

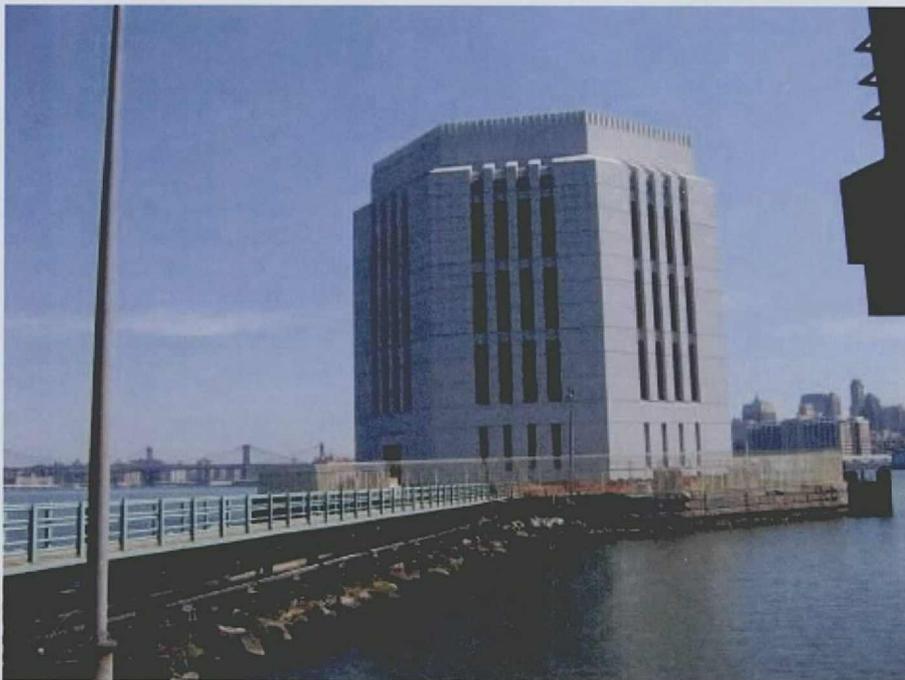
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2007

FINAL REPORT ON ARCHAEOLOGICAL  
TESTING AND MONITORING  
FOR BROOKLYN BATTERY TUNNEL  
SEWER CONNECTION  
TO GOVERNORS ISLAND  
NEW YORK, NEW YORK

Contract PSC-03-2695C  
Project GFM-419; Task 10

Docket # 07-9048



View of the Brooklyn Battery Tunnel ventilation shaft on Governors Island from the new sewer connection facing northwest.

Prepared for: PB Americas, Inc.  
One Penn Plaza  
New York, New York 10119

Submitted by: Linda Stone, MA, RPA  
249 East 48th Street, #12B  
New York, New York 10017

November 8, 2007

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## EXECUTIVE SUMMARY

This is a report on archaeological shovel testing and monitoring of a sewer connector trench from the Brooklyn Battery Tunnel to Carder Road on Governors Island, New York City. The location is within the Governors Island National Historic Landmark District and the New York City Landmark District. This report is being prepared 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 the New York City Landmarks Preservation Commission (LPC).

Previous research indicated the sewer connection project had the potential to identify archaeological resources related to the original construction of the seawall, the creation of Carder Road and the former Building 130 addition located adjacent to the sewer connection. Two archaeological shovel tests were excavated in advance of archaeological monitoring of the contractor's trench excavations. No *in situ* archaeological deposits were identified.

All excavated soils were fill. Unstable fill was documented throughout the entire northern half of the sewer connector trench excavations. This deposit could relate to the demolition of the former Building 130 extension and/or it could be related to filling behind the seawall. Evaluation of the relationship to the seawall was not possible because the contractor's excavations did not expose the landward face of the seawall. A lens of broken asphalt was documented in Carder Road, possibly related to an earlier incarnation of the road, most likely from around the time of the demolition of the former extension to Building 130 in the 1980s.

No further archaeological work is recommended for the sewer connector. Should additional excavations be needed for the Brooklyn Battery Tunnel project on Governors Island, it is recommended that these locations be evaluated for their archaeological potential. It is also recommended the shovel test and trench locations be recorded in the GIPEC Governors Island GIS database.

## SHPO MANAGEMENT SUMMARY FORM

SHPO Project Review Number (if available):

Involved State and Federal Agencies (DEC, CORPS, FHWA, etc): TBTA & 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) - Two shovel tests plus monitoring

Length: 28 feet (8.5 m)

Width: 1.5 feet (46 cm) diameter shovel test; 3 foot (91 cm) trench

Depth: (when appropriate): 2.4 feet (73 cm) average shovel test; 5.0 - 5.7 feet (1.52 - 1.74 m) trench

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: 2 spaced 14 feet (4.3 m) apart

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: n/a

### 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: November 8, 2007

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## INTRODUCTION

The Triborough Bridge and Tunnel Authority has contracted with PB Americas, Inc. for work on the Brooklyn Battery Tunnel (BBT). This work includes creating a sewer connection from the ventilation shaft located off-shore to an existing manhole in Carder Road on Governors Island (see Figures 1, 2 and 3 in Appendix A). The on-land portion of this project is within the Governors Island National Historic Landmark District and the New York City Landmark District. As such, there is a concern for encountering archaeological resources. The planned sewer connection will disturb below ground deposits in a three foot wide (91 cm) path from the existing manhole to the seawall. The depth of the sewer trench will be five feet (152 cm) below ground surface from the existing manhole northward to a new manhole about halfway between the existing and the seawall. The excavation for the section of the new manhole and the sewer from that point northward would be 5.7 feet (174 cm) below ground surface. The new manhole requires a six foot (183 cm) wide excavation.

Archaeological documentary research concluded there was a potential for encountering archaeological resources and a lack of documentation on past disturbances. Therefore pre-construction testing was recommended to identify potential archaeological deposits, as well as monitoring of the sewer trench excavations on Governors Island (Stone 2006b: 3). Documentation of the stratigraphy within the trench would provide information that may relate to the original construction of the seawall, the former Building 130 addition located near the planned sewer and the creation of Carder Road.

The New York State Historic Preservation Office (SHPO) and the New York City Landmarks Preservation Commission (LPC) had previously indicated archaeological testing and monitoring of the sewer connection would be appropriate for this project. Appendix A contains the approved archaeological work plan for this project.

This report presents the findings of the archaeological work conducted for the BBT sewer connection project. 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 PB Americas, Inc.. The archaeological fieldwork described in this report was conducted by Ms. Stone on September 4, 2007. The contractor for the project was Primer Construction. The author would like to acknowledge the assistance of Ferdinand Portuguez of PB Americas, Inc. and Claire Kelly of GIPEC for facilitating the archaeological component of this project.

## SITE HISTORY AND ARCHAEOLOGICAL POTENTIAL

### Pre-Contact Period

No previous archaeological testing has been conducted in the vicinity of the BBT sewer connection work. However, archaeological monitoring has recently been conducted at other locations on Governors Island adjacent to the seawall. This work has documented extensive filling along the seawall (Stone 2007: 3 - 5). Similar conditions would be expected for the BBT sewer connection project. However, the possibility of identifying a previously undisturbed ground surface and possible Native American archaeological evidence could not be ruled out. There are three documented Native American sites on Governors Island and Native American cultural material has been found on the Island in many other redeposited contexts as well (PAL 1996: 11; Stone 2006a: 10; UMass 2003: 110-111). One of these is located less than 100 feet (30 m) inland from the planned BBT sewer connection (Stone 2006a: 6).

### Historic Period

The documentary research shows the location of the planned new sewer connection for the BBT on Governors Island previously contained part of a one-story building addition to Building 130, constructed sometime between 1908 and 1941 (see Figures 6 & 7 in Appendix A). The structure was built on a slab, removed in 1984, and therefore there is little chance buried structural remains of the building addition still exist, although other evidence of the demolition of the addition may remain buried. Other potential archaeological data that may be collected includes documentation on the seawall construction and filling as well as the construction of Carder Road.

## METHODOLOGY AND RESULTS

This section of this report describes the work and findings for both the shovel tests and the trench monitoring. The archaeological work plan is attached as Appendix A. The shovel testing methodology is standard stratigraphic excavation to a maximum depth of three feet (91 cm). The monitoring protocol included the ability of the archaeologist to temporarily halt excavations should any potentially significant archaeological resources be encountered during contractor excavations.

Two shovel tests were conducted, one within the footprint of the former Building 130 addition and the other within Carder Road. The tested and monitored locations are depicted on Figure 1. The shovel test stratigraphy is attached as Appendix B. All recovered artifacts were washed and rinsed in tap water and left to air dry before labeling and rebagging in clean 4-mil perforated zip-lock bags. Ceramic and glass artifacts were individually labeled with the site abbreviation "GI" and project identifier "BBT" and the context number (test number with a decimal subdivision representing stratum). All zip bags were labeled with the same information. Bags containing glass were not perforated. Some of the artifacts known in the field to be non-diagnostic modern materials were noted in the field and generally either sampled or not retained. These are all noted in the artifact inventory (Appendix C). Counts for non-retained artifacts are shown in the artifact inventory only when less than five pieces were observed. When no count is listed for non-retained material, this indicates there was an abundance of it (eg. coal, brick, or slag fragments). All ceramic and glass artifacts are considered sherds, unless otherwise noted in the inventory. Governors Island is the current repository for all artifacts recovered during the conduct of work described in this report. Artifacts will be transferred there from the archaeological consultant upon acceptance of this report by the review agencies.

### Shovel Test 1

Shovel Test 1 was located within Carder Road, five feet (1.5 m) north of the existing manhole for the sewer connection (see Figure 1). The contractor had previously broken up the asphalt with a jackhammer. A pry bar was used to remove the asphalt by hand. It was underlain with gravel to 0.4 feet (12 cm) below ground surface. The gravel was underlain with brown sand, mixed with gravel. This level contained a variety of non-diagnostic artifacts that were not retained from the field. These included fragments of brick, corroded metal and shell. The base of this level was one foot (30 cm) below ground surface. A second level of asphalt was encountered at this depth, buried from 1.0 to 1.6 feet (30 – 49 cm) below ground surface. This level was actually chunks of previously broken asphalt. The contractor assisted in its removal with the use of the pry bar. Many non-diagnostic artifacts were also observed in this asphalt stratum and not retained from the field. These include fragments of brick, cinder, coal, slag, glass and shell. The buried asphalt level was underlain with brown silty sand. This was the basal level of Shovel Test 1. Part of a butchered rib and a small creamware ceramic sherd were retained. Brick and shell fragments were noted. The base of Shovel Test 1 was 3.1 feet (94 cm) below ground surface.

### Shovel Test 2

Shovel Test 2 was located in the footprint of the planned new manhole (see Figure 1). The asphalt and gravel also extend to a depth of 0.4 feet (12 cm) below ground surface. It was underlain by brown silty sand fill. It contained a number of artifacts including an aluminum soda can stay tab. Excavation of this fill level extended to a depth of 1.4 feet (43 cm) below ground surface before being impeded by a large rock. The shovel test was expanded to the north to try to get around the large rock. The rock was at least 1.8 feet (55 cm) across. Once three sides of the rock were exposed, another large rock was encountered directly beneath it. Shovel Test 2 was abandoned at this point at 1.7 feet (52 cm) below ground surface.

### Trench Monitoring

The contractor's sewer connection trench excavations took place in two segments; from the new manhole northward and south of the new manhole to the existing manhole. The excavations began in the north. The contractor had previously completed the installation of the sewer connection at the top of the exterior of the seawall (see Photo 1). The excavations would slope downward to a depth of 5.7 feet (174 cm), the depth required for the new manhole. This entire part of the trench excavation was within fill. This included the area of Shovel Test 2. The fill was quite unstable and the depth of excavation precluded safe entry (see Photo 2). A number of large rocks, such as those encountered in Shovel Test 2 can be seen in the photograph.

The new manhole was installed and then excavations proceeded in the southern part of the trench. Only two strata were identified (see Figure 2). The upper level of the trench was the same unstable fill documented in the northern part of the trench. Two wire or utility cross trenches were documented within this southern section of the sewer connection trench. One of these can be seen on Figure 2, the eastern profile, at about five feet south of the new manhole and 2.5 feet (76 cm) below ground surface. Another is somewhat visible, the wires having been pulled before the profile was drawn, at 9.5 feet (2.9 m) south of the new manhole and also buried about 2.5 feet (76 cm) below ground surface. The location of Shovel Test 1 is at about 12 to 14 feet on the profile. The buried broken asphalt level encountered in the shovel test was toward the base of the upper fill level shown on the eastern trench profile. The basal level depicted in the profile drawing is also fill, as evidenced by the presence of cultural material found in Shovel Test 1. However, this lower level was less unstable than the upper level and more similar to redeposited soil documented elsewhere nearby on Governors Island (Stone 2006a: Fig.7).

## CONCLUSIONS AND RECOMMENDATIONS

Two archaeological shovel tests were excavated in advance of trench excavations for a sewer connector to the Brooklyn Battery Tunnel on Governors Island in Carder Road. The shovel testing was followed by archaeological monitoring of the contractor's trench excavations. No *in situ* archaeological deposits were identified.

All excavated soils were fill. A lens of broken asphalt was documented in Carder Road. This was buried from 1.0 to 1.6 feet (30 – 49 cm) below the current road surface. It is likely this is a result of an earlier road surface, probably dating from prior to the time the former extension to Building 130 was demolished in the 1980s. This buried broken asphalt lens is not a significant archaeological resource.

Unstable fill was documented throughout the entire northern half of the sewer connector trench excavations. This deposit could relate to the demolition of the former Building 130 extension and/or it could be related to filling behind the seawall. The contractor's excavations did not expose the landward face of the seawall so the relationship of the fill to the seawall in this location could not be evaluated.

No further archaeological work is recommended for the sewer connector. Should additional excavations be needed for the Brooklyn Battery Tunnel project on Governors Island, these locations should be evaluated for their archaeological potential. It is recommended the shovel test and trench locations are recorded in the GIPEC Governors Island GIS database.

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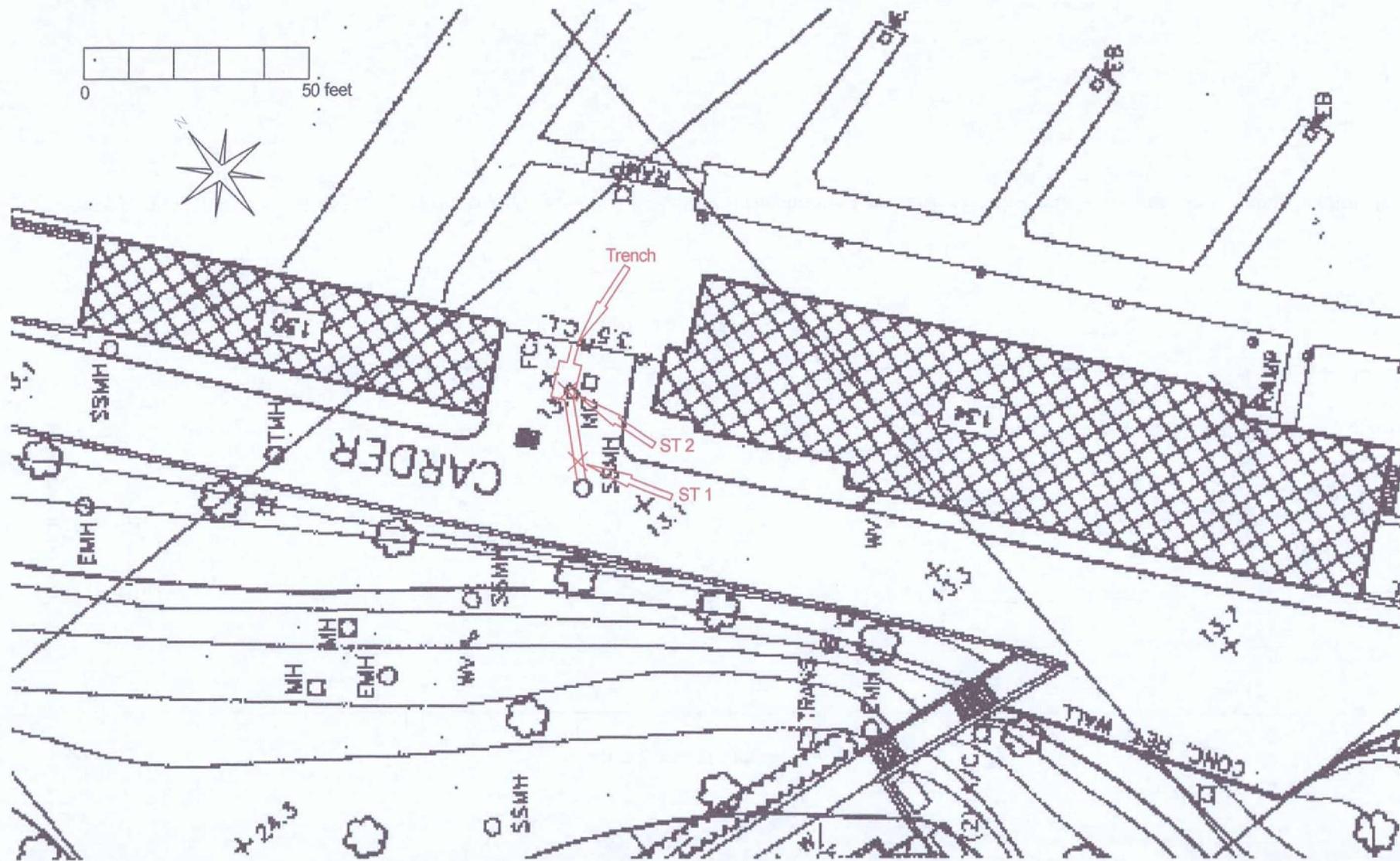


Figure 1

Location of shovel testing and trench monitoring for the BBT sewer connection shown on the topographic survey.

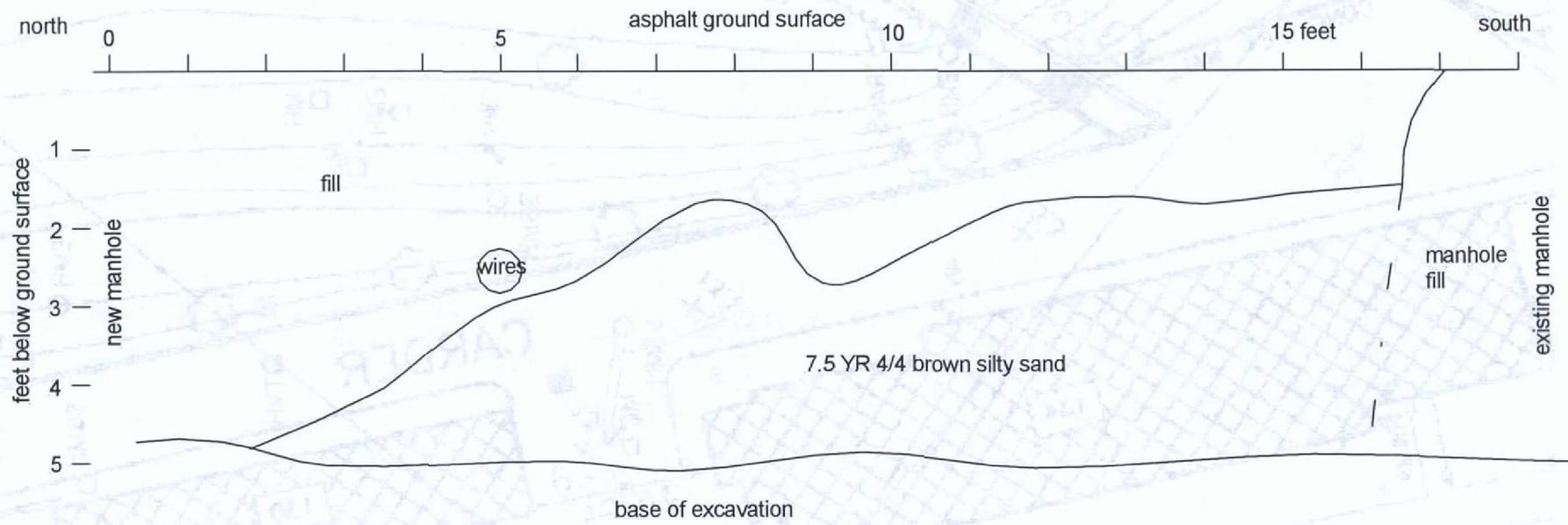


Figure 2 East profile of the sewer connection trench from the manhole in Carder Road (right) northward to the new manhole location.

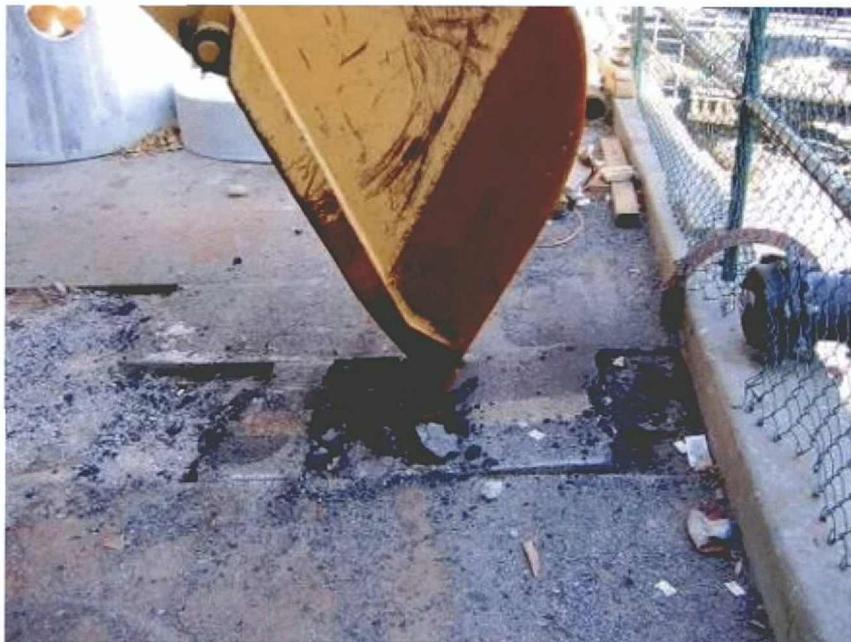


Photo 1 Start of sewer connection trench excavation south of the seawall with the connection visible at the top of the seawall (right) facing west.



Photo 2 Trench excavation at the location of the new manhole facing south showing the unstable fill containing large rocks.

APPENDIX A

BACKGROUND RESEARCH AND  
ARCHAEOLOGICAL WORK PLAN

BACKGROUND RESEARCH AND  
ARCHAEOLOGICAL WORK PLAN  
BROOKLYN BATTERY TUNNEL SEWER CONNECTION  
TO GOVERNORS ISLAND  
NEW YORK, NEW YORK

Contract PSC-03-2695C; Project GFM-419; Task 10

September 20, 2006

The Triborough Bridge and Tunnel Authority has contracted with Parsons Brinckerhoff for work on the Brooklyn Battery Tunnel (BBT). This includes creating a sewer connection on Governors Island from the ventilation shaft located off-shore (see Figures 1, 2 and 3). The on-land portion of this project is within the Governors Island National Historic Landmark District and the New York City Landmark district. As such, there is a concern for encountering archaeological resources.

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).

The attached sewer plan was provided by Parsons Brinckerhoff and shows the locations of the upcoming work (see Figure 3). The below ground aspect of the new connection will be in the area between Buildings 130 and 134 (Building 134 is mislabelled on Figure 3 as Building 140). The planned sewer extends from the seawall southward to the center of Carder Road where it will connect with an existing manhole<sup>1</sup>. The work will also include placing one new manhole near the middle of the alignment. The planned trench excavation for the sewer will be about 30 feet in length. It will range from 3.5 feet deep at the seawall to 5.5 feet deep at the existing manhole in Carder Road and up to 3 feet wide. The new manhole will require excavation of up to 6.5 feet deep and 6 feet wide.

The history of Buildings 130 and 134 is a bit muddled because many of the reports on Building 130 are ambiguous or inaccurate in their location of the original structure. In actuality, Building 130 was reportedly originally built as a workshop in 1843 and located toward the eastern end of where Building 134 now stands. Expansions of the original structure extended westward and covered the footprint of what is now both buildings. When part of the large structure was demolished in the early 1980s the remaining portion was still referred to as Building 130, although it was located considerably to the west of the original structure. When the current Building 134 was built in 1986 it subsumed the location of the original Building 130.

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<sup>1</sup> The orientation of this part of Governors Island is actually northwest/southeast, but for practical reasons many of the reports referred to herein use the west/east convention. Therefore the same convention is used in descriptions here while the attached maps provide the north arrow in the correct orientation.

Figure 4 is an overlay of part of the 1867 Map of Governors Island. It shows the "carpenter shop", the earliest part of what became Building 130, considerably to the east of the planned BBT sewer connection (well over 100 feet away). Figure 4 also shows a "fire engine house" had been built near the western end of what is now Building 134, about 20 feet east of the new sewer. Unfortunately, none of the compendia provide the details of when the fire house or all the additions to the original Building 130 were constructed (JCA 2003: Bldgs. 130 & 134; Milner 1997: 230; NYCLPC 1996:118-119; UMass. 2003: 75-79). However, by 1879 the work shop and fire engine house are still depicted with no additions to the footprints of the buildings (see Figure 5). They are labelled numbers 38 and 39, respectively. The same configuration is also depicted on the 1908 Map of Governors Island (UMass. 2003: Fig. 3.37).

By the time the Brooklyn Battery Tunnel ventilation building was under construction in 1941 the building footprint has expanded and appears to cover the entire footprint of current Building 134 and most of the footprint of current Building 130, including the location of the planned sewer connection (see Figure 6). It was then referred to as Buildings A-11, 12 and 23. The planned new sewer connection is located within the footprint of what is labelled on Figure 6 as Building A-11, a one-story brick building. The same situation is depicted on the 1965 Hydrographic and Topographic Survey with the only difference being the entire structure was labelled "Building 130" by 1965 (USCG 1965) (see Figure 7).

The Governors Island Preservation and Design Manual Building and Property Summary Sheet for Building 130 mentions extensive alterations in 1971 (JCA 2003). However, these do not seem to have been in the vicinity of the planned BBT sewer connection. The 1997 Maintenance Plan for Building 130 states the "northern" additions "were torn down in 1963 and replaced in 1971 with the building that exists today" (Milner 1997: 230). The 1963 date conflicts with the 1965 survey in that the northern addition (likely meaning western end of Building 130) is still in place at that time and there were no changes to the configuration of the building.

The 1971 Post Engineers first floor plan for Building 130 shows the same dimensions as depicted in 1941 and 1965 and shown on Figures 6 and 7. The 1984 as-built demolition plan for Building 130 shows it extended further toward the west, encompassing the footprint of the current Building 130, implying construction of an addition between 1971 and 1984. The LPC Designation Report states the western end of Building 130 was constructed in 1971.

The only section shown to be protected from demolition according the 1984 as-built drawing was what is currently known as Building 130. The demolished section of Building 130, the part which covers the footprint of the planned BBT sewer connection, contains a note on the 1984 as-built, "remove slab and foundations". Unfortunately, the quality of the drawing is such it does not reproduce well enough to be presented here. However, the note implies the building was constructed on a slab and thus it did not have a basement. This means the current work for the new sewer connection should not encounter any remains of the structure. Figure 8 depicts the site plans from 1983 with the current building configuration and shows the location of the planned new sewer connection.

Comparison of the topographic data from 1941, 1965, 1983 and 2006 does not indicate any significant changes to the grade in the vicinity of the planned sewer connection. This would indicate there has not been any significant grading or filling of the area during that period.

The location of the planned new sewer connection for the BBT on Governors Island previously contained part of a one-story building addition constructed sometime between 1908 and 1941. The structure was built on a slab and therefore did not likely disturb underlying deposits. Other potential disturbances of the area of the new sewer would have been from the construction of the seawall, Carder Road and the existing manhole in Carder Road. However, only the construction of the existing manhole in Carder Road would have created a significant disturbance to the area of potential effect. The existing manhole is 7.5 feet deep and six feet wide. It is likely the disturbance from its construction would have affected an area of at least 7 to 8 feet in diameter. It is possible the construction of the seawall involved substantial filling, however no documentation on this was identified during this research. Previous archaeological testing in the vicinity of Carder Road, across the street from the new BBT sewer connection, revealed localized evidence of historic deposits and demolition debris as well as prehistoric artifacts within redeposited soils (PAL 1997: 74-75; Stone 2006: 5-6).

Because of the potential for encountering archaeological resources and the lack of documentation on past disturbances, pre-construction testing is recommended to identify potential archaeological deposits. This will include placement of two shovel tests, one within the footprint of the former Building 130 addition and the other within Carder Road. In addition to identifying possible archaeological deposits, the shovel testing within the footprint of the former building will provide a basis for interpretation of the amount of disturbance created and left by the former Building 130 addition. The test in Carder Road will enable evaluation of the archaeological potential in the road in this part of the Island. Should no potentially significant deposits be identified, testing will be followed by archaeological monitoring of the contractor's excavations. Documentation of the stratigraphy within the trench will provide information that may relate to the original construction of the seawall, the Building 130 addition and the creation of Carder Road.

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).

Because the area of the two tests is currently paved, the contractor will have to strip the asphalt and any underlying paving and then the archaeologist will place shovel tests within the trenches. The shovel tests will be placed in the two locations opportunistically 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 subsoil at a depth of less than three feet below ground surface (PAL 1997:61; Stone 2006: 4-5). 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.

If 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 Governors Island Preservation and Education Corporation (GIPEC), the State Historic Preservation Office (SHPO) and the New York City Landmarks Preservation Commission (LPC) will occur to consider available options, including project redesign. 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.

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.

Standard methods of artifact processing, labelling, identification, evaluation and documentation will be done on the recovered materials. Upon completion of all archaeological work specified in this plan, the archaeologist will provide a written report detailing the results of the field testing and monitoring to Parsons Brinckerhoff, who will then forward the report to GIPEC for submission to SHPO and LPC. Map(s) at a scale of at least 1"=20' will be provided indicating results from such investigations with locations of shovel tests and of archaeological resource recovered, if any.

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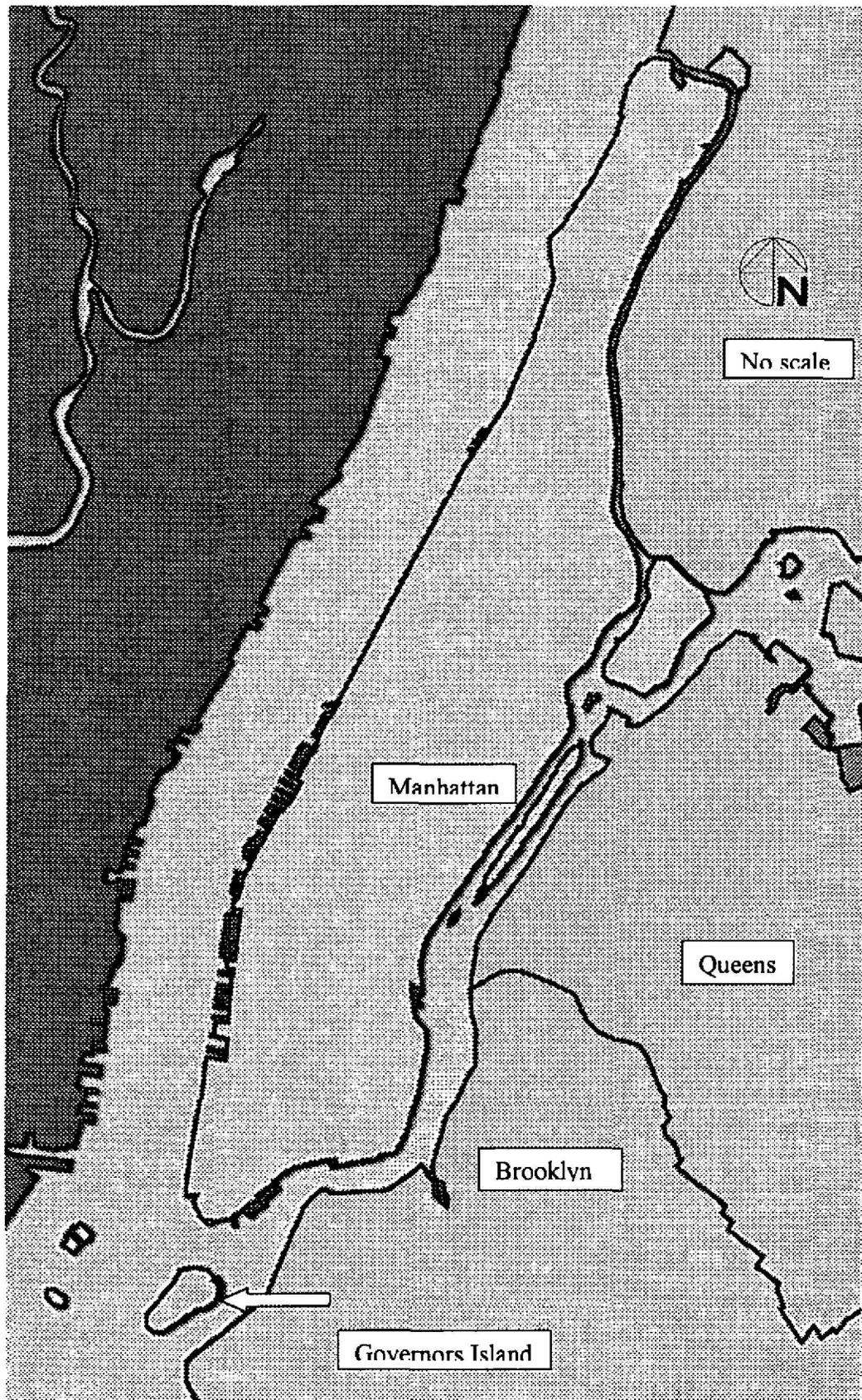


Figure 1 Location of Governors Island in New York City.

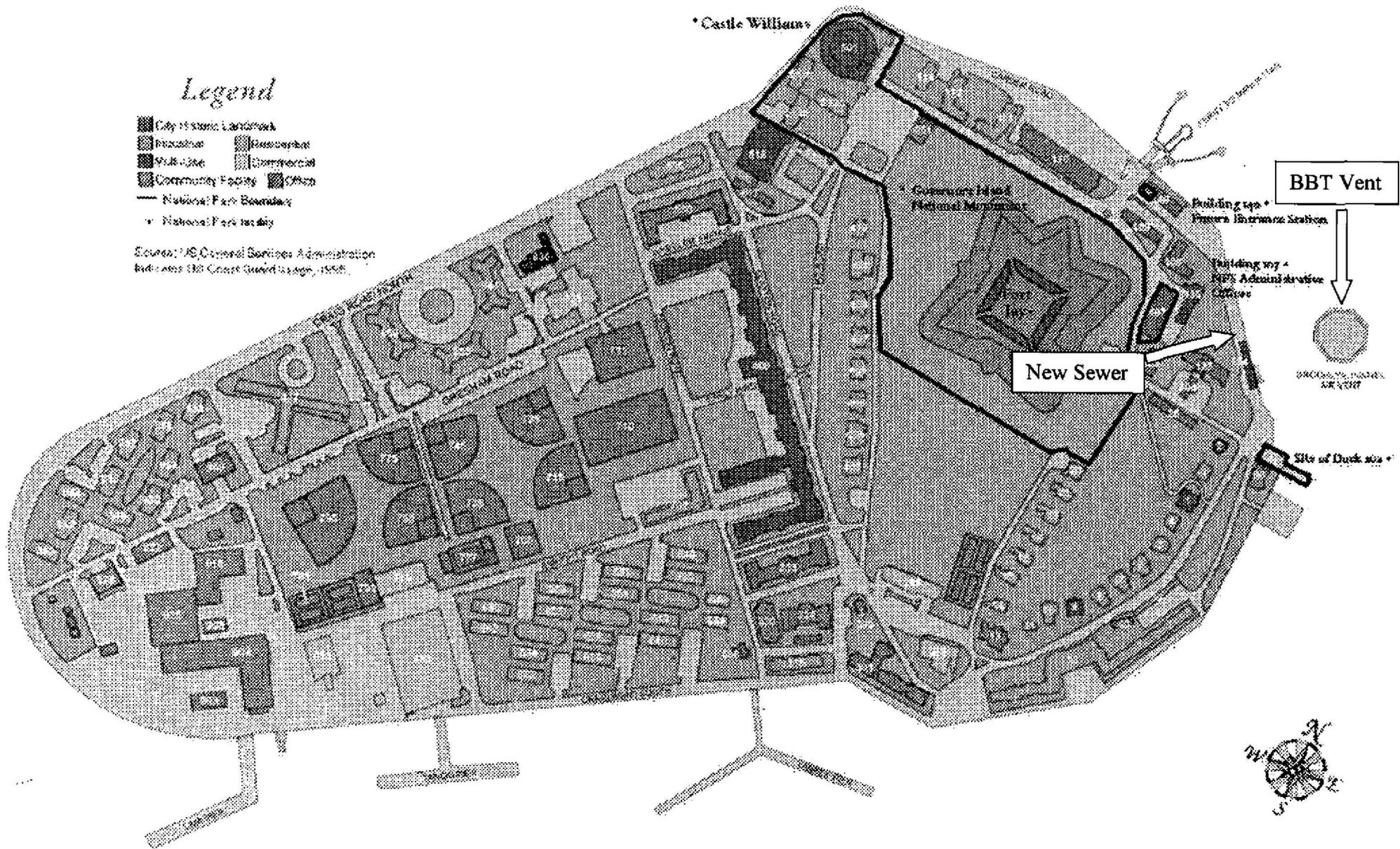


Figure 2 Location of Brooklyn Battery Tunnel Vent and the new sewer connection on Governors Island.

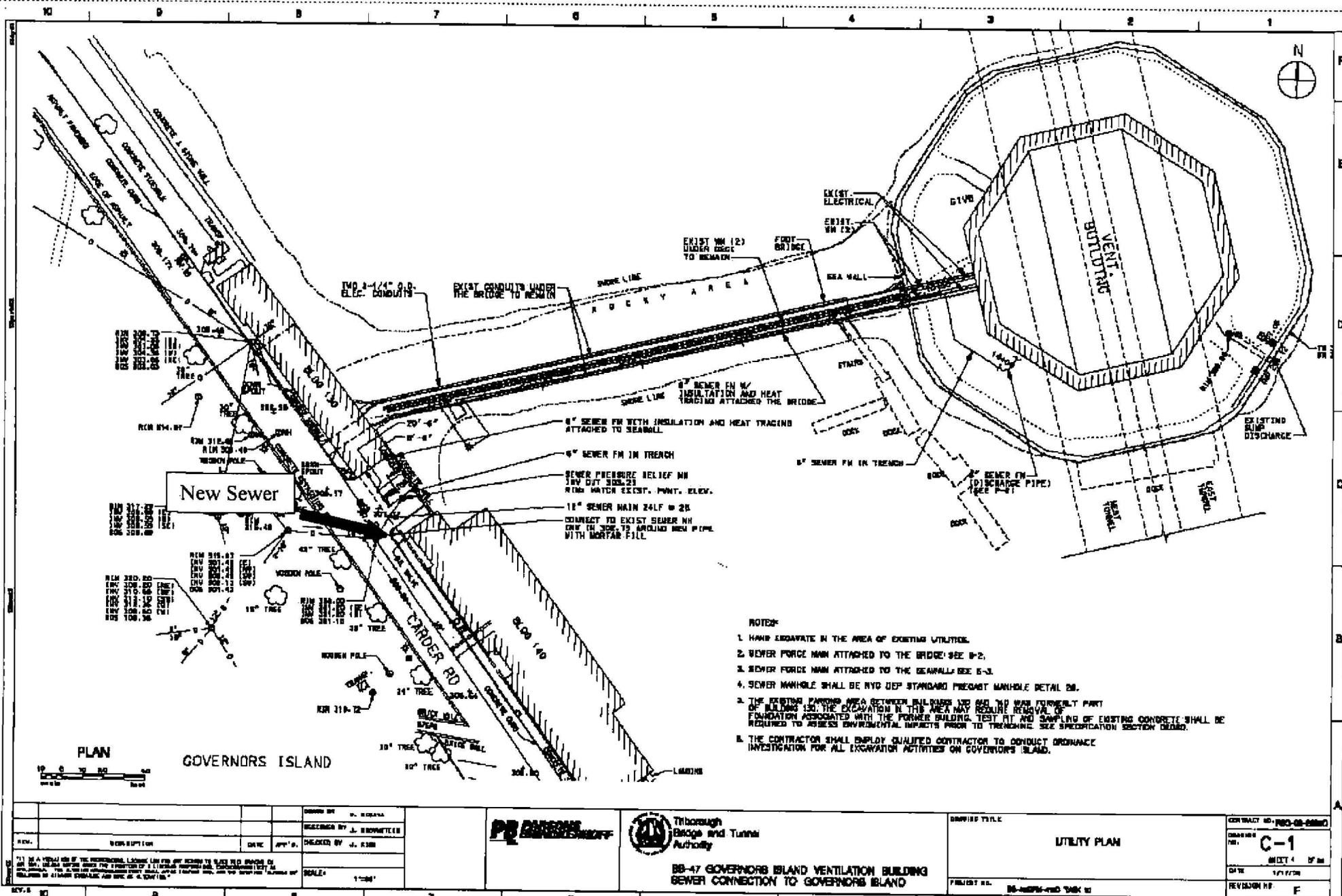


Figure 3 Brooklyn Battery Tunnel sewer connection plan for Governors Island.

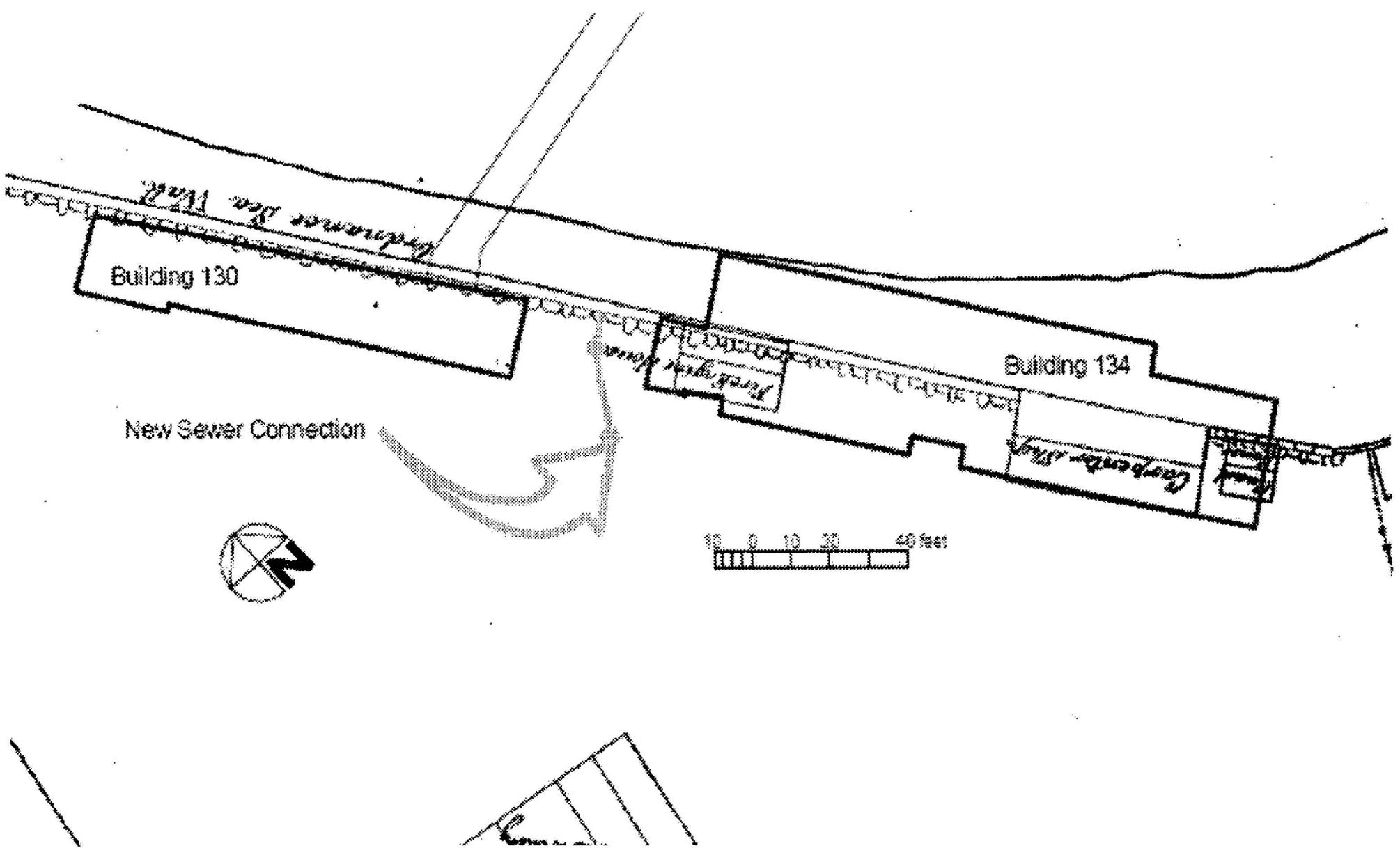


Figure 4 Part of the 1867 Map of Governors Island showing the location of the BBT sewer connection.

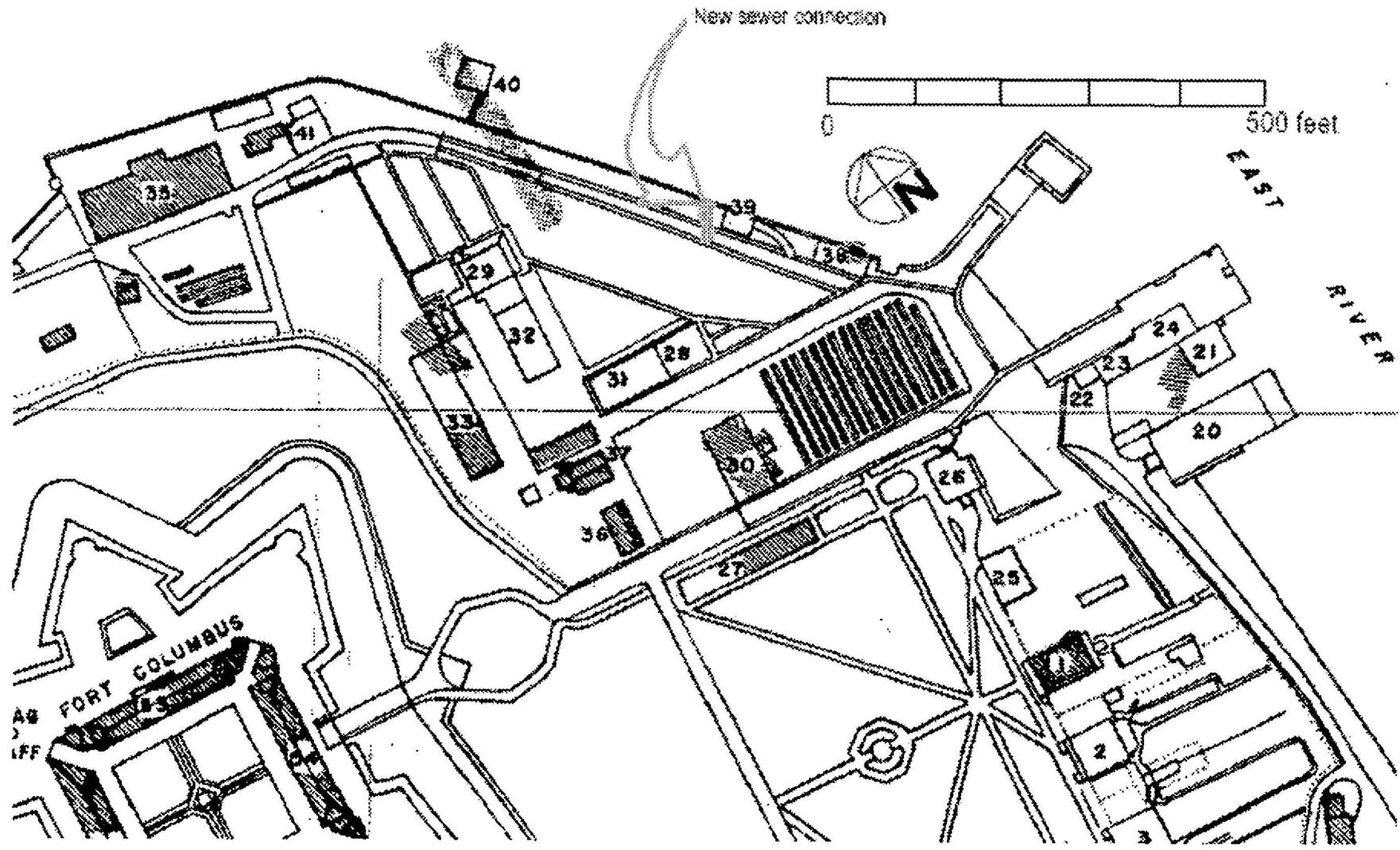


Figure 5 Part of the 1879 Map of Governors Island showing the location of the planned sewer connection to the west of Building 39 (fire engine house) and Building 38 (workshop).

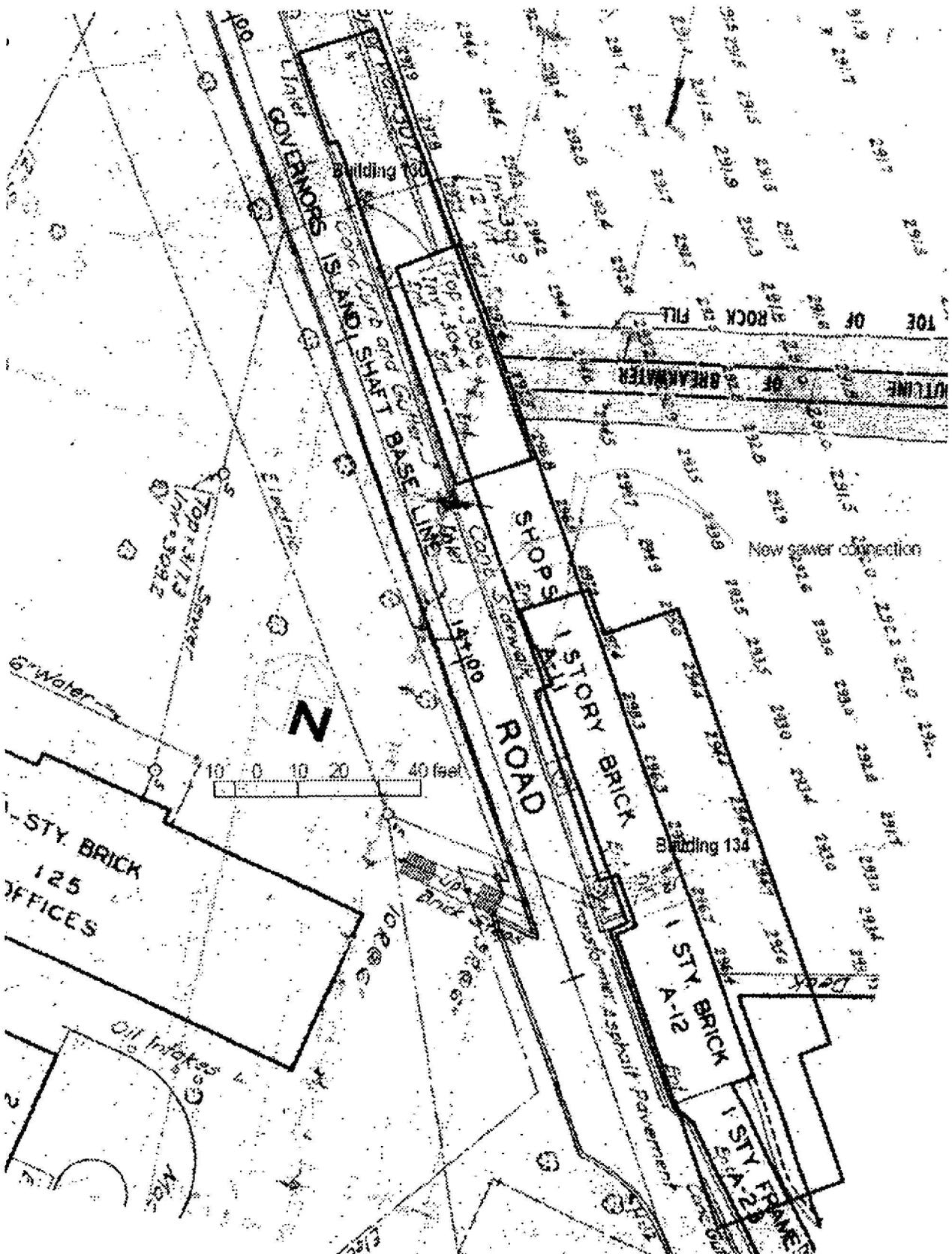


Figure 6 Part of the 1941 New York City Tunnel Authority Topographic Drawing showing the location of the planned sewer connection and Buildings 130 and 134.

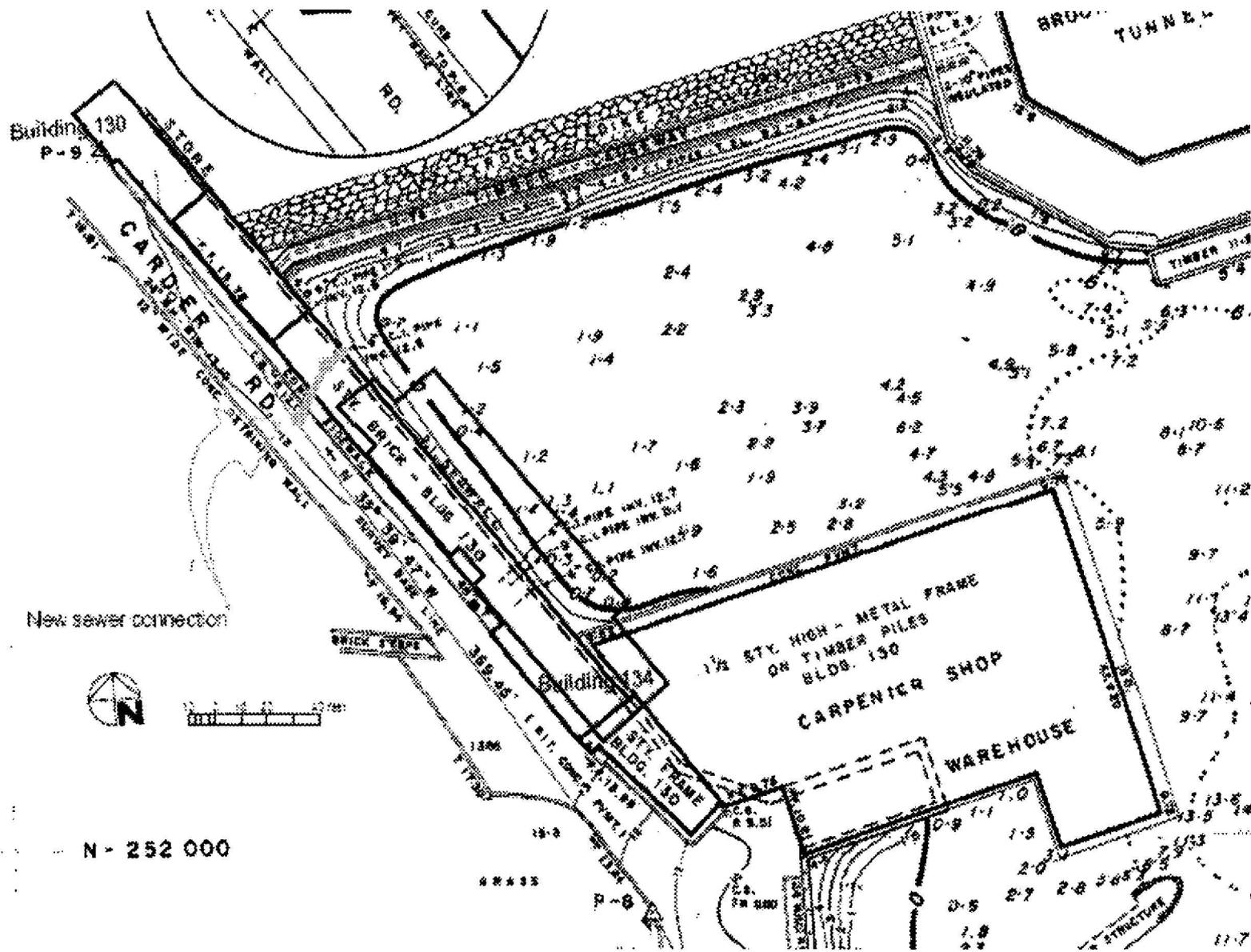
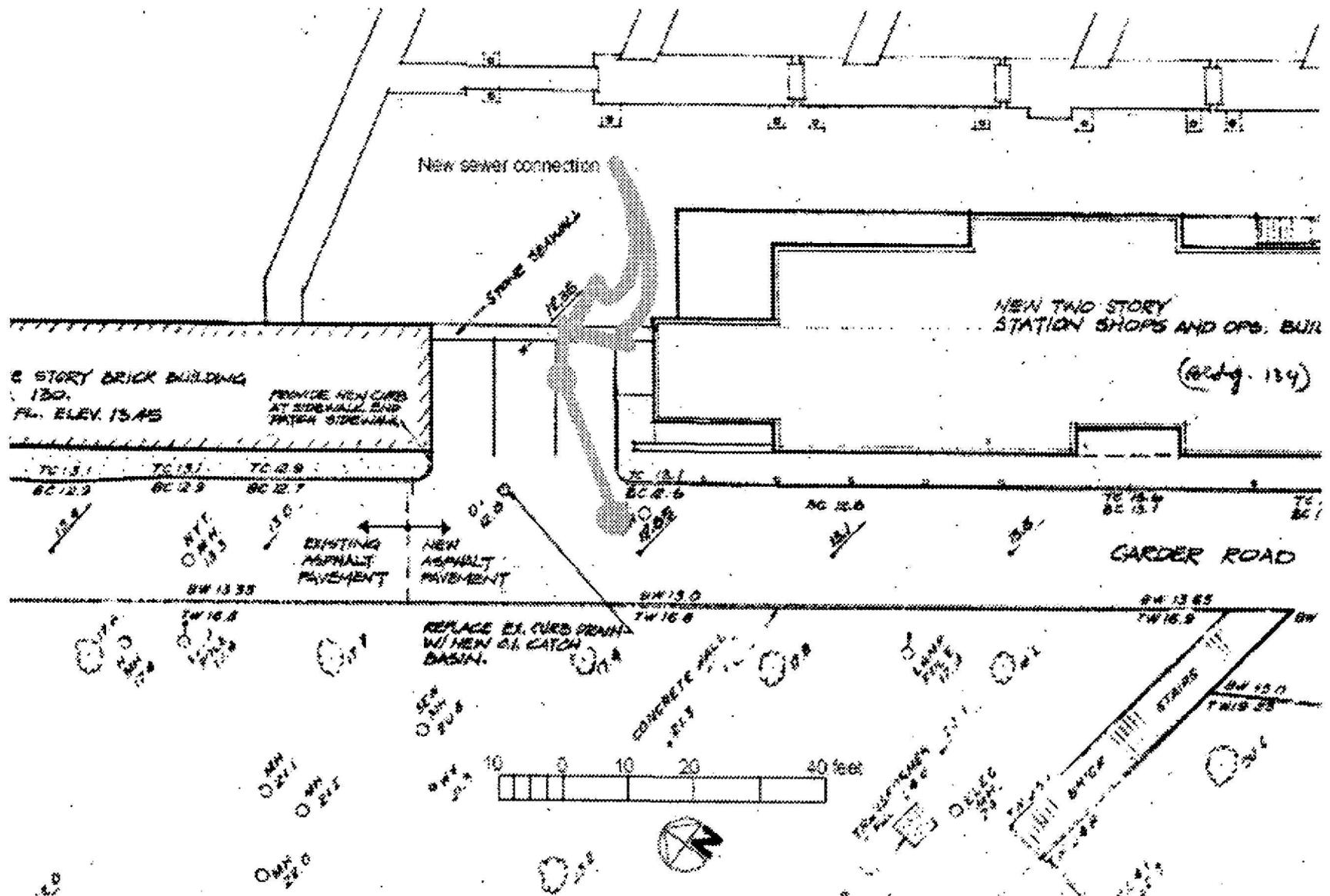


Figure 7 Part of the 1965 Coast Guard Hydrographic and Topographic Survey showing the location of the planned new BBT sewer connection.



APPENDIX B

SHOVEL TEST STRATIGRAPHY

Governors Island Brooklyn Battery Tunnel Sewer Connection Project Stratigraphy

Test	Stratum	Depth	Munsell	Color	Texture	Comment
1	. 1	0.2			asphalt	
1	. 2	0.4			gravel	
1	. 3	1.0	7.5YR 4/3	brown	sand with gravel	
1	. 4	1.6			asphalt	
1	. 5	3.1	7.5YR 4/3	brown	silty sand	test tapers toward the base
2	. 1	0.2			asphalt	
2	. 2	0.4	10YR 4/3	brown	gravelly silty sand	paving base
2	. 3	1.7	10YR 4/3	brown	silty sand	very compacted; test impeded by a large rock.

APPENDIX C

ARTIFACT INVENTORY

# Governors Island Brooklyn Battery Tunnel Sewer Connection Artifact Inventory Page 1 of 2

Context	Material	Identity	Form	Color	Count	Description	DateRange
1. 3	Brick			red	3	1 - 3.5 x 2.25 x ? frag.; 2 small frags.; not retained from field	
	Metal		nail		1	badly corroded; not retained from field	
	Shell	clam			3	not retained from field	
1. 4	Brick			red		not retained from field	
	Cinder					not retained from field	
	Coal					not retained from field	
	Glass		curved	green	1	not retained from field	
	Glass		flat	clear	1	not retained from field	
	Shell	oyster			1	not retained from field	
	Slag					not retained from field	
1. 5	Bone			rib	1	butchered	
	Brick			red	1	not retained from field	
	Ceramic	creamware		white	1	green glaze one side	1762-1820
	Shell	oyster			3	not retained from field	
Artifacts Recorded From Shovel Test 1 (14 records) = 16							
2. 2	Brick			red	1	not retained from field	
	Glass		flat	clear	1	not retained from field	
	Metal		nail		1	not retained from field	
	Plastic				1	not retained from field	

# Governors Island Brooklyn Battery Tunnel Sewer Connection Artifact Inventory Page 2 of 2

Context	Material	Identity	Form	Color	Count	Description	DateRange
2.3	Brick			red	2	1 small frag; 1 - 3.5 x 2.25 x ?; not retained from field	early 19thC.-present
	Ceramic	ironstone		white	2		
	Coal					not retained from field	
	Concrete					not retained from field	
	Metal	aluminum		stay tab	1	not retained from field	

Artifacts Recorded From Shovel Test 2 (9 records) = 9

**Total Artifact Recorded = 25**