profile of Trench 1 could represent the accumulation of stone, either intentionally removed from the soil and/or added to depressions during landscaping. The building debris found at 32 – 35 feet on the north profile is mainly brick with very little adhered mortar. The bricks were unmarked. There was more stone mixed with the debris toward the western end of the deposit. Its origin is not known, nor is the origin or date of deposition of the two other pockets of building rubble found in Trench 1. It is possible the debris was from the demolition of the storehouse formerly located where Building 125 now stands or it could be from the construction or demolition of an unknown outbuilding, feature or some other source.

Because the brown sandy silt is both adjacent to and on top of the eastern brick at Feature 1 (see Figure 12), it is likely the full extent of the height of the brick in the feature is what was exposed during these excavations (about 2.5 feet or 76 cm) and it was not truncated when the feature was buried. Furthermore, this may also mean Feature 1 was partially covered at the same time it was built. In the absence of a significant number of diagnostic artifacts within the small sample of screened soil from Feature 1, an interpretation of the date of construction is not possible. Based on style of construction, Feature 1 seems like was built sometime after the turn of the twentieth century, perhaps around the same time as Pershing Hall in the 1930s, although the square shank nail found in the feature fill dates from prior to the 1890s (Mercer 1975: 237, 247). However it is not prudent to base a date of construction of the feature on a single artifact or on an impression of similarly constructed brick. The feature could be a number of things, including part of a furnace dump, a septic feature, a garden or a large shallow privy. It obviously extends beyond the bounds of the trench and there could be an opportunity to evaluate it in the future.

The stone well was not anticipated based on the previously available reports (JCA 2003; PAL 1996; Pearson 1996; U.Mass. 2003). However, upon its discovery, the historic records on Governors Island were examined. Figure 15 is a section of the 1867 Map of Governors Island. It shows a “pump” in the general location of where the well was discovered. The pump was then located between the two ordinance storehouses (of which Building 135 is still standing). It is possible the round opening in the metal plate found covering the well once contained the pump. The location of the well would lead one to speculate it would have served many of the buildings on that part of the Island. Presumably, it would have gone into disuse around the time when water was piped into those buildings. Mike Shaver of the National Park Service provided an historic note from Sue Glen who recently compiled a pictorial book on Governors Island based on information she collected while living there in the early 1990s: “Near Building 135 there was a set of stone steps leading down to a spring house and an arbor at the southeast corner of the storehouse”. The quote likely comes from Chaplain Edmund Banks Smith’s 1923 *Governors Island: Its Military History Under Three Flags, 1637 – 1922* because the Governors Island Archaeological Overview also mentions the steps, arbor and spring house and refers to Smith’s book (U.Mass 2003: 67). While this quote mentions a water source, it does not necessarily mean the spring and the well were one in the same. However it may be worthwhile to investigate the possibility.

## CONCLUSIONS AND RECOMMENDATIONS

The stratigraphy documented within the APE of the sewer project shows there was at least one soil deposit overlying the culturally sterile subsoil. The subsoil was generally strong brown sand and the overlying deposit was a brown or dark yellowish brown silty sand to sand. In some places within the Building 125/135 area, grayish brown silt was found at shallower depths. In general, soils encountered in shovel testing and monitoring near Buildings 107/108 and 125/135 had a temporal range of artifacts within them dating from prehistory through modern time. Furthermore, no buried original ground surface was identified. Therefore, the soils had been mixed and redeposited, either naturally or more likely by action related to leveling and paving or landscaping. The paved areas between Buildings 107 and 108 and Buildings 125 and 135 may have been more apt to have had the original ground surface removed in the past during leveling prior to paving. However no specific evidence to this effect was found. No features were identified in the work done at Buildings 107/108.

The archaeological work for the new sewer alignment near Buildings 125 and 135 encountered three to four pockets of demolition debris and two features. One of the features was an ash-filled brick-lined feature of undetermined period and use. It was about 12.3 feet (375 cm) long and 2.5 feet (76 cm) deep. The entire width was not exposed. A small sample of soil was screened for artifact recovery and did not provide enough diagnostic artifacts to determine the date of construction or fill of the feature. The other feature was a stone well. The well was about 4.8 feet (146 cm) in diameter and at least 17.5 feet (533 cm) deep. The project was redesigned to avoid the well. The well itself had not been intentionally filled before it was covered and buried. However there is some silt in the base of the well. A small sample of the silt was removed for artifact screening. Only two diagnostic artifacts were recovered; one glass sherd and one pearlware ceramic sherd. The glass could date to anytime after 1865 and pearlware was generally manufactured from the late eighteenth century through the early nineteenth century (Fike 1987: 13; Majewski & O'Brien 1987: 118; Noel Hume 1991: 128-130). An 1867 map shows the location then contained a pump. One may assume the pump on the map was for the well and that it was in use at that time. Since the well has been preserved, it may be possible to conduct more archaeological work there. It may also be possible to conduct additional historic research. The research could determine more about the dates of construction, repair and disuse of the feature and possibly to determine which of the buildings were likely using the well as their fresh water source.

When additional below ground disturbances are planned near the well or ash-filled brick-lined feature described in this report, plans for archaeological evaluation should be included. Archaeological potential in the vicinity would also need to be assessed at such time.



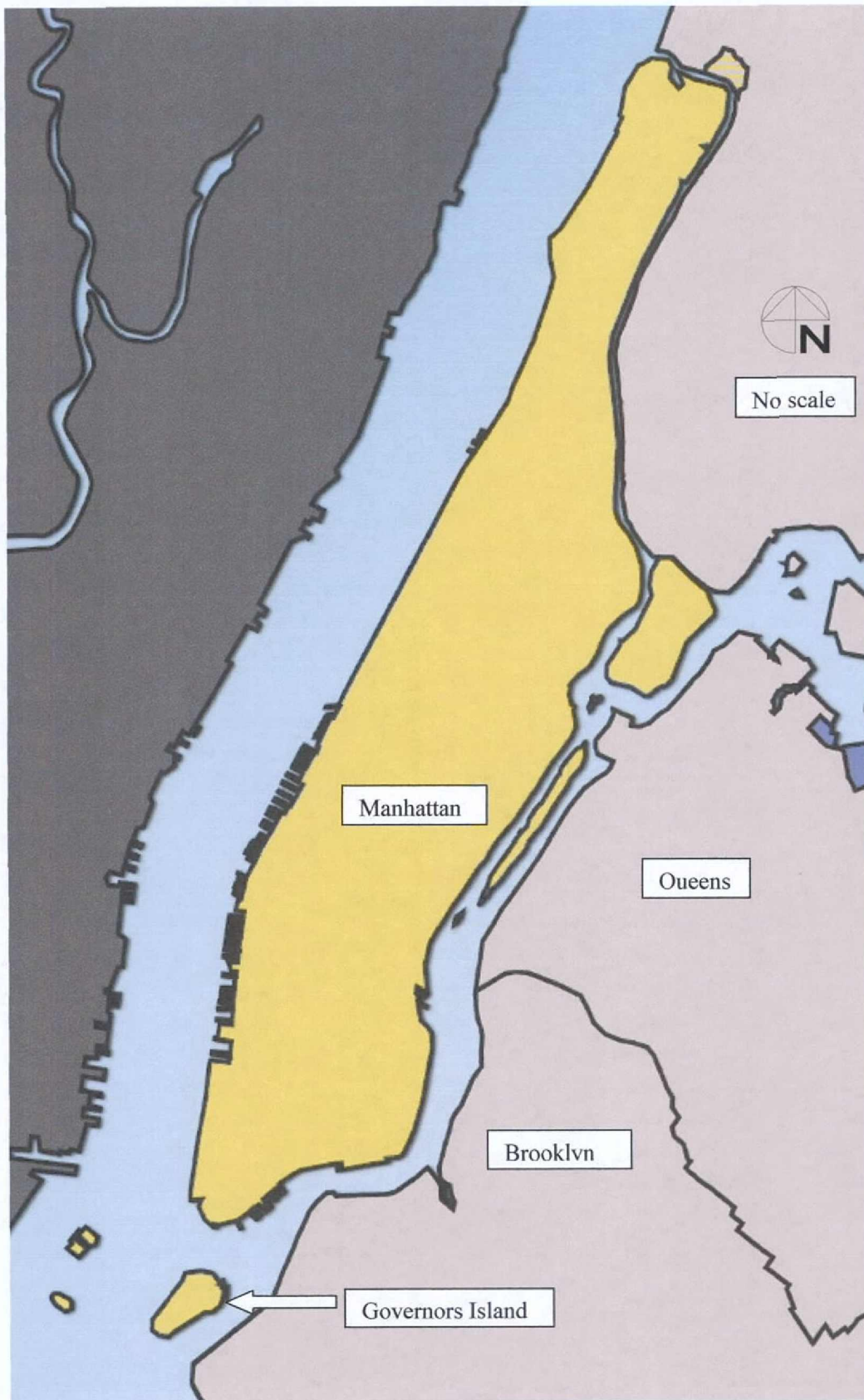


Figure 1 Location of Governors Island in New York City.



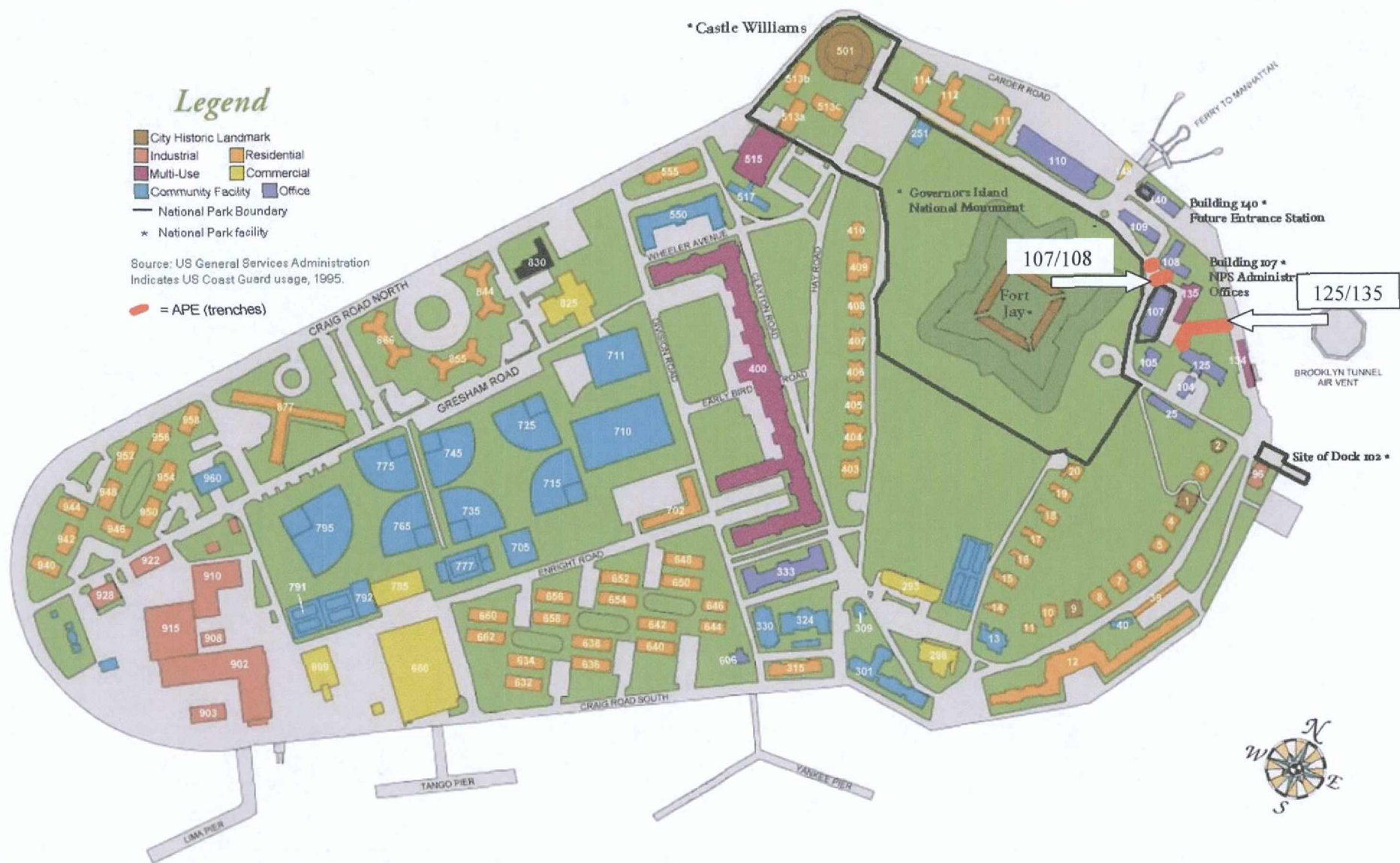


Figure 2 Location of the APE (trenches) and Buildings 107, 108, 125, and 135 within Governors Island.

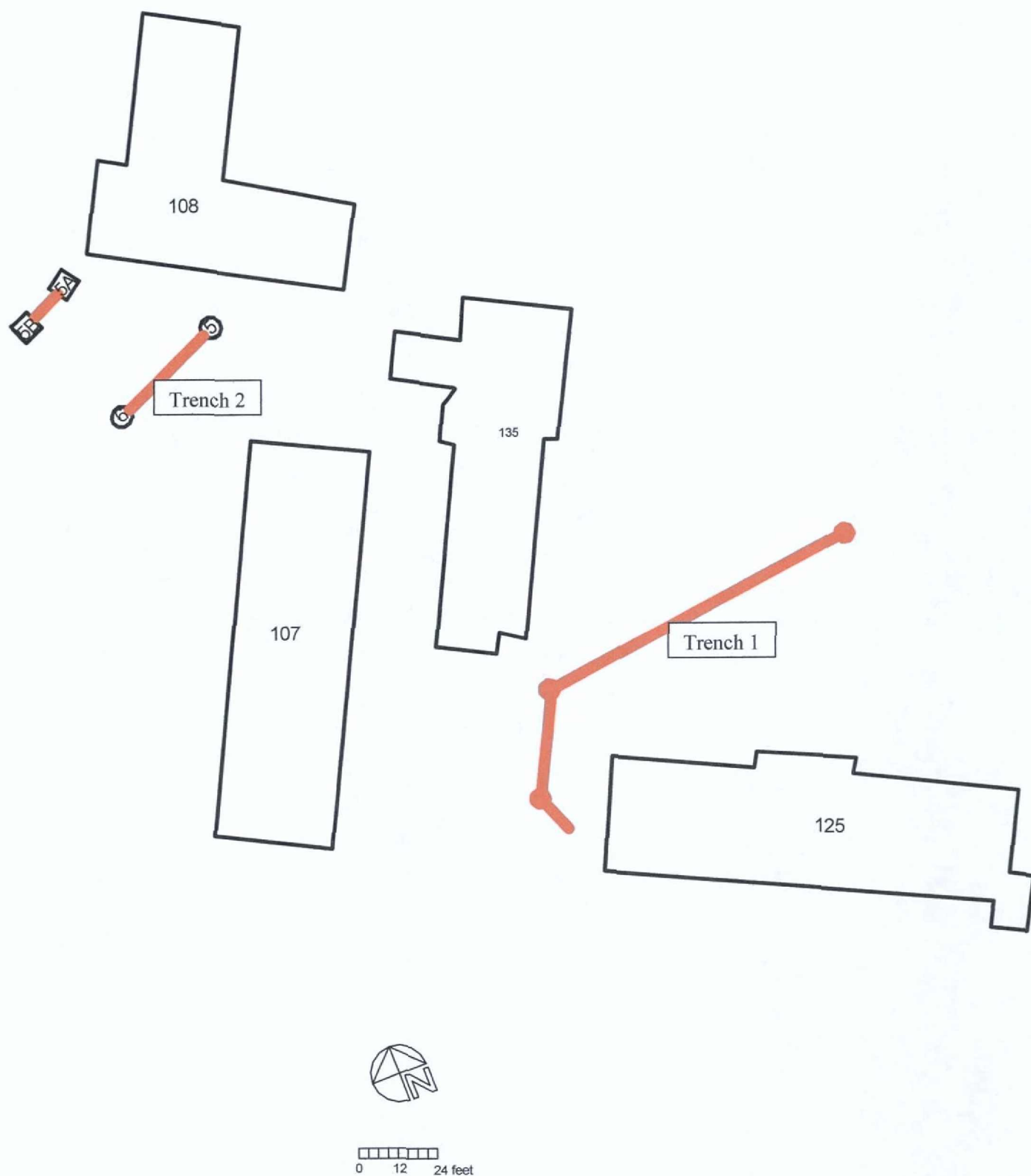


Figure 3 Locations of the planned trenches near Buildings 107, 108, 125, and 135.



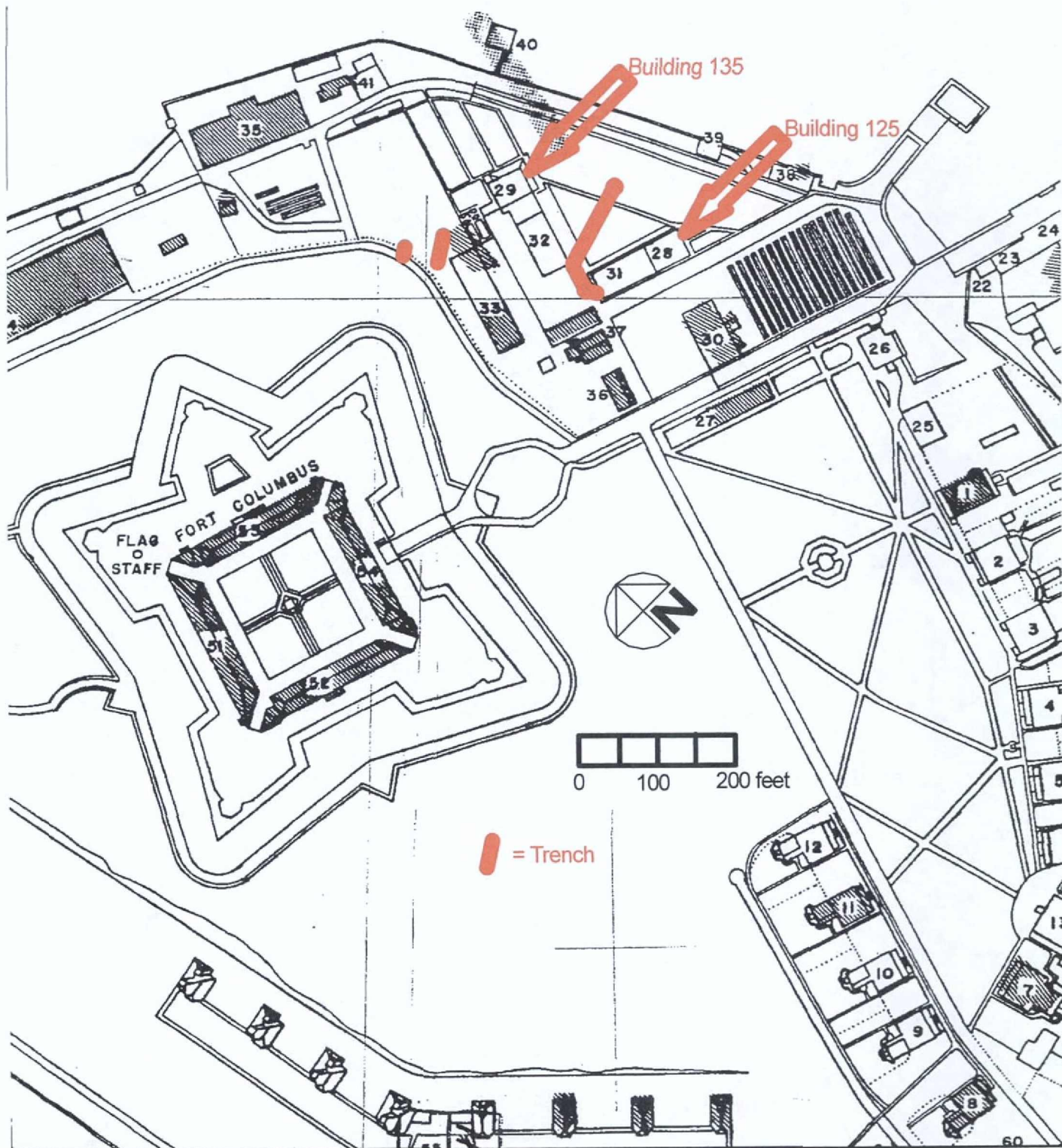


Figure 4 Part of the 1879 Map of Governors Island.

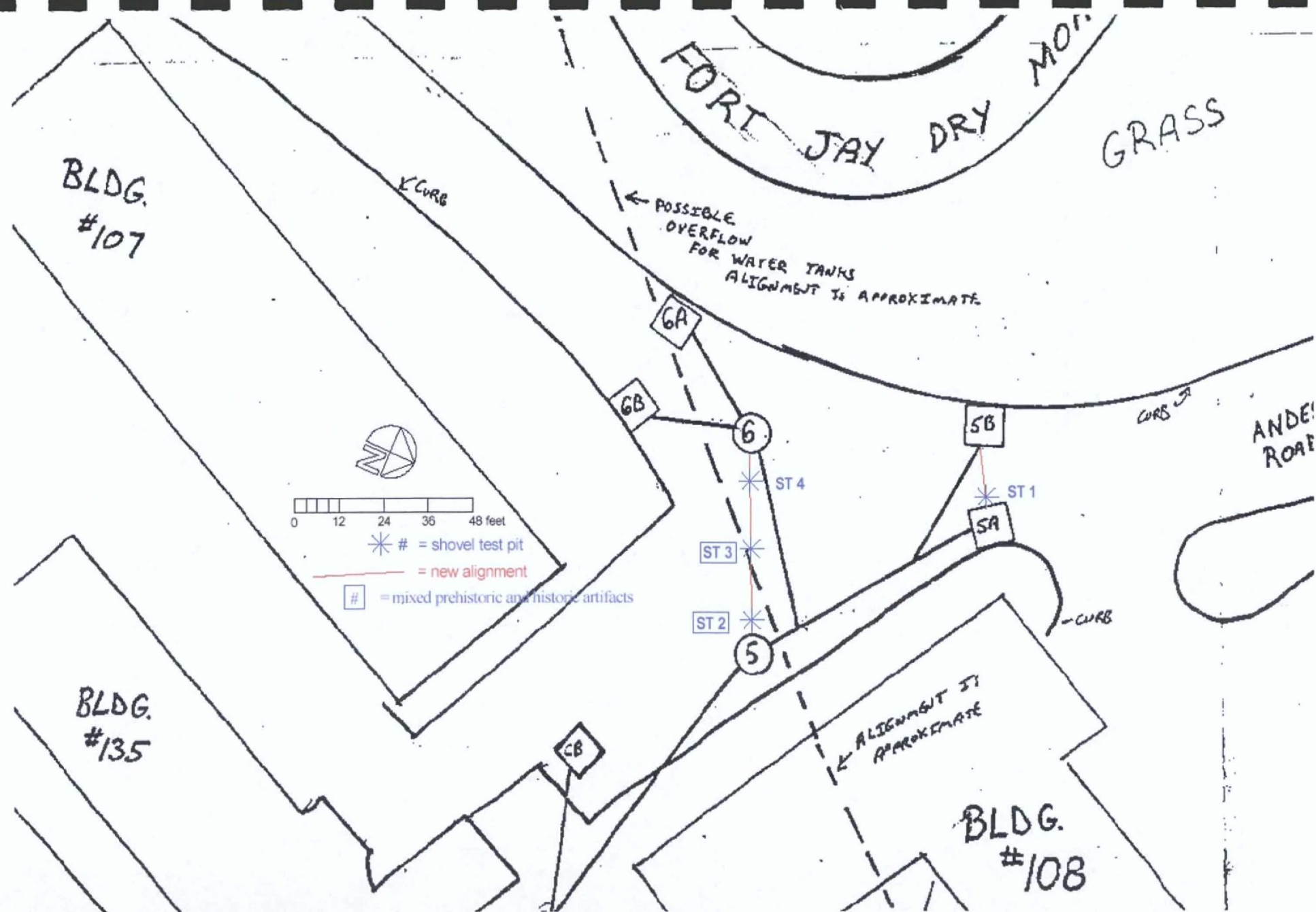


Figure 5

Shovel test locations in the Building 107/108 area.

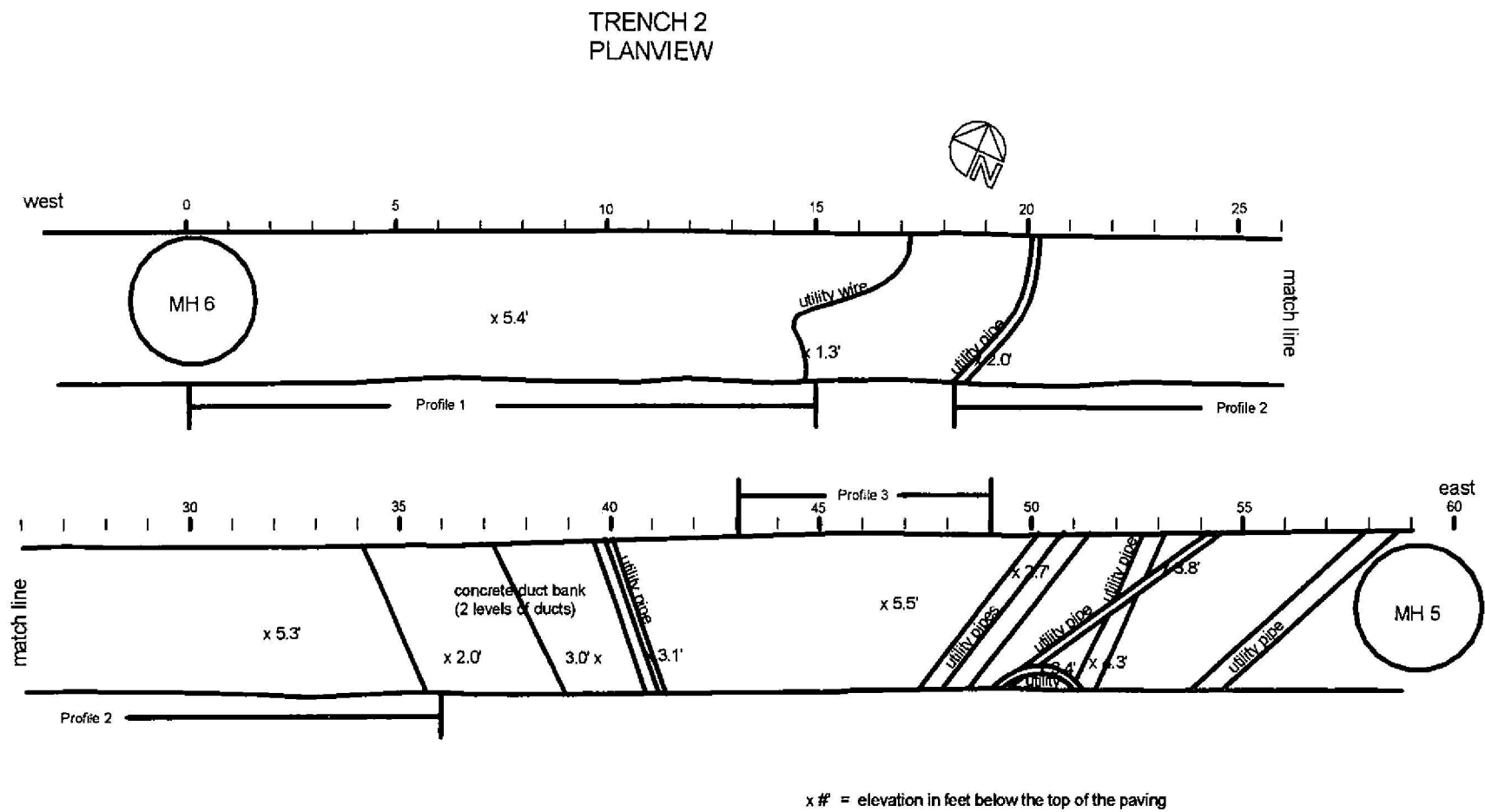
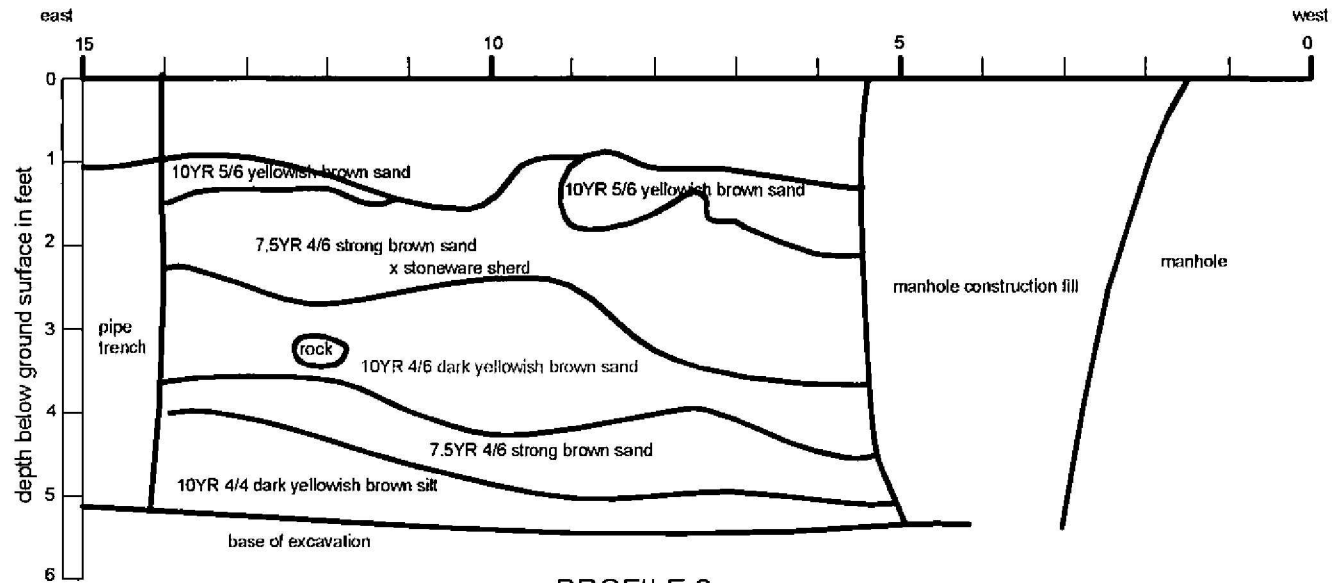


Figure 6 Trench 2 Plan View.

# TRENCH 2 PROFILE 1



# PROFILE 2

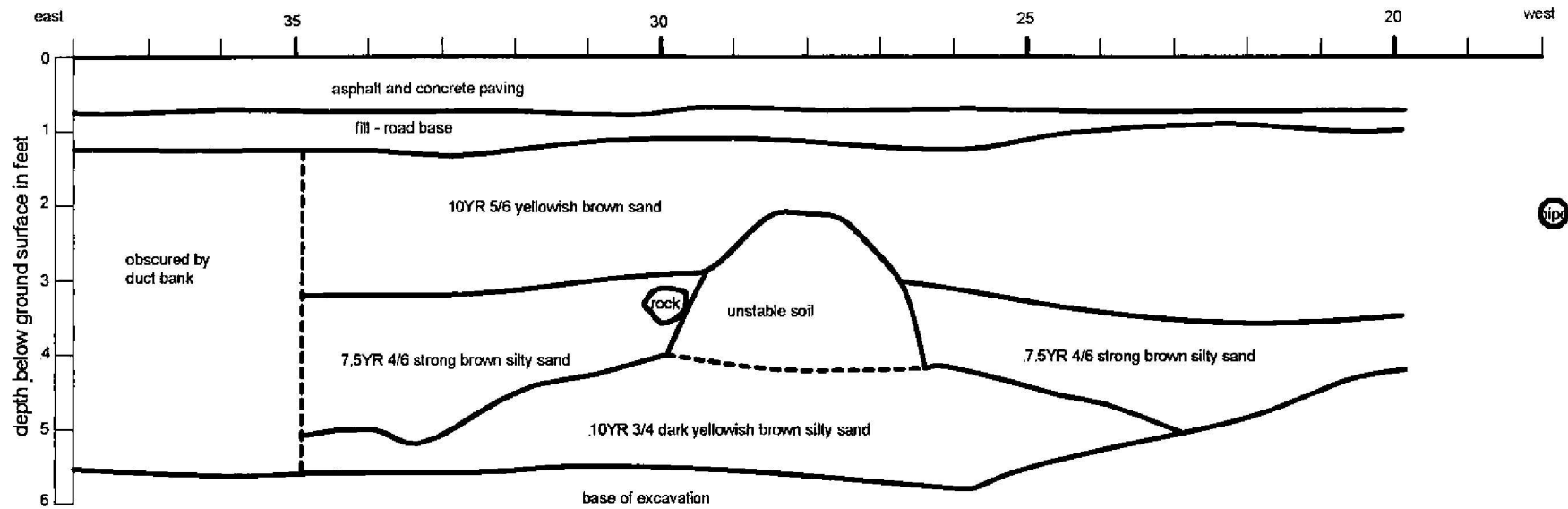


Figure 7 Trench 2, Profiles 1 and 2.



# TRENCH 2 PROFILE 3

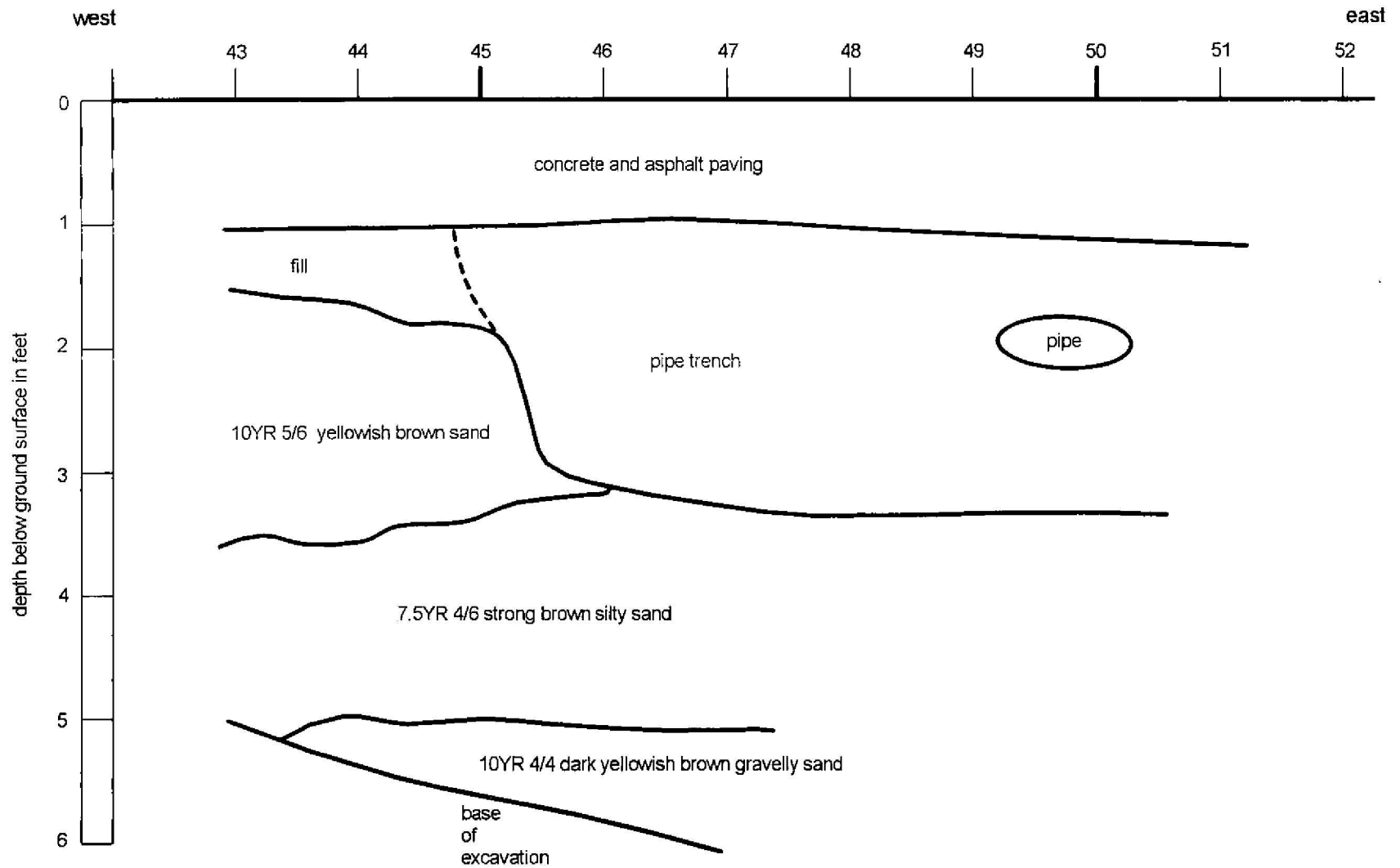


Figure 8 Trench 2, Profile 3.

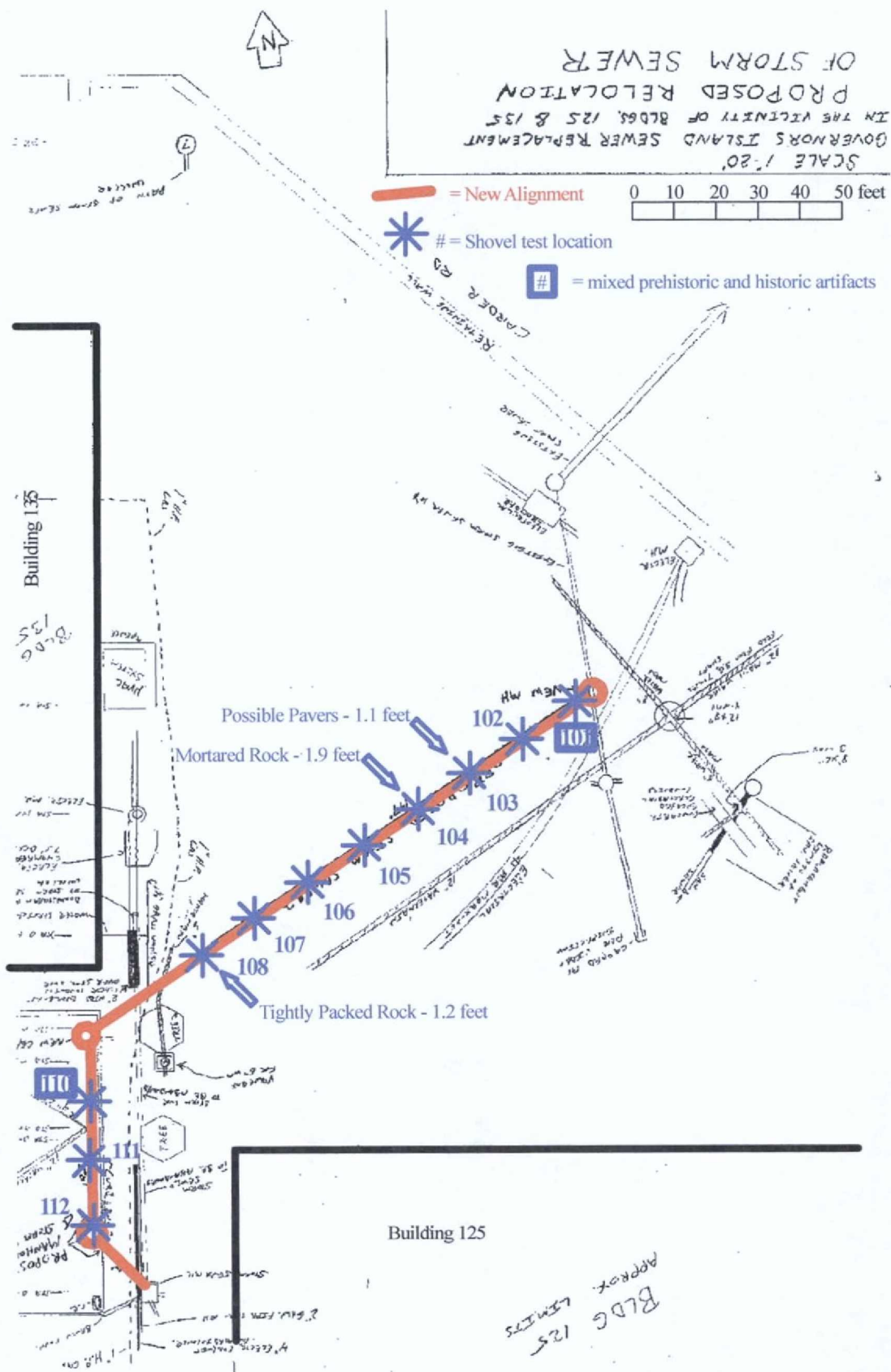


Figure 9

Shovel test locations in the Building 125/135 area.

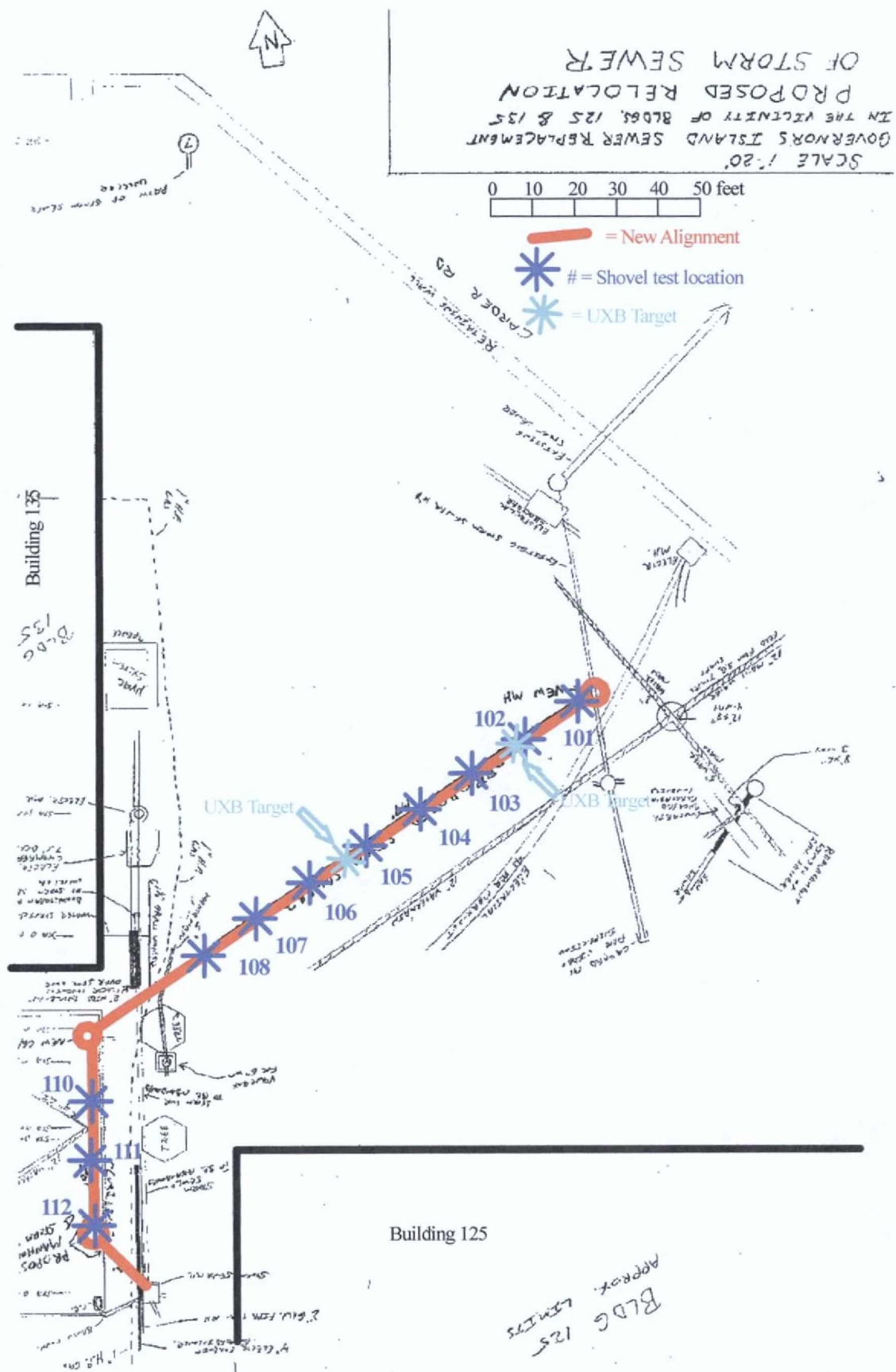


Figure 10

Shovel test locations and locations of metal targets identified by UXB in the Building 125/135 area.

# TRENCH 1 NORTH PROFILE SECTION 1 (EAST)

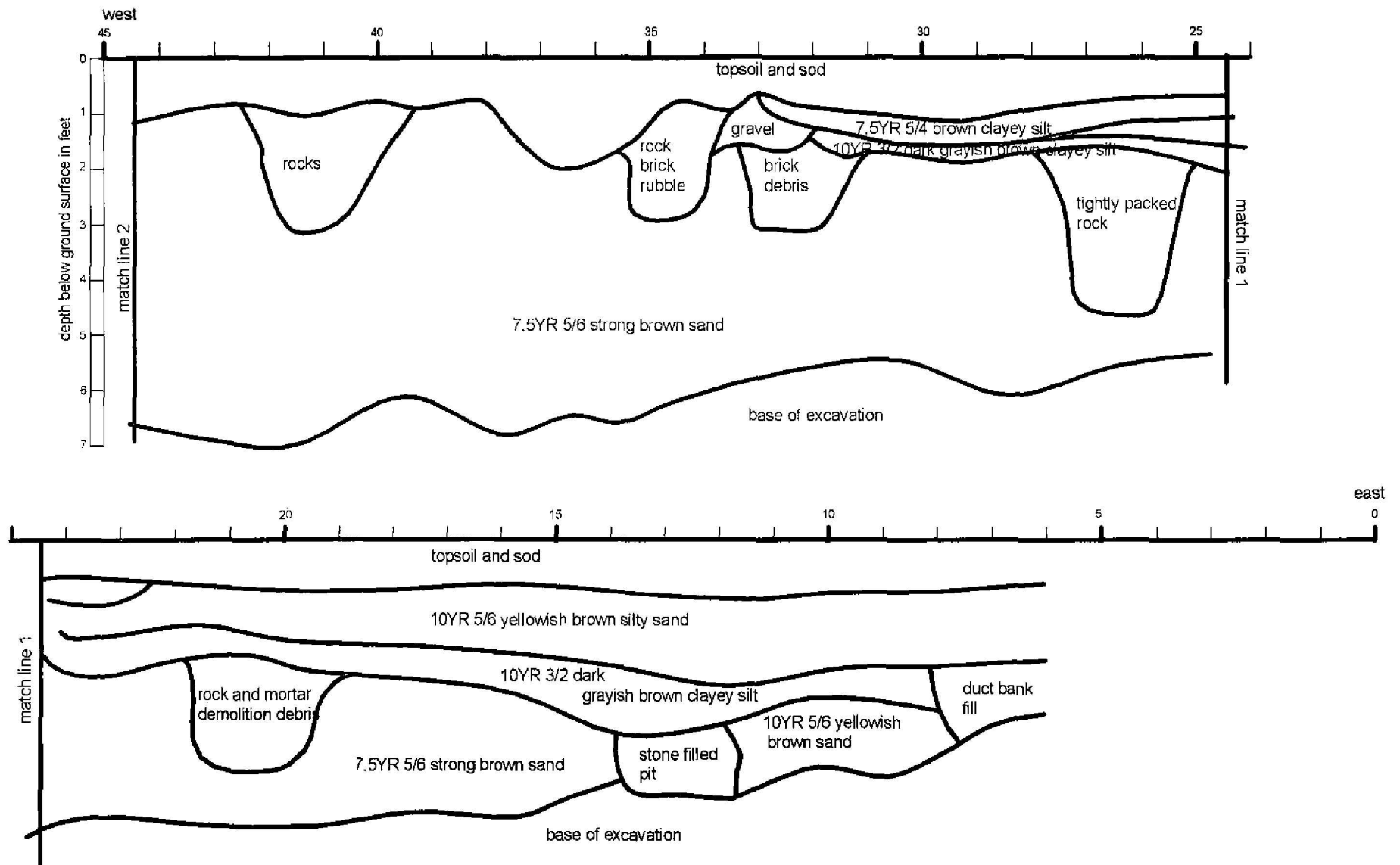


Figure 11 Trench 1, North Profile, Section 1 (east).

TRENCH 1  
NORTH PROFILE  
SECTION 2 (CENTER)

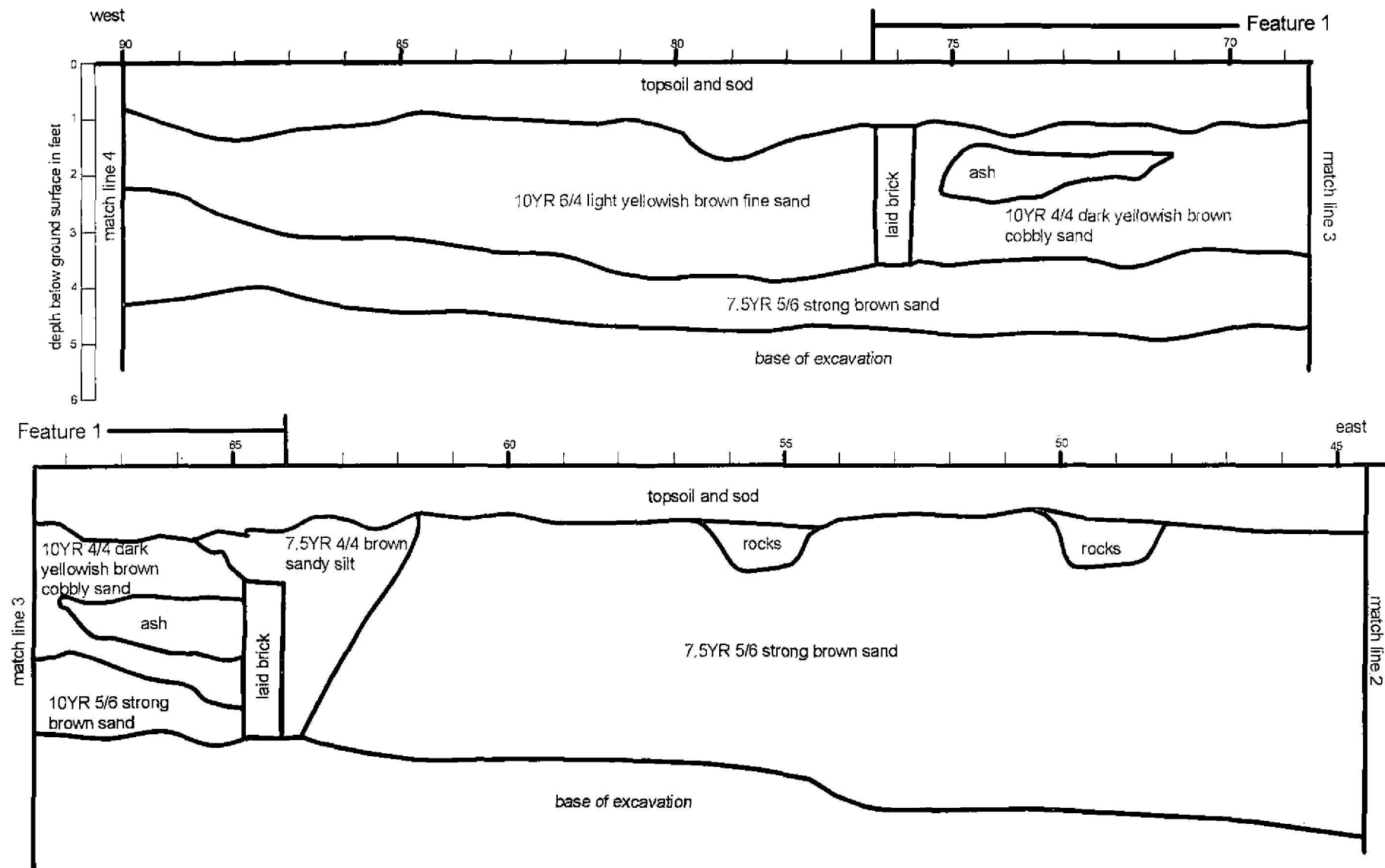


Figure 12 Trench 1, North Profile, Section 2 (center).

# TRENCH 1 NORTH PROFILE SECTION 3 (WEST)

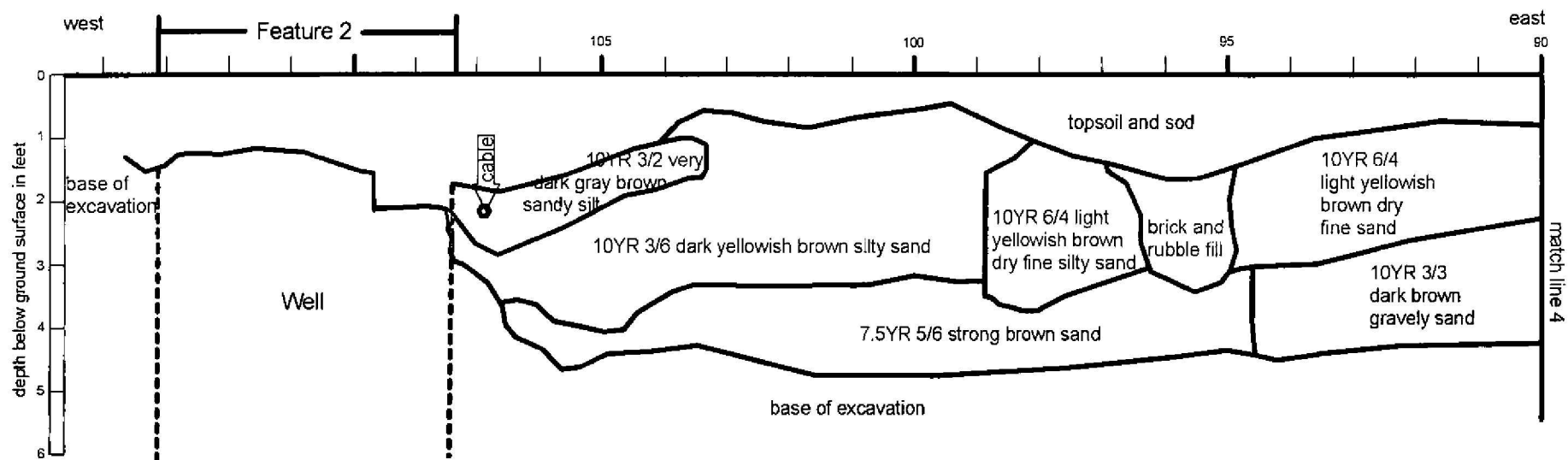


Figure 13 Trench 1, North Profile, Section 3 (west)



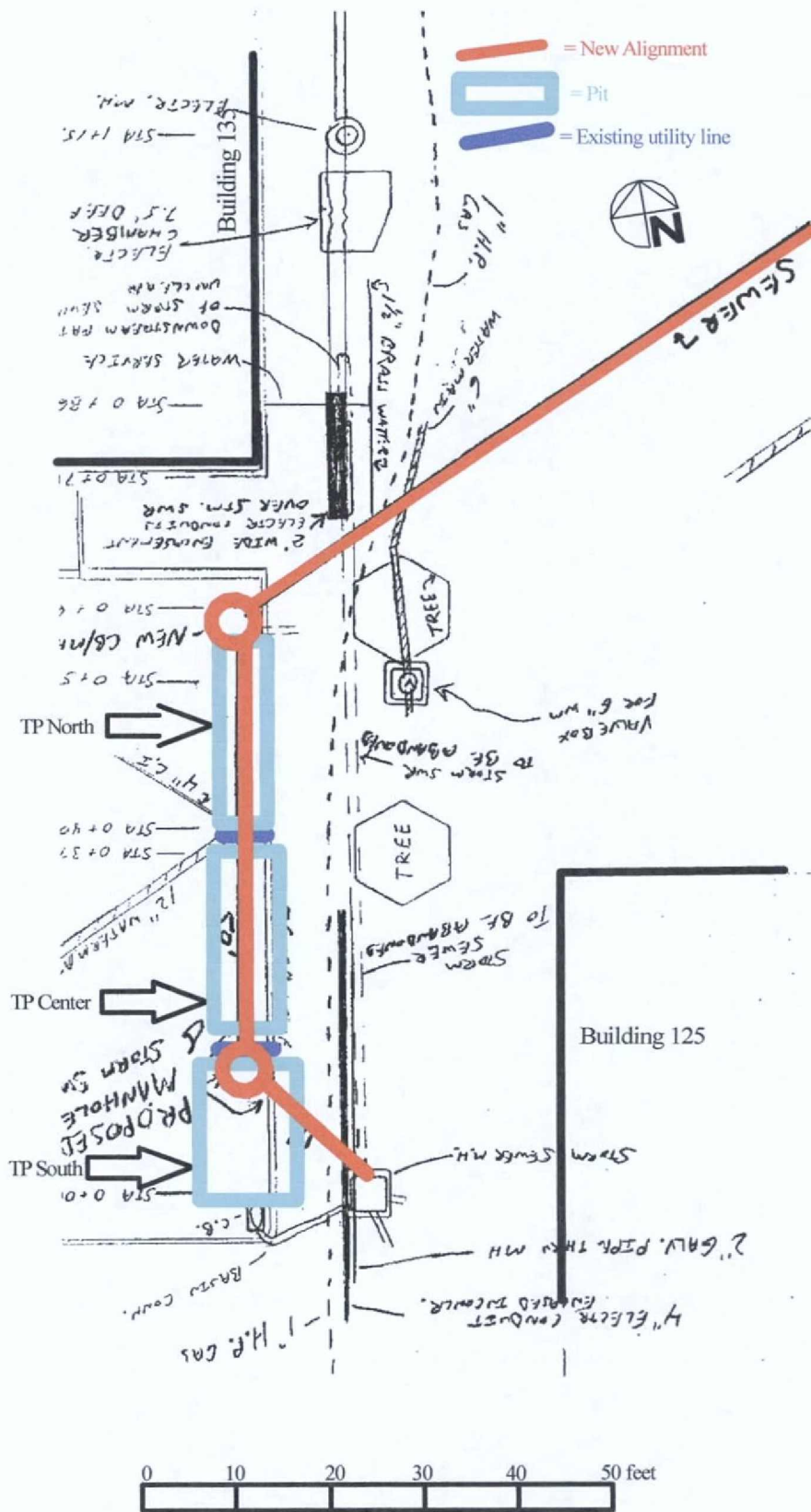


Figure 14 Location of trench/pits at west end of Building 125/135 area alignment.

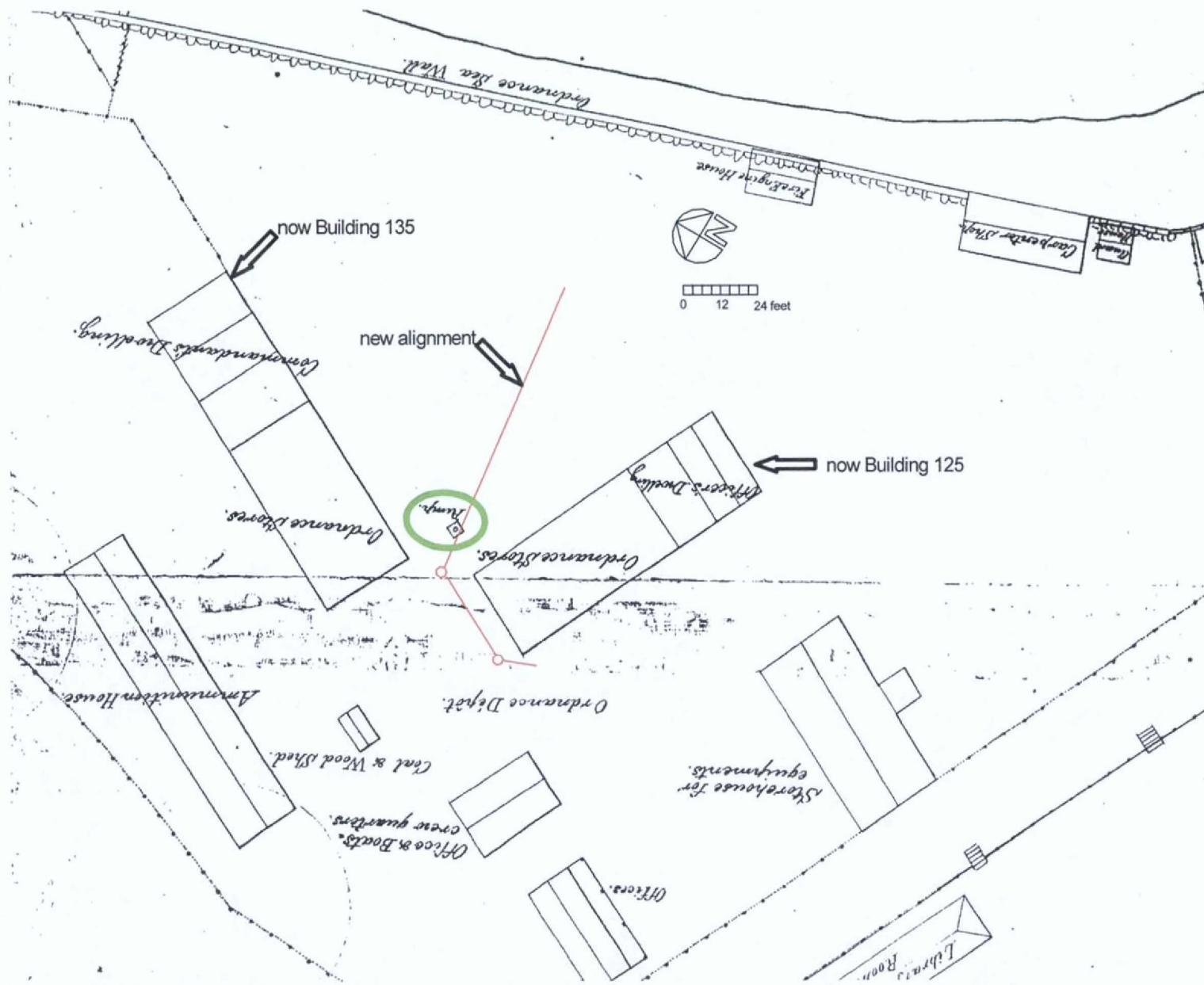


Figure 15 Part of the 1867 Map of Governors Island showing the pump location.

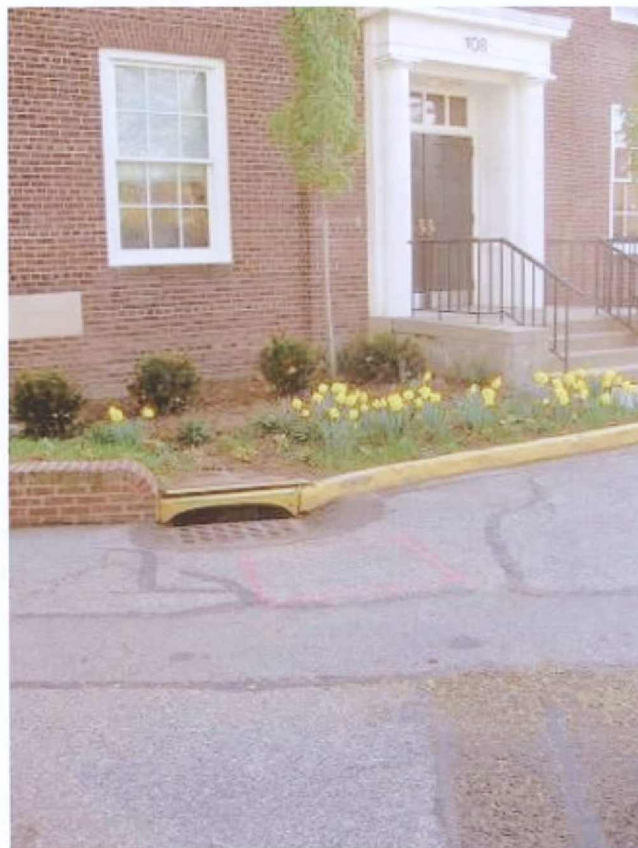
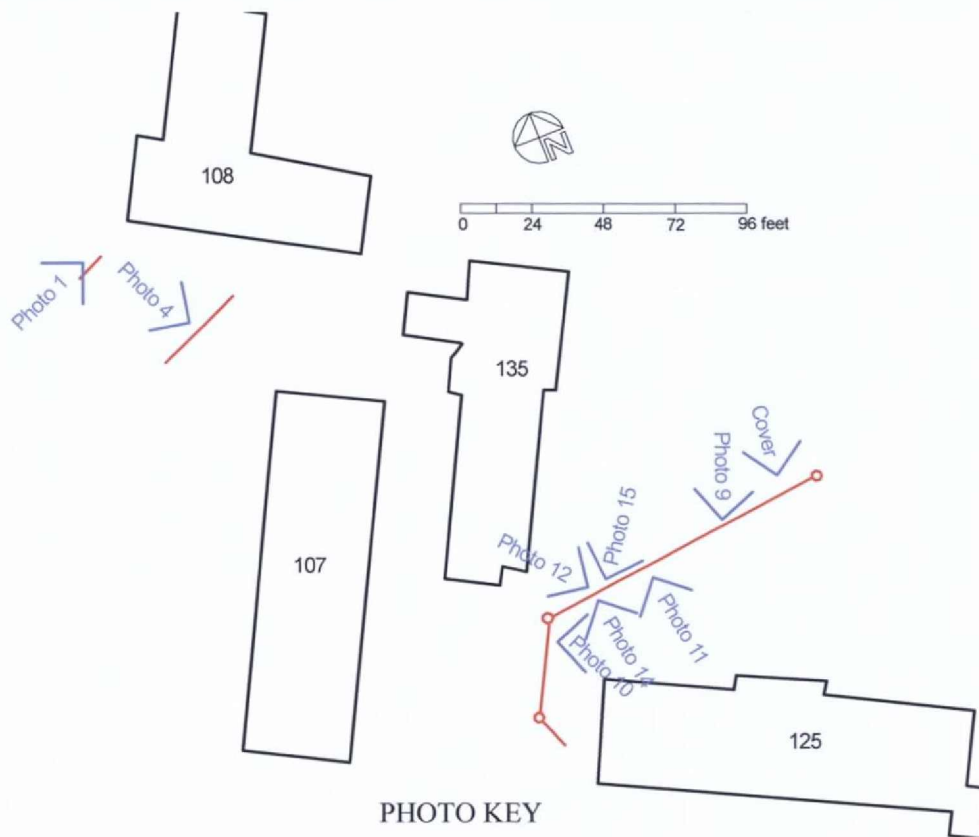


Photo 1      Location of ST 1 (pink square) and patches in the paving in front of Building 108.



Photo 2 Bone button from Shovel Test 1.3.



Photo 3 Possible prehistoric artifacts from ST 110.4, ST 110.4, ST 101.4, ST 3.3 and ST 2.3 (clockwise beginning in the upper right).





Photo 4 Trench 2 from about 25 to 34 feet.



Photo 5 Cannonball fragment.



Photo 6 Possible nail or pin.



Photo 7 Possible perforated steel planking (PSP).



Photo 8 Possible spike or pin.



Photo 9 South profile of Trench 1 at about 34 feet.





Photo 10 West profile of the northernmost pit at Building 125/135.



Photo 11 View of ash-filled feature, facing northwest.



Photo 12 View of well as it was first uncovered, facing east.



Photo 13 Metal plate which had been on top of the well when it was first uncovered, also corner of possible capstone in upper left.





Photo 14 View of the well showing a repair, facing north.



Photo 15 View of the well showing the stones and construction, facing south.

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University Of Massachusetts, Archaeological Services

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U.S. Army Corps of Engineers

1867 Map of Governors Island. Surveyed by Major John G. Barnard. Fortification File, Drawer 37, Sheet 55.



Appendix A

SCOPE OF WORK

BUILDINGS 107 & 108

SCOPE OF WORK FOR  
ARCHAEOLOGICAL TESTING AND MONITORING  
DURING SEWER EXCAVATIONS  
AROUND BUILDINGS 107, 108, 125 & 135  
ON GOVERNORS ISLAND  
NEW YORK, NEW YORK

April 14, 2005

The Governors Island Preservation and Education Corporation (GIPEC) is in the process of repairing and replacing sewers in the vicinity of Buildings 107, 108, 125 and 135 on Governors Island (see Figure 1 for location). This area is adjacent to the Governors Island National Historic Landmark and within New York City Landmark district.

The attached schematic was provided by Bedford Construction Corp. (the contractor) and shows the locations of the originally planned work in bold lines (see Figure 2). Figure 4 shows the updated location of the planned sewer line in the area of Buildings 125 and 135. Except in part of the area of Buildings 125 and 135 (shown on the left side of Figure 4) and in front of Building 108 (Figure 2 upper right), all replacements will be done within the previously excavated existing pipe trenches. The contractor will excavate only to expose the existing pipes and then will remove and replace them.

In the Building 108 locations the existing lines will be abandoned and two new trenches will be excavated. The trenches will be about 3 feet wide and 3 - 4 feet deep. One will be about 40 feet long and located between manholes numbered 5 and 6 on Figure 2 and the other will be about 15 feet long and will be located between the catch basins numbered 5A and 5B.

In the area of the sewer replacement around Buildings 125 and 135, the contractor will place five test pits to locate and assess existing pipes that are known to cross the path of the proposed sewer. Until they complete this testing, they will not know the required width or depth of the new sewer. However, it is currently estimated the new sewer trench will be about four feet deep and five to six feet wide in that area.

Other work will consist of the installation of two new manholes along the line behind Building 135, within the replacement trench. These manholes will require excavation of about a foot beyond the existing pipe disturbance on either side. The depth will be the same as the pipe trench.

The archaeological work recommended here will be conducted in a manner consistent with the New York Archaeological Council's Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State (1993) and their Monitoring Guidelines (adopted 2002), as well as the New York City Landmarks Preservation Commission's Guidelines for Archaeological Work in New York City (2002).

Previous archaeological research done on Governors Island indicates the potential to encounter previously unrecorded Native American archaeological resources is "extremely high" in locations which have not been since disturbed (U.Mass. 2003: 132,143). Historic period disturbances within the road in front of Building 108 and in the parking lot adjacent to Buildings 125 and 135 are mainly from utility work, but otherwise remain relatively undisturbed.

The exact locations of the existing utilities will be determined by the contractor's test pits near Buildings 125 and 135. However, utility locations near Building 108 are more vague. Figure 3 is a composite of a number of maps on file at Governors Island showing utility locations, as well as observations on the ground of patches in the pavement in front of Building 108. It is assumed the map locations are not entirely accurate for a number of reasons. The contractor added a black dashed line to the schematic showing the likely location of the overflow water line and thinks this may be the actual location of a line shown on the 1962 general water map. Furthermore, the 1976 electrical plan shows the electrical lines going into catch basin 5A, which is not the case. Additionally, a fuel tank shown on a 1990 plan is depicted in the location of the same catch basin, again an obvious error. Nevertheless, these utility plans provide some measure of the amount of disturbance likely to exist. It appears that there could be two lines crossing the path of the planned connector between manholes 5 and 6 and only one line crossing the path of the planned connector from catch basins 5A and 5B. This would indicate there is a likelihood that the some previously undisturbed earth exists in sections buried beneath the road. It is in these locations that Native American archaeological deposits may be found.

Archaeological shovel testing is recommended in these areas of the new sewer alignments.. The contractor will strip the asphalt and any underlying paving and then the archaeologist will place shovel tests within the trenches. The shovel tests will be about one to one and a half feet in diameter and excavated to the depth of non-artifact bearing subsoil or to the extent of the shovel (around 3 feet) to evaluate the nature of the soils and the presence or absence of archaeological remains. Previous archaeological testing on Governors Island encountered natural subsoils at a depth of less than three feet below ground surface (PAL 1997:61). All soils excavated from the shovel tests will be screened through 1/4 inch mesh for the recovery of artifacts. Soils, stratigraphy and artifact inclusions will be recorded on forms. Shovel test locations will be mapped on the site plan. Photodocumentation and drawings will be done as appropriate.

Four tests are recommended along the roughly 90 foot long realignment near Buildings 125 and 135 (intervals between 10 and 25 feet). In front of Building 108, three tests are recommended for the longer line and only one for the shorter line (about 15 foot intervals). Should no intact archaeological deposits be found or should cultural materials be found in previously disturbed contexts, the shovel tests will be followed by archaeological monitoring, to document the nature of the deposits in the remainder of the trenches, including the actual utility locations. In the case that an *in situ* archaeological deposit is encountered, it will be archaeologically excavated within the footprint of the planned trench, to assess the extent and significance of the find. Once it is concluded the resource has been removed, these excavations will also be followed by archaeological monitoring.

No archaeological testing or monitoring is recommended for the locations where pipes will be replaced within the same lane as existing pipes. However, should the contractor find it necessary to stray from the prescribed path, they will be obliged to contact the archaeologist to determine if the deviation is within an archaeologically sensitive area.

In the case of the two new manholes planned within the existing line behind Building 135, an area of up to a foot on either side of the pipe trench will be necessarily excavated. It is not known if this will be within the original pipe trench since no records of the width of that excavation exist. One archaeological shovel test is recommended at the edge of each manhole location to identify the presence or absence of archaeological material and the extent of the disturbance of the original trench.

The monitoring protocol gives the archaeologist authority to halt contractor excavations to document any archaeological resources, should they be encountered. Should this be necessary,

excavation will be temporarily suspended while the archaeologist hand excavates, measures and records the find(s). The amount of time necessary for this will be relative to the extent of the find(s) and the weather conditions. A minimum of one half hour will be needed for each trench segment where an archaeological resource is encountered. Should an archaeological feature be encountered, it will be archaeologically exposed. Measurements will be taken for field drawings and the find(s) will be photographed. If the feature can be removed by hand it will be and any associated soils will be screened.

Should the potential findings be determined to be archaeologically significant, the archaeologist will contact GIPEC, the SHPO and the Landmarks Preservation Commission (LPC) to consult and offer the opportunity to visit the site. As with any historically important site, significant archaeological finds could be incorporated into interpretive programs and such recommendations would likely be made for Governors Island if such finds are encountered, possibly altering construction plans midstream. Any changes to the construction plan will also be archaeologically evaluated.

Standard methods of artifact processing, labeling, identification, evaluation and documentation will be done on the recovered materials. Upon completion of all archaeological work specified in this scope, the consultant will provide a written report to Bedford Construction and Turner Construction (the prime contractor), the SHPO and the Landmarks Preservation Commission detailing the results of the field testing and monitoring. Map(s) at a scale of 1"=20' will be provided indicating results from such investigations with locations of shovel tests and of archaeological resource recovered, if any.

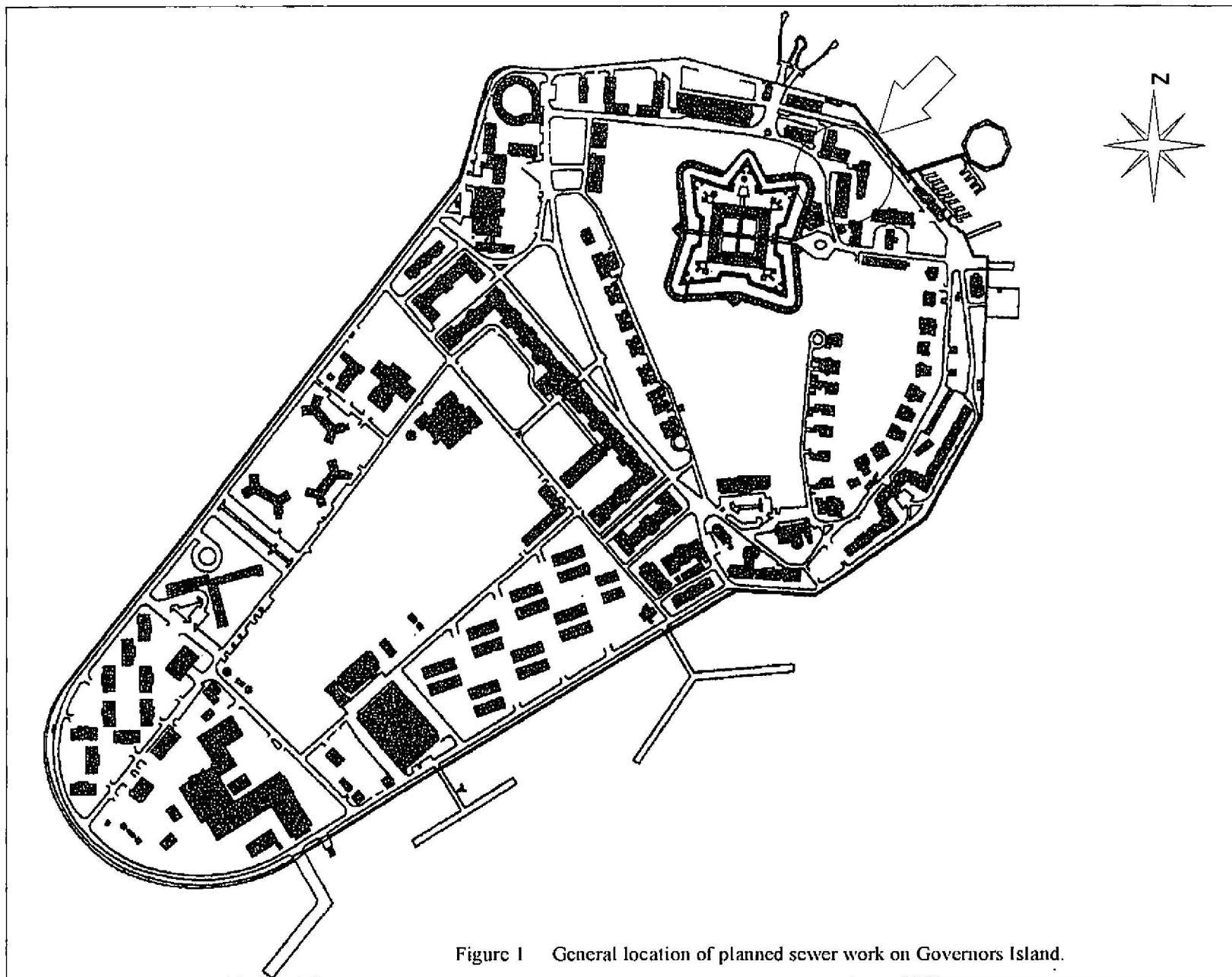
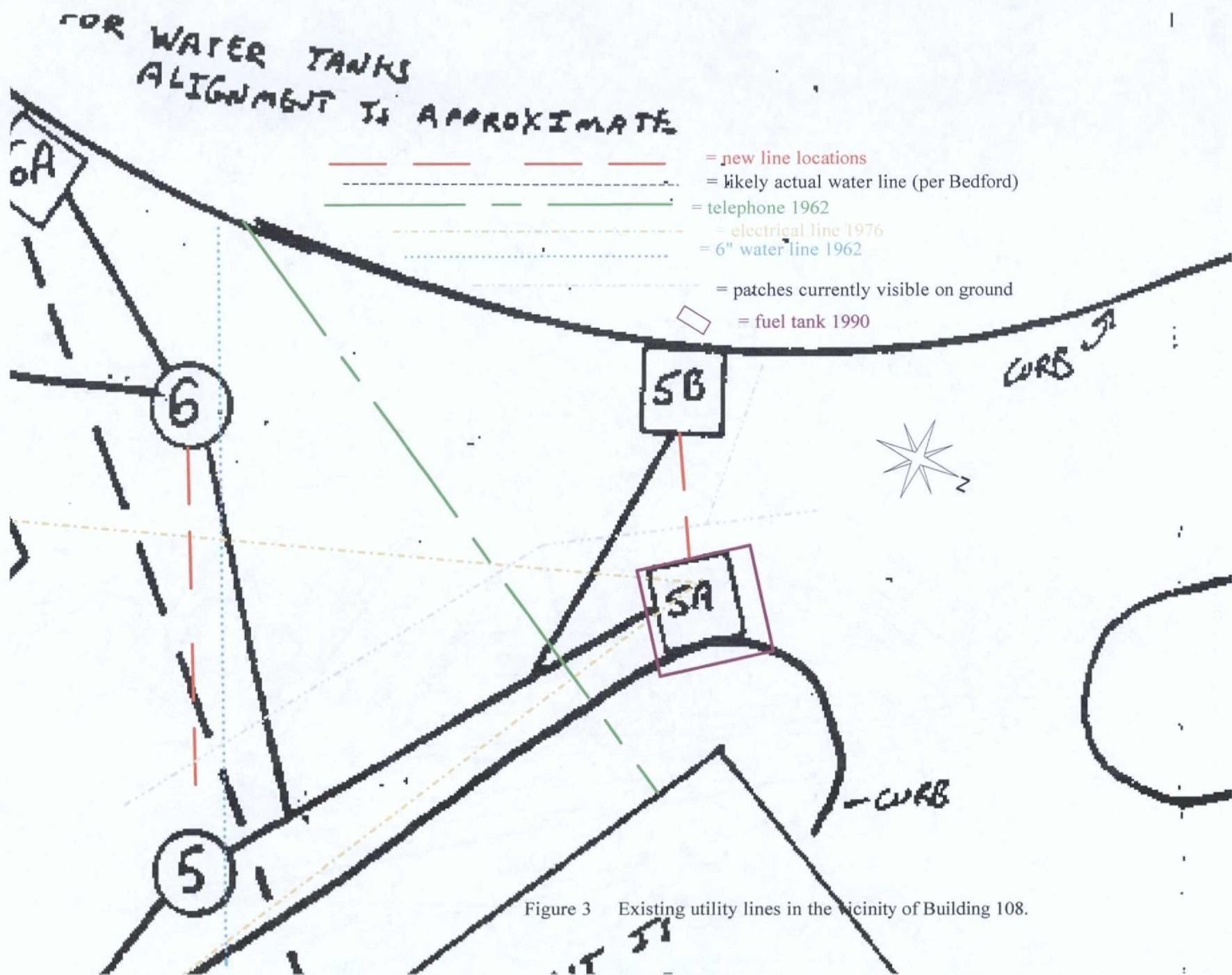


Figure 1 General location of planned sewer work on Governors Island.









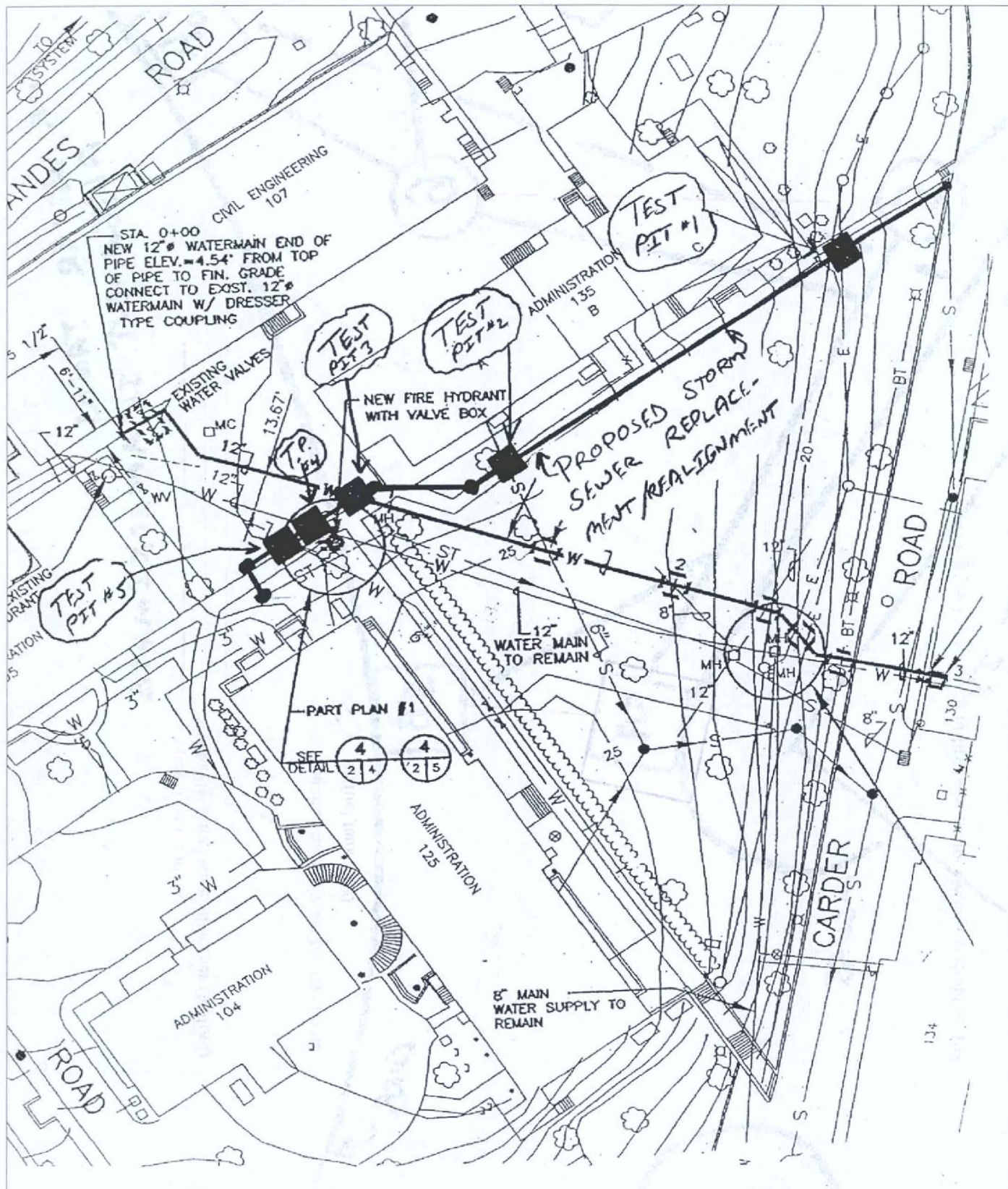


Figure 4 Updated plans for proposed sewer in the vicinity of Buildings 125 and 135.

Appendix B

SCOPE OF WORK

BUILDINGS 125 & 135

SCOPE OF WORK FOR  
ARCHAEOLOGICAL TESTING AND MONITORING  
DURING SEWER EXCAVATIONS  
AROUND BUILDINGS 125 & 135  
ON GOVERNORS ISLAND  
NEW YORK, NEW YORK

June 10, 2005

The Governors Island Preservation and Education Corporation (GIPEC) is in the process of repairing and replacing sewers in the vicinity of Buildings 125 and 135 on Governors Island (see Figure 1 for location). This area is adjacent to the Governors Island National Historic Landmark and within New York City Landmark district.

The attached plan was provided by Bedford Construction Corp. (the contractor) and shows the locations of the existing utilities as well as the proposed sewer work (see Figure 2). The proposed work is highlighted in red and includes the alignment of a new sewer as well as two new manholes and a new catch basin. The proposed work is mostly in the grassy area behind the two buildings, in an area that has not been previously disturbed by the existing utilities, except in those places where their paths cross.

The area of the sewer replacement will involve the excavation of a trench about 6-7 feet deep and about four feet wide. The new manholes and catch basin will be from seven and a half to ten and a half feet deep, from north to south. All three structures will be about seven feet square.

The archaeological work recommended here will be conducted in a manner consistent with the New York Archaeological Council's Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State (1993) and their Monitoring Guidelines (adopted 2002), as well as the New York City Landmarks Preservation Commission's Guidelines for Archaeological Work in New York City (2002).

Previous archaeological research done on Governors Island indicates the potential to encounter previously unrecorded Native American archaeological resources is "extremely high" in locations which have not been since disturbed (U.Mass. 2003: 132,143). Other potential resources include material from the Dutch period, the British occupation, the French and Indian War Garrison, the Revolutionary War, post-1812 military uses (U.Mass 2003: 133, 144).

Archaeological shovel testing prior to construction is recommended in the area of the new sewer alignment (about 214 feet in total), most of which is in a grassy area behind the buildings. In the paved parts of the alignment, the contractor will strip the asphalt and any underlying paving and then the archaeologist will place shovel tests within the trenches. The shovel tests will be spaced at roughly fifteen foot intervals and will be about one to one and a half feet in diameter and excavated to the depth of non-artifact bearing subsoil or to the extent of the shovel (around 3 feet) to evaluate the nature of the soils and the presence or absence of archaeological remains. Previous archaeological testing on Governors Island encountered natural subsoils at a depth of less than three feet below ground surface (PAL 1997:61). All soils excavated from the shovel tests will be screened through 1/4 inch mesh for the recovery of artifacts. Soils, stratigraphy and artifact inclusions will be recorded on forms. Shovel test locations will be mapped on the site plan. Photodocumentation and drawings will be done as appropriate.



Should no intact archaeological deposits be found or should cultural materials be found in previously disturbed contexts, the shovel tests will be followed by archaeological monitoring, to document the nature of the deposits in the remainder of the alignment. In the case that an *in situ* archaeological deposit is encountered, the surrounding deposits will be archaeologically excavated within the footprint of the planned trench, to assess the extent and significance of the find. Should the find be potentially eligible for listing on the National Register of Historic Places, consultation with SHPO and LPC will occur to consider available options, including project redesign.

The monitoring protocol gives the archaeologist authority to halt contractor excavations to document any archaeological resources, should they be encountered. Should this be necessary, excavation will be temporarily suspended while the archaeologist hand excavates, measures and records the find(s). The amount of time necessary for this will be relative to the extent of the find(s) and the weather conditions. A minimum of one half hour will be needed for each trench segment where an archaeological resource is encountered. Should an archaeological feature be encountered, it will be archaeologically exposed. Measurements will be taken for field drawings and the find(s) will be photographed. If the feature can be removed by hand it will be and any associated soils will be screened.

Should the potential findings be determined to be archaeologically significant, the archaeologist will contact GIPEC, the SHPO and the Landmarks Preservation Commission (LPC) to consult and offer the opportunity to visit the site. As with any historically important site, significant archaeological finds could be incorporated into interpretive programs and such recommendations would likely be made for Governors Island if such finds are encountered, possibly altering construction plans midstream. Any changes to the construction plan will also be archaeologically evaluated.

Standard methods of artifact processing, labeling, identification, evaluation and documentation will be done on the recovered materials. Upon completion of all archaeological work specified in this scope, the consultant will provide a written report to Bedford Construction and Turner Construction (the prime contractor), the SHPO and the Landmarks Preservation Commission detailing the results of the field testing and monitoring. Map(s) at a scale of 1"=20' will be provided indicating results from such investigations with locations of shovel tests and of archaeological resource recovered, if any.

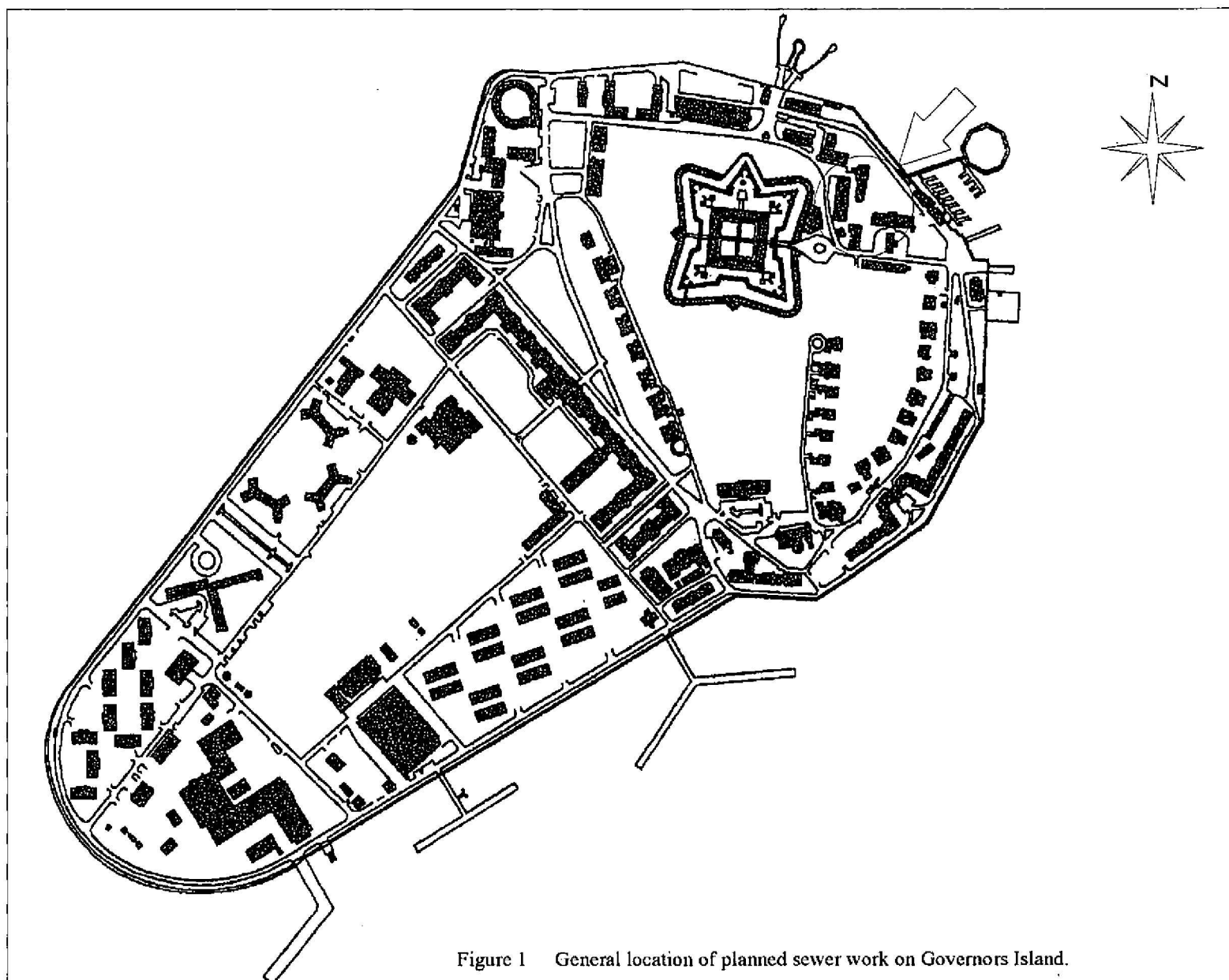


Figure 1 General location of planned sewer work on Governors Island.



Appendix C  
SHOVEL TEST STRATIGRAPHY

## Governors Island Buildings 107/108 and 125/135

### Shovel Test Stratigraphy

TEST	STRAT	DEPTH (ft)	MUNSELL	COLOR	TEXTURE	COMMENT	NOT RETAINED IN FIELD
1	1	1.0			asphalt and concrete	near catch basin 5A	
1	2	1.3			gravel		
1	3	2.1	10YR 4/3	brown	moist silty sand		brick frags., pencil top, copper?
1	4	3.9	7.5YR 4/4	strong brown	sand		
2	1	0.6			asphalt and concrete	lowest opening elevation of the 107/108 tests	
2	2	1.1			gravel		
2	3	2.4	10YR 3/4	dark yellowish brown	mottled sand		concrete, gravel, slag, coal
2	4	3.3	7.5YR 4/6	strong brown	sand	strat began at 2.2 in north side of test	slag, coal, 2 brick frags.
2	5	3.9	7.5YR 4/6	strong brown	sand		
3	1	0.8			asphalt and concrete		
3	2	1.0			gravel		
3	3	1.4	10YR 4/4	dark yellowish brown	sand		coal, slag, concrete, brick frag.
3	4	2.0	7.5YR 4/6	strong brown	sand	more compact than above or ST 2.4/5	coal, brick frag., decayed wood frag.
3	5	3.6	7.5YR 4/6	strong brown	sand	less compact than above	
3	6	4.0	7.5YR 4/6	strong brown	sand	large rock (9 inch dia) impeded test	
4	1	1.0			asphalt and concrete		
4	2	1.5			gravel		coal, slag, brick frag.
4	3	2.4	7.5YR 4/6	strong brown	silty sand	became less compact at 2.4' bgs	
4	4	3.6	7.5YR 4/6	strong brown	silty sand	less compact than above	
101	1	0.3			sod		clear flat glass
101	2	0.6	10YR 5/3	brown	very dry compact sandy silt		8 brick frags, 3 oyster shell frags, 1 sewer pipe frag, 3 clear glass
101	3	0.9	10YR 4/2	dark grayish brown	very dry compact silty sand		5 brick frags, 2 charcoal, 2 clear curved glass, 1 wire, 1 slag
101	4	1.6	7.5YR 4/4	brown	very dry compact silty sand	hit large piece of sewer pipe at 1.6' bgs obstructing test	2 nails, 1 concrete, 6 slag, 10 brick frags, 1 sewer pipe frag.



TEST	STRAT	DEPTH(ft)	MUNSELL	COLOR	TEXTURE	COMMENT	NOT RETAINED IN FIELD
101	5	2.3	7.5YR 4/6	strong brown	silty sand		coal, 6 nails, 1 burned wood frag, 3 sewer pipe, 1 slag
101	6	3.0	10YR 4/4	dark yellowish brown	gravelly silty sand	NCM	
102	1	0.3			sod	less compact than ST 101	
102	2	0.9	10YR 4/2	dark grayish brown	fine silt		2 brick frag, 1 coal, 1 cinder, 1 nail, 1 sewer pipe
102	3	1.8	7.5YR 4/4	brown	gravelly fine silty		1 coal
102	4	3.0	7.5YR 4/6	strong brown	fine silty sand	less gravel	4 brick frags, 1 coal, 1 nail
103	1	0.1			sod	very compacted ST	plastic
103	2	0.5	10YR 4/2	dark grayish brown	silty sand		brick frag, tin foil
103	3	0.9	10YR 4/2	dark grayish brown	silty sand		coal, brick frag.
103	4	1.1	7.5YR 6/4	light brown	fine silt	very compact soil, test impeded by rock or pavers, expanded test and impediment continues	
104	1	0.3			sod		
104	2	0.6	10YR 4/3	brown	gravelly dry loamy	compact	
104	3	1.0	10YR 4/3	brown	gravelly dry loamy	same as above with more gravel	
104	4	1.4	7.5YR 5/6	strong brown	sandy silt	mottled	
104	5	1.9			mortared rock?	impeded by rock and concrete	1 clam shell
105	1	0.1			sod		
105	2	0.7	10YR 4/2	dark grayish brown	very fine sandy silt		plastic, brick frag, coal, slag
105	3	2.9	7.5YR 4/4	brown	silty sand		8 brick frags.
106	1	0.8	10YR 4/3	brown	loamy silt	very compact, not much grass	1 concrete, 1 coal, 3 brick frag, 1 flat glass
106	2	1.1	7.5YR 4/6	strong brown	very compact clayey silt	impeded by brick and mortar at 0.9' bgs and expanded ST	brick frag
106	3	3.0	7.5YR 4/4	strong brown	silty sand	brick frag found above 2.5 bgs	brick frag
107	1	0.4	10YR 4/2	dark grayish brown	very dry compact loamy silt		5 coal, 1 plastic wrapper, 5 clear bottle glass, 1 aqua flat glass, 1 oyster shell frag
107	2	1.0	7.5YR 4/4	dark yellowish brown	mottled loamy silt		brick, slag, coal, cinder
107	3	3.0	7.5YR 5/6	strong brown	silty sand	NCM after 2.5' bgs	slag, coal

TEST	STRAT	DEPTH(ft)	MUNSELL	COLOR	TEXTURE	COMMENT	NOT RETAINED IN FIELD
108	1	0.3	10YR 4/3	brown	very dry compact loamy silt		3 flat glass, 1 sewer pipe, 1 oyster
108	2	1.2	7.5YR 4/4	brown	mottled sandy silt	encountered defunct CATV wire and expanded ST; impeded by rock	8 brick frag, 1 mortar, 10 coal, 3 slag, 2 flat glass
110	1	0.6			asphalt and concrete		
110	2	1.2	10YR 4/3	brown	gravelly sandy silt		1 brick, 1 corroded nail, 1 slag
110	3	3.1	10YR 5/6	yellowish brown	sand		1 slag
110	4	3.4	10YR 4/4	dark yellowish brown	sand	rockier soil, coal found under level of stones	
110	5	3.9	10YR 4/4	dark yellowish brown	silty sand	NCM	
111	1	0.6			paving		
111	2	1.0	10YR 4/4	dark yellowish brown	silty sand		3 slag, 2 brick frag, 1 corroded nail
111	3	2.4	7.5YR 5/4	brown	fine sand	redder than ST 110	1 corroded nail, 1 flat glass
111	4	3.1	10YR 4/3	brown	silty sand	becomes slightly rocky	
112	1	0.8			paving		
112	2	1.8	10YR 5/6	yellowish brown	fine sand		3 brick frags, 1 corroded nail
112	3	2.3	7.5YR 4/6	strong brown	silty sand	rocks at interface with below	
112	4	3.4	7.5YR 4/6	strong brown	silty sand		

Appendix D  
ARTIFACT INVENTORY

# Governors Island - Buildings 107/108 and 125/135 Artifact Inventory

Page 1 of 3

CONTEXT	MATERIAL	IDENTITY	FORM	COLOR	#	DESCRIPTION	DATE RANGE
F	1. 1	Brick		red	1	8" x 2 3/8" x 3 5/8" with mortar	
	1. 1	Metal	iron	nail	1	corroded; square shank	1798-c.1890
F	1. 2	Cinder			3	sampled	
	1. 2	Coal			5	sampled	
	1. 2	Glass		flat	1		
	1. 2	Slag			1	sampled	
F 1 Artifact Count =							12
F	2. 1	Ceramic	earthenware		1	mineral glaze both sides	1830-1900+
	2. 1	Ceramic	ironstone	base	1	white glaze both sides	early 19thC.-
	2. 1	Ceramic	porcelain	tile	1	bathroom type; mottled green & maroon: 1" x 2 1/2"	
F	2. 2	Glass		bottle base	1	melted; embossed on bottom "12"	1867-present
F	2. 3	Botanical	bark		2		
	2. 3	Botanical	wood		1	3 5/8" long x 1" x 1"	
	2. 3	Brick		red	2		
	2. 3	Ceramic		red	1	architectural?	
	2. 3	Ceramic		buff	1	lead glaze	
	2. 3	Ceramic	pearlware		1		1779-1820+
	2. 3	Cinder		white	1		
	2. 3	Coal			2		
	2. 3	Glass		curved	1	devitrified	
	2. 3	Glass		curved	1	remnant of applied white lettering	
	2. 3	Metal	iron	nail	1	badly corroded	
	2. 3	Mortar			6		
	2. 3	Paint		white	1		
	2. 3	Shell	oyster		2		
	2. 3	Slag			3		
	2. 3	Stone	mica		2	about 3/4 "	
F 2 Artifact Count =							32
ST	1. 3	Bone	button	brown	1	4 hole; 0.8" (1.8cm) dia; similar to South type 19	
ST 1 Artifact Count =							1
ST	2. 3	Brick		red	2		
	2. 3	Cinder			1		

# Governors Island - Buildings 107/108 and 125/135 Artifact Inventory

Page 2 of 3

CONTEXT	MATERIAL	IDENTITY	FORM	COLOR	#	DESCRIPTION	DATE RANGE
ST 2. 3	Glass		curved	amber	3	beer bottle type	1860- present
2. 3	Metal	lead?			1	twisted wire; 7 filaments; 1.75" (4.3 cm)	
2. 3	Shell	oyster			2	fragments	
2. 3	Stone	quartz	flake?	white	1	1.05" (2.7 cm)	
ST 2. 4	Brick			red	1		
ST 2 Artifact Count =							11
ST 3. 3	Brick			red	1		
3. 3	Ceramic	creamware		white	1	0.2'	1762-1820
3. 3	Glass		flat	clear	2		
3. 3	Stone	quartz	flake?	rose	1		
ST 3. 4	Ceramic	creamware		white	1		1762-1820
3. 4	Ceramic	creamware	rim	white	1		1762-1820
3. 4	Glass		curved	green	2	bottle type	
3. 4	Glass		flat	aqua	1		
3. 4	Shell	oyster			1		
ST 3 Artifact Count =							11
ST 101. 2	Glass		bottle?	clear	1	embossed	mid 19th C.-present
ST 101. 4	Stone	chert ?		light brown	1	possible preform, 2" long	
ST 101. 5	Glass		flat	clear	1	stippled? one side	late 19th C.-present
ST 101 Artifact Count =							3
ST 102. 3	Ceramic	creamware		white	1	blue decoration exterior	1762-1820
102. 3	Ceramic	creamware	rim	white	1	brown geometric rim pattern; blue body decoration	1784-1864
102. 3	Coal				3		
102. 3	Metal	iron	nail?		1	very corroded	
102. 3	Stone	quartz		white	1	possible flake?	
ST 102 Artifact Count =							7
ST 105. 3	Brick			red	1	3 5/8" x 2 3/8"	
ST 105 Artifact Count =							1
ST 107. 1	Ceramic	redware	rim	red	1	clear glaze	c.1750-1900
107. 1	Ceramic	refined earthenware	rim	white	1	embossed interior; blue & green hand painted underglaze	c.1852-early 20th
ST 107. 2	Ceramic			red	1	architectural	



# Governors Island - Buildings 107/108 and 125/135 Artifact Inventory

Page 3 of 3

CONTEXT	MATERIAL	IDENTITY	FORM	COLOR	#	DESCRIPTION	DATE RANGE
ST 107. 2	Glass		curved	clear	1		
107. 2	Glass		flat	clear	1		
ST 107 Artifact Count =							5
ST 108. 2	Ceramic	redware	rim	red	2	flowerpot	c.1725-present
108. 2	Ceramic	redware	rim	red	1	black glaze; waster	1720s-1870
108. 2	Glass		bottle base	clear	1	molded	1867-present
ST 108 Artifact Count =							4
ST 110. 4	Coal				1		
110. 4	Stone				1	possible hammerstone	
110. 4	Stone	argillite?			1	preform?	
ST 110 Artifact Count =							3
ST 111. 2	Ceramic	creamware		white	1		1762-1820
111. 2	Ceramic	earthenware		white	2	tin glazed	1625-1800+
111. 2	Glass		rim	clear	1	molded	1867-present
ST 111 Artifact Count =							4
T 1. 1	Ceramic	refined earthenware		white	1	burned; in metal adhesion	early 19th C.-1900+
1. 1	Metal	alloy	cannon ball frag.		1		
1. 1	Metal	iron	nail?		1	very badly corroded	
1. 1	Metal	iron	pin?		1	18" X 2"; corroded	
1. 1	Metal	iron	PSP		1	11" x 6"; corroded	
T 1. 2	Ceramic	pearlware		white	1	blue transfer print one side	1795-1840
1. 2	Metal	iron	nail		1	badly corroded	
T 1. 3	Ceramic	creamware		white	1		1762-1820
T 1. 4	Mortar				1		
T 1 Artifact Count =							9
T 2. 1	Ceramic	stoneware		red	1	mineral glaze int; gray/brown ext.	1720s-present
T 2 Artifact Count =							1

Total Artifacts Recovered

104

## KEY

F = Feature

ST = Shovel Test

T = Trench