

REPORT ON  
ARCHAEOLOGICAL WORK CONDUCTED FOR  
THE GOVERNORS ISLAND  
FULL SEAWALL REHABILITATION PROJECT  
GOVERNORS ISLAND  
NEW YORK, NEW YORK  
OPRHP Project Review No. 11PR07543



Section of historic 1883 seawall as it has been preserved, facing east (Image 4522: June 26, 2014)

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March 19, 2015

## EXECUTIVE SUMMARY

This is a report on archaeological work conducted for the Governors Island Full Seawall Rehabilitation Project. This project involved excavation 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). The work was conducted on behalf of The Trust for Governors Island (TGI) for Turner Construction Company and Bedford Carp Construction, Inc. by Linda Stone, RPA.

The Seawall project included excavations for two main purposes: to conduct seawall repairs and to install new storm drainage. Research conducted to prepare the agency approved archaeological work plan documented areas of varying archaeological sensitivity and presented an approach to identify and document potentially significant resources. The approach included a combination of pre-construction archaeological testing and construction excavation monitoring.

Pre-construction archaeological work was conducted for the planned construction impacts in the areas of highest potential. Eight locations were tested and four resulted in positive findings: parts of an historic seawall (Feature 2), a pier (Feature 4), wooden revetment (Feature 6) and an ice-breaker (Feature 1). Data recovery excavations were conducted at pier and revetment (Features 4 and 6). The impact to the historic seawall section was later eliminated, thus preserving that feature. The ice breaker was found at the base of the excavation and therefore no additional excavation was conducted.

Excavation monitoring of construction activities resulted in the identification of five additional features: two other sections of historic seawall (Features 3 and 7), coal shed foundation (Feature 5), stable foundation (Feature 9) and possible interior cribbing for historic Pier 102 (Feature 8).

Most features were partially or entirely preserved either by incorporating them into the seawall repairs or by avoiding impacts to a portion(s) of the feature. Only the section of wooden revetment (Feature 6) was removed in its entirety, after the completion of data recovery excavations, to make way for the seawall repair in that location. Furthermore, most features may also have elements present in adjacent unexcavated areas. The only possible exception is one of the seawall segments (Feature 7). That feature continued to the edge of the seawall repair excavation, however it was previously truncated at the base of excavation and therefore may or may not continue beyond the limit of the Seawall Project excavations.

In addition to the archaeological features, monitoring resulted in the documentation of the deposits, disturbances and fill at the work locations.

No additional below ground work is planned for the Governors Island Seawall Project. Archaeological recommendations for future projects include pre-construction documentation of the planned below ground work and pre-construction testing for locations of high and/or moderate potential. Areas of high potential would include those where a portion of the features identified in the Seawall Project may exist in adjacent areas. Monitoring is recommended for locations of lower potential and as otherwise may be appropriate to follow up the pre-construction testing.

## SHPO MANAGEMENT SUMMARY FORM

**SHPO Project Review Number (if available):** *11PR07543*

**Involved State and Federal Agencies (DEC, CORPS, FHWA, etc):** *Trust for Governors Island*

**Phase of Survey:** *1B/II/III*

### **Location Information:**

Location: *Governors Island Historic District, New York City*

Minor Civil Division: *n/a*

County: *New York*

**Survey Area (Metric & English):** *Pre-construction Testing and Monitoring*

Length: *3526 feet (1 km)*

Width: *up to 15 feet (4.5 m)*

Depth: *up to 10 feet (3.0 m)*

Number of Acres Surveyed: *n/a*

Number of Square Meters & Feet Excavated (Phase II, Phase III only):  
*7 locations totaling approximately 2588 sq. ft. (240 sq. m.)*

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:** *Machine Excavated Test Trenches*

Number & Interval of Shovel Tests: *0*

Number & Size of Units: *0*

Number & Size of Test Trenches: *8 varying from 3 - 7 feet (91 - 213 cm) wide by 10 to 25 feet (305 - 762 cm) long and 4.5 - 8.5 feet (137 - 259 cm) deep*

Width of Plowed Strips: *n/a*

Surface Survey Transect Interval: *n/a*

### **Results of Archaeological Survey:**

Number & name of prehistoric sites identified: *0*

Number & name of historic sites identified: *9 - 3 sections of historic seawall, 1 ice breaker, 1 pier, 1 wooden revetement, 1 coal shed foundation, 1 stable foundation and 1 interior cribbing for historic Pier 102*

Number & name of sites recommended for Phase II/Avoidance: *9 - all historic sites were at least partially preserved and reburied, except the wooden revetement which was subject to data recovery and removed*

### **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:** *March 19, 2014*

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## INTRODUCTION

The Trust for Governors Island (TGI) created a plan to repair the seawall, consolidate storm water outfalls and upgrade the storm drainage lines throughout Governors Island. The project is called the Governors Island Full Seawall Rehabilitation Project. The Seawall Project has taken place throughout Governors Island, including within the Governors Island National Landmark District and the New York City Governors Island Landmark District, generally referred to as the Historic District. This is the part of Governors Island north of Division Road (see Figure 1 for project excavation locations within the Historic District). The archaeological work described here is subject to the regulations of and the review by the New York State Office of Parks, Recreation and Historic Preservation (SHPO) and the New York City Landmarks Preservation Commission (LPC).

The archaeological work plan (AWP) for the Seawall Project was prepared during the conceptual design phase and provided a means to assess archaeological potential of ground disturbing actions in a swath of the Island perimeter measuring from 30 to 50 feet (9 - 15 m) inland throughout the Historic District. The actual project impact locations covered a substantially smaller footprint than that assessed during the planning phase of the Seawall Project. The means and methods presented in the AWP were applied to the actual work locations. This included conducting pre-construction archaeological testing at eight sensitive locations and monitoring other sections that were less archaeologically sensitive. The contractor also added four test pits and two borings that were monitored prior to the commencement of full-scale construction activities.

The impacts to potential archaeological resources from the Seawall Project that were investigated prior to construction included sections of the prior seawall(s) and piers depicted on historic maps dated 1813, 1867 and 1906, as well as other mapped features and structures. These include two different privies mapped in 1867 and 1879, the trader's post and storehouse or coal shed mapped in 1879 and 1906, the quartermaster's coal shed mapped in 1879, the tramway mapped in 1906, an ice breaker mapped in 1813 and the quartermaster's storehouse mapped in 1906.

The expected resources were encountered in four of the eight pre-construction testing locations. One of those (the ice breaker mapped in 1867) was at the base of the contractor's planned excavation. Therefore, no additional work was conducted there beyond the archaeological test trench. Archaeological data recovery excavations were conducted at two sites; a pier mapped in 1857, 1867, 1879 and 1906 and part of the revetement mapped in 1867. The fourth site identified during pre-construction testing was part of the 1867 seawall, located along the boundary of the Governors Island National Monument in what would have been a storm drainage trench. The storm connections in that area were later eliminated from the project thus preserving the site and eliminating the need for additional archaeological investigation there. Five other sites were identified during construction; two sections of historic seawall, part of a coal shed foundation, part of a stable foundation and wood that may have been part of interior cribbing for Pier 102. Portions of all of these resources were left *in situ*.

This report presents details of the findings of the Governors Island Full Seawall Rehabilitation Project. It includes sections entitled Introduction, Site Context, Methodology, Results, and Conclusions and Recommendations. The report was prepared for the Trust for Governors Island under the auspices of Turner Construction Company and Bedford/Carp Corporation by Linda Stone, RPA. Field work was conducted under the direction of Linda Stone, RPA and began on March 13, 2013 and was completed on October 6, 2014. Linda Stone was the Principal Investigator, archaeological field supervisors were Jenna Wallace Coplin, RPA; Patience Freeman, RPA; Shelly Spritzer, RPA and Matthew C. Sanger, RPA. Archaeological field technicians were Eli Geminder and Roseanne Quinn. Laboratory processing was done by Jenna Wallace Coplin, Roseanne Quinn, Eli Geminder, and Lauren Fraser. Linda Stone, Jenna Wallace Coplin and Roseanne Quinn completed the artifact identification and analysis.

The author would like to acknowledge the following individuals for their help in facilitating the archaeological work of the Seawall Project: Donald J. Banks and Anthony Carpinello of Bedford Carp Construction, Ken Suarez and Robert Pellegrino of Turner Construction Company and Claire Kelly of the Trust for Governors Island.

## SITE CONTEXT

### Pre-Contact Period

Three Native American archaeological sites have been identified on Governors Island, one in Nolan Park, another near Castle Williams and the third on the south side of Fort Jay. Native American cultural material has also been found in redeposited contexts in many other places on the Island (PAL 1996: 11; Stone 2006: 10; UMass 2003:110-111). The Phase 1A Archaeological Assessment defined certain areas as sensitive for the preservation of prehistoric archaeological sites (PAL 1996: Figure 4-1). These include most of Nolan Park, the open areas east of Castle Williams, the Fort Jay Parade Ground, and part of Colonel's Row (see Figure 2). None of the Native American sites or areas previously defined as having potential to contain such sites are within the areas of excavation footprint of the Seawall Project.

### Historic Period

Governors Island was mainly a military post/outpost through most of its history. The previous archaeological reports, Cultural Landscape Report and Landmarks Commission Designation Report all highlight slightly different aspects of that military history by time periods. The UMass Archaeological Overview and Assessment of Governors Island has one of the tightest chronologies:

1500 - 1638	Early Colonial Period
1638 - 1664	Dutch Colonial Period
1664 - 1770	English Colonial Period
1770 - 1783	Military during the Revolutionary Period
1783 - 1815	Military during the War of 1812 Period
1815 - 1900	Military during the 19 <sup>th</sup> Century and Civil War Period
1900 - 1966	Military during the Early-20 <sup>th</sup> Century
One could add the Coast Guard Period (1966 - 1996).	

The LPC Designation Report adds more detail regarding activities during the military periods, such as defining;

- Period of Transition from Harbor Defense to Military Post (1830s - 1850s)
- Period of Army Headquarters Post (1878-1917) and
- Period of Expansion, McKim, Mead and White and the WPA (late 1920s - 1930s).

They also discuss the tenure of various commands and divisions of the Army. The New York Arsenal (1833 - 1920) "functioned as a separate reservation (about six-and-one-half acres) along the northeast edge of the waterfront." The Arsenal included twelve buildings which were built between 1839 and 1875. The Headquarters of the Division of the Atlantic, Department of the East was located on Governors Island from 1878 to 1917. The First U.S. Army was stationed on Governors Island from 1933 to 1966, with brief hiatus from 1943 to 1946 (LPC 1996: 4, 14).

Appropriate to the Seawall Project, stabilizing the perimeter of the island was, and is, an ongoing priority.

Governors Island's location in the harbor made it susceptible to the damaging forces of wind and tidal action. The earliest documented seawalls on the island were built in the 1840s to protect the base of Castle Williams from direct contact with the sea. The Army expanded its use of seawalls in 1866... This action appears to have made the existing shoreline higher and more linear. A more ambitious project was planned for the eastern shore of the island in the 1880s. Army engineers extended the 1866 seawall northeast of South Battery, filling a sizable portion of the low tidal areas... By 1884, a masonry seawall extended from South Battery to the main wharf [Pier 102]... In an effort to complete a perimeter seawall around the entire island, the Army accepted bids in 1889 to build 1,100 feet of seawall on the north shore, from Castle Williams to the arsenal. The proposed wall, that created 65,000 square feet of new buildable land, was intended to be a continuation of existing walls and portions were planned to replace sections that had washed away (Nowak 2010: 75).

Historic period archaeological potential from the Seawall Project impacts was primarily related to the military occupation on Governors Island with expected resources generally being the predecessors to today's seawall or structures used for activities associated with the shore. No previously known archaeological sites were anticipated.



# METHODOLOGY

## Work Locations

The contractor identified work locations for the Seawall Project one of two ways dependant on whether they were working on the seawall repairs or the storm drainage. For the seawall repairs, station numbers were used to identify locations. Stations are sequential numbers beginning with “0” on the west side of Soissons Dock and increasing counterclockwise along the seawall around the entire Island. Every hundred feet the station number increases by “1”. For the areas between stations, a “+” number is used. For example Station 1+90 is located 90 feet from Station 1 and therefore 10 feet from Station 2, and so on. For storm drainage work, locations were keyed to the seawall outfalls. Each outfall was assigned a number (i.e. OF 10). All the catch basins and manholes associated with that specific drainage system were given sequential numbers with the outfall prefix (i.e. CB 10.01, MH 10.03...)¹. For archaeological purposes, the trenches connecting catch basins and manholes were described using the contractor’s CB and/or MH numbers at each end of the trenches. Figure 3 (Contractor Drawing SK-01) is the Seawall Rehabilitation Plan showing the outfall and station numbers along with the seawall repair types as planned.

Archaeological work consisted of pre-construction testing and monitoring during contractor excavations. Pre-construction archaeological work was done via mechanically-assisted archaeological trenches. Monitoring was conducted for contractor test pits and borings, in addition to excavations for the seawall and storm drainage. All archaeological work was documented on forms (i.e. trench forms, daily notes, boring forms, etc.). All forms were accompanied by a construction drawing or map depicting the contractor work in that location so that locations could be cross-referenced and/or grouped accordingly for analysis. Location information was plotted on the 2012 Langan survey of then existing conditions. In some cases, the contractor’s surveyor shot points in the field and provided the files to be incorporated into the survey for use in this report. In other cases, field measurements were triangulated and then transferred to the survey.

## Archaeological Test Trenches

Eight Archaeological Test Trenches (ATTs) were excavated for the Seawall Project; TT #s 01, 02, 03, 05, 07, 08, 09 and 10² (see Figure 4). Coordinates for the corners of the trenches were established using the 2012 Langan site survey. These coordinates were given to the contractor to mark in the field. The size of the trenches varied according to the amount of the potential resource expected and the size of the planned impact. The equipment operator was instructed by the archaeologist to excavate in increments, usually 6 inches (15 cm). Artifact screening was done as was needed to inform the findings. Soil color descriptions were made using comparisons to the Munsell Soil Color Charts. Stratigraphy was recorded on field forms. Trench locations were mapped on the site plan.

## Archaeological Excavation Units

Two archaeological excavation units (EUs) were completed during the course of the Seawall Project, both related to the data recovery excavations of Feature 4 in the TT 03 area. All soils from the EUs 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. Locations were mapped on the site plan.

## Monitoring

Construction excavation monitoring was the predominant field technique used for the identification of

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¹ In certain cases, connections were made to existing manholes or catch basins. In those instances the numbers do not correspond to the convention. When discussed in this report they are prefixed with “existing.”

² TT #s 04 and 06 were assigned prior mobilization and then eliminated. TT 04 was eliminated due to prior utility disturbance and TT 06 was eliminated because the repair type in that section was changed to one not requiring excavation.

potential archaeological resources during the Seawall Project. Monitoring followed the protocol established in the AWP. Briefly, the Monitoring Plan included giving the archaeologist authority to halt contractor excavations by communicating directly with the machine operator in order to document any archaeological resources, should they be encountered. If no archaeological features were encountered, the archaeologist documented the soils and fill deposits by taking photographs and measurements for drawings. Stratigraphy was recorded using comparison to the Munsell Soil Color Charts.

### *Contractor Test Pits and Borings*

The contractor excavated five test pits and two borings to assess existing conditions in various places. These were monitored using the same protocol as general monitoring.

### *Seawall Repairs*

Seawall repair monitoring also followed the general monitoring guidelines. Two main types of seawall repairs required excavation; seawall stabilization and seawall rebuild with foundation stabilization. Contractor methods for the excavation portion of these repair types was the virtually the same. The only difference was the width of excavation measured from the landward side of the existing seawall. The general seawall repair required excavation of 10 feet (3.0 m) inland and the rebuild with foundation stabilization required excavation approximately 15 feet (4.5 m) inland. The width could vary a small amount based on the field conditions. The excavation depth for both types of repairs was between 7 to 10 feet (2.1 - 3.0 m) below ground surface. Excavation locations were based on station numbers and details were recorded on archaeological field forms.

There were two other seawall repair types that were localized to one area each. The area around Castle Williams had repointing with excavation and the area between Piers 101 and 102 had excavation for tie rods and sheet piles. The excavation footprint for the Castle Williams area work was approximately 8 feet (243 cm) inland and up to 9 feet (274 cm) below ground surface. The tie back area was excavated up to 10 feet (305 cm) inland and up to 6.5 feet (198 cm) below ground surface.

The contractor used a backhoe with a 4.5 feet (137 cm) wide bucket to loosen the upper four feet of the excavation, primarily along the inland most part of the excavation. Once loosened, steel "I" beams would be vibrated vertically into place at five foot intervals along the inland side of the excavation. Overlapping steel road plates were placed behind the beams. This provided the shoring for the contractors work area and created a cut-off wall for dewatering. The then excavated deposits would be used to backfill the portion of the trench inland from the shoring. Additional material removed was loaded directly into a truck to be carted away until the base of excavation was reached. Once the depth of excavation in a repair section was reached, a sump for dewatering was established before continuing the excavation in that repair section.

For safety reasons, the archaeologists were required to either stand at the landward side of the trench or within the trench in shored locations. For locations where no potentially significant archaeological findings were identified, and because of the shoring, excavation and viewing perspective, measurements were generally taken from above and in some cases inferred based on the profile of the soil adhered to the existing seawall prior to the contractor cleaning it off and hosing it down.

### *Storm Drainage*

Again, the monitoring protocol for the storm drainage aspect of the Seawall Project adhered to the previously established monitoring plan. Excavation depths were up to 11 feet (3.4 m) below ground surface. The contractor's backhoe bucket measured 3-foot (122 cm) wide. Storm pipes required less excavation than catch basins and manholes. Catch basins and manholes had an excavation footprint of up to 10 feet (3.0 m) square. The storm pipe trenches connecting seawall outfalls to catch basins and then to other catch basins and manholes were approximately 5 feet (1.5 m) wide when they required shoring and 3.5 feet (1.1 m) wide when they did not.

### *Laboratory Methods*

Unique context numbers were assigned for each field bag of artifacts recovered as they were checked into the lab (FB #). That list of FB numbers constitutes all artifact proveniences (see Appendix A). Recovered

artifacts (except bone) were washed and rinsed in tap water and left to air dry before labeling and rebagging in clean 4-mil zip-lock bags. Bones and bone fragments were dry brushed. Most artifact categories, with the exception of metal and bone, were individually labeled with the site abbreviation “GI”, project identifier “SWSD” and the FB number. Labels were made from acid free paper and adhered to the artifact with a 25% B-72 solution in acetone. A paper provenience tag was placed inside each bag and all zip bags were labeled with the same information.

The artifact inventory is attached as Appendix B. All ceramic and glass artifacts listed are considered sherds, unless otherwise noted in the inventory. In the artifact inventory, ceramic identification and date ranges of manufacture for white-bodied refined earthenwares were based on style of decorations, when available, and are generally 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 terms are used as identifiers in the inventory, contributing to date ranges when appropriate. Governors Island is the current repository for all artifacts recovered during the conduct of work described in this report.

In the following discussion of results, possible dates of deposition are described based on *TPQ* (*terminus post quem*). The *TPQ* is the most recent manufacture start date of a particular context, it is the earliest date a context could have been deposited. *TPQs* are identified using the “start date” column listed in the artifact inventory.

Four wood samples were taken from the field for potential dendrochronological analysis. They were saw cut by the contractor in the field and taken back to the lab to slowly air dry at room temperature before being boxed with the artifact collection. A provenience tag was included with each sample. The wood sample log is attached as Appendix C.

# RESULTS

## Features

Nine archaeological features were identified during the Governors Island Full Seawall Rehabilitation Project: Phase 1 (see Figure 5). Data recovery was conducted on two features (Features 4 and 6). Feature 4 was preserved in place. The removal of Feature 6 was monitored after completion of the data recovery. Four features were documented and left *in situ* (Features 1, 2, 7 and 9). The remaining three features were exposed, documented and partially left *in situ* (Features 3, 5 and 8). Table 1 lists the features by number with an interpretation of their identity and what level of archaeological work was conducted.

TABLE 1 Archaeological Features Identified During the Seawall Project

#	LOCATION	IDENTITY (map dates)	DISPOSITION
1	TT 10	Ice breaker (1867)	Located at base of planned excavation and preserved.
2	TT 01	Seawall (1867 & 1879)	Seawall Project impact eliminated and preserved.
3	Station 85+23 and OF 10	Seawall (1883)	Preserved in seawall repair and partially preserved in OF 10.
4	TT 03	Pier (1857, 1867, 1879 & 1906)	Data recovery and preserved.
5	OF 13 to MH 13.01	Coal shed foundation (1902, 1906 & 1919)	Partially preserved.
6	TT 07	Revetement (1867)	Data recovery and removed.
7	Station 109+96 to 110+17	Seawall?	Preserved.
8	CB 13.04 to CB 13.12	Possible interior cribbing of Pier 102	Partially preserved.
9	CB 29.01	Stable (1867, 1869 & 1906)	Preserved.

### *Feature 1 - 1867 Ice Breaker (TT 10)*

Excavation Date: 3/14/2013

Feature 1 was possibly part of the “Ice Breaker” mapped in 1867. The feature was identified in the base of excavation for an archaeological test trench (TT 10) at approximately 8 feet (2.4 m) below ground surface, and below the water table which was encountered at 7 feet (2.1 m) below ground surface. The location was where a storm pipe to connect a manhole and catch basin was planned at a shallower depth<sup>3</sup> (see Figure 6). Therefore, the feature was preserved.

Without the ability to examine the feature directly because of both the stability of the trench due to its depth and the presence of the water table above the feature, it was not possible to be definitive about the identity of Feature 1. The sound of metal against stone was heard as the backhoe scraped the relatively smooth stone feature and a measuring tape dropped in the trench. The stone feature was present in the western end of the trench and was approximately 5 feet (1.5 m) long and covered the entire 3 foot (91 cm) trench width. There was an artifact rich coal ash deposit on top of the feature. It contained numerous bottles and bottle sherds (n = 69). The *TPQ* of that deposit is the 1930s based on a crown cap finish present on one of the sherds (FB 22) (Lief 1965: 31,33,35).

<sup>3</sup> The configuration of the storm drainage lines to OF 10 was later altered and this location was not impacted further.

No data recovery was conducted because the planned depth of impact did not reach that of the feature and the location was eliminated from the storm drainage plan.

*Feature 2 - 1867 & 1879 Seawall (TT 01; CB 6.04 to existing MH 11)*

Excavation Dates: 9/17/2013

Feature 2 is a portion of the original stone seawall around Castle Williams. It was found during excavation of an archaeological test trench (TT 01) done in advance of storm drainage work for OF 6. This segment of the original stone seawall was found buried approximately 2.2 feet below ground surface (see Photo 1). It measured 1.6 feet (49 cm) wide and ran diagonally through TT 01.

TT 01 was located along part of a planned storm drainage line connecting a new catch basin (CB 6.04) to an existing manhole (MH 11) (see Figure 7). It was placed in that location to potentially identify remains of the earlier seawall and/or a privy mapped in 1867 and 1879. Excavation for the new storm line would require a trench measuring 3 feet (91 cm) wide and up to 5.7 feet (174 cm) deep. The catch basin would have a larger footprint and excavation up to 6.7 feet (204 cm) deep. TT 01 was approximately 3 feet (91 cm) wide by 11 feet (335 cm) long.

The stone wall was discovered almost directly underneath the curb on the east side of Carder Road, west of Castle Williams. A defunct concrete utility encasement or catch basin was exposed directly to the east of the wall, under the grass, seen on the left of Photo 1 and at the top of Photo 2. Although this modern intrusion did not compromise this portion of the stone wall itself when installed, it has obliterated any potentially significant landward side archaeological deposits (see Figure 8). Hand excavation of the deposit on the waterside of the wall was conducted to determine the possible extent/depth of the wall, information about its construction and to recover artifacts that could potentially assist in dating it and/or the subsequent landfill operations that were done to create Carder Road<sup>4</sup>.

The stone sizes are irregular and the stone work is not uniform (see Photo 2). The stone at the western side of the wall protrudes somewhat from the face of the wall, which is generally rough at the levels exposed. The largest stone is at the base of excavation and not fully exposed within the confines of the test trench. That stone measures approximately 10 inches (25 cm) high, although is obviously larger since not fully exposed. The course above that contains a stone measuring 7 inches (18 cm) high and above that are even smaller stones. The top of the wall also contains smaller stones. These may represent fill placed on the interior of two stone faces if a top course of larger stones had once been present. This seems likely the case and the top course(s) truncated because the wall would have been exposed to the tides and subjected to wave action and weathering that would have washed out the small stones over time. A relatively small number of fragmented artifacts were recovered from the fill on the waterside face of the wall. The *TPQ* of these is likely from a milk glass sherd which was manufactured beginning circa 1890 (FB 29) (Fike 1987: 4; Jones and Sullivan 1989: 49).

An overlay of the 1867 historic map with the existing conditions survey and the location of TT 01 shows it directly on the former seawall (see Figure 9). The same is true of the 1879 historic map overlay. By 1906, the land around Castle Williams had been extended and Carder Road laid. Therefore, the area was filled between 1879 and 1906, a time frame conforming to the *TPQ* of the material recovered from the fill in TT 01. A later map dates the construction of the seawall in that area (Feature 2) to 1866 (Corps of Engineers 1883).

The storm drainage work planned for this area was later eliminated and Feature 2 reburied and thus preserved.

*Feature 3 - 1883 Seawall (Sta. 84+97 to 85+27, MH 10.05 to CB 10.01)*

Excavation Dates: 6/26-30/2014 and 8/8/2014

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<sup>4</sup> The feature was found on the boundary of the Governors Island National Monument (GINM) and the disturbed deposit containing the defunct concrete utility encasement was within the GINM. As a result of some of the work being within the GINM, a separate report of results was prepared and has been paraphrased here (Stone 2013).

Feature 3 was part of the 1883 seawall that connected South Battery to Castle Williams. This part of it was covered with fill and remained buried *in situ* after the Island was expanded to its current size in 1911 (Nowak 2010: 77). Figure 10 depicts the location of Feature 3 within both the seawall repair footprint and the storm drainage excavations, diagonally across both trenches. These segments of the historic 1883 seawall were found during monitoring excavation of both trenches, at an approximate depth of 3 feet (91 cm) below ground surface (see cover photo and Figure 11). A portion of Feature 3 was removed to accommodate the required elevation of the storm pipe crossing. The specific elevation required for drainage dictated the pipe height and approximate location. The removal was documented. The remainder of the exposed historic seawall was preserved and incorporated into the current seawall repair.

The section of wall that was identified included up to four courses of cut granite block in the seawall repair and up to five courses in the storm drainage pipe excavation; however, the wall extended below the depth of excavation and therefore contained at least one additional course that remained buried and below the water table. A drawing later found at the National Archives, and dated 1883, depicts up to eight courses of granite (see Figure 12).

The historic 1883 seawall was distinct on its waterside and landward side. The granite block was clear and regular on the waterside face of Feature 3 (see cover photo and Figure 11). Blocks were approximately 1 foot (30 cm) high, 1 to 1.5 feet (30 - 46 cm) thick and those exposed varied from 1.4 to 6.2 feet (43 - 189 cm) long. It is also worth noting there was a large boulder incorporated into the historic seawall waterside face at the corner of the existing seawall (seen on the right of the cover photo and Figure 11).

The landward side face was covered with concrete within the seawall repair excavation, likely from an earlier repair <sup>5</sup>. Photo 3 depicts large-aggregate concrete on the landward face of Feature 3. It is not possible to assess whether the concrete covered stones are similar to those on the waterside face or if what looks like the shape of possible stones behind the concrete is a ghost of a wooden form used to pour that concrete (see right/west side of Photo 3). The left/east side of the photo depicts more recent concrete on the upper half of the wall, likely from a previous repair (painted with an orange vertical stripe and to its left) and fresh concrete at the bottom was poured to plug a leak as the contractor was dewatering. Wood was found along the upper course of the earlier concrete repair (at the top of the orange vertical stripe in Photo 3). The presence of a leak that was plugged during the current work leads one to speculate that the corner of the seawall in that location may have historically suffered some of the same wave action that caused similar damage which resulted in the historic repair. It is also interesting to note the configuration of the wall as depicted in the plan view is suggestive of reinforcement of that corner of the seawall because there are two angles there on the landward side; one where the historic wall meets the existing seawall and the other just to the west of that (see Figure 10).

The portion of the 1883 seawall that was present in the storm drainage trench was similar to that documented in the seawall repair excavation, but that location also afforded the opportunity to examine the interior fill of the wall. The orientation of the wall within the storm drainage trench and the contractor's excavation from east to west provided better viewing of the waterside and interior fill of the trench, rather than the landward side (see Photo 4). The former waterside of the historic seawall found within the storm drainage trench was identical to that documented in the seawall repair excavation, as seen to the northwest of the new pipe, to the left on Photo 4.

The interior of the storm drainage trench portion of the historic seawall contained deteriorated concrete blocks. One of these blocks is visible in Photo 4 inside the intersection of the two photo sticks at the upper left of the wall segment in the image. The part of the excavation adjacent to the pipe was cut back to accommodate the trench box, exposing the interior of the historic seawall, but not the landward face which remains unexcavated beneath the existing Kimmel Road curb on the north side and was obscured

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<sup>5</sup> The section of Feature 3 located within the footprint of the seawall repair excavation provided the best opportunity for documentation because the repair required dewatering and was safe for entry. The storm drainage excavation used a trench box to make the area safe, however that obscured the profiles and eliminated the possibility of direct examination of the landward face of the historic 1883 seawall in that location.



by the trench box on the south side of the storm pipe trench. The presence of concrete may indicate that section of the historic seawall was repaired at some point in time when the concrete was added to the landward face. If a repair was completed there, it would have been sometime after the construction of that section of seawall in 1883 and prior to the creation of the south Island with the addition of landfill in 1911, a time span of less than 30 years. It is unlikely the concrete was used in the 1883 construction based on the Corp of Engineers Chart (Figure 12).

Fill from both the waterside and landward side of the historic seawall was sampled for artifact recovery. The artifact *TPQs* from both sides are similar. The deposit on the waterside of Feature 3 is 1892 based on four round bottom bottles (FB 37) (Jones and Sullivan 1989: 79; Lindsey 2014a)<sup>6</sup>. The deposit on the landward side of the feature is 1893 based on a Hutter patent bottle (FB 98) (Lindsey 2014b). The cultural material found on both sides of the wall is consistent with the post-1883 time frame of construction and filling prior to 1911.

Previous archaeological work in the area of the 1883 seawall included monitoring a boring in Kimmel Road where a coal ash deposit was identified at approximately 4 feet (122 cm) below ground surface, but no artifacts were encountered (Stone 2011a: Appendix B). Nearby, Feature 1 (TT 10) was also within that same landfill and also contained the coal ash fill at a similar depth (see Figures 3 and 4). However, many more artifacts were recovered from that location (see above).

*Feature 4 - 1857, 1867, 1879 & 1906 Pier (TT 03; Sta. 104+36 to 105+00; CB 13.05)*

Excavation Dates: 4/11/2013, 7/7-10 and 8/4-5/2014

Feature 4 was part of a historic pier (see Photo 5). It was identified during preconstruction testing when a portion of concrete covered stone and a square cut timber were exposed in TT 03. These elements were reburied until a data recovery plan could be prepared and implemented. During data recovery, an additional portion of Feature 4 was identified within the seawall repair excavation footprint and, during later excavation for one of the catch basins, yet another piece of the feature was found (see Figure 13). Ultimately, the wooden element was determined to be part of a form used in the construction of the more recent/current seawall. The earlier, stone, elements were preserved in their entirety rather than removing them as anticipated in the data recovery plan.

TT 03 measured approximately 10 by 12 feet (3.0 - 3.7 m). The concrete covered stone portion of Feature 4 was identified at 2 feet (61 cm) below ground surface covering the entire southeastern portion of the test trench. The wood was found at 3 feet (91 cm) below ground surface and running parallel to the seawall. It did not abut the concrete/stone portion of Feature 4. The wood measured 6 inches (15 cm) wide and extended down vertically at least 1.5 feet (46 cm) before excavation was paused at 4.5 feet (137 cm) below ground surface to plan the archaeological data recovery. Artifacts recovered during that initial test indicated the deposit was quite disturbed. Styrofoam was found mixed with ball clay smoking pipe stems and transfer print ceramic sherds.

Data recovery excavation was aimed at identifying the extent, integrity and significance of the feature elements within the contractor's work area and determining if the wood element was related to the stone and concrete elements. The work included excavation of two units, removal of fill around the feature elements, and taking photographs and measurements for drawings. Additionally, the contractor shot survey points which facilitated mapping Feature 4 on the existing conditions survey.

Once the soil above the level of the wood feature component, originally identified in TT 03, was reexposed, the footprint of the remainder of the seawall repair area was also taken down to that level (see Photo 5). The condition of the section of concrete and stone originally identified in TT 03 was sound and the contractor concluded it would be best to incorporate it into their seawall repair, thus eliminating the possibility of examining any interior fill. An additional similar section of stonework was also found abutting the seawall at the northern end of the excavation. It too was incorporated into the current seawall repair.

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<sup>6</sup> This was also the context from which part of a human mandible was recovered from the fill.

One excavation unit was completed on either side of the wooden element of Feature 4. EU 1 was on the exterior, further inland, of the wood. EU 1 was excavated in seven levels of the same stratum to a depth of 3.1 feet (94 cm) below the top of the wood. The deposit was Munsell 10YR 4/6 dark yellowish brown silty sand. It contained a variety of temporally diagnostic artifacts. They had a *TPQ* of the 1890s based on a milk glass sherd (Fike 1987:13, Jones and Sullivan 1989:14).

EU 2 abutted the wood, between it and the current seawall. The wood was visible in both units. It was in quite a state of decay and the wood bowed landward with depth. EU 2 was excavated in four levels of the same stratum to a depth of 1.8 feet (55 cm) below the top of the wood. The deposit appeared identical to that excavated from EU 1, however EU 2 contained larger and more numerous rocks. The rocks ultimately impeded excavation of the unit to the same depth as EU 1. Because EU 2 abutted the seawall, there appeared to be more intrusive cultural material there. In fact, Stratum 4 contained sheet plastic, at which point the unit was abandoned. Similarly modern material was noted in screen samples from adjacent to the seawall in that area; including styrofoam, gum wrappers and a Graham Bites Snack Bag dated 2012. Perhaps this is an indication of some gaps in the seawall where relatively recent artifacts percolated in.

Additional wood was exposed in the EUs as vertical planks, similar to those originally documented in TT 03 (See Photo 6). Once the wood was removed and the contractor completed excavation to the required depth, it became clear that the wood was part of the form used to construct the current seawall. Photo 7 depicts the existing seawall construction after the contractor completed excavation to the necessary depth. In comparing Photo 5 to Photo 7, it is obvious the wooden element of Feature 4 was part of the form used to build or repair the section of the exposed existing seawall. Therefore, although a wood sample was taken for potential dendrochronological analysis, there is no need to process it (see Appendix C).

The stone and concrete elements of Feature 4 were similar to those documented as Feature 3. The waterside face of Feature 4 was constructed of large, regularly cut granite blocks (see Photo 8). Whereas, the landward side face was made of irregularly shaped, sometime protruding, stones (see Photo 9). Here, too, a large boulder was incorporated into the construction. It is seen at the northern end of the exposed segment (left side of Photo 9).

The recovered cultural material was not helpful in determining the date of construction of the pier elements. One of the earliest detailed maps of Governors Island showing piers in the vicinity of Feature 4 is dated to 1839 (see Figure 14). The northern of the two docks on that figure corresponds with the location of Feature 4<sup>7</sup>. That dock has two piers leading to it, a seemingly unusual arrangement. The following year, in 1840, the Engineer Department drew a detail of these two docks (see Figure 15). The northern of them is that with the two piers depicted on the 1839 map. The northern of the piers on Figure 15 is built on a series of trestles and the southern is built on crib blocks with stone fill and connected by wooden bridges. The caption on the northern pier states “All the tressel work is in a sound state.” There is no description of the condition of the southern pier. However, the caption on the other dock indicates it was in poor condition; “This dock is very irregularly planked, with 1.2 and 2 inch stuff, and in a very decayed state.” The 1840 drawing was later sent or resent, in 1866, to the Board of Engineers, likely to underscore the need for repairs, an additional pier and/or a new dock. In 1867, Major Barnard directed a survey of Governors Island that shows a change. The northern dock now corresponds to the stone elements of Feature 4 (see Figure 16). It is labeled “Ord. Wharf (Stone)” on the 1867 map. The former decayed pier appears to then have an expanded footprint and additional features constructed. It is also still wooden in 1867. Finally, a new stone wharf was then proposed to the south. The 1867 map is the clearest available; however, the stone wharf was also depicted on an 1857 plan (Anonymous 1857).

Feature 4 elements were overlaid on historic maps from 1867, 1879 and 1906 showing the correspondence over time to the pier (see Figure 17). By 1919, the Feature 4 pier was expanded with what looks like a storehouse added. The configuration is shown through at least 1962 (Figure 18). Therefore the

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<sup>7</sup> The southern location is at the foot of Andes Road, now known as Pier 102.

construction date of Feature 4 is between 1840 and 1857 and it was demolished sometime after 1962 when part of it was subsumed into the current seawall at the northern end of the repair section.

*Feature 5 - 1902, 1906 & 1919 Coal Shed Foundation (TT 05; OF 13 to MH 13.01)*

Excavation Dates: 3/15-18/2013, 7/3 and 7/18-22/2014

Feature 5 was part of the foundation of the former coal shed that had been present at the beginning of the 20<sup>th</sup> century. This was one of the potential findings for TT 05 excavation. However, no intact elements of the structure were found in the test trench. The *in situ* stone foundation remains were ultimately identified during excavation for storm drainage between OF 13 and MH 13.01 (see Figure 19). An “L”-shaped portion of the stone foundation was exposed buried within the storm drainage trench approximately 2.6 feet (79 cm) below ground surface, varying slightly with the undulating ground surface. It measured 1.5 ft (46 cm) thick and what remained was 4.2 feet (128 cm) high. The exposed portion of the foundation measured 7.6 feet (232 cm) north to south crossing the trench and over 20 feet (610 cm) east to west at a slight angle along the north profile of the trench (see Photo 10). Feature 5 was in the direct path of the planned storm drainage line and therefore most of the exposed portion of it was removed. Parts of Feature 5 that were adjacent to the trench box (the eastern part seen in the upper right of the photo) were left *in situ* and it is likely some of the foundation is still present outside of the excavation footprint beneath the adjacent grass.

TT 05 was excavated nearby in a grassy area between the Pier 102 waiting room and Building #96. It measured 25 feet (762 cm) long and was 7 feet (213 cm) wide and 8 feet (244 cm) deep (see Figure 19). There were four strata within the excavation for TT 05. The upper stratum was topsoil. That was underlaid with Munsell 10YR 3/3 dark brown fill to 2.7 feet (82 cm), notably the approximate level of the top of Feature 5. A thin stratum of dark, organic deposit was found in places at the same approximate depth as the top of Feature 5. The basal stratum was Munsell 10YR 4/6 dark yellowish brown sandy silt with moisture increasing with depth and tides. The *TPQ* of that lower deposit is c. 1893, based on an embossed whole bottle found in TT 05 (FB 19) (Trow's 1893: 608). This deposit would have represented the interior fill of Feature 5. It also contained demolition debris including a concrete slab and some pieces of wooden planks.

Excavation for the storm drainage line began at OF 13 and commenced westward. The storm drainage trench stratigraphy was similar to TT 05. Topsoil and fill were present to 2.9 feet (88 cm). Dark yellowish brown silty sand was found to approximately 7.1 feet (216 cm) and dark reddish brown silt to the base of excavation. The fill in the storm drainage trench also contained a significant amount of demolition debris. A large section of displaced mortared stone wall, similar to that comprising Feature 5, was removed from the fill during the excavation for the storm drainage trench east of and prior to identifying the foundation in the northern profile of the trench (see Photo 11). Artifacts noted in that area included porcelain toilet parts, a displaced concrete possible footing, chunks of mortared brick and pieces of flagstone.

For safety due to depth and instability of the excavation, the work involved using a trench box. It measured 5.4 feet (164 cm) wide. Therefore the width of excavation was expanded to accommodate it and this enabled exposure of a larger portion of the foundation in the north profile than would otherwise have been accomplished. Once Feature 5 was identified, a sample of the interior fill was screened for artifact recovery. No temporally diagnostic artifacts were contained in the sample. In contrast to the large pieces of demolition debris in excavation, the material present in the screen was small in size and included just a few coal and small brick fragments, two small shell fragments, one corroded metal (possible nail) and one piece of flat glass (noted and not retained from the field). The fragmentary nature of the fill leads to the conclusion the material was not a primary deposit, however the large pieces of demolition debris would likely have been.

The demolition of the portion of Feature 5 removed to make way for the storm pipe was documented. The foundation was made of schist and red sandstone, similar building materials used on other Governors Island buildings. These relatively smaller stones were capped with granite (see Photos 10 and 11). The granite measured approximately 1 foot (30 cm) high, 1.5 feet (46 cm) thick and generally close to 3 feet (91 cm) long, although length varied up to 4 feet (122 cm) long.

The location of Feature 5 was surveyed and mapped and then overlaid onto historic maps to identify the best fit. Figure 20 contains two of the historic map overlays; 1902 and 1919. These clearly show the foundation is part of the former coal shed, also labeled “18” on the 1902 map. By 1928 the coal shed had been removed. Figure 21 is part of the 1928 aerial photograph that shows a rectangular area that is lighter in color than the surrounding pavement, probably the then result of the recent demolition and filling of the former coal shed.

*Feature 6 - 1867 Revetement (TT 07; Sta. 96+14 to 96+42)*

Excavation Dates: 3/15-18/2013, 7/30-8/1/2014

Feature 6 was part of a historic landfill retaining structure identified during pre-construction testing (TT 07) (see Figure 22). It is likely part of the revetement mapped in 1867. TT 07 contained several wooden members buried approximately 5.5 feet (168 cm) below ground surface. They were part of four square cut vertical piles against wooden sheeting with no sign of fasteners visible, found in the test trench. The piles were 1 foot (30 cm) square. Two were removed during testing. They measured 2.5 and 3 feet (76 and 91 cm) long and were cut into a wedge shape at the bottom and cut flat at the top. These two elements are not drawn on Figure 22, but were within the footprint of TT 07. The arrangement of wood was at an angle to the current seawall. The deposit on either side of the wood was examined in the test trench and found to be different on the landward and watersides of the wood.

The approved data recovery plan included exposing the extent of the wooden feature within the footprint of the seawall repair excavation, screening soil samples from both sides of the feature for artifact recovery, recovering wood sample(s) for potential dendrochronological analysis and documenting the structure using the Landfill Retaining Structure Field Inventory Form (LFR Form) developed during the South Ferry Terminal Project (AKRF, URS, Stone 2012: II: Appendix C). Unfortunately, it was not possible to dewater during data recovery as planned due to the large gaps and cracks in the seawall. This made the *in situ* documentation challenging.

During data recovery work, additional wooden members were exposed at approximately the water table (see Photo 12), most had been previously frayed at the top, possibly indicating the feature had been truncated prior to burial. In general, the wood was in poor condition. Some of the removed members were further documented to determine their shape and size. The one round member present was cut to a point at the bottom and measured approximately 5 feet (152 cm) long by 0.5 feet (15 cm) diameter. Two wooden members were similar in size (close to 1 foot/30 cm square) and both had a flat-cut end at the bottom. They were approximately 4 feet (122 cm) long. Some of the piles held planks in position (see Photo 13). Planks examined measured approximately 5 and 9 feet long and only part of a cut end was present. Samples of two of the square cut members, one of the round members and a section of plank were retained for potential dendrochronological analysis. The wood was examined by a landscape architect<sup>8</sup> to ascertain the species, if possible (see Appendix C). The plank and round member are likely cedar. One of the square members is oak and the other may be as well, however the examination of it was inconclusive.

The completed LFR Form is attached here as Appendix D. In summary, the material type was wood and included members left in the round as well as square cut pieces, all vertical, and planks. Only one round member was present and it was 0.5 feet (15 cm) in diameter. The square cut members were 1 - 1.2 feet (30 - 37 cm) across. Planks measured 10 by 2 inches (25 x 5 cm). The form was either part of a crib or wall, but joinery was not visible. The structure type is likely a revetement or continuous linear shoreline. No construction method could be defined because of the lack of joinery present. Fill material was present on both the landward and watersides of Feature 6. Similarities between cultural material were found on both sides. These included ceramic and glass sherds with *TPQs* of around 1870 based on glass sherds from multiple contexts (FBs 80, 81 and 85) (Fike 1987: 4,13). Differences noted between artifacts found on either side of Feature 6 include brick fragments, leather, rubber and shell present on the landward side of the feature, but not on the waterside. The wooden elements were removed as part of the seawall repair, however it seems likely there are others that remain buried adjacent to the seawall repair

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<sup>8</sup> William Johnson of Siteworks conducted a visual inspection on December 1, 2014.

excavation to the north. The documented piles removed were similar to those found in TT 07, however two of them were up to 4 feet (122 cm) long. Of the longer elements, one was square cut, flat at one end and frayed at the other. The round member was wedge shaped at one end and frayed at the other. Therefore it is not possible to know the original cut length of these members, however it is possible they were once longer than 4 feet (122 cm) if not frayed.

The original 1867 map overlay of the area of Feature 6 presented in the Archaeological Work Plan (Stone 2011b: Figure 3) was prepared aligning the three major extant forts (Fort Jay, Castle Williams and South Battery) without skewing. This resulted in a somewhat imperfect match. However, if the overlay is done for the locality of Feature 6 using the two closest extant structures, Building #s 5 and 9, then splitting the difference without distorting the original map, Feature 6 approximates the 1867 revetement (see Figure 23). The label on the map says "Revetement of about 2" planks and piles for road-way...", the exact thickness of the planks documented in Feature 6. Interestingly, the revetement is not depicted on the 1857 Barnard map, an earlier, similar version of the 1867 map and by the same surveyor. Therefore, that revetement was likely constructed between 1857 and 1867.

Feature 6 is likely part of the revetement mapped in 1867. The wood species are oak and cedar. The origin of the wood is most likely elsewhere since the Dutch had denuded Governors Island and the trees existing in 1867 would not have been available for construction purposes. Given that assumption, the trees used would have been cut relatively close to the time of use, between 1857 and 1867. Therefore, there appears little need to submit the samples to dendrochronological analysis because the wood species have been identified and assumptions regarding date of death and source of wood are sound.

#### *Feature 7 - Historic Seawall? (Sta. 109+96 to 110+17)*

Excavation Dates: 8/26-27/2014

Feature 7 was part of a possible historic seawall. A segment of a 3 foot (91 cm) wide stone wall was identified during monitoring of seawall excavation. It articulated with the existing seawall and extended diagonally across the excavation approximately 20 feet (6 m) (see Figure 24 and Photo 14). The wall segment was buried approximately 4 feet (122 cm) below the top of the existing seawall at its highest point. However, the integrity of the segment was compromised and courses of stone missing so that the top of the segment at the northwestern end was close to the base of excavation for the seawall repair. The width of Feature 7 varied from 2.4 to 3.0 feet (73 - 91 cm), although it is possible the variation is a result of the poor preservation and that the width was more uniform when the feature was originally constructed.

The landward face of Feature 7 was smooth and the waterside was not, just as the existing seawall is. The type and size of the stones in the historic wall are similar to those that comprise the existing seawall in this area. The historic wall stones are mortared together and seem integrated into the existing seawall (see Photo 14). No artifacts were recovered from contexts related to this wall. The fill on either side and above the archaeological wall was similar, indicating it may have been covered at the same time as the landward side of the existing seawall was filled.

Historic maps since the time a seawall was constructed in that location all depict the orientation identical to the extant seawall. The earliest detailed map showing a seawall in that location is dated 1857 (Barnard). It depicts a seawall in the current orientation as found today. However, it also shows a wavy line of discontinuous stones in the water outside the seawall. Unfortunately, the area of Feature 7 is just outside the map section so an overlay is not possible. In any case, Feature 7 is a laid stone form and therefore not that offshore stone arrangement from the 1857 map. If the orientation of the offshore stones is similar to Feature 7 then it perhaps represents an earlier incarnation of the seawall that had deteriorated by that time. No artifacts were recovered from excavations associated with Feature 7 and the feature was preserved within the seawall repair.

#### *Feature 8 - Possible interior cribbing of Pier 102 (CB 13.04 to CB 13.12)*

Excavation Dates: 8/25-29 and 9/2-3/2014

Feature 8 was a series of wooden elements initially thought to be part of a landfill retaining structure.

It was located in a storm drainage trench between catch basins excavated adjacent to Pier 102<sup>9</sup>, buried approximately 3 feet (91 cm) below ground surface (see Figure 25). There were four stacked wooden elements found in the southern profile of the excavation for CB 13.04. The upper two pieces were 6 inches (15 cm) round and the top was buried 2.6 feet (79 cm) below ground surface. There were two 12 inch (30 cm) square cut members directly beneath those. They extended to the base of excavation, approximately 6 feet (183 cm) below ground surface. The lower three elements were stacked one on top of the other. The upper element was at a slight angle to the others and extended into the profile of the trench. Therefore it may be unrelated or else the element was dislodged prior to burial. Two metal spikes that could have been fasteners were present in the lower two pieces. They were spaced 2.5 feet (76 cm) apart, but were observed in only one of the wooden members. The portion of the wooden elements in the CB 13.04 south profile, west of the catch basin, were preserved *in situ*.

Excavation for the trench connecting CB 13.04 to 13.12 exposed two additional wooden members at a similar depth; 2.9 feet (88 cm) (see Photo 15). These were perpendicular to one another, but not articulated. Once documented and removed, no additional members were found within that trench. Another wooden element was identified in the excavation for CB 13.12. That was a 12 inch (30 cm) square cut member found buried approximately 5 feet (152 cm) below ground surface. Once it was removed and excavation continued for the catch basin, the top of two vertical piles was identified beneath where the beam had been, but buried 6.8 feet (207 cm) below ground surface, therefore not articulated with the horizontal member. The piles were spaced approximately 4 feet (122 cm) apart. These continued to the base of excavation; 9 feet (274 cm) below ground surface.

Previously displaced wooden elements were identified nearby in the storm drainage trench between Manholes 13.02 and 13.03, located approximately 25 - 30 feet (7.6 - 9.1 m) away inland. Intact members were found in a prior archaeological survey of Pier 102 where excavation of four trenches revealed wooden elements in each location at a similar orientation to those in the current work (see Figure 25). The Pier 102 wood was at a similar orientation to that found within the current work, perpendicular, but non-articulated isolated timbers, some with metal spikes (PAL 2009: 35 - 45). The exception is that found in MH 13.04 which was four pieces on top of each other. PAL concluded the earlier timbers found in Pier 102 trenches represent the remains of possible “interior cribbing associated with the construction and filling of the pier... may have served as internal dividers and/or braces within the stone seawall perimeter” (ibid: 44).

The proximity of the timbers found in the CB 13.04 to CB 13.12 trench to those found earlier in Pier 102 and the similarity in orientation, depth, joinery and general lack of articulating members could indicate an association. A small number of temporally diagnostic artifacts were retained from excavations associated with Feature 8. The upper soil/fill associated with the wood has a *TPQ* of 1910 based on a sherd of wire-reinforced glass (FB 115) (Wikipedia 2014). The ash fill found above and at the top of the wood was deposited no earlier than c. 1897 based on a marked peroxide bottle (FB 117) (Fike 1987: 149). The deposit underneath the wood at CB 13.04 is slightly earlier, where a bottle glass sherd provides a *TPQ* of 1875 (FB 116) (Fike 1987:13). As PAL points out in their report, “no written documentation is available regarding the improvements to Pier 102” and “it is impossible to ascertain from maps alone when and what types of structural improvements were made throughout history” (ibid.: 44). A pier first appears on a map in the location of Pier 102 in 1813 (Mangin 1813). Over time, the pier at that location has transformed. A number of the iterations of it can be seen in some of the previous Figures (see Figure 14 for 1839, Figure 16 for 1867 and Figure 20 for 1902 and 1919). The artifact assemblage provides a small window into what may have been a time when the last major change occurred, around the turn of the twentieth century.

#### *Feature 9 - 1867, 1879 & 1906 Stable (CB 29.01)*

Excavation Dates: 7/30 and 9/5/2014

Feature 9 was a section of dry-laid flagstone wall found in western side of the south profile of the excavation for CB 29.01 (see Figure 26). It measured approximately 4 feet (122 cm) east to west from the western end of the catch basin cut and was located approximately 2 feet (61 cm) from the installed catch

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<sup>9</sup> Pier 102 is the extension of Andes Road from Fort Jay to the water.



basin. The top of the flagstone was 2.2 feet (67 cm) below ground surface. The flagstone extended at least to the base of excavation, 4.8 feet (146 cm) below ground surface (see Photo 16).

CB 29.01 was an in-kind replacement of an existing catch basin and thus the excavation was entirely comprised of backfill. The deposit above the flagstone was grayish brown (Munsell 10YR 5/2) sandy silt. It contained brick debris, rocks, broken clay sewer pipe fragments and pocket of ashy fill. The same deposit was also present in the west profile of the CB 29.01 pit. No artifacts were recovered from the excavation.

Historic maps were consulted to determine if there were any structures that may once have existed in this area. Feature 9 overlays part of the north wall foundation of the stable that was present on the 1867, 1879 and 1906 maps (see Figure 27). The 1867 Barnard map labels the building and adjacent octagonal structure “Ord. Stables.” The 1879 Army map keys the building number 41 as Stable and the 1906 labels it “Stable.” A structure is mapped in the same location in 1949, however it is unlabeled. There is nothing mapped in that location by 1962. There are two versions of the 1879 Army map. Figure 27 depicts an overlapping rectangle on the Stable. The other version only depicts the portion of the rectangle north of the Stable. Perhaps it represents part of a fence or corral.

The portion of the Stable found in the CB 29.01 excavation was preserved in its entirety. It seems likely more of the former Stable is still present in areas adjacent to the Seawall Project excavation. Should that be the case, recovery of material remains from that area could be possible, unlike the in-kind catch basin replacement where Feature 9 was found at the periphery.

## Pre-Construction Testing Results

The following describes the results of testing where no potentially significant archaeological resources or deposits were identified, but that contained data regarding general site conditions and soil accretion/deposition. There were eight archaeological test trenches placed to look for potentially significant features in the areas of highest sensitivity. Half of those locations contained positive finds and have been discussed above; TT 01 (Feature 2), TT03 (Feature 4), TT07 (Feature 6) and TT10 (Feature 1). Contractor test pits were monitored in two general locations; at the seawall near Castle Williams where four test pits were placed and near Pier 101 where a large test pit was conducted to expose the exiting tie-backs (Stations 104+36 to 103+30). Additionally, two soil borings were also placed along the seawall around Castle Williams.

### *Archaeological Test Trenches*

Figure 4 depicts the locations of the archaeological tests trenches (TTs) that were recommended for excavation prior to construction for the Seawall Project. Two test trenches (TT 04 and TT 06) were originally planned and laid out, but were eliminated in the field. TT 04 was not completed because it was located within a storm drainage trench that was an in-kind replacement, hence already disturbed. TT 06 was eliminated because the seawall repair in that location was removed from the project. Table 2 presents the size of the individual trenches and what the expected and actual findings were.

#### TT 02

Excavation Date: 3/20/2013

TT 02 was placed along the seawall from approximately Station 2+02 to 2+16, west of Soissons Landing (see Figure 4). It measured 14 feet (427 cm) long, 3 feet (91 cm) wide and 7.2 feet (219 cm) deep. The location is that of a former tramway and storehouse pier mapped in 1906. Remains of neither were found.

The trench contained a layer of brick beneath the paving base, likely a remnant of an earlier sidewalk or road, as seen in numerous places throughout Governors Island. That was underlain with a dark yellowish brown silty sand to 4.5 feet (137 cm) below ground surface. The artifacts contained in this stratum were quite small and included many brick fragments as well as other material (FBs 1 and 2). The *TPQ* of the deposit is 1875 based on an embossed clear glass bottle sherd (FB 1) (Fike 1987: 13). Stratum 3 contained the same soil type, but did not include the dense concentration of brick fragments found above. The deposit extended to 6.8 feet (207 cm) below ground surface. Artifacts included a milk glass sherd that provided the 1890s *TPQ* (FB 3) (Jones and Sullivan 1898: 14). The basal stratum was dark gray wet silty

sand and extended to the base of excavation 7.2 feet (219 cm). The *TPQ* of that deposit is 1851 based on a marked ceramic sherd (FB 4) (Weiss 2014).

The eastern part of TT 02 contained structural concrete that appeared to be part of a tie-back or buttress to the existing seawall (see Photo 17). The concrete crossed the entire trench for a width of 2.1 feet (64 cm) and was within Stratum 2. The presence of the concrete in Stratum 2 could explain the proliferation of brick fragments and other small artifacts it contained. Presumably when the ground was excavated to place the concrete, the backfill contained material that had been previously moved around multiple times. That excavation for the concrete placement, and presumably for other tie-back that would have been associated with a seawall repair there, could have also resulted in the destruction of the potential archaeological resources in that area.

TABLE 2 Archaeological Test Trench Size and Potential Archaeological Resource

ATT #	LENGTH X WIDTH X DEPTH <sup>10</sup>	POTENTIAL ARCHAEOLOGICAL RESOURCE	RESULT
1	11 x 3.5 x 4.7	1867 privy and seawall, 1879 privy and seawall	historic seawall - Feature 2
2	14 x 3 x 7.2	1906 tramway and storehouse pier	no potentially significant resources
3	11.5 x 3 x 4.5	1867 and 1906 pier to ordinance wharf, 1879 pier	historic pier and seawall - Feature 4
5	25 x 7 x 8	1879 trader's post and storehouse, 1906 post trader's or coal shed	no potentially significant resources
7	14 x 3 x 8.5	1867 privy (?), 1906 seawall	landfill retaining structure - Feature 6
8	10 x 3 x 5.2	1906 quartermaster's storehouse	no potentially significant resources
9	15 x 3 x 6	1813 pier, 1906 seawall	no potentially significant resources
10	12 x 3 x 8	1918 seawall, 1867 ice breaker (?), 1906 seawall	ice breaker - Feature 1

#### TT 05

Excavation Dates: 3/15,18/2013

TT 05 was excavated in a grassy area between the Pier 102 waiting room and Building #96. It measured 25 feet (762 cm) long and was 7 feet (213 cm) wide and 8 feet (244 cm) deep (see Figure 4). The potential archaeological resources included the trader's post and storehouse mapped in 1879 and the post trader's or coal shed mapped in 1906. Part of the coal shed foundation was later found nearby (Feature 5) (see Figure 19). TT 05 was then interpreted as containing fill that would have been related to the demolition of the coal shed (see above).

There were four strata within the excavation for TT 05. The upper stratum was topsoil. That was underlaid with Munsell 10YR 3/3 dark brown fill to 2.7 feet (82 cm), notably the approximate level of the top of Feature 5. A thin stratum of dark, organic deposit was found in places at the same approximate depth as the top of Feature 5. The basal stratum was Munsell 10YR 4/6 dark yellowish brown sandy silty with moisture increasing with depth and tides. The *TPQ* of that lower deposit is c. 1893, based on an embossed whole bottle found in TT 05 (FB 19) (Trow's 1893: 608). This deposit would have represented the interior fill of Feature 5. It also contained demolition debris including a concrete slab and some pieces of wooden planks.

<sup>10</sup> Measurements are in feet.

#### TT 08

Excavation Date: 3/19/2013

TT 08 was placed along the path of a planned storm drainage line between CB 11.03 and CB 11.04 (see Figure 4). It measured 10 feet (305 cm) long, 3 feet (91 cm) wide and 5.2 feet (158 cm) deep. The location is that of former Quartermaster's storehouse mapped in 1902. Remains of it were not found.

The trench contained a homogeneous fill deposit in brown (Munsell 10YR 4/3) sandy silt with pockets of brownish yellow (Munsell 10YR 6/6) compacted clayey silt. The water table was encountered at 5 feet (152 cm) below ground surface. Samples of the deposit were screened from three arbitrary levels; at 1.5 feet (46 cm), 2.5 feet (76 cm) and 3.5 feet (107 cm). The *TPQ* of the deposit is the 1850s based on a bottle glass sherd with a valve mark (FB 14) (Jones 1971:72, Jones and Sullivan 1989: 47). This is well before the area had been filled c. 1883 and the later construction of the Quartermaster's storehouse.

The presence of homogenous fill with a deposition date earlier than the construction date of the potential archaeological resource is a indicator that the trench deposit is more likely associated with the expansion of the Island than of the construction or demolition of the former storehouse.

#### TT 09

Excavation Dates: 3/14/2013

TT 09 was placed along the seawall from approximately Station 92+67 to 92+82 (see Figure 4). It measured 15 feet (457 cm) long by 3 feet (91 cm) wide and was 6 feet (182 cm) deep. The water table was encountered at 5.5 feet (168 cm) below ground surface. TT 09 was at the location of either a former pier mapped in 1813 or the 1883 seawall (as mapped in 1906). Remains of neither were found.

Multiple utility lines were present in TT 09 running parallel to the seawall to a depth of approximately 3 feet (91 cm) below ground surface, Stratum 2. Stratum 3 was the basal stratum of the trench. No artifacts were retained from it, however the notes reported it contained plastic and hence was a relatively modern deposit. This may have been due to the location being previously disturbed for an earlier seawall repair.

#### *Contractor Test Pits and Borings*

The contractor excavated five test pits prior to construction excavation, as well as placed two borings (see Figure 28). Test pits along the existing seawall near Castle Williams were placed to determine the existing conditions at four locations where a concrete seawall buttress may have existed. Although the existing seawall buttress was identified at Test Pits 1 - 3, the stratigraphy within each test pit was unique, as described below. Borings were placed to determine the extent of the existing seawall buttress at two locations. Both were within the previously excavated seawall repair locations, but at the opposite ends of that work. An additional test pit was placed inland from the seawall between Piers 101 and 102 on the eastern side of the Island to look for existing tie backs.

#### Castle Williams Area Tests

##### *Test Pit 1 - Station 13+67*

Excavation Date: 9/16/2013

Test Pit 1 was located along the seawall at Carder Road to the west of Castle Williams. It measured 12 feet (366 cm) along the seawall and 4 feet (122 cm) inland. There were two levels of paving in TP 1 to 1.3 feet (38cm) below ground surface. The upper was asphalt (Stratum 1) and the lower was cobblestone (Stratum 2). Fill deposits were noted in three additional strata beneath the paving. Stratum 3 was dark grayish brown sand fill, likely the material added to set the cobblestone on. It extended to 1.8 feet (53 cm) below ground surface. That was over very dark grayish brown homogenous fill (Stratum 4) that contained shredded plastic bags, among other modern material, to a depth of 5 feet (152 cm) below ground surface. Beneath that was clean sand fill to 6.5 feet (198 cm) below ground surface, the base of excavation.

A concrete seawall buttress was identified in TP 1 at a depth of 1.3 feet (38 cm) below ground surface. It extended 0.5 feet (15 cm) into the test pit and down to a depth of over 5.5 feet (168 cm). It is not coincidental the top of the concrete was at the same depth as the base of the Carder Road paving. That was likely the paving in the area at the time the buttress was constructed. The concrete buttress had been formed with wood whose ghosts were visible. It seems the clean sand was added at the time the concrete

was placed. Later excavation, perhaps for a repair, resulted in the deposition of the homogeneous modern fill (Stratum 4).

The only artifacts recovered from TP 1 were in Stratum 3, the material used as a bed for the cobblestone pavers (FB 26). That material has a tenuous *TPQ* of 1875 because it is based on one clear bottle glass sherd (Fike 1987:13). The context also contains a ceramic waster, a water-worn decorated refined earthenware sherd and several pieces of porcelain that could not be used for dating, but potentially more recent than the bottle glass. However, interpretations based on that dating are meaningless since the deposit beneath it, Stratum 4, contained modern materials.

*Test Pit 2 - Station 12+74*

Excavation Date: 9/16/2013

Test Pit 2 was also located along the seawall at Carder Road to the west of Castle Williams and north of TP 1 (see Figure 28). It measured 11 feet (335 cm) along the seawall and 6 feet (183 cm) inland. There was only one stratum beneath the paving and the base of excavation was 3.7 feet (113 cm) below ground surface. The concrete buttress was identified at 1.7 feet (52 cm) below ground surface. Filter fabric was present abutting and adjacent to the concrete. The concrete extended 3.5 feet (107 cm) inland from the seawall and continued to the base of excavation. It is possible there were large stones incorporated seamlessly into the concrete, as seen from the surface of the buttress. Presumably the excavated material was backfill from the buttress construction. The material recovered from the excavation would have been from prior to that time.

*Test Pit 3 - Station 11+78*

Excavation Date: 9/16/2013

Test Pit 3 was located further north on Carder Road, clockwise along the seawall, from TPs 1 and 2. It measured 14 feet (427 cm) along the seawall and 7.5 feet (229 cm) inland. TP 3 was excavated in four strata. Sand fill was present beneath the paving (Stratum 2). Stratum 3 was fill containing a preponderance of red sandstone chips, likely debris from the construction of Castle Williams. A similar deposit was identified during excavations for a fire hydrant on the other side of Castle Williams (Stone 2007b: 3-4). Stratum 3 extended to 4.5 feet (137 cm) below ground surface. Stratum 4 was sand and extended to the base of excavation, 7.5 feet (229 cm) below ground surface.

The seawall buttress was identified extending 4 feet (122 cm) inland at 2.3 feet (70 cm) below ground surface in Stratum 2. The only artifacts recovered from TP 3 were in Stratum 3 (FB 27). They have a *TPQ* of 1784 based on two printed pearlware ceramic sherds (Samford 1997:18).

*Test Pit 4 - Station 10+42*

Excavation Date: 9/16/2013

Test Pit 4 was the only test pit in this series not to encounter the existing seawall buttress. TP 4 was located north of Castle Williams along the seawall (see Figure 28). It measured 7 feet (213 cm) along the seawall and 9 feet (274 cm) inland. TP 4 contained three strata, with the paving called Stratum 1. Stratum 2 was dark yellowish brown sandy silt. It extended to 2.5 feet (76 cm) below ground surface. Stratum 3 was a coal ash filled deposit that extended to the base of excavation; 9.0 feet (274 cm) below ground surface. The only recovered artifacts originated in Stratum 3 (FB 28). The *TPQ* of that collection is 1890 based on a milk glass sherd (Jones and Sullivan 1989: 14).

*Boring 1 - Station 13+00*

Excavation Date: 2/4/2014

Boring 1 was located to the west of Castle Williams and south of TP 2 (see Figure 28). Sampling was begun at the base of the excavation for the seawall repair at Station 13+00; 7 feet (213 cm) below ground surface. Only one sample was monitored. That was from 7 - 12 feet (213 - 366 cm) below ground surface. The recovery was 3.7 feet (113 cm). It contained a boulder (2.1 feet/64 cm) over concrete (1.6 feet/49cm). This was similar to the material identified in a previous nearby boring at 10 - 14 feet (305 - 427 cm) (Stone 2011a: 3-4).

### *Boring 2 - Station 10+65*

Excavation Date: 2/7/2014

Boring 2 was located north of Castle Williams, 6 feet (183 cm) inland from the seawall and west of TP 4. Sampling was begun at the base of the excavation for the seawall repair at Station 10+65. The opening depth of the boring was 9 feet (274 cm) below ground surface. The water table was encountered at 8 feet (244 cm) below ground surface, above the start of the boring. Two samples were monitored. The upper sample was from 9 - 11 feet (274 - 335 cm) below ground surface, but had a recovery of only 0.9 feet (27 cm). The deposit was very dark grayish brown (Munsell 10YR 3/2) wet sandy silt with a small wood fragment noted and red sandstone in the tip of the sampler. No artifacts were observed. The second and final sample monitored was from 11 - 16 feet (335 - 488 cm) below ground surface. The recovery was 1.8 feet (55 cm) and was entirely schist.

### *Castle Williams Tests Summary*

Prior to the Seawall Project, the presence of a buttress around Castle Williams was speculation based on a 1963 drawing showing plans for repairs to the seawall (Post Engineer 1963). That drawing depicts a buttress at varying distances inland from the seawall (see Figure 29). This is ultimately what was identified in the test pits. The buttress in the southernmost test pit extended inland for 0.5 feet (15 cm). Clockwise around Castle Williams, the width of the top of the buttress inland was 3.5 and 4.0 feet (107 and 122 cm). The planned 1963 work appears to have been carried out beginning in the vicinity of TP 1 and ending between TPs 3 and 4. Interestingly, the portion of the drawing depicting the cross section at "Behind Bldg #536" (lower left) shows a stone road or walk adjacent to the seawall, the condition found in TP 1, whereas the remaining surfaces on the drawing are concrete pavement. Former Building #536 was the "fog bell" that was destroyed during Superstorm Sandy in 2012. It once stood at the location of TP 2. The fog bell is first depicted on the 1879 Army map.

A seawall buttress was also later documented on a 1993 drawing showing repointing activities on the western side of Governors Island from Stations 12+19 to 12+48, located between TP 2 and TP 3 (U.S. Coast Guard 1993). It was called "concrete back-up" on that drawing (see Figure 30). It is possible that during the repointing, inland exposure was necessary at discrete locations based on site conditions and the need for test pits. If so, it would have resulted in mixed fill deposits that were not homogeneous among the current test pits. The findings do bear out that hypothesis, although there are other possible explanations. Ultimately, a large portion of the concrete buttress was exposed during seawall repair excavation around Castle Williams (see Photo 18 and below for monitoring results).

### *Tie-backs Test Pit*

Excavation Dates: 8/30, 10/2/2013

A test pit was placed to identify the existing tie-backs along the seawall between Piers 101 and 102. The test pit was backfilled and later reopened and expanded. The initial exposure measured 8 feet (244 cm) north to south and extended inland only 5 feet (152 cm). That was later expanded to 22 feet (671 cm) north to south and 23 feet (701 cm) inland. The tie-backs are metal rods connected to the seawall and tied into inland concrete blocks. Part of three tie-backs were exposed. The concrete blocks were buried from approximately 1.5 to 2 feet (46 - 61 cm) below ground surface and measured 4 feet (122 cm) high and 2 feet (61 cm) wide. The metal rods were found between 3.5 and 5.5 feet (106 - 168 cm) below ground surface. The deposit was entirely light yellowish brown clean sand fill (Munsell 10YR 6/4).

## *Monitoring Results*

Archaeological monitoring that did not result in the identification of potentially significant archaeological resources, or deposits, comprised the majority of the work for the Seawall Project. The discussion of that work is presented below in two sections; one for the seawall repairs and the other for the storm drainage excavations.

### *Seawall Repairs*

Figures 1 and 3 depict the location of seawall repairs by type. There were four types of repairs in areas that were archaeologically monitored. These were wall stabilization (4 locations), rebuild with foundation

stabilization (4 locations), repointing with excavation (1 location) and tie rods and sheet piles (1 location)<sup>11</sup>. The excavation footprints and depth of excavation varied somewhat by repair type. Monitored areas were defined in the AWP and did not necessarily include all linear footage along the seawall within the Historic District.

Wall stabilization involved excavation approximately 10 feet (305 cm) inland and from 7 - 10 feet (213 - 305 cm) deep. Excavation for rebuilds with foundation stabilization were to a similar depth, but required excavation closer to 15 feet (457 cm) inland. Repointing excavation was 8 feet (244 cm) inland and 5 - 9 feet (152 - 274 cm) deep. Tie rod and sheet pile excavation was 10 feet (305 cm) inland and approximately 6.5 feet (198 cm) deep.

TABLE 3 Seawall Repair Types by Station Numbers for Monitored Areas (counterclockwise)

STATION #s	REPAIR TYPE	LINEAR FEET
14+00 to 12+20 10+88 to 10+23	Repointing with excavation	245
9+60 to 9+00	Wall stabilization	60
8+59 to 8+10	Rebuild with foundation stabilization	49
2+50 to 1+50	Wall stabilization	100
111+62 to 109+35	Wall stabilization	225
105+00 to 104+36	Rebuild with foundation stabilization	64
104+36 to 103+30	Tie rods and sheet piles	106
96+42 to 95+41	Rebuild with foundation stabilization	101
95+41 to 91+50	Wall stabilization	391
86+00 to 83+80	Rebuild with foundation stabilization	220

Table 3 lists the repair types and length by location in a counterclockwise order beginning at the southwestern edge of where monitoring commenced, by station numbers, including only the areas that were archaeological monitored. All in all, 1561 linear feet (approximately 0.5 km) of seawall repair excavation were monitored. Observations regarding deposits within the seawall excavations were made by examining material removed, variations in existing seawall construction and documenting the inland profiles, when not obscured by shoring. In most sections of exposed existing seawall, pieces of wood forms used in its construction were identified. When construction method could be identified, the forms were either comprised of horizontal planks held in place by piles or horizontal planks held in place by square cut beams, all located within 2 feet (61 cm) or less of the seawall.

#### **Stations 14+00 to 12+20 and 10+88 to 10+23**

##### *Repointing with excavation.*

Excavation Dates: 10/15-17, 10/21-22, 10/24, 10/29-30 and 11/20/2013

The area of the seawall around Castle Williams was originally slated for repointing without inland excavation. However, the possible presence of a buttress and the unknown condition of it required additional investigation by the contractor. Castle Williams was constructed along the shore of Governors Island between 1807 and 1811. Carder Road was later laid around Castle Williams when the seawall was constructed there in 1866. Prior archaeological work indicates the seawall around the entire Island had

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<sup>11</sup> There were two areas depicted on the original Seawall Rehabilitation Plan (Figure 3) that were changed. The repair from Stations 100+00 - 101+00 was eliminated and the repair from Stations 109+35 - 111+62 was changed from a rebuild with foundation stabilization to a wall stabilization repair.



been modified, repaired or enhanced at the time the south Island was created with landfill from the Lexington Avenue subway excavations between 1901 and 1912 (Stone 2007a: 7). The buttress appears as a mid- to late-twentieth century addition. The entire excavation footprint is therefore comprised of fill, presumably from those general time frames; 1) original seawall construction, 2) south Island construction and 3) buttress construction. Discussion of the buttress was presented above in Pre-Construction Testing/Castle Williams Area Tests. Photo 18 depicts a large section of the exposed buttress.

The fill at the southwestern end of the excavation, from Station 14+00 to 13+18, was dark brown (Munsell 10YR 3/3) gravelly silt. Photo 19 is a progress shot taken from approximately Station 13+20 facing south. It depicts excavation in progress along the seawall on Carder Road with part of Castle Williams visible in the upper left. Within the excavation, the upper courses of seawall stone had been removed and stratigraphy within the roadway exposed. Two buried surfaces are clearly visible; a cobblestone surface directly beneath the current asphalt (as previously seen in TP 1) and a brick surface approximately 2 feet (61 cm) below ground surface. An ash deposit is present beneath the brick surface. It contained numerous artifacts and had a *TPQ* of 1895 based on a Bromo Seltzer bottle (Lindsey 2014c). The deposit also contained other temporally diagnostic artifacts with *TPQs* clustering around the late-nineteenth century, consistent with the time period of Island seawall reconstruction (FBs 32 and 33). Deeper deposits were exposed in limited spots. That material was dark yellowish brown and dark grayish brown wet silty sand, but no artifacts were observed.

#### **Stations 9+60 to 9+00**

##### *Wall Stabilization.*

Excavation Dates: 4/1, 4 and 4/7/2014

This section of seawall repair was excavated to a depth of approximately 9 feet (274 cm) below ground surface. Much of this stretch of excavation contained remnants of the wooden forms used to construct the existing seawall (see Photo 20). The forms were wooden planks held in place by vertical piles. The fill also contained a large amount of debris, including rocks measuring over 2 feet (61 cm) in diameter, sections of mortared brick, frayed wood (parts of logs, beams and planks) and large concrete chunks. The quantity of debris increased westward toward Castle Williams. This is not surprising as the approach to Castle Williams from the east was historically submerged, a little bay of sorts, and contained a pier (see Figure 31). This is unlike other portions of the former waterfront where seawall was constructed at or close to the previously existing shore line. The pier was mapped in this vicinity from 1867 to 1932. The pier was no longer depicted in 1949.

At approximately Station 9+50, at 8.5 feet (259 cm) below ground surface, frayed remains of several planks were observed, possibly *in situ*, crossing the trench at an angle (see Photo 21). They measured approximately 3 inches (8 cm) thick, 1 foot (30 cm) wide and the fragmented pieces measured were 3, 6 and 8 feet (91, 183 and 244 cm) long. The configuration appears similar to the previously exposed existing seawall forms, however the orientation is different. Perhaps these were associated with an earlier incarnation of the seawall or the former pier.

Although no artifacts were retained, several “Brigham” bricks were noted in the fill. Henry R. Brigham operated a yard making these bricks in East Kingston, New York between 1922 and 1957 (Bayley 2012; Moyer 2010: 4-5). The debris containing these bricks would have been used as part of the fill no earlier than that. In fact, the demolition date of the former pier was within this time period; 1932 - 1949. It seems likely the fill could have originated from the demolition debris of the former pier. The presence of frayed wood in the fill also could support that conclusion as wooden members would have been used in pier construction. However, it is also possible they were used to create a structure for retaining the landfill as the bay was filled and that the brick-containing fill originated elsewhere, but was used in this location.

#### **Stations 8+59 to 8+10**

##### *Rebuild with foundation stabilization.*

Excavation Dates: 3/31/2014

The excavation for this repair revealed deposits very similar to those just discussed for Stations 9+00 and westward. Sections of wooden forms used to construct the existing seawall were identified, as was a preponderance of the same type of debris. This entire area was outside of the original Governors Island landform (see Figure 31). Although not within the original Island footprint, this section of seawall repair

was monitored because of its sensitivity for the preservation of turn of the century archaeological resources. However, no such features were found and no artifacts were recovered.

#### **Stations 2+50 to 1+50**

##### *Wall stabilization.*

Excavation Dates: 11/25-26/2013

TT 02 was located within this segment of seawall repair, from approximately Station 2+02 to 2+16 (see Figure 4) to identify potential remains of a former tramway and storehouse pier mapped in 1906. Remains of neither were found. However, a possible concrete tie-back (or other type of modern concrete intrusion) was identified crossing the trench at approximately Station 2+10 (see Photo 17). It was later unearthed during the seawall repair excavations extending across the entire 9.5 feet (290 cm) width of the repair excavation. The concrete was identified at 2.2 feet (67 cm) below ground surface and measured 2.1 feet (64 cm) wide by 1.5 feet (46 cm) high. The concrete was easily removed by the backhoe, perhaps indicating it was not a structural element supporting the seawall.

There were three strata within this seawall repair excavation beneath the paving. The first was brown (Munsell 10YR 5/3) silty fill containing a noticeable amount of brick fragments and extending to approximately 3 feet (61 cm) below ground surface. This deposit is associated with the buried concrete. The deposit beneath that was dark yellowish brown (Munsell 10YR 4/6) wet silty sand. It extended to the depth of the water table, 6 feet (183 cm) below ground surface. The excavation continued for another foot which was comprised of black muck (Munsell 10YR 2/1). No artifacts were recovered from this section of seawall repair excavation.

#### **Stations 111+62 to 109+35**

##### *Wall stabilization.*

Excavation Dates: 8/26-27/2014

Feature 7 was identified in this portion of seawall repair between Stations 109+96 to 110+17 (see above and Figures 5 and 24). The depth of excavation for the seawall repair here was somewhat shallower than at other locations because the bedrock is higher here. The base of excavation was approximately 8 feet (244 cm) below ground surface. The fill was brown (Munsell 7.5YR 5/4) silty sand with pockets of beach sand and contained an excessive amount of rocks and boulders, as opposed to construction debris as seen in other sections of seawall repairs. However, the fill also contained a large, defunct, partially crushed metal tank which could have been used to store gasoline, fuel or chemicals. Utility disturbance was also present running parallel to the seawall, approximately 2.5 feet (76 cm) below ground surface and 10 feet (305 cm) inland. No artifacts were retained, however modern artifacts were noted in the upper levels of the excavation. These included an almost whole Canada Dry Ginger Ale bottle, that could have been manufactured sometime after 1955, observed at Station 111+05.

#### **Stations 105+00 to 104+36**

##### *Rebuild with foundation stabilization.*

Excavation Dates: 7/7-10 and 8/4-5/2014

Feature 4 was found in this section of seawall repair. That feature included several stone elements of a former pier (see Figure 13 and Photos 8 and 9). The data recovery excavation exposed deposits within the broader seawall repair area to a depth of approximately 3.3 feet (101 cm) below ground surface. The soil profile on the Kimmel Road (inland) side of the excavation consisted of three strata beneath the paving. Dark yellowish brown (Munsell 10YR 4/6) coarse sand was present from 1.3 - 1.9 feet (40 - 58 cm) below ground surface. The soil color continued to 2.3 feet (70 cm) deep, but was sandy silt. The sandy silt continued, however the soil color changed to strong brown (Munsell 7.5YR 4/6) to 3.3 feet (101 cm) below ground surface at the completion of data recovery. When the remaining deposit was removed to complete the seawall repair adjacent to the northern stone element of Feature 4, part of three vertical piles were exposed near base of excavation, 7.6 feet (232 cm) below ground surface. They were frayed at the top and measured 6 inches (15 cm) diameter and continued below the depth of excavation and were left *in situ*. There is presumably a relationship between the piles and Feature 4 based on their proximity and orientation, however they were not physically connected. No additional features or artifacts were recovered from the post-data recovery construction work in this area.

**Stations 104+36 to 103+30***Tie rods and sheet piles.*

Excavation Dates: 8/5-6/2014

This area of seawall is the only location that is not currently stone. It is comprised of corrugated metal sheeting. The repair area included the tie-back test pit that was previously excavated (see above and Figure 28). As documented in the test pit, the entire excavation contained sand fill. It was generally clean, however, there were a few large granite blocks, the type used in the existing seawall. Prior archaeological monitoring at the corner of Pier 102 revealed a portion of the former stone seawall as it extended inland and that section was re-exposed during the current work (Stone 2007c: 4). It seems likely the cut granite blocks found in the excavation here were once part of that original stone seawall at the foot of Pier 102 from prior to the installation of the corrugation.

**Stations 96+42 to 95+41***Rebuild with foundation stabilization.*

Excavation Dates: 7/25-28, 7/30-8/1 and 8/4/2014

TT 07 and Feature 6 were located at the northern end of this seawall repair from Stations 96+14 - 96+42 (see Figure 22). That feature was part of a wooden revetement mapped in 1867 (see Figure 23). After data recovery was completed the remainder of the seawall repair excavation in that vicinity was monitored. The area to the south of the data recovery work within this repair location was quite disturbed. A large defunct brick catch basin was identified at approximately Station 95+60 buried from 1.4 - 6.9 feet (43 - 210 cm) deep adjacent to an existing manhole. Five large boulders were removed from the fill near Station 95+80. They measured over 4 feet (122 cm) in diameter each. Finally, the area around Station 95+85 appears to have been relatively recently repaired. It contained filter fabric, presumably from the 1990s when repairs were made. The soil matrix of the fill was mottled yellowish brown (Munsell 10YR 5/4) sandy silt. Only one artifact was recovered from this area and therefore; based on the lack of corroborating data, no interpretation is offered (FB 65).

**Stations 95+41 to 91+50***Wall stabilization.*

Excavation Dates: 7/16 and 7/21-24/2014

This section of seawall repair was adjacent to the northern half of Building #12 on Kimmel Road (see Figure 3). Because the length of this repair was so long, there are a variety of observations. However, the overriding point is that there has been much disturbance to this area. It also contained both TT 08 and TT 09 where no potentially significant archaeological resources were identified.

The deposit was fill throughout. The matrix was brown (Munsell 7.5YR 4/2) silt. Over fifteen boulders were present near Station 91+60 alone, near the start of the run. They ranged in size from 3 - 5 feet (91 - 152 cm) in diameter. The former outfall (Station 92+00) was removed. Defunct concrete and/or brick catch basins were removed from Stations 91+85, 93+50 and 94+75. Gravel fill was present to the water table at Station 92+75. A porcelain toilet part was documented at Station 92+90, but not retained. A buried cable was found 6 feet (183 cm) below ground surface at approximately Station 95+08. Stations 91+65 to 91+70 contained a larger amount of frayed wood. Both of these stations were adjacent to partially intact wooden seawall forms. Wooden forms used to build the existing seawall were identified at multiple locations in this section of seawall repair; Stations 91+60 to 91+70, 92+50 to 92+75, 92+90, 93+30, 93+75, 94+50 to 94+55 and 95+30 to 95+40.

A change in the appearance of the landward face of the existing seawall was observed at Station 92+50. To the north there is gravel imbedded in concrete on the face and to the south there is more regular cut stone exposed. It is possible this was related to an earlier seawall repair. If so, that could help explain why there was so much modern disturbance/fill in this section of repair.

**Stations 86+00 to 83+80***Rebuild with foundation stabilization.*

Excavation Dates: 6/23-24, 6/26 and 6/30-7/1/2014

Feature 3 was identified in this section of seawall repair (see Figure 10). It was connected to the existing seawall from approximately Stations 85+19 to 85+32 and diagonally crossed the repair excavation footprint. The assumption, based on that finding, is the excavation monitoring on either side of those

stations would contain different deposits. However, that turned out to not be entirely true. Although it was generally noted that fewer artifacts were present on the landward (northern) side of Feature 3 and that deposit contained more boulders in the fill, the artifact contents of both deposits were similar. More recent repairs to the existing seawall possibly resulted in the similitude.

Somewhat different stratigraphy was observed at other documented locations. Four strata were documented in the deposit at Station 83+60. The upper stratum was brown sand to 3 feet (91 cm) deep. It was underlaid with a black loamy deposit to 4.5 feet (137 cm), then dark yellowish brown sandy silt to 6.8 feet (207 cm). The basal stratum was gray silty clay to 8 feet (244 cm). Station 84+40 contained only three strata; yellowish brown sand to 5.5 feet (168 cm) over brown loamy clay to 7 feet (213 cm). The bottom strata there was dark gray silty clay.

Station 84+60 contained a refuse deposit with a dense concentration of artifacts in a matrix of dark yellowish brown sandy silt. The artifacts included toilet parts and clay sewer pipe fragments along with a number of temporally diagnostic bottles and bottle parts (FB 36). Based on the retained artifacts, the deposit has a *TPQ* of c. 1900 based on a crown finish bottle part (Lindsey 2014a). This date is consistent with the early-twentieth century expansion of the Island with fill from the Lexington Avenue subway excavation.

### *Storm Drainage*

Storm drainage lines were connected to outfalls built into the seawall at eight monitored locations in the Historic District based on the results of the AWP<sup>12</sup> (see Figure 1). Outfall numbers were assigned in the original Seawall Rehabilitation Plan (see Figure 3). Storm drainage work included excavation for the storm drain lines, catch basins and manholes. The numbers used for locations that were monitored began at west of Soissons Landing with OF 2 and extended counterclockwise from there through OF 14 and then OF 29 was added to the east of Soissons Landing. The drainage associated with each outfall was numbered in a way that associated the catch basins and manholes with its specific outfall. A particular manhole or catch basin draining into OF 12, for example, would be called MH 12.01, CB 12.02, CB12.03, etc.

TABLE 4 Monitored Outfalls and Storm Drainage Length

OUTFALL	# SEGMENTS MONITORED	TOTAL LENGTH (ft)
OF 2	2	130
OF 3	2	120
OF 4	2	38
OF 10	5	162
OF 11	5	416
OF12	5	209
OF 13	11	570
OF 14	4	253
OF 29	2	67

The depths of the storm excavations varied as dictated by the drainage plan and ranged from approximately 3.5 to 11 feet (107 - 335 cm) below ground surface. Table 4 provides a list of the monitored

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<sup>12</sup> OF 6 was part of the original plan and was included in pre-construction testing as TT 01, however that section of drainage was later eliminated.

outfall systems, the number of segments (connections between manholes and catch basins) and the total length of storm line for monitored work only. Approximately 1965 linear feet (approximately 0.6 km) of storm lines were placed as part of the Seawall Project.

Three features were identified during monitoring for storm drainage work; Features 3 (a section was also found during seawall monitoring), Feature 5 and Feature 8, as previously presented. What follows is a presentation of the remainder of the excavation monitoring for the storm drainage work by outfall, counterclockwise from where monitoring began at OF 2.

#### **Outfall 2 - 2 catch basins, 1 manhole**

Excavation Date: 3/25/2014

Only the inland portions of the OF 2 system were subject to archaeological monitoring. The trench depths were over 7 feet (213 cm) and therefore a trench box was used, making for a wider trench. The width of excavation for OF 2 storm drainage trenching was approximately 8 feet (244 cm). The two trench segments monitored (CB 2.02 to CB 2.03 and CB2.03 to MH2.04) were both comprised of fill containing concrete, bricks, boulders and, generally, rubble, in a matrix of dark yellowish brown (Munsell 10YR 4/6) silty sand. The deposit changed at approximately 6.5 feet (198 cm) deep to black muck. No cultural material was noted in that deposit. No temporally diagnostic artifacts were observed in the excavation for OF 2.

#### **Outfall 3 - 2 catch basins, 1 manhole**

Excavation Dates: 3/26-27/2014

Most of the OF 3 system was outside of the original Governors Island landform and therefore was not subject to archeological monitoring. A portion of two segments was included in monitoring; CB3.01 to MH3.02 and MH3.02 to CB3.03. The drainage section between CB3.01 to MH3.02 was previously disturbed by prior utilities up to 4 feet (122 cm) below ground surface. Other rubble fill or debris was found to the base of excavation, approximately 6.5 feet (198 cm). The segment between MH3.02 to CB3.03 was also previously disturbed. Although no buried pipes were identified in that segment, similar rubble fill was noted there also, but with a higher density of unmarked brick. A large piece of old tarp or plastic bag was unearthed at approximately 3.5 feet (107 cm) below ground surface. Two previously displaced wooden members were also pulled from the rubble and examined. One was 15 inches (38 cm) square cut and contained a cross lap joint, square notch where a similarly notched member could have once connected to it. The other was 13 feet (396 cm) long and contained three metal spikes spaced 1.5, 2.7 and 3.3 feet (46, 82 and 101 cm) apart. The soil matrix in the OF 3 excavations was strong brown (Munsell 7.5YR 4/6). No temporally diagnostic artifacts were found in the fill. A tramway and pier were mapped in 1906 in the vicinity of both the OF 2 and OF 3 work. It is possible the fill documented was the result of the demolition of those features. However, there is no clear evidence of the date or source of the fill.

#### **Outfall 4 - 2 catch basins**

Excavation Dates: 4/12/2014

Outfall 4 storm drainage was relocated from the original plan so that all excavations for catch basins and drainage lines were within the footprint of the seawall repair between Stations 7+88 to 9+38. Only the portion of that excavation that was from Station 9+00 to 9+38 was subject to monitoring and was discussed above under the seawall repair monitoring results.

#### **Outfall 10 - 2 catch basins, 3 manholes**

Excavation Dates: 6/27, 7/1, 8/8, 8/12-13 and 8/15/2014

The storm drainage work associated with OF 10 was also reconfigured from the original plans, although not within the existing seawall repair excavation as it was in OF 4 (see Figure 32). The segment between CB 10.01 and MH10.05 is where a portion of Feature 3 was identified (see Figure 10). Feature 3 was the 1883 historic seawall. Once identified, the portion of the OF 10 drainage system that was outside of the original Governors Island landform was evident (to the west of Feature 3) and that portion of the excavation was not monitored<sup>13</sup>.

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<sup>13</sup> MH 10.03 was monitored prior to the identification of Feature 3. The excavation from there to MH 10.05 and for MH 10.05 to CB 10.07 was eliminated from monitoring after the feature was identified.

The portions of the storm excavation inland from CB 10.08 and from MH 10.04 to Kimmel Road were both within the footprint of the grading and soil replacement completed for the Governors Island Park and Public Space Project: Phase 1 (Stone 2014: 18 - 21, Figure 36). The stratigraphy in these locations included 3 feet (91 cm) of engineered soil as the upper soil layer. Beneath that was brown (Munsell 10YR 4/3) silty sandy fill to approximately 4.5 feet (137 cm) below ground surface. Strong brown (Munsell 7.5YR 4/6) sandy silt was present from there to the base of excavation, approximately 7.6 feet (232 cm). The stratigraphy elsewhere within the OF 10 system excavations included brown (Munsell 10YR 5/3) silty sand to 1.5 feet (46 cm) underlain with dark yellowish brown (Munsell 10YR 3/4) mottled silty sand to the base of excavation, approximately 5.5 feet (168 cm) deep. A few artifacts were recovered from the fill deposits throughout the OF 10 system (FBs 92, 98, 99 and 100), including some of those associated with Feature 3. They have a *TPQ* of 1893 based on a “Hutter” patent bottle (Lindsey 2014b).

#### **Outfall 11 - 5 catch basins**

Excavation Dates: 6/25 and 8/18-21/2014

The OF 11 system extended parallel to the existing seawall, from approximately Station 90+12 to Station 95+66, in Kimmel Road adjacent to the northern half of Building #12. It included the location of the pre-construction tests TT 08 and TT 09, where no potentially significant archaeological resources were identified. The entire OF 11 system was within the footprint of the excavation for the seawall repair. As discussed above, the entire area monitored for that particular repair was previously disturbed and/or fill. This deposit was a matrix of brown (Munsell 7.5YR 4/2) silt.

The one excavation location outside of the seawall repair for OF 11 drainage was from CB 11.04 across Kimmel Road to a previously unplanned catch basin within the repair footprint called CB 11.04A. The deposit in that excavation too contained fill in a similar matrix; brown (Munsell 7.5YR 5/2) silt. Only one temporally diagnostic artifact was recovered from that deposit, therefore not necessarily indicative of the deposition date (FB 105).

#### **Outfall 12 - 4 catch basins, 1 manholes**

Excavation Dates: 7/2, 7/15, 7/17, 8/8-18, 8/20 and 10/6/2014

The Outfall 12 drainage system was also altered somewhat from the original plan (see Figure 33). The outfall location itself was shifted south approximately 16 feet (488 cm) and a manhole was eliminated. The segment between OF 12 and MH 12.01 contained a mix of fill types. Mottled yellowish brown (Munsell 10YR 5/4) silty sand was found beneath the top soil to 1.6 feet (49 cm) below ground surface. That was on top of dark yellowish brown (Munsell 10YR 4/6) fill with cobbles, broken bricks and pockets of coal ash to 4.5 feet (137 cm) deep. The debris-filled matrix continued at least as deep as the water table, 6 feet (183 cm), although the color was slightly darker, likely due to saturation. The same deposit was also documented from MH 12.01 to CB 10.02. The fill matrix was somewhat different south of CB 12.02 where multiple existing utilities crossed the trench. There was more mixing there of the dark yellowish brown and very dark grayish brown (Munsell 10YR 3/2) and the texture was mostly sand.

#### **Outfall 13 - 7 catch basins, 4 manholes**

Excavation Dates: 7/3, 7/18-24, 7/29, 7/31-8/7, 8/22-25 and 8/28-9/4/2014

The Outfall 13 drainage system was the largest monitored. It contained eleven monitored segments<sup>14</sup> and three features (see Figure 34). Part of Feature 4 was identified in the excavation for CB 13.05 (see Figure 13). Feature 5 was found in the segment from OF 13 to MH 13.01 (see Figure 19) and Feature 8 from CB 13.04 to CB 13.12 (see Figure 25).

The remainder of the segment where Feature 5 (coal shed foundation) was identified also contained similar demolition debris to the base of excavation for the storm drainage line there. In addition, multiple utility lines were found crossing the trench between Feature 5 and MH 13.01. The trench segment was up to 10 feet (305 cm) deep. The water table was at 6.5 feet (198 cm) below ground surface. The debris was found in the Stratum 3, 4 - 8 feet (122 - 144 cm) below ground surface, in a matrix of dark yellowish brown (Munsell 10YR 4/6) wet sandy silt.

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<sup>14</sup> CB 13.06, the northernmost catch basin, was originally planned and later eliminated leaving CB 13.05 at the northern end of the run.

A small part of Feature 4 (historic stone pier) was found in the profile of the excavation for CB 13.05. That was the southern edge of Feature 4. It was identified in the north profile of CB 13.05 excavation. Therefore, no additional remains of Feature 4 were expected within the storm drainage excavation.

Feature 8 (possible interior cribbing of Pier 102) was a series of aligned, but primarily unarticulated, wooden members. It was confined to the storm drainage segment within and between CB 13.04 and CB 13.12. Actual findings to the north of CB 13.04 are partially within the seawall excavation for Stations 104+36 to 103+30 and the earlier tie-backs test pit (inside the rectangle depicted on Figure 34 between CB 13.04 and CB 13.05). Those excavations contained clean sand fill, as did this storm drainage excavation as far north as approximately 10 feet (305 cm) south of CB 13.05. There the excavation was fill containing an assortment of debris, including bricks, brick fragments and coal in a matrix of dark brown (Munsell 10YR 3/3) silty sand to the base of excavation (9 feet/274 cm below ground surface). The segment to the west/inland of CB 13.04 was also part of Feature 8 and contained part of 3 stacked wooden members, located in the southern profile of the storm drainage trench at CB 13.04. The segment between MH 13.03 and MH 13.02, located parallel and inland from the Feature 8 segment, contained parts of some previously displaced wooden members within the fill. The same is true of the segment between MH 13.02 to CB 13.07.

Heading southward, the portion of the OF 13 drainage system between MH 13.01 and MH 13.02, directly south of Feature 8 related storm trench excavations, contained substantial prior utility disturbance that included a defunct manhole and four utility lines over a length of only approximately 26 feet (792 cm). Utility disturbances also prevailed southward between MH 13.01 to MH 13.08, although to a lesser extent. A fill deposit associated with the prior utility work is in a dark brown (Munsell 7.5YR 3/2) sandy silt matrix to a depth of 3.1 feet (94 cm) below ground surface (FB 69). Recovered artifacts have a *TPQ* of the 1880s based on two bottle glass sherds with mamelons (a type of vent mark) (Lindsey 2015a). The stratum beneath that deposit was dark yellowish brown (Munsell 10YR 4/6) sandy silt to 4.2 feet (128 cm) deep. It contained far fewer artifacts and none temporally diagnostic, nor were they retained. The basal stratum was strong brown (Munsell 7.5YR 6/4) clean beach sand to the base of excavation, 6.5 feet (198 cm).

The segment from MH 13.08 to CB 13.09 contained a concrete encased utility running almost the entire length of the segment from approximately 2.7 - 3.7 feet (87 - 113 cm) below ground surface, having obliterated any potentially intact archaeological deposits which may once have existed. Furthermore, the excavation for that utility work extended deeper and was backfilled with large debris, including many large boulders. Similarly to the adjacent segment, the recovered cultural material from the utility fill had a *TPQ* of 1880s based on a bottle base with a mamelon (FB 91).

The next segment crossed Kimmel Road connecting CB 13.09 to CB 13.10. It too contained a portion of the concrete encased utility that was found in the previous segment. Only one artifact was recovered from that upper fill deposit (FB 89). It too had a similar *TPQ* to the previous segments, the 1870s based on a round bottom bottle (Lindsey 2015a). However, the depth of the deposit in this segment was somewhat deeper, at approximately 4.2 feet (128 cm) below ground surface. The remainder of the trench segment contained only two strata. The upper stratum was very dark gray (Munsell 10YR 3/1) loamy sand to 1.7 feet (52 cm) below ground surface. The underlying soil was dark yellowish brown (Munsell 10YR 4/6) sandy silt to the base of excavation, approximately 6.5 feet (198 cm) deep.

The final segment of the OF 13 drainage system was between CB 13.10 to CB 13.11 (approximately 40 feet/12 m length). CB 13.11 was an in-kind replacement of an existing catch basin and therefore entirely previously disturbed. There were two existing pipes crossing the trench midway between the two catch basins at the base of excavation, approximately 3.6 feet (110 cm) below ground surface. The excavation for those was backfilled with gravel for a total length of about 11 feet (335 cm) within the storm drainage trench. The remainder of the trench contained two strata in the deeper portion of the trench. Stratum 1 was dark brown (Munsell 7.5YR) loamy silt to 3.6 feet (110 cm) below ground surface. Stratum 2 was brown (Munsell 7.5YR 5/4) silt to the maximum base of excavation, 5.4 feet (155 cm). Only one temporally diagnostic artifact was recovered from Stratum 1 (FB 95). It was an amber colored bottle glass sherd whose *TPQ* is c. 1860 (Fike 1987:13). Stratum 2 had a slightly earlier *TPQ* of the 1840s based on both a key molded bottle glass sherd and flow blue ceramic sherd (FB 97) (Lindsey 2015b; Samford 1997: 23 - 24).

#### **Outfall 14 - 4 catch basins**

Excavation Dates: 7/30, 9/8-11 and 9/15/2014

The Outfall 14 drainage system is located on Carder Road from the vicinity of the Brooklyn Battery Tunnel vent shaft northward adjacent to Building #130 for approximately 228 feet (69 m) before turning toward the seawall at OF 14 (see Figure 1). The work began after the seawall repair was completed and therefore much of the run from OF 14 to CB 14.01 was within the previously excavated seawall repair. However, the portion of the western end of that work, close to CB 14.01, contained a concentration of brick debris in a matrix of brown (Munsell 10YR 4/3) silty sand. Otherwise the soil in that trench was dark yellowish brown (Munsell 10YR 4/6) silt. The brick debris was buried from 2 - 4.2 feet (61 - 128 cm) beneath the sidewalk and extended in the trench for a length of 8 feet (244 cm). No other cultural material was observed associated with the brick. Based on its location, it seems likely it was once part of a earlier sidewalk.

For the most part, the OF 14 work encountered brown or strong brown (Munsell 7.5YR 4/4, 4/6 or 5/6) sandy silt sometimes with shell fragments noted and with relatively little cultural material, some of which was likely associated with utility fill (FBs 123, 124 and 126). There were multiple utilities crossing and/or partially parallel to the storm drainage excavations. Recovered artifacts have an 1840s *TPQ* based on a marked ironstone ceramic sherd (Majewski and O'Brien 1987: 121 - 122).

#### **Outfall 29 - 2 catch basins**

Excavation Dates: 7/30 and 9/5/2014

The Outfall 29 drainage system was a replacement in kind of the outfall and two catch basins located in the parking lot east of Building #140 (see Figure 26). The material excavated was entirely fill from the original storm drainage work. However, Feature 9 (stable) was identified in south profile of the excavation for CB 29.01. It was a portion of the foundation and made of dry-laid flagstone (see Photo 16).

The remainder of the OF 29 drainage system was previously disturbed from the original storm drainage excavation. The segment between CB 29.01 and CB 29.02 had two strata noted beneath the paving. The upper stratum was dark brown (Munsell 7.5YR 3/2) sandy silt. It contained debris such as rocks, bricks and brick fragments. The basal stratum was strong brown (Munsell 7.5YR 4/6) silty sand with virtually no inclusions. No artifacts were recovered from monitoring this system.



## CONCLUSIONS AND RECOMMENDATIONS

The Governors Island Full Seawall Rehabilitation Project involved archaeological work associated with the excavation for seawall repairs and storm drainage installation throughout the perimeter of the Governors Island Historic District. Archaeological work consisted of both pre-construction archaeological testing and construction monitoring.

Archaeological potential from the Seawall Project impacts was primarily related to the military occupation on Governors Island with expected resources generally being the predecessors to today's seawall or structures used for activities associated with the shore. No previously known archaeological sites were anticipated.

The expectations of findings were born out. Nine archaeological features were identified (see Table 1 and Figure 5). Four of these were identified during pre-construction testing. Archaeological data recoveries were completed at two of those sites: Feature 4 - a pier built between 1840 and 1857 and demolished after 1962 and Feature 6 - a section of wooden revetement built between 1857 and 1867 and superceded by a stone seawall no later than 1883. Five other features were identified during construction monitoring. In total, eight features were preserved, in part or full, either by avoidance or incorporating them into the Seawall Project repairs. These include sections of historic seawall (Features 2, 3 and 7), ice breaker (Feature 1), pier (Feature 4), coal shed foundation (Feature 5), stable foundation (Feature 9) and possible interior cribbing for historic Pier 102 (Feature 8). Only the wooden revetement was removed in its entirety, after the completion of archaeological data recovery. However, all features may contain components buried in adjacent unexcavated areas.

As anticipated, the majority of the archaeological features identified during the Seawall Project include remains of earlier incarnations of seawall or landfill-retaining structure. These include the three sections of historic seawall (Feature 2, 3 and 7), the ice breaker (Feature 1), pier (Feature 4), wooden revetement (Feature 6) and possible interior cribbing for Pier 102 (Feature 8). One could also argue the coal shed (Feature 5) was a shoreline necessity as it was used to store fuel that would have been delivered to the local pier. Stables were historically present throughout Governors Island and therefore the stable foundation is the only feature identified during the seawall project that is not specifically tied to the former shoreline activities.

Construction excavation monitoring was conducted on approximately 3500 feet (1 km) of trenching. While it did not result in the identification of potentially significant archaeological resources, it otherwise afforded the opportunity to continue documentation of general site conditions, including deposits, disturbances and fill, at the work locations monitored.

### Recommendations

No additional below ground work is planned for the Governors Island Seawall Project. Should additional ground disturbing actions be added at a future time, plans to address archaeological concerns should be included. There should be heightened awareness of the nine archaeological resources that identified during the project.

Archaeological recommendations for future projects include pre-construction documentation of the below ground impacts during the project planning phase and pre-construction testing for locations of high and/or moderate potential. Monitoring should be considered for areas of lower archaeological potential and as otherwise may be appropriate to follow up the pre-construction testing.

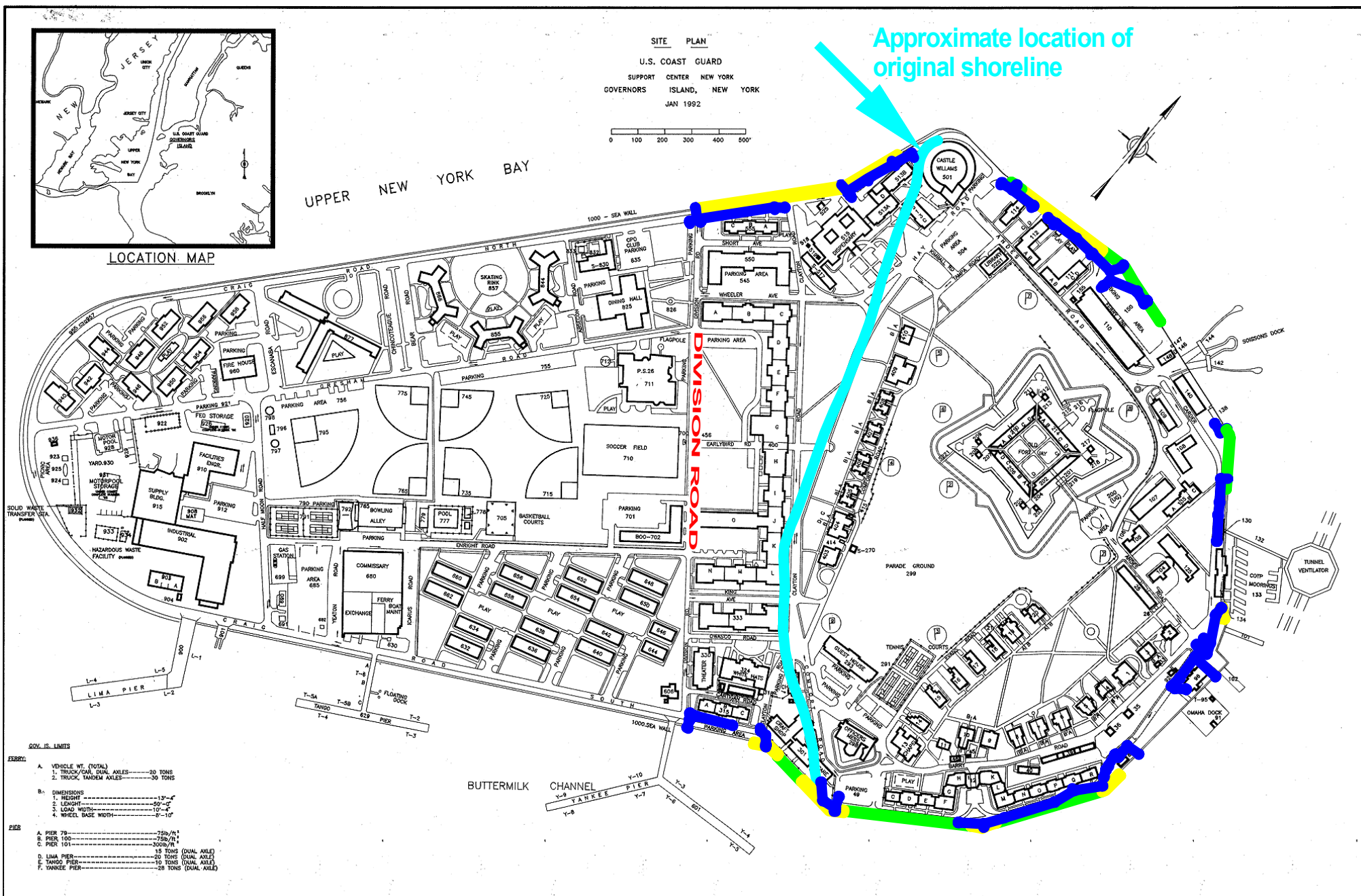
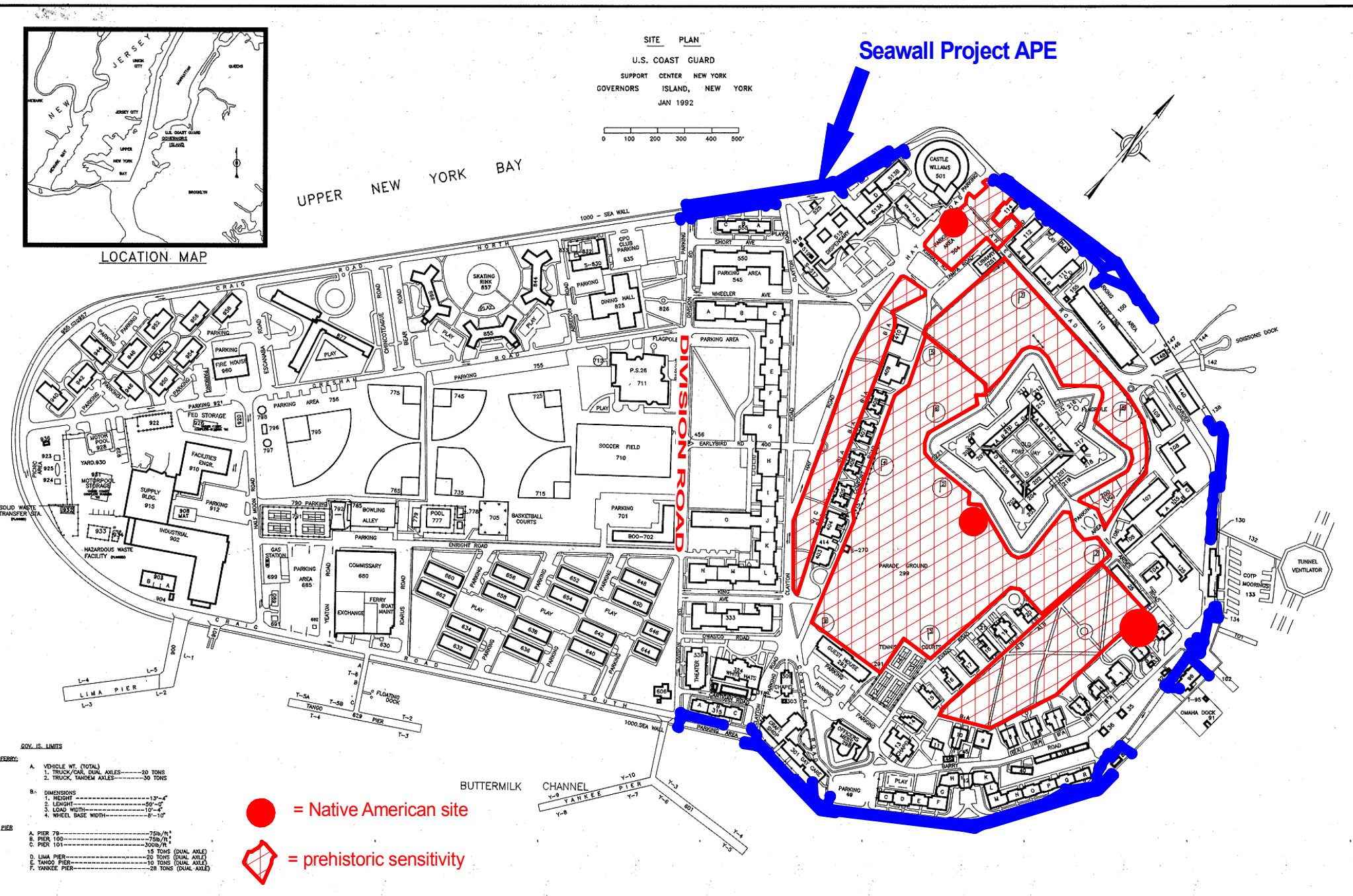


Figure 1







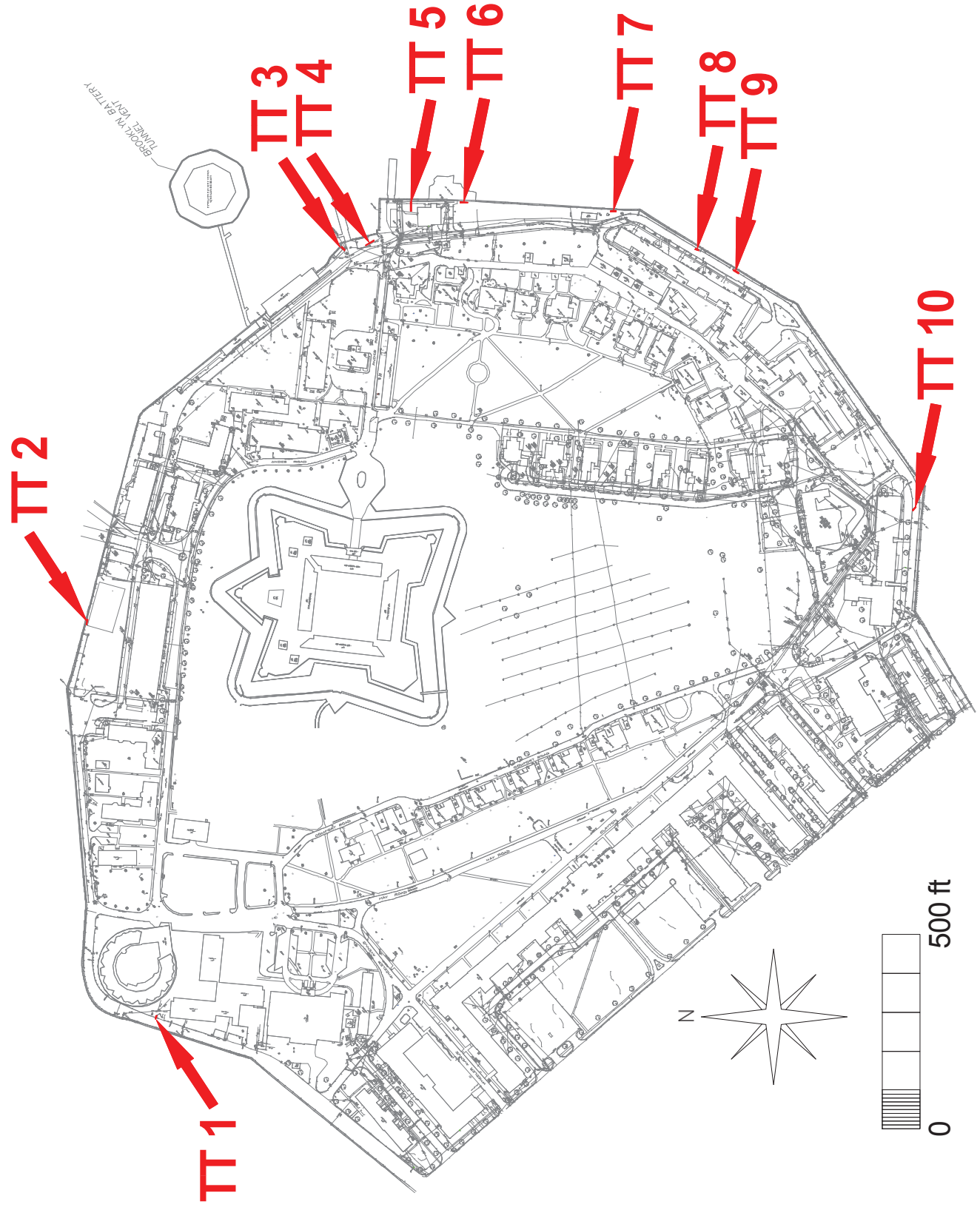


Figure 4 Location of the Archaeological Test Trenches (TTs) for the Governors Island Full Seawall Project shown within the Historic District on the 2012 Langan Survey.

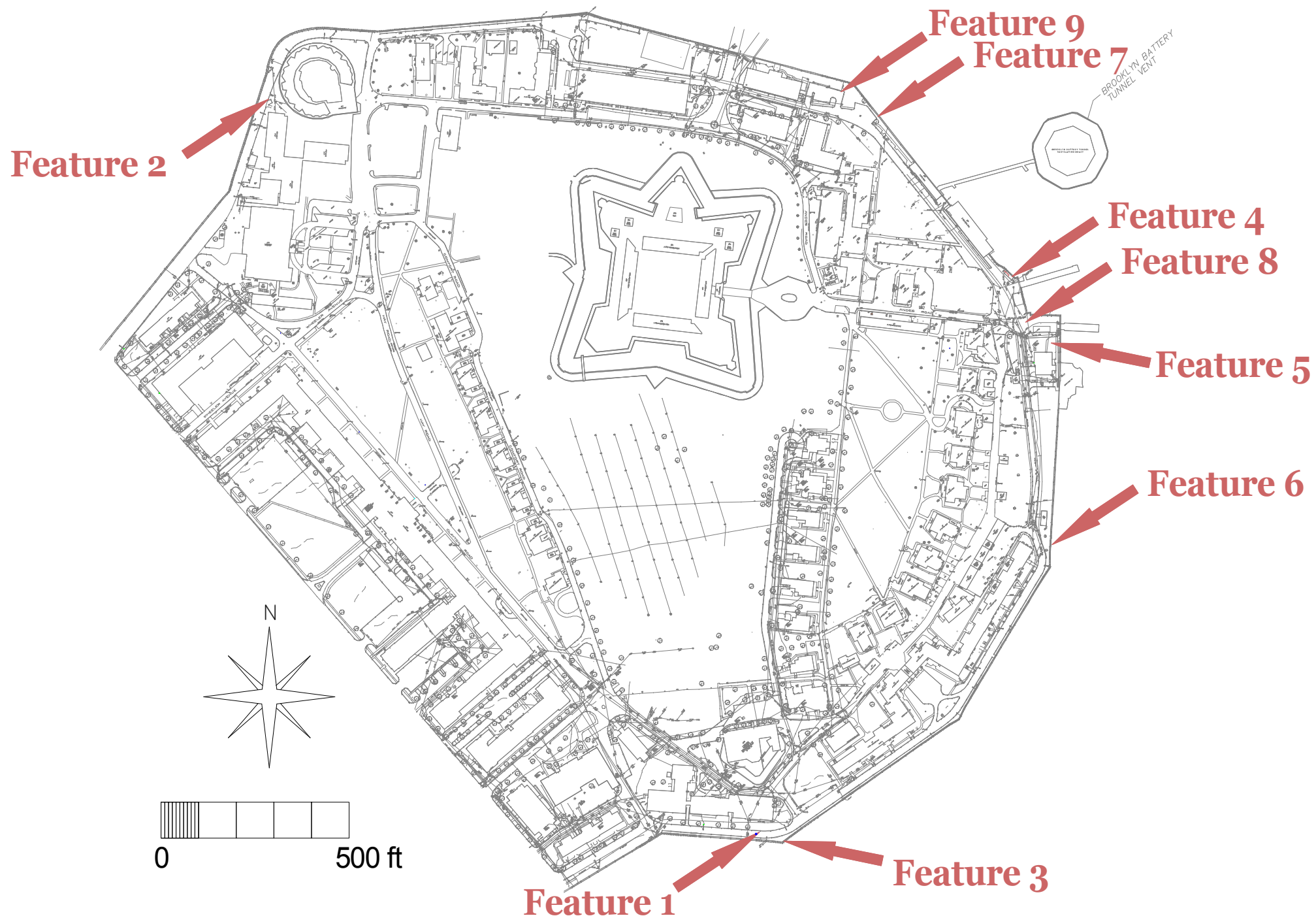
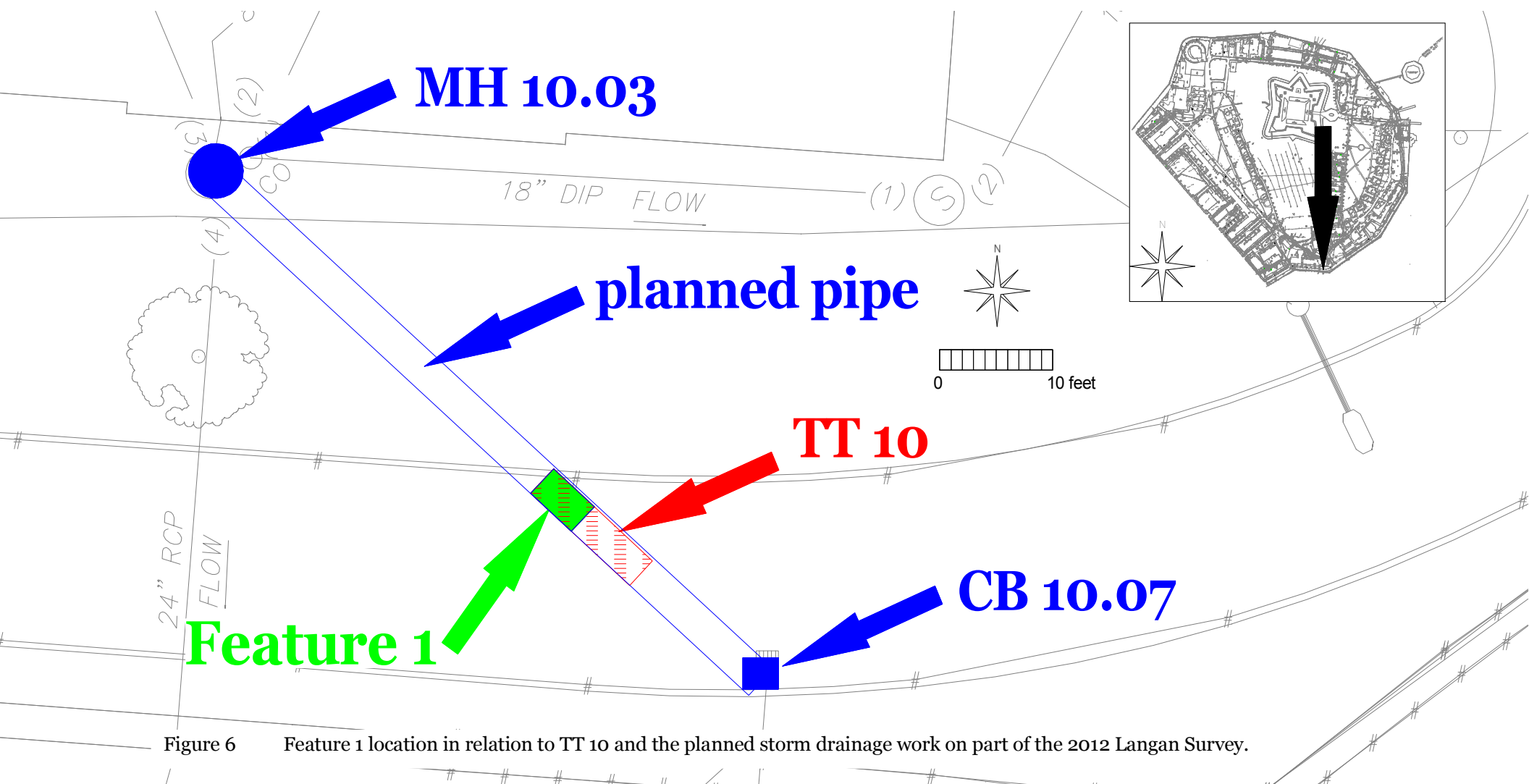


Figure 5 Location of the archaeological features identified during the Governors Island Full Seawall Project shown within the Historic District on the 2012 Langan Survey.





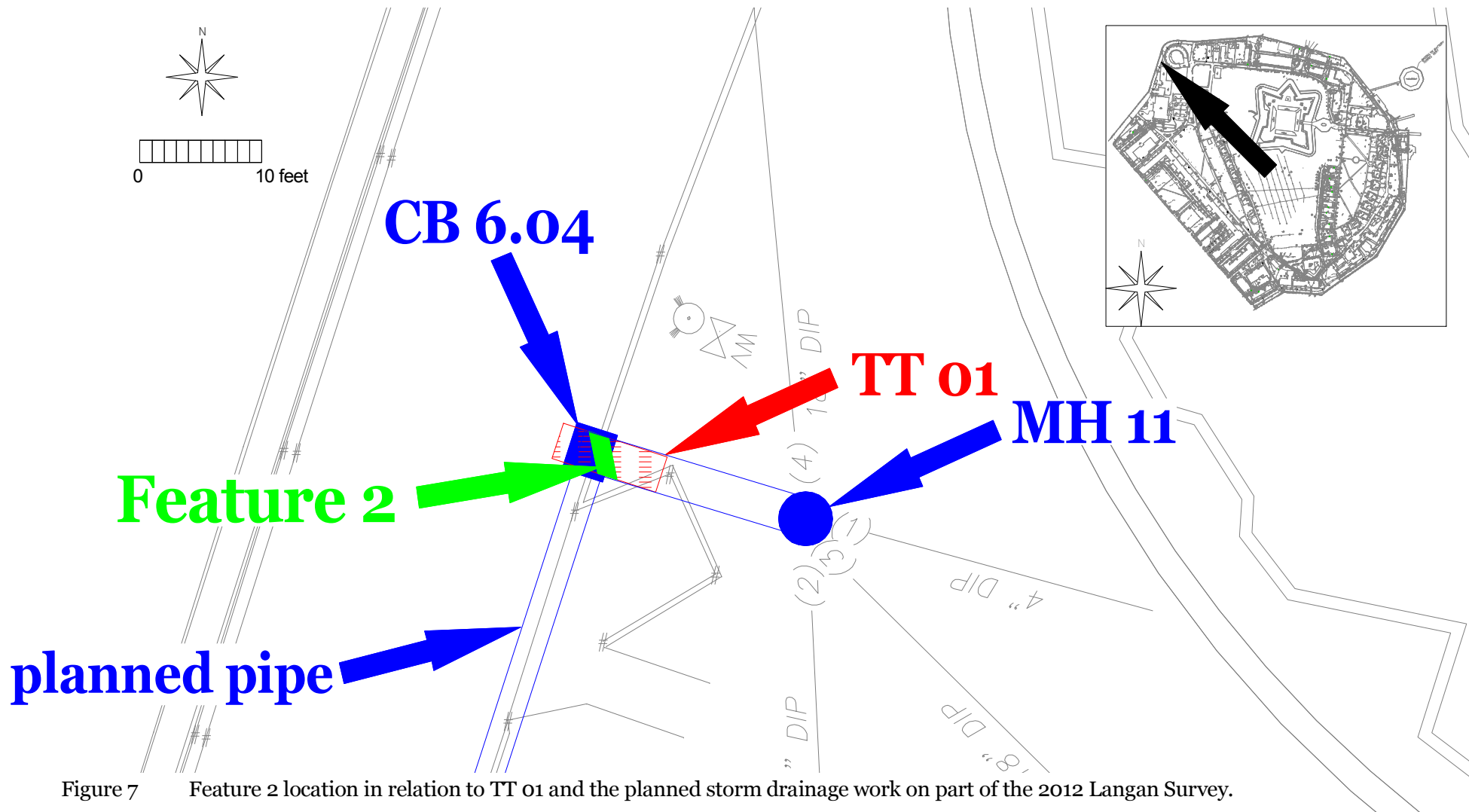


Figure 7 Feature 2 location in relation to TT 01 and the planned storm drainage work on part of the 2012 Langan Survey.



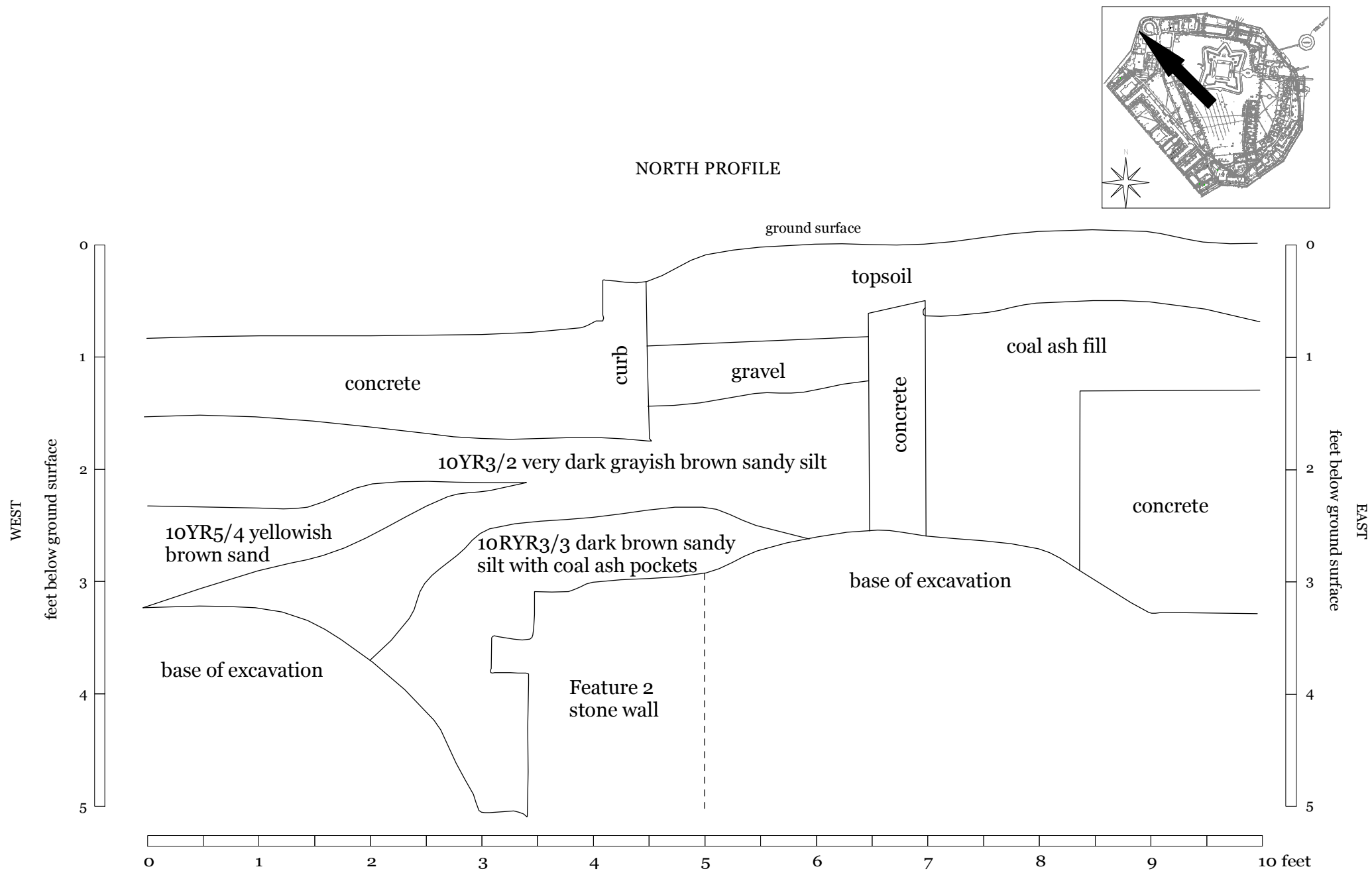


Figure 8 North profile of TT 01 showing the location of Feature 2, part of the mid-nineteenth century seawall around Castle Williams..

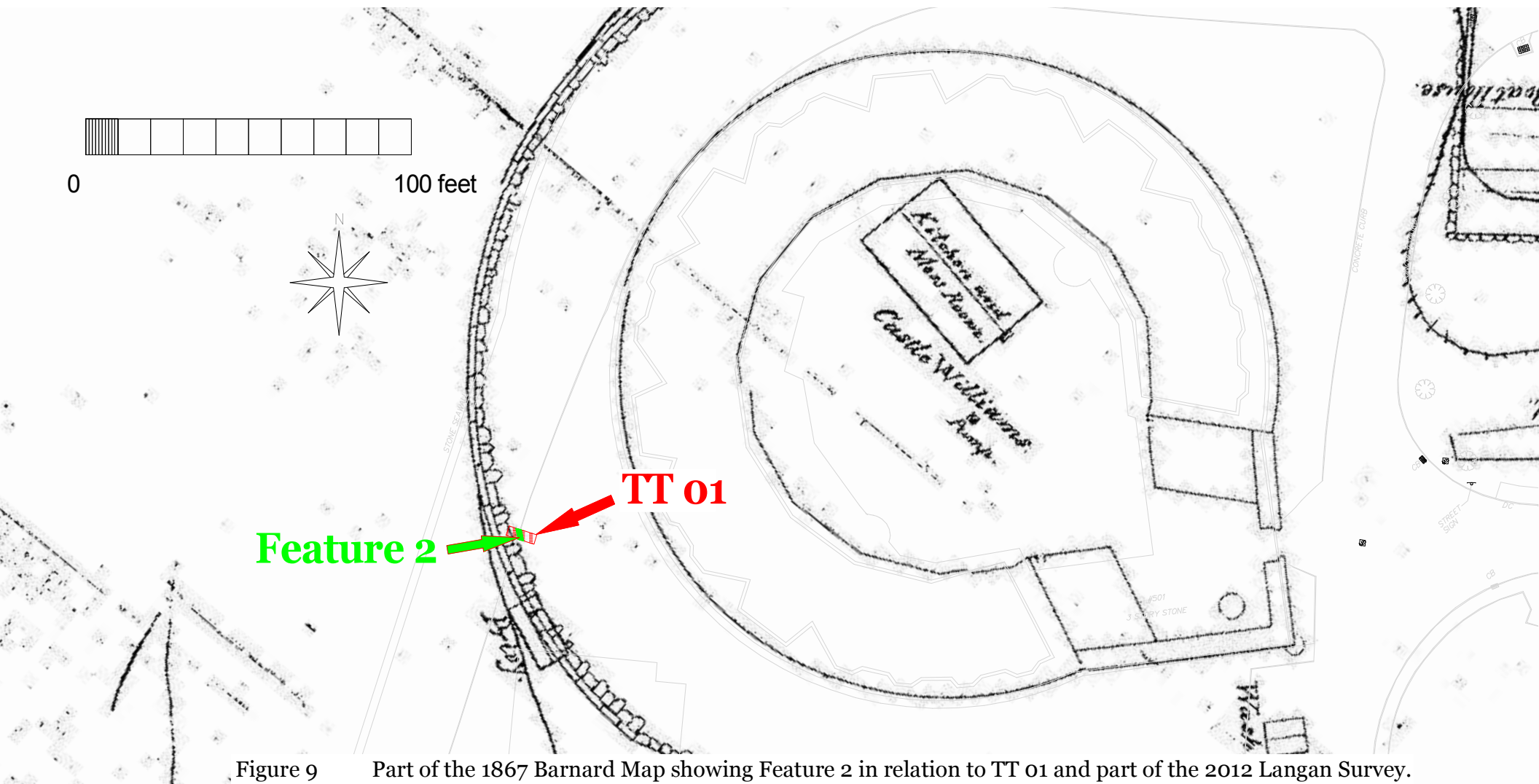


Figure 9 Part of the 1867 Barnard Map showing Feature 2 in relation to TT 01 and part of the 2012 Langan Survey.

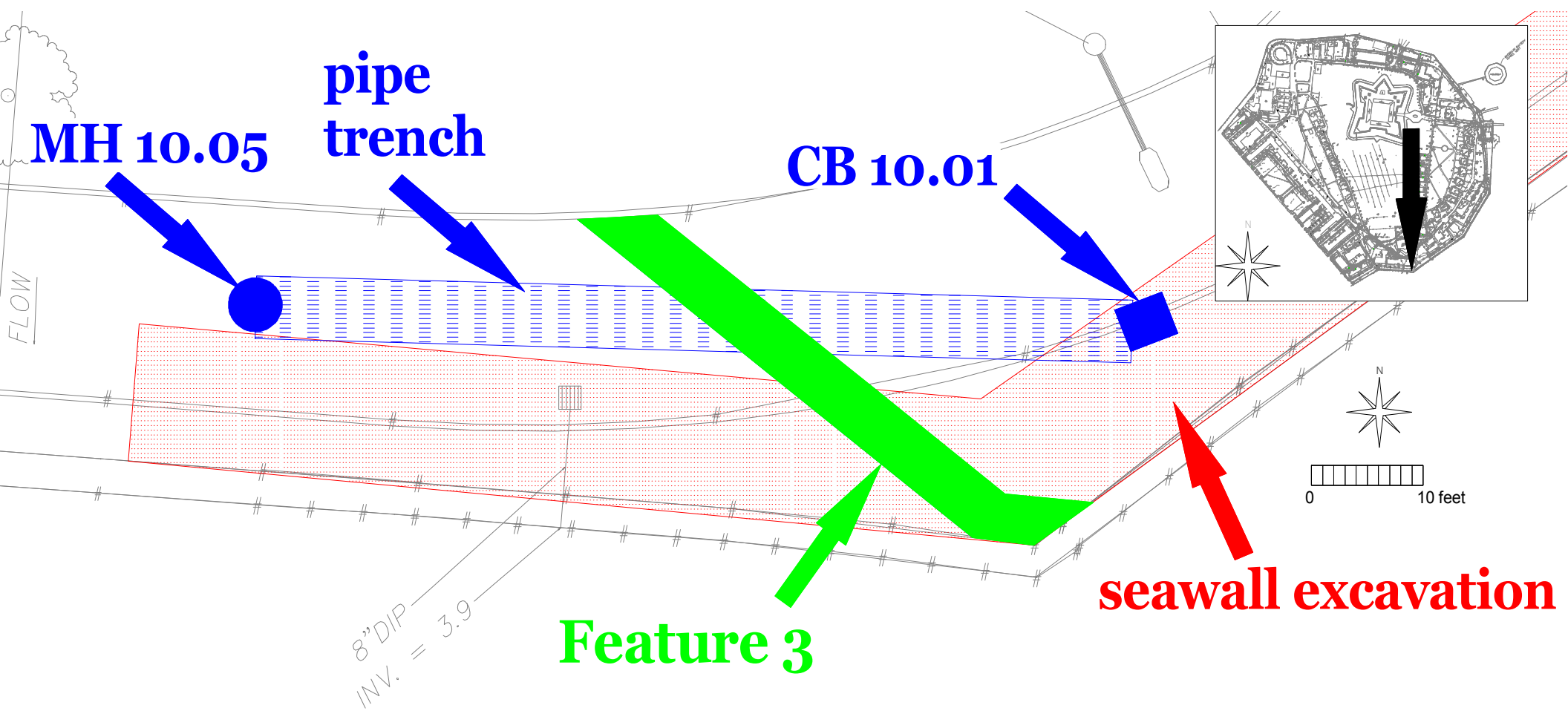


Figure 10 Feature 3 location in relation to the seawall repair work and as-built storm drainage shown on part of the 2012 Langan Survey.

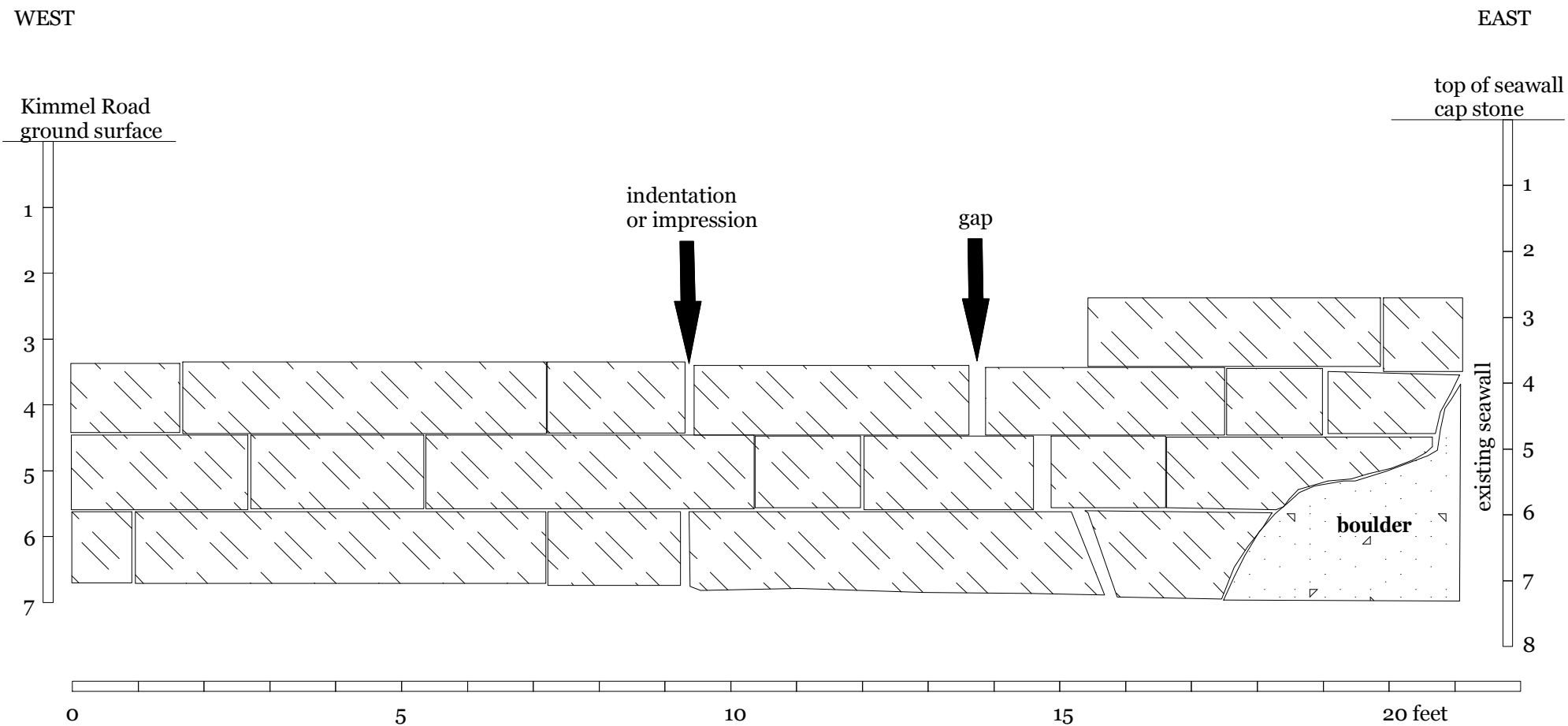


Figure 11 South face of the 1883 seawall, the former water side, found within the seawall foundation repair excavation.

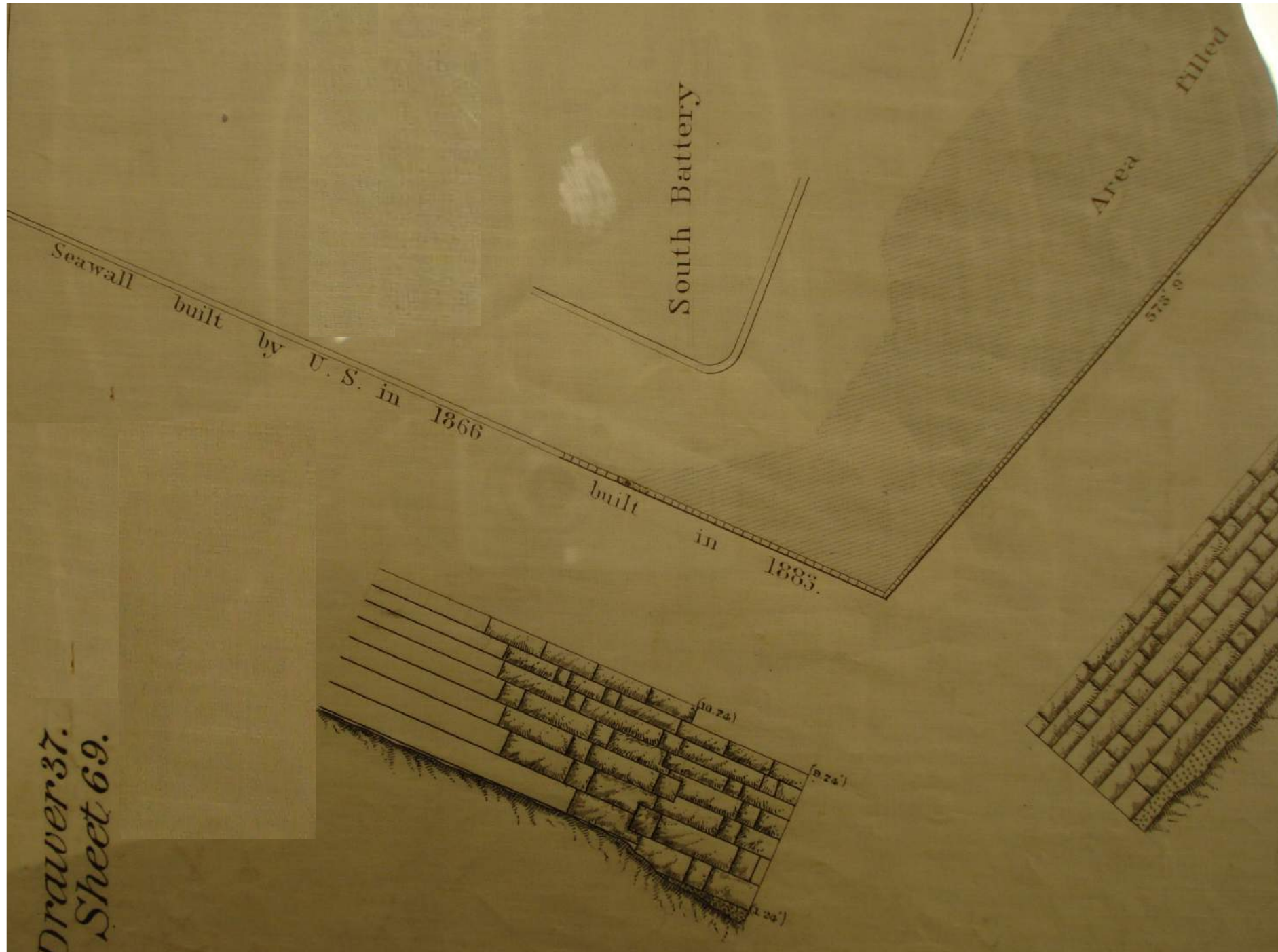


Figure 12 Part of the 1883 Chart of the East Shore of Governors Island showing the newly constructed seawall section built in 1883 .

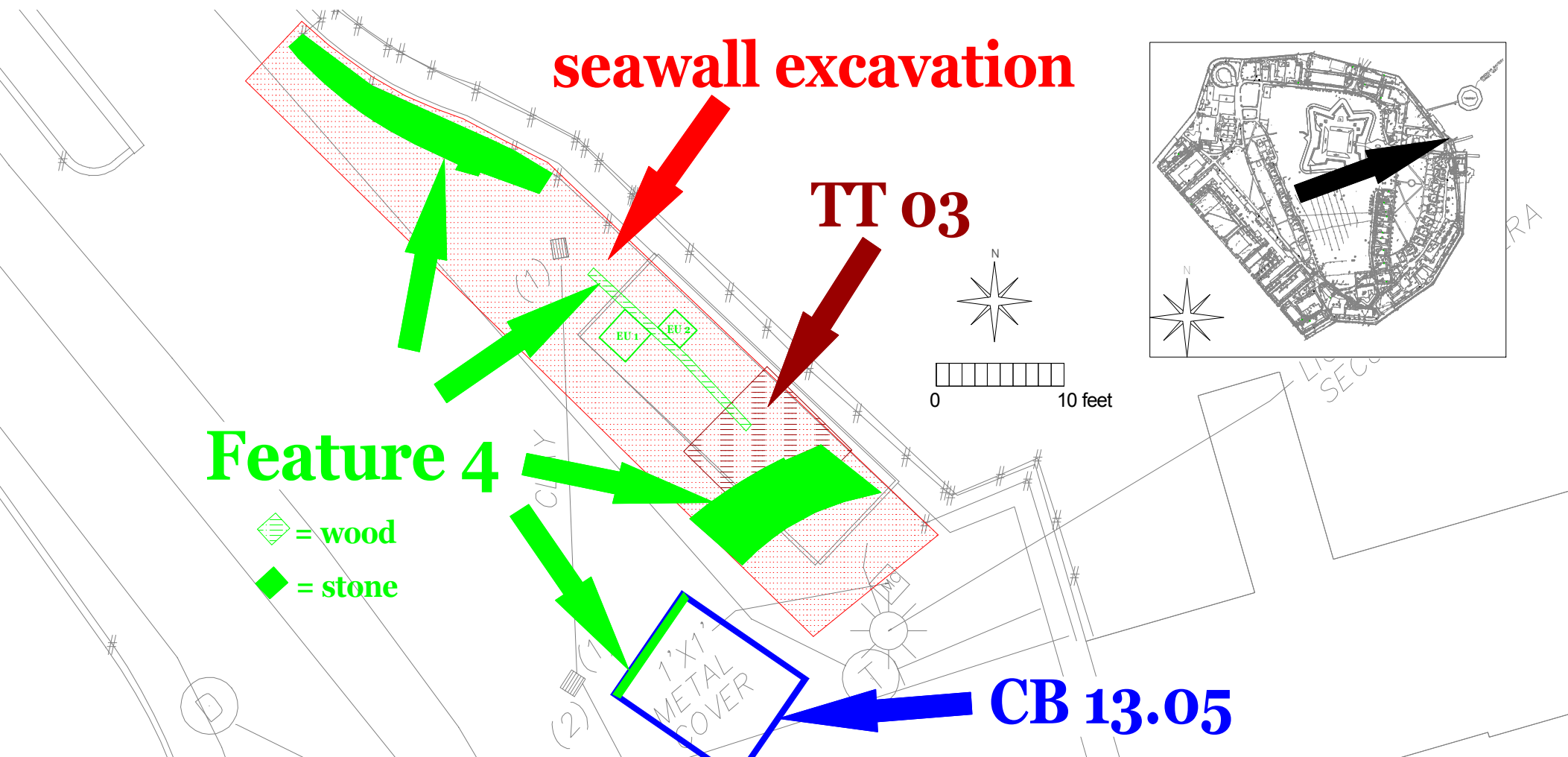


Figure 13

Feature 4 and excavation unit (EU) locations in relation to the seawall repair work and catch basin excavation shown on part of the 2012 Langan Survey.



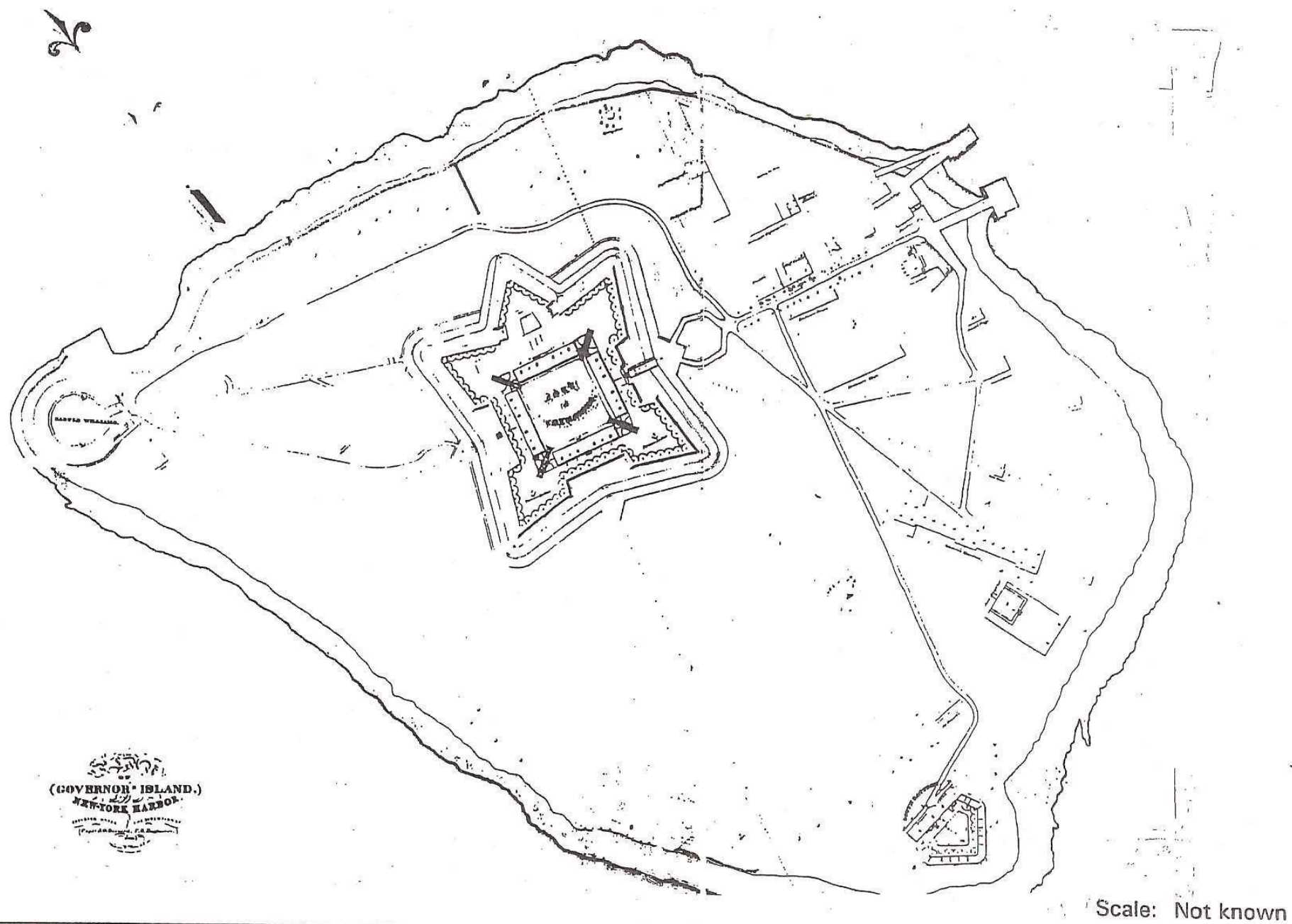


Figure 4-4. Plan of Governors Island in 1839 (Bernard 1839).

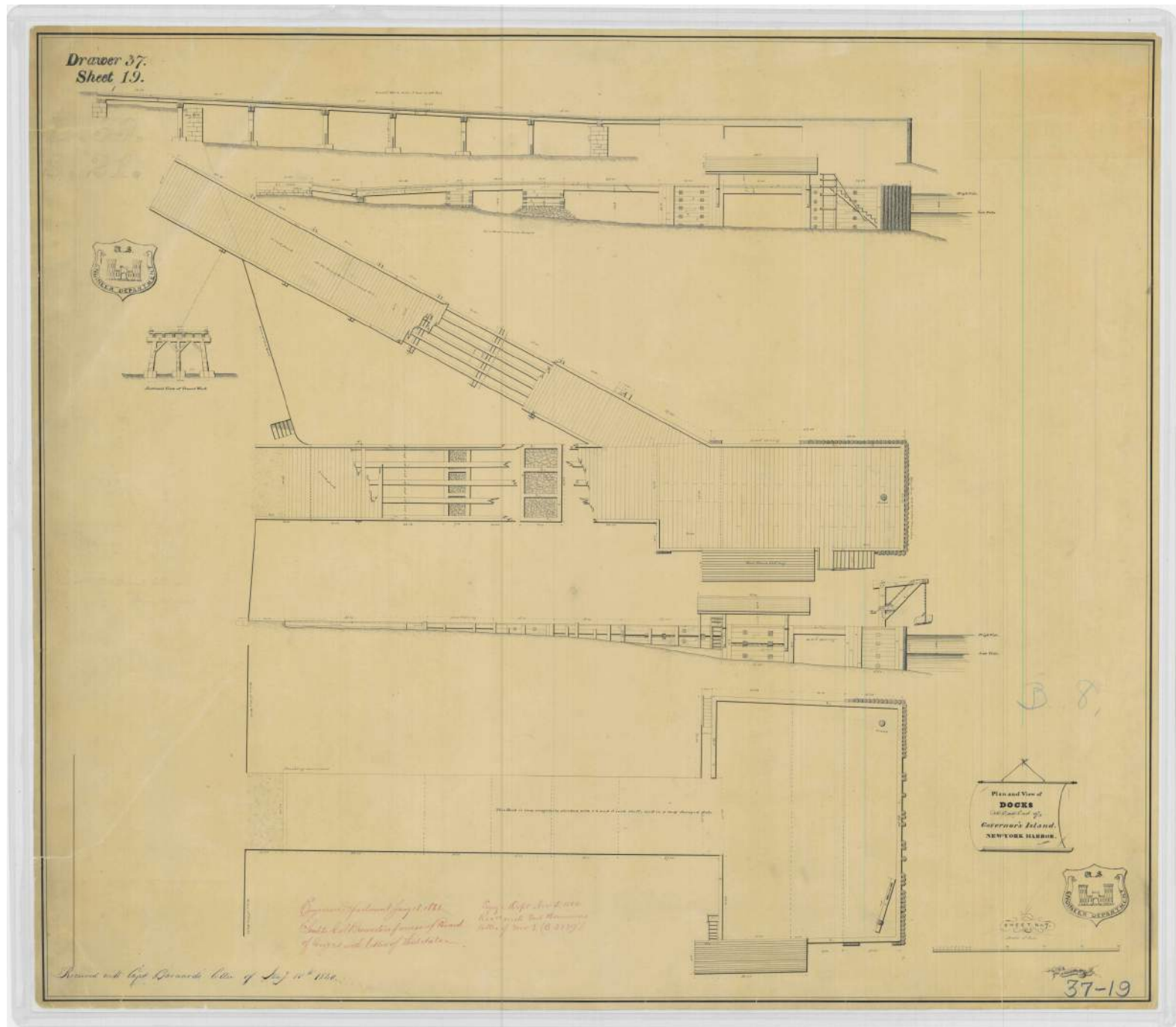


Figure 15 The 1840 U.S. Engineer Department Plan and View of the Docks at the East End of Governor's Island.



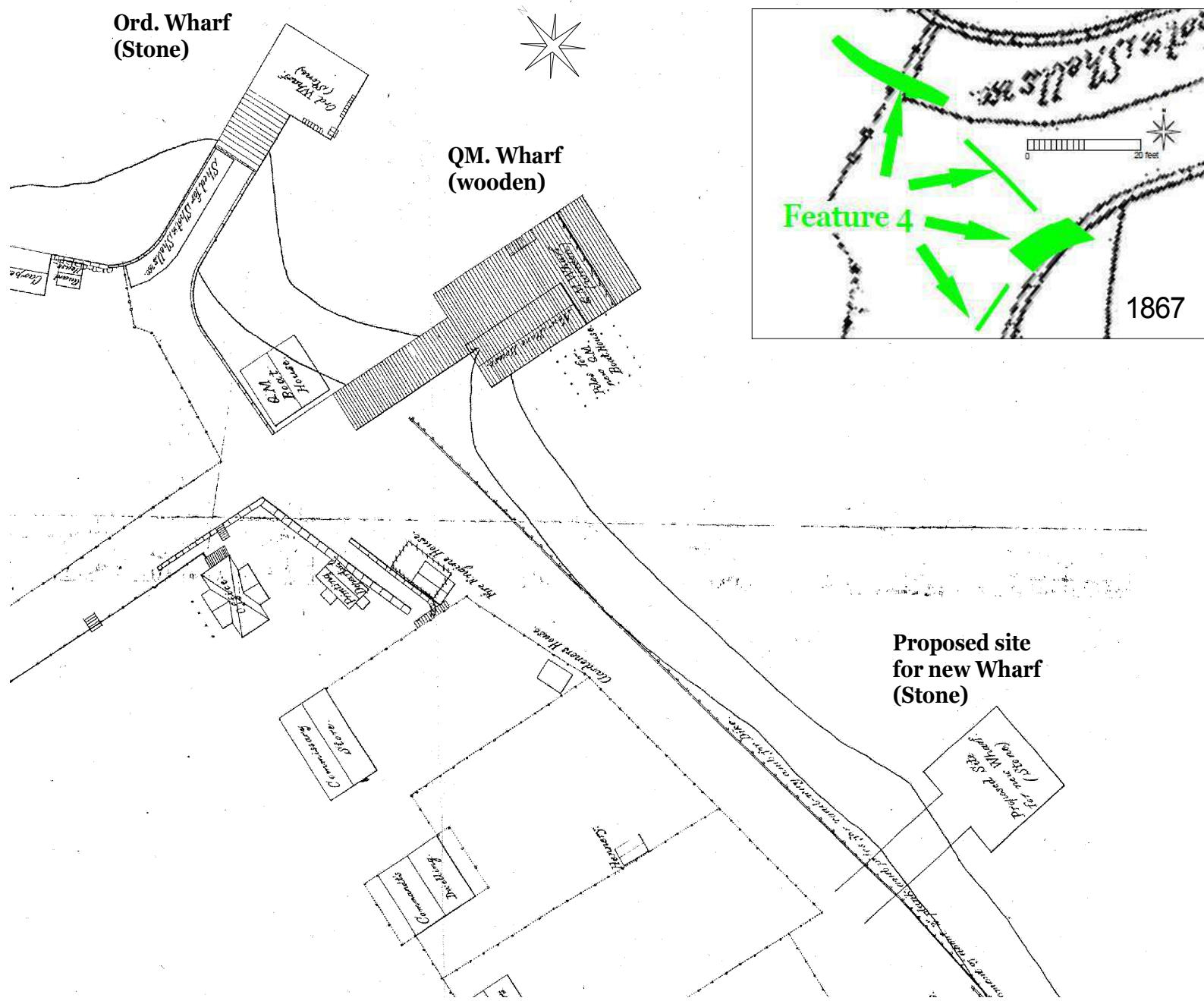


Figure 16 Part of the 1867 Barnard map showing the docks in the vicinity of Feature 4.

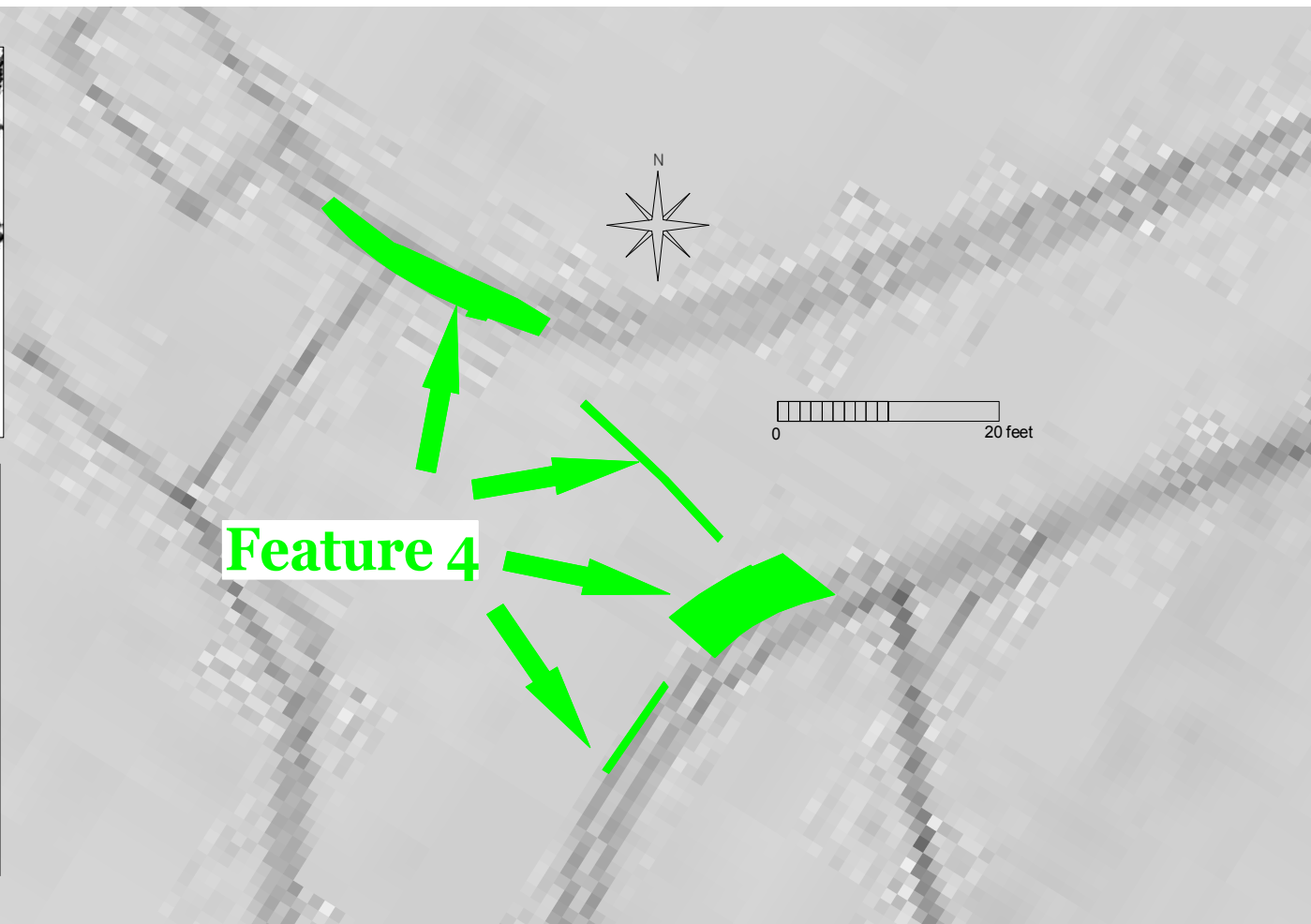
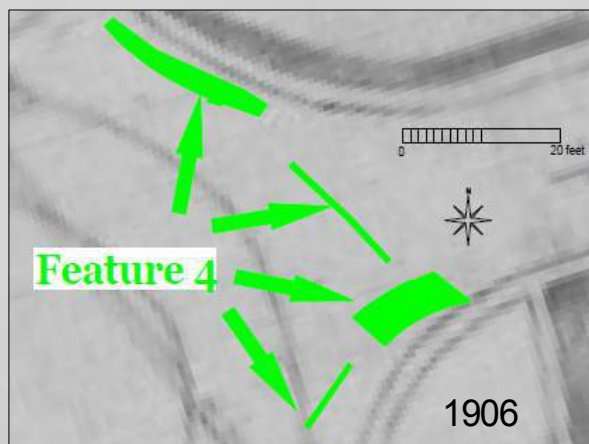
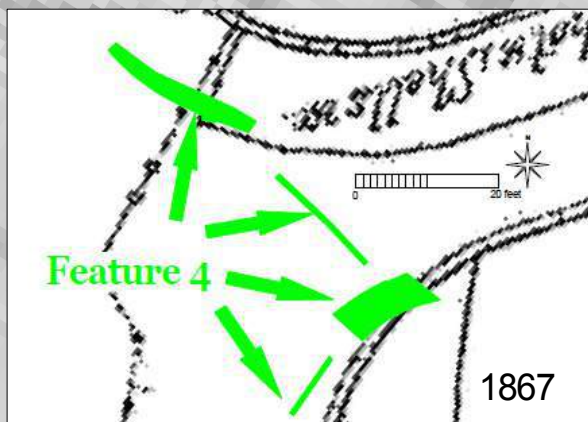


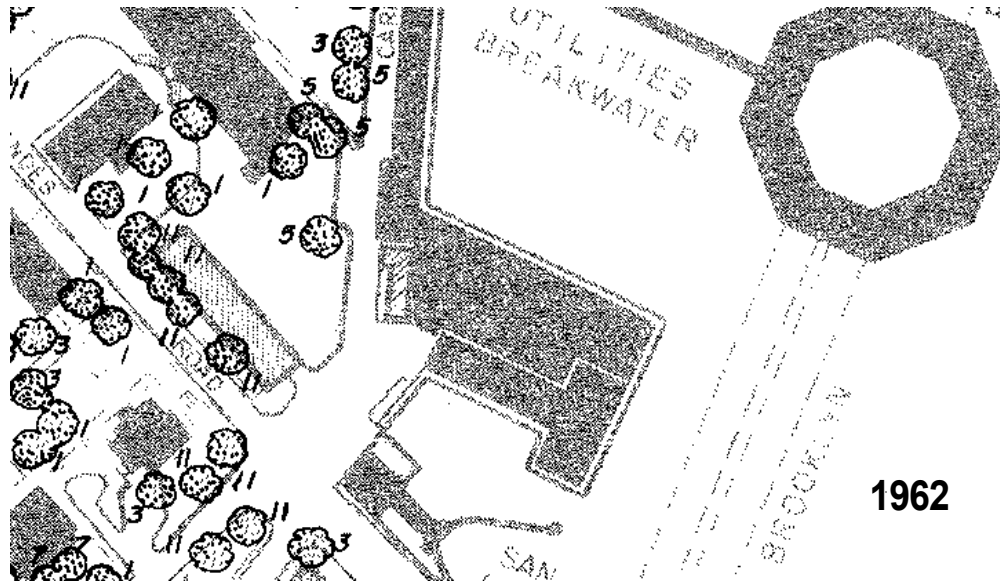
Figure 17 Part of the 1879 Army map showing Feature 4 with insets of parts of the 1867 Barnard map (top) and the 1906 Hilton map (bottom).



1919



1928



1962

Figure 18 Part of the 1919 utilities map, the 1928 aerial photograph and the 1962 tree map showing the dock that contained Feature 4.

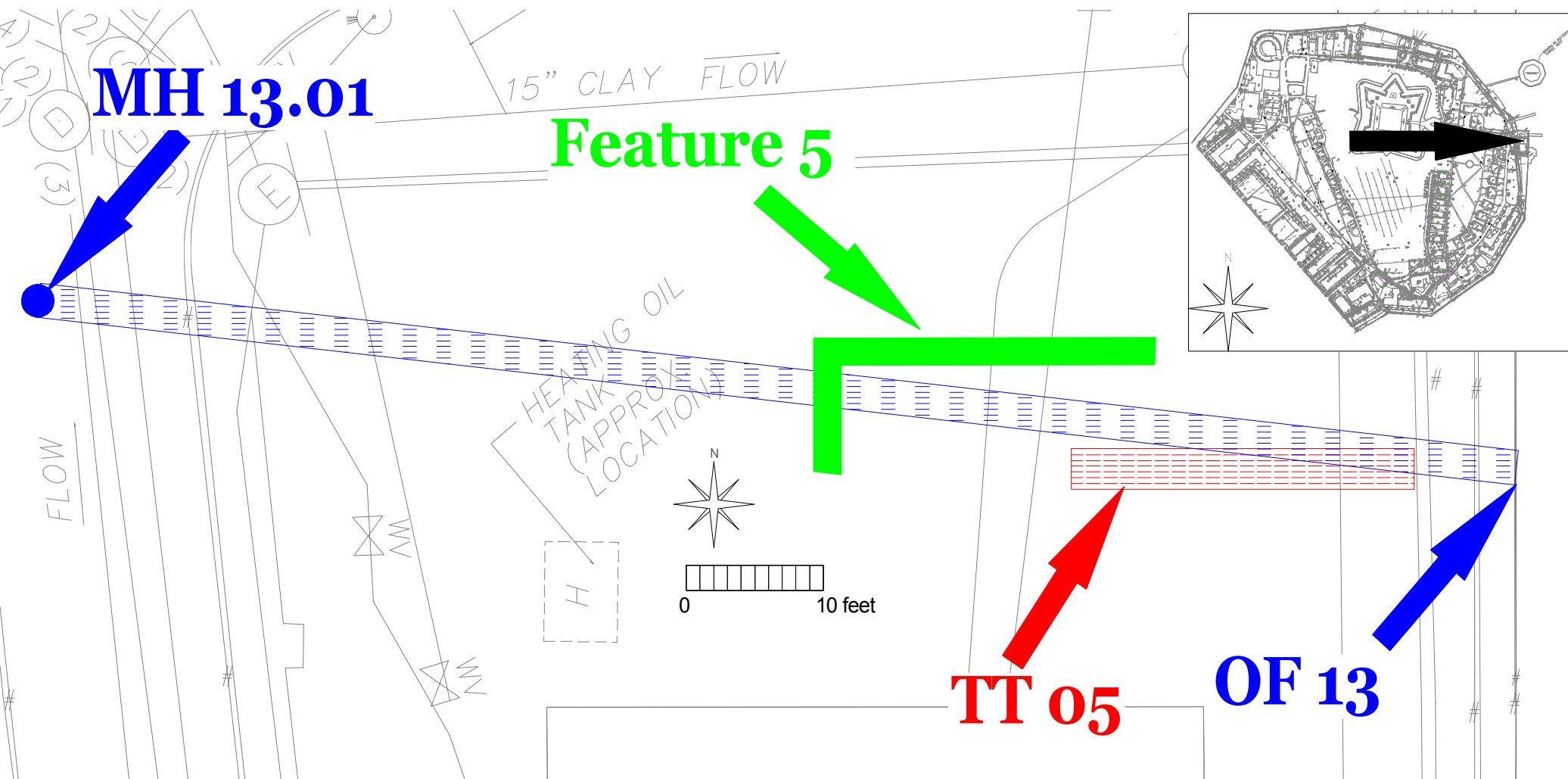


Figure 19 Feature 5 location in relation to TT 05 and OF 13 to Manhole 13.01 excavation shown on part of the 2012 Langan Survey.



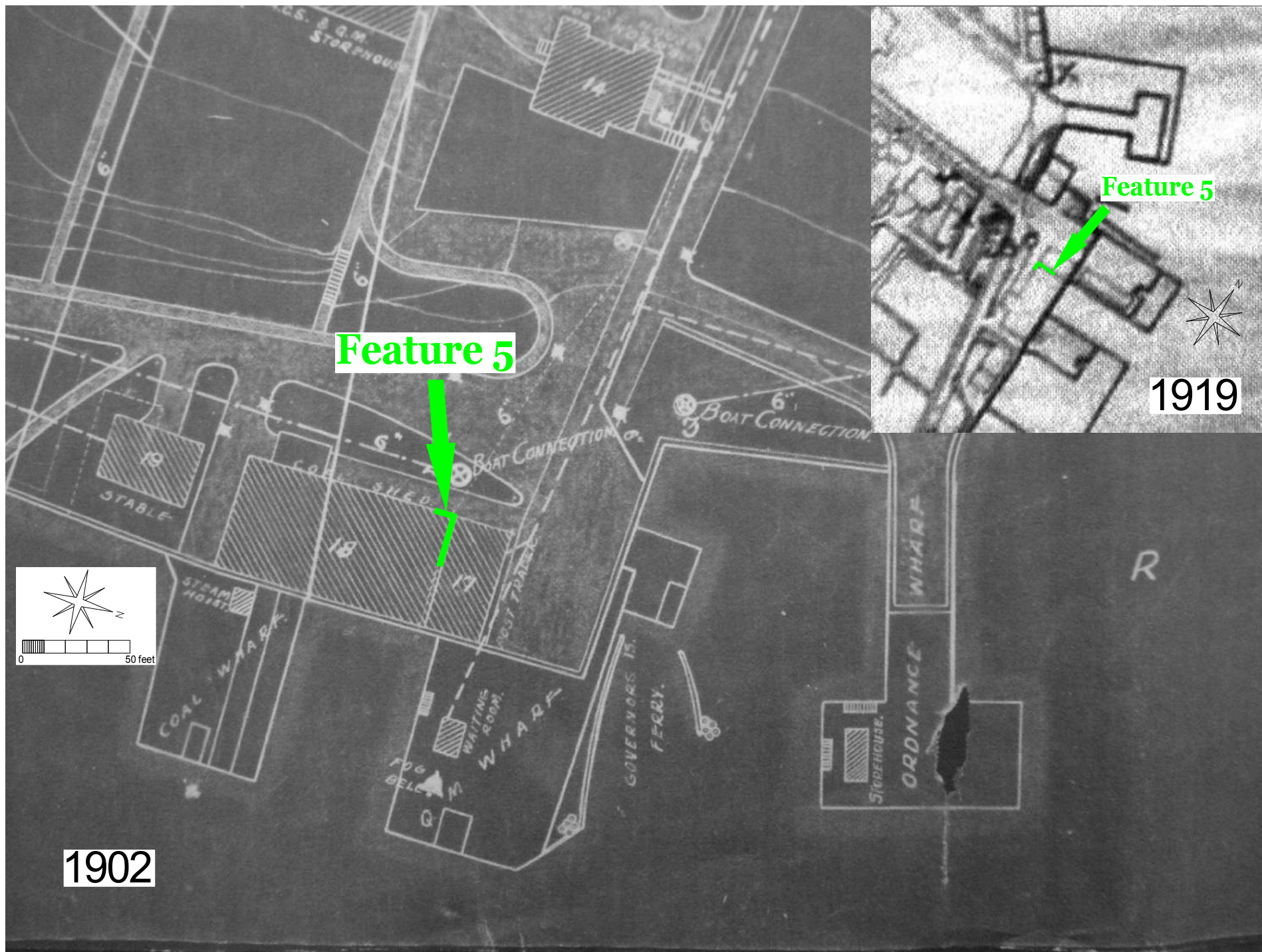


Figure 20 Part of the 1902 blueprint map and and the 1919 utilities map showing the Coal Shed and Feature 5.

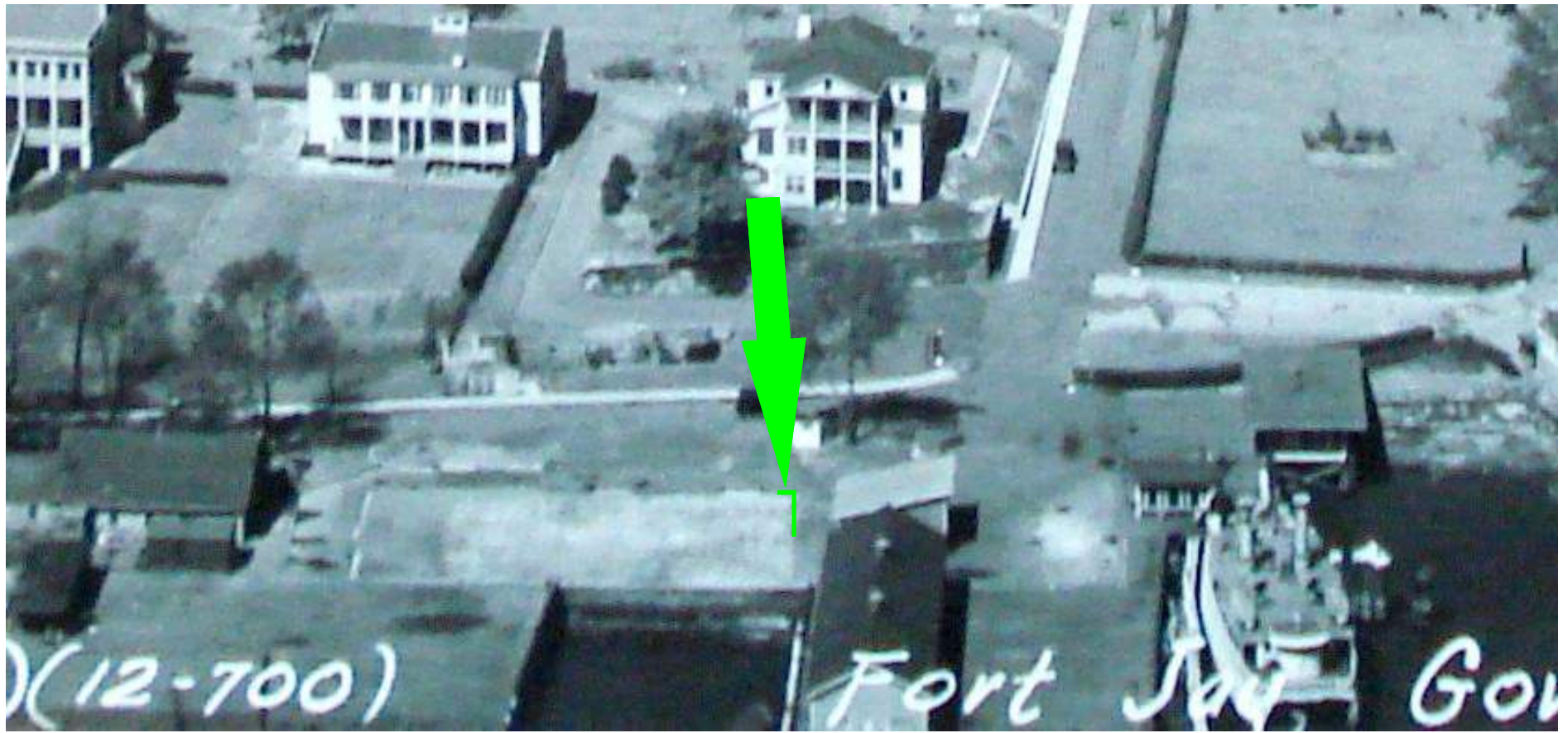


Figure 21 Part of the 1928 aerial photograph showing the former location of the Coal Shed and Feature 5.



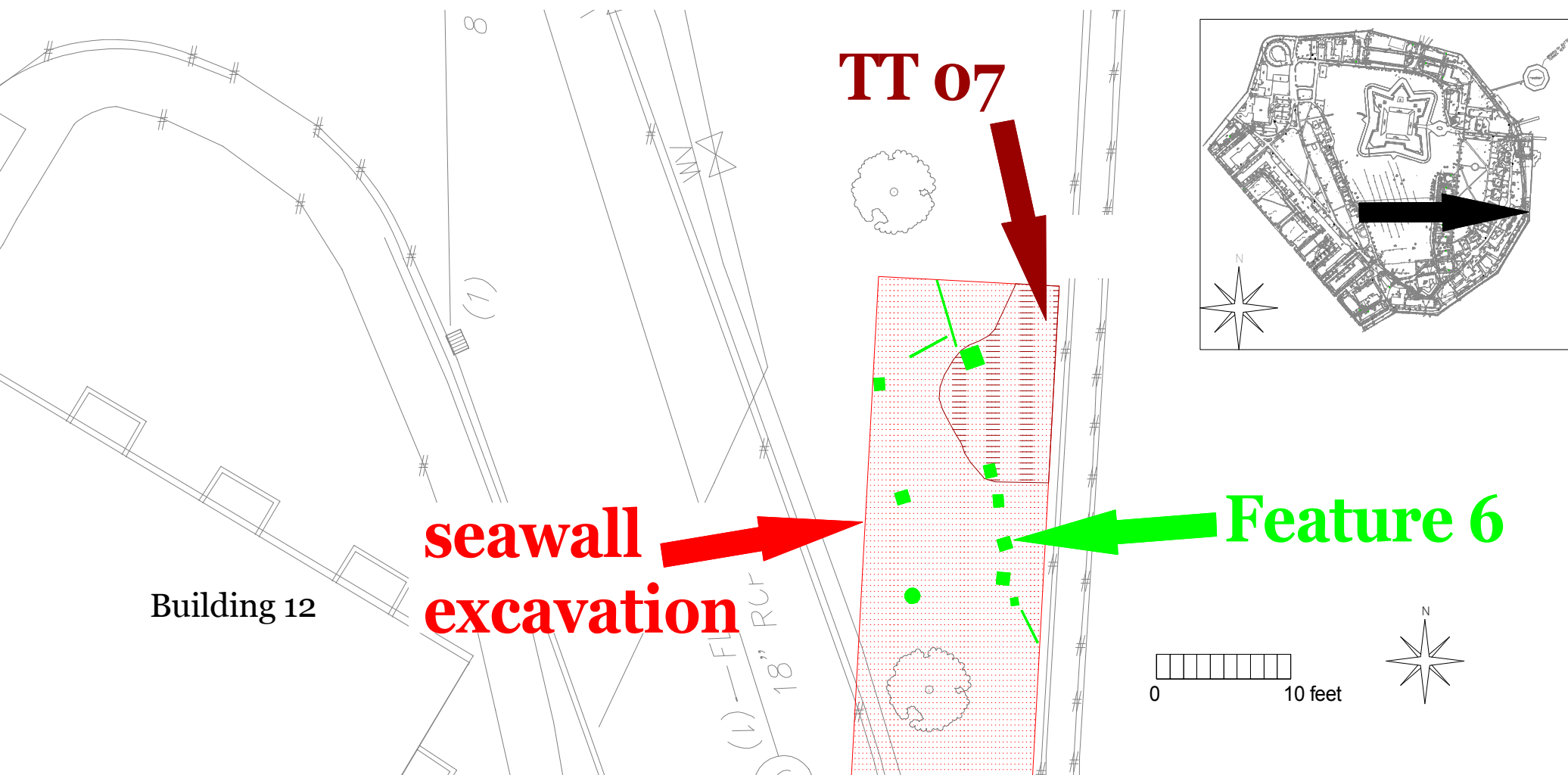


Figure 22 Feature 6 location in relation to TT 07 and associated seawall repair excavation shown on part of the 2012 Langan Survey.

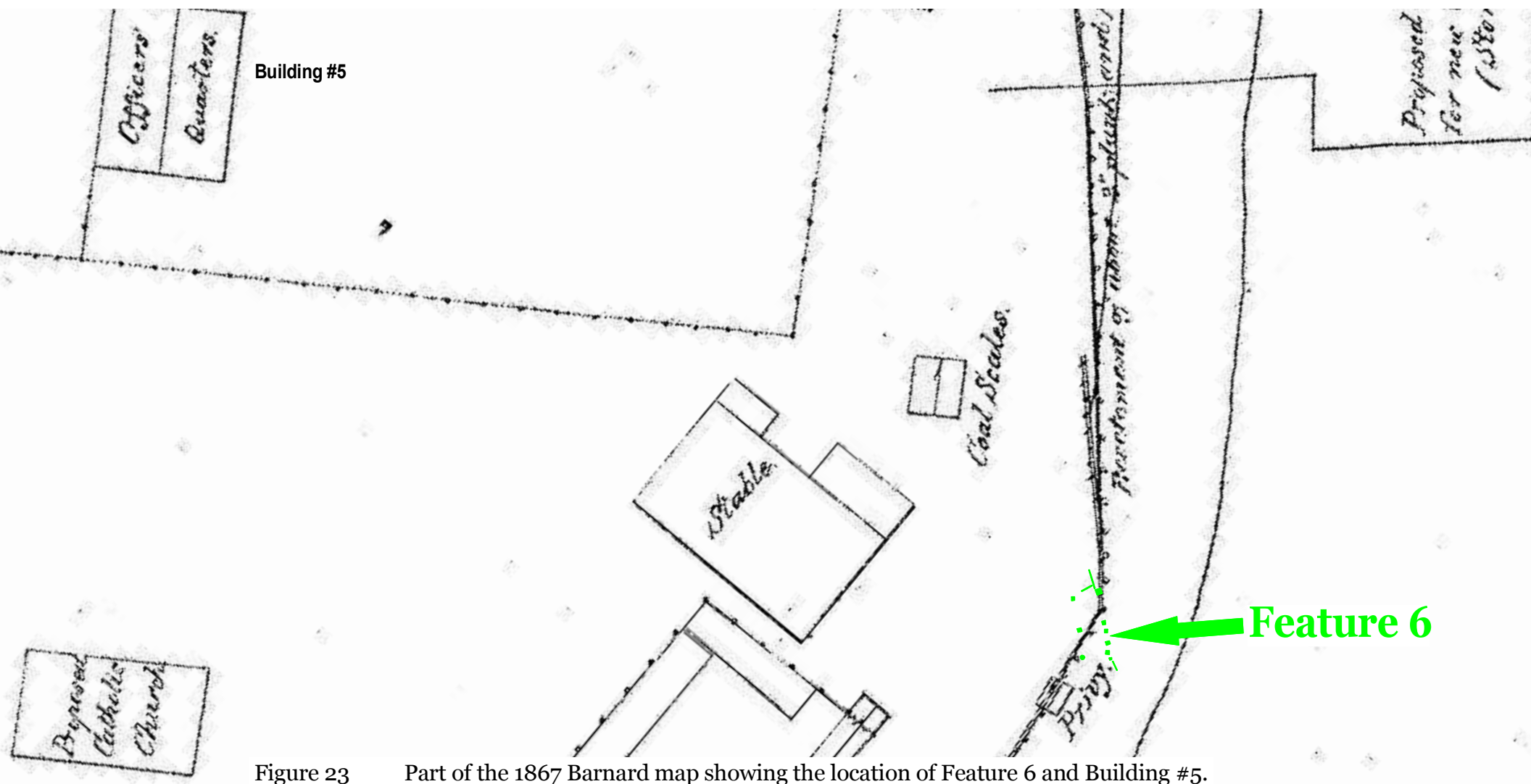


Figure 23 Part of the 1867 Barnard map showing the location of Feature 6 and Building #5.





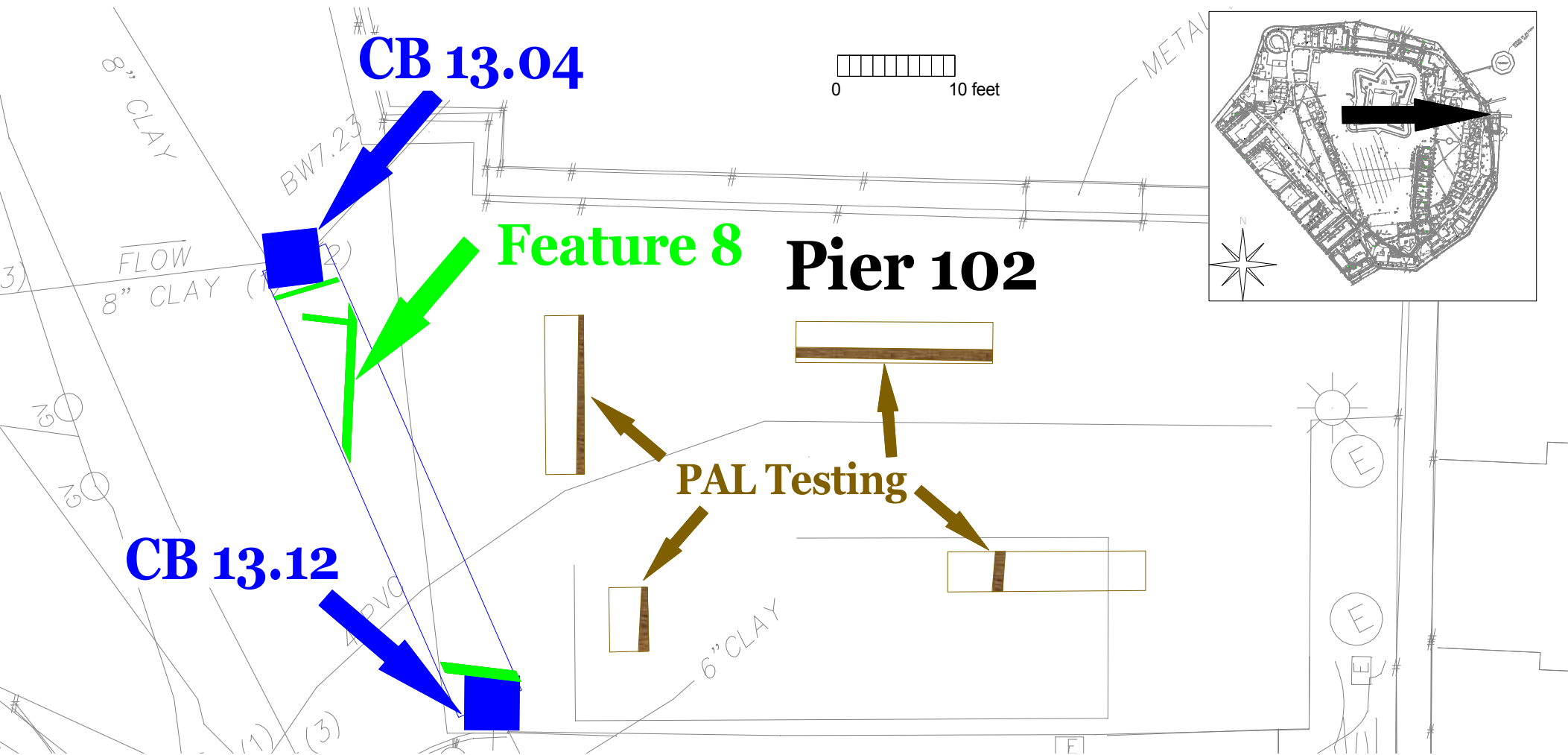


Figure 25 Feature 8 location in relation to Catch Basins 13.04 and 13.12 excavation and Pier 102 archaeological testing shown on part of the 2012 Langan Survey.

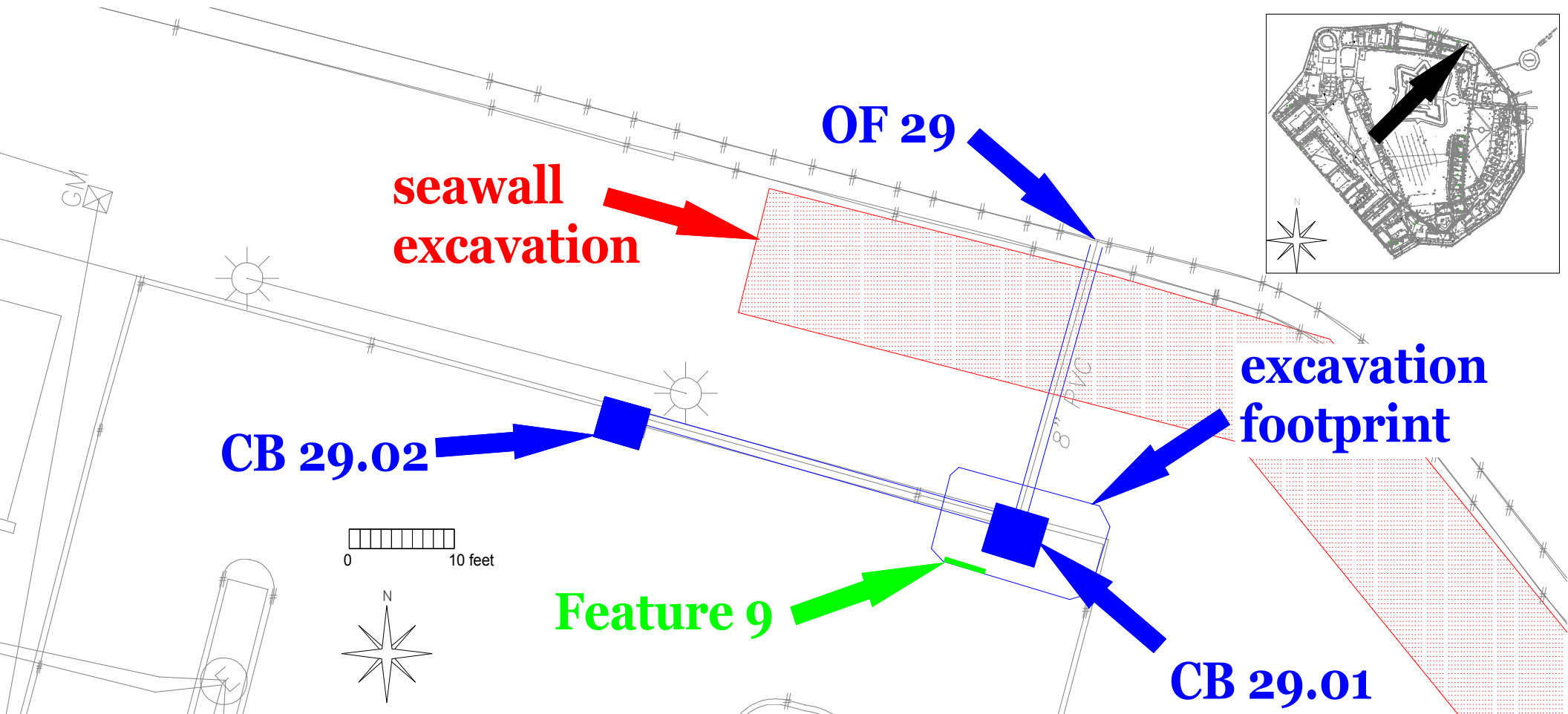


Figure 26

Feature 9 location in relation to the CB 29.01 and the seawall repair shown on part of the 2012 Langan Survey.

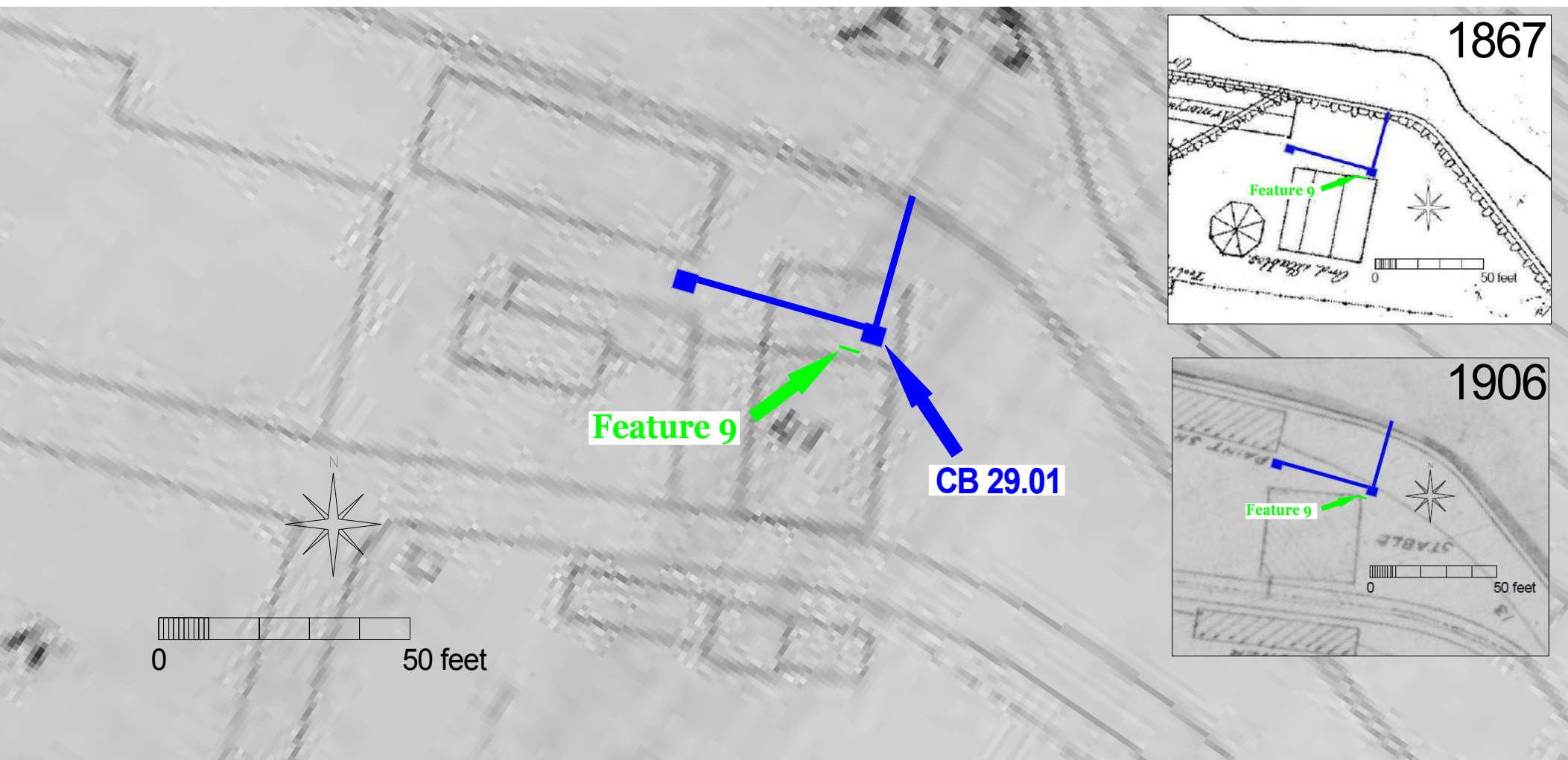


Figure 27 Part of the 1879 Army map showing the location of the Outfall 29 drainage system with insets of the 1867 and 1906 maps.

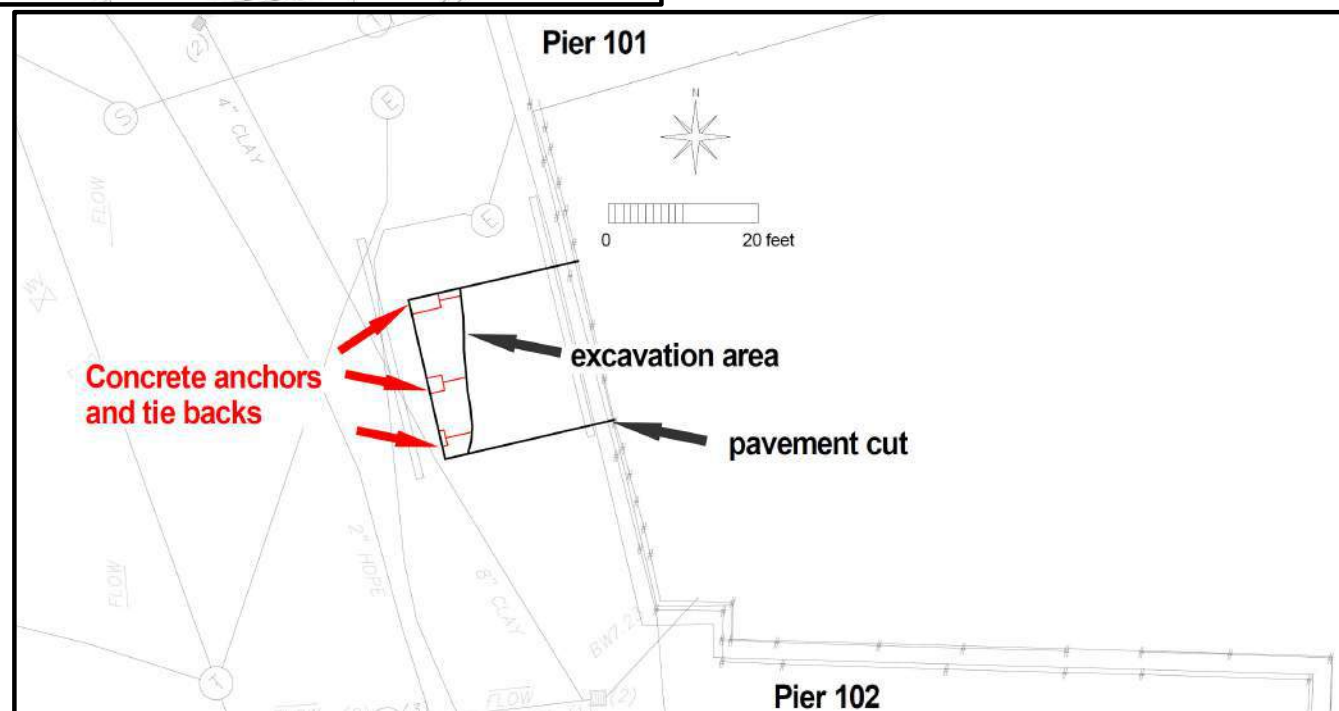
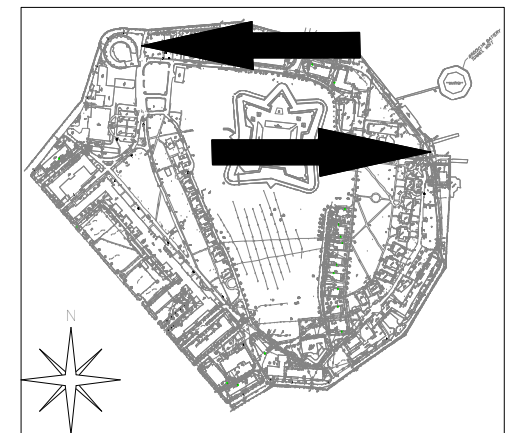
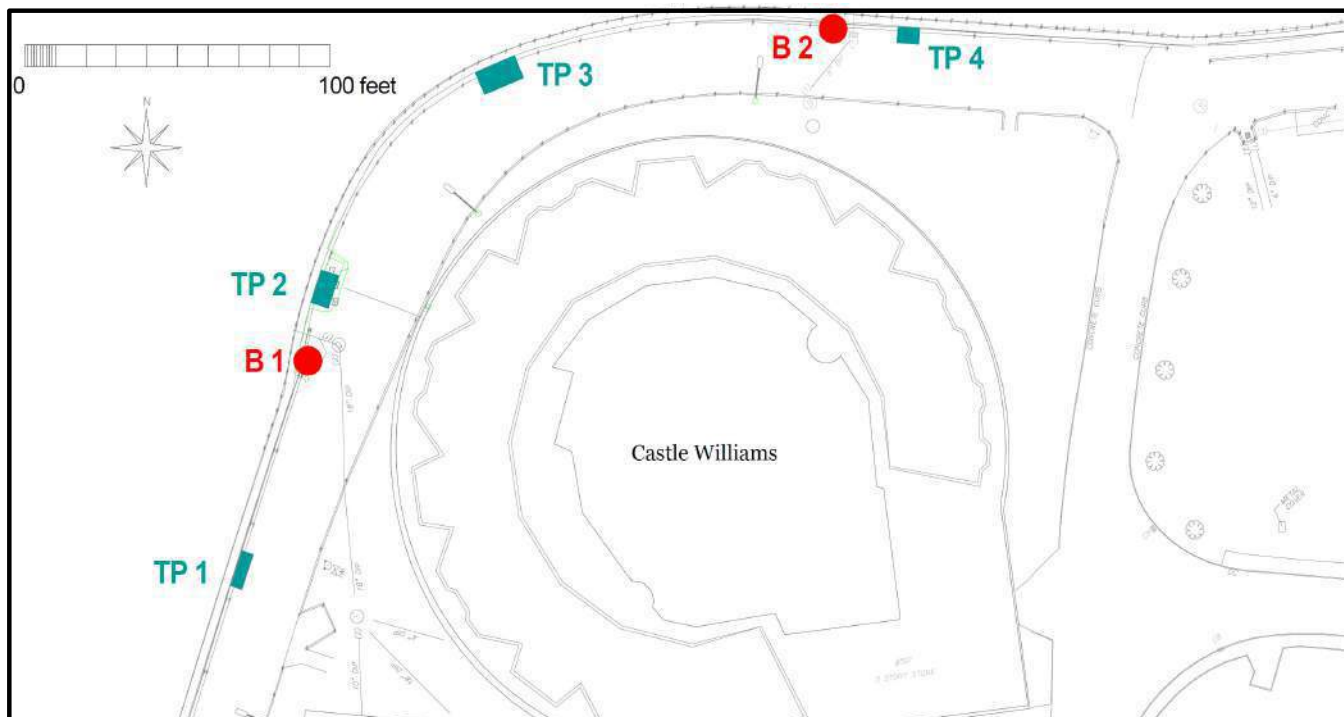


Figure 28 Location of contractor pre-construction testing near Castle Williams (top) and near Piers 101 and 102 (bottom) on part of the 2012 Langan survey.





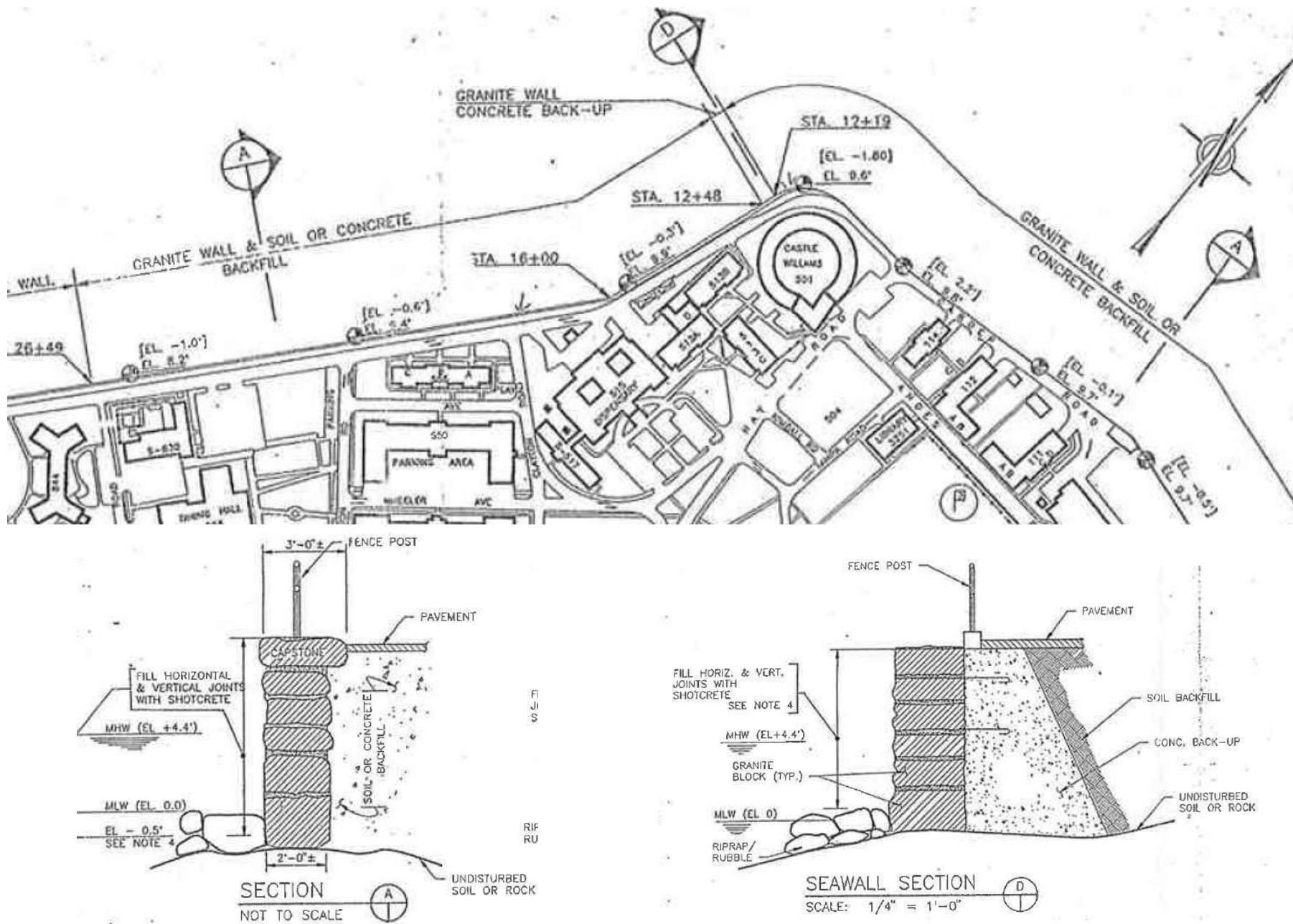


Figure 30 Part of Coast Guard drawing NY-0424 Seawall Repairs done in 1993.

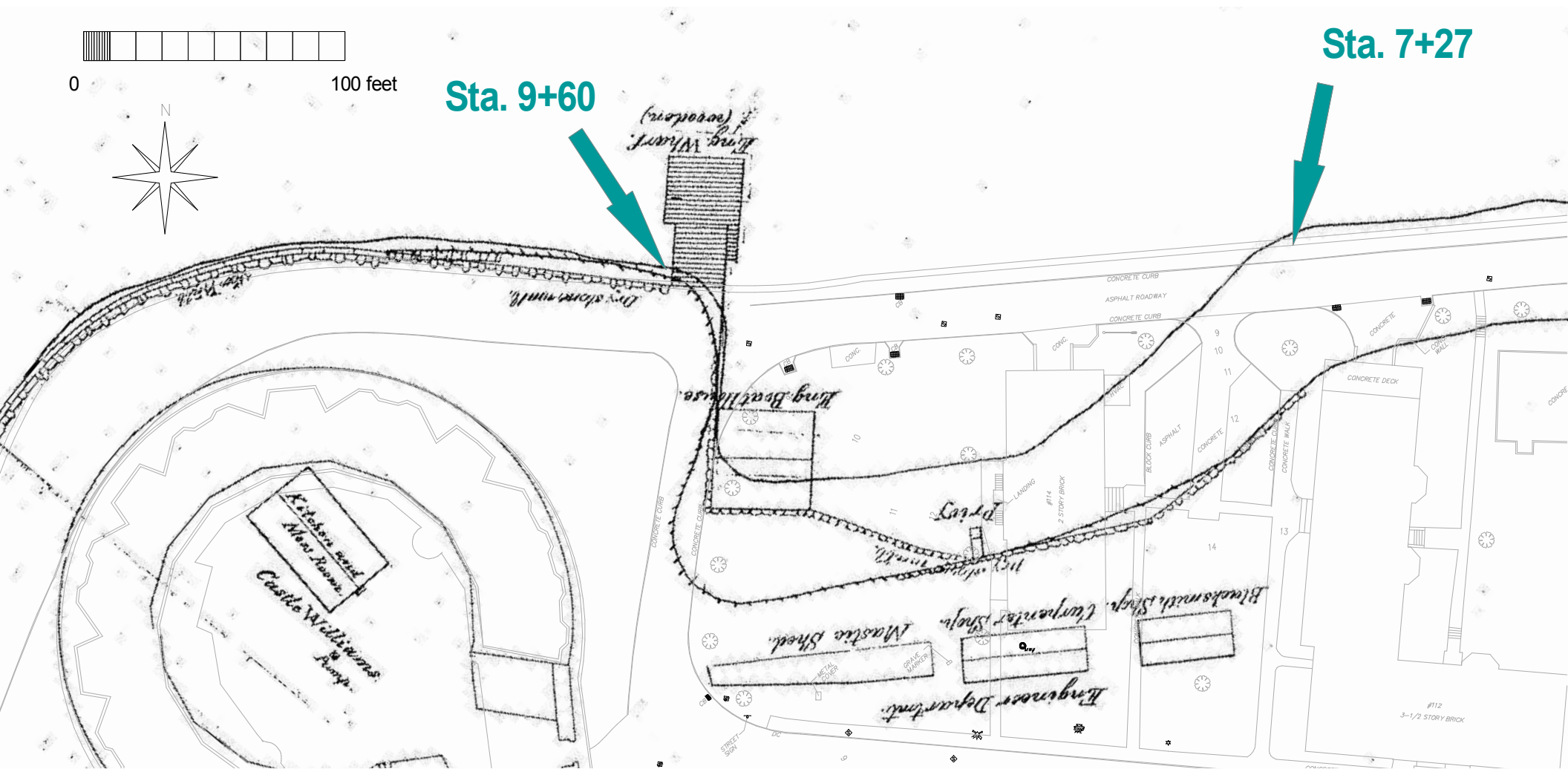


Figure 31 Part of the 1867 Barnard Map on the 2012 Langan survey showing the "bay" from Stations 7+27 to 9+60.

Part of the 1867 Barnard Map on the 2012 Langan survey showing the "bay" from Stations 7+27 to 9+60.



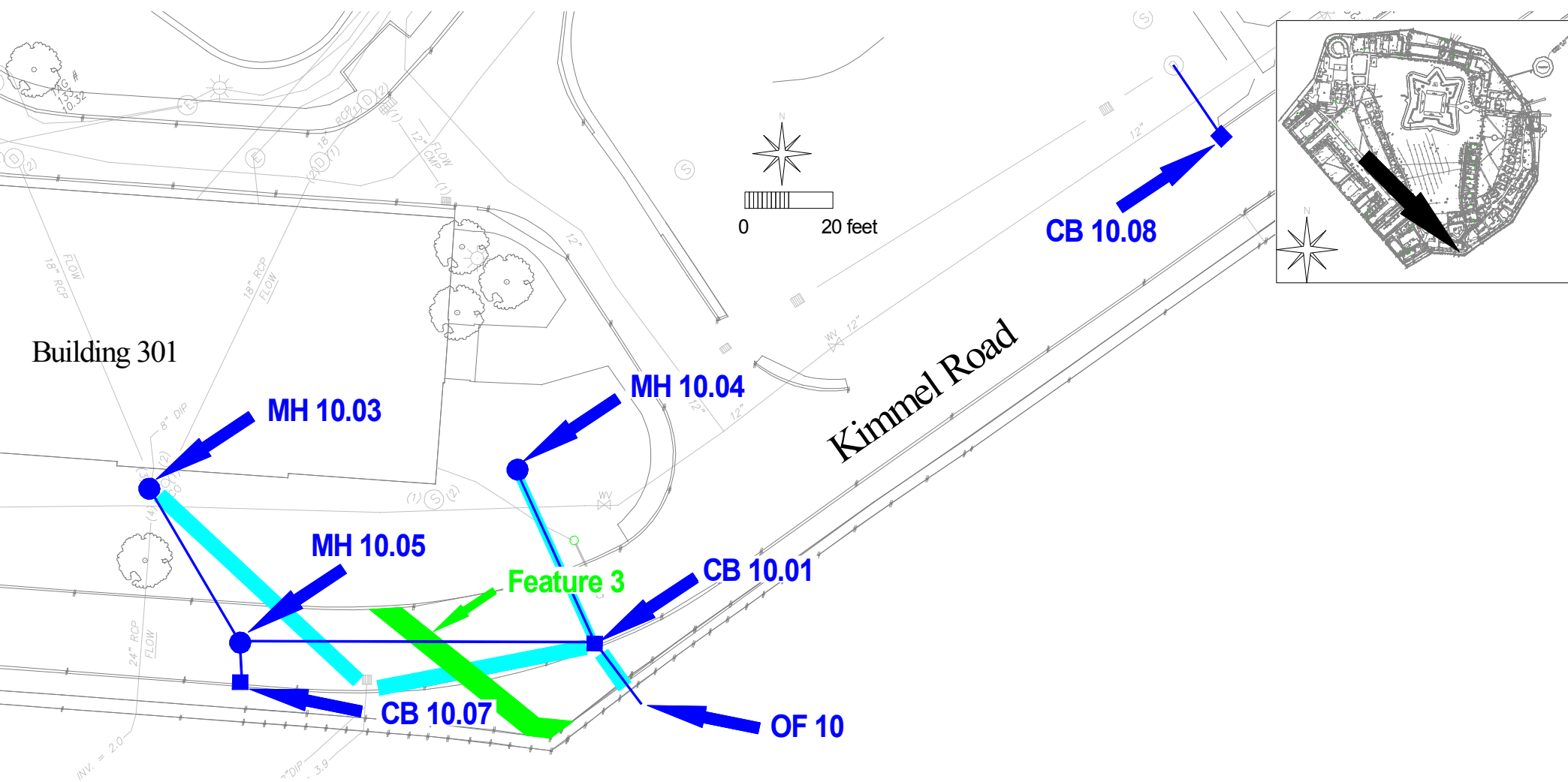
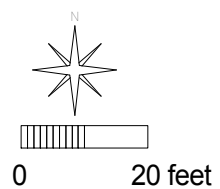
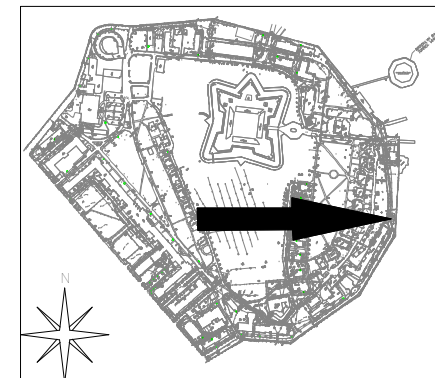
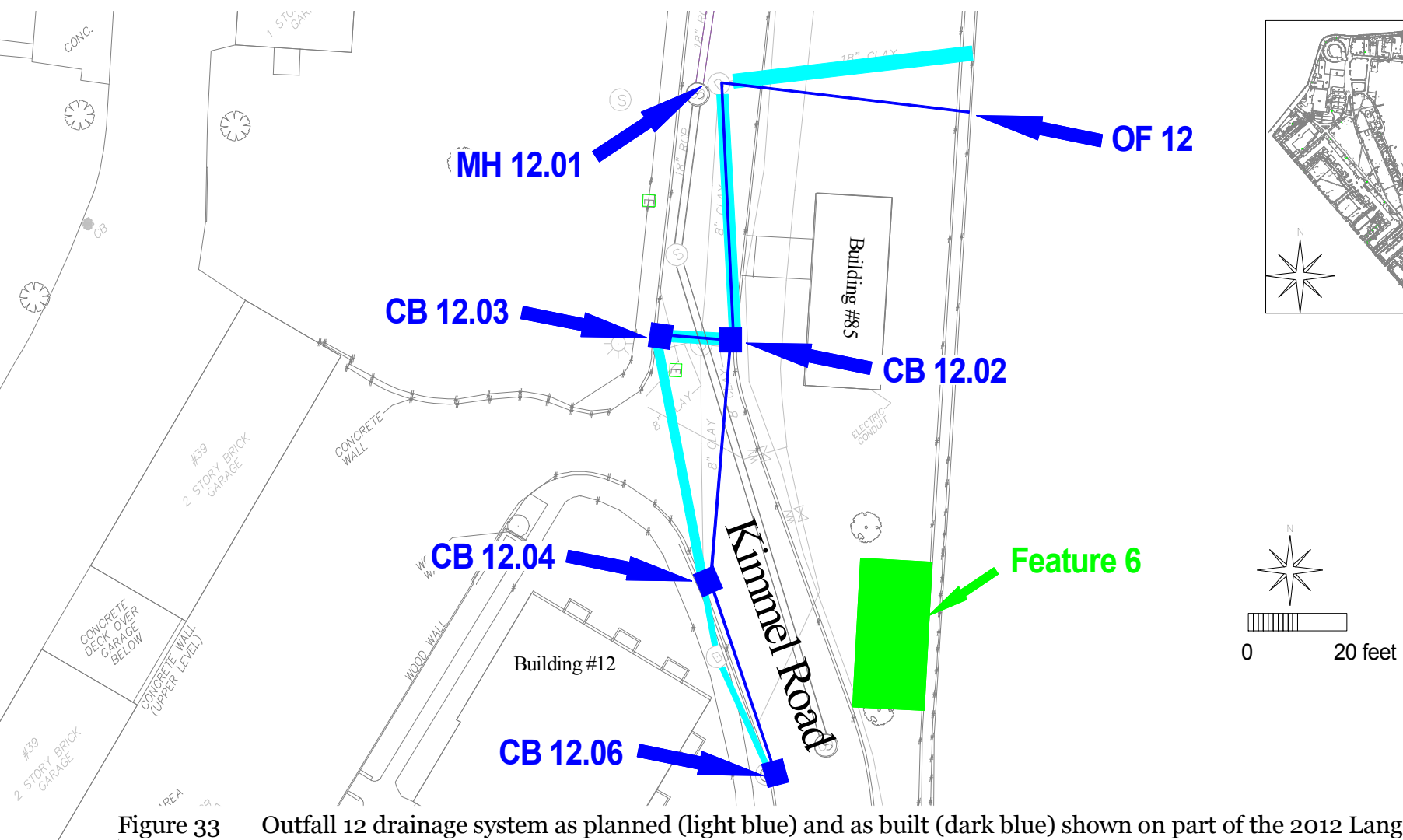


Figure 32 Outfall 10 drainage system as planned (light blue) and as built (dark blue) shown on part of the 2012 Langan survey.



**Figure 33** Outfall 12 drainage system as planned (light blue) and as built (dark blue) shown on part of the 2012 Langan survey.





Photo 1 The top of Feature 2, part of the 1866 seawall, found in TT 01 near Castle Williams, with defunct concrete utility encasement to the east (upper left), facing south (Image 3419: September 18, 2013).



Photo 2 Feature 2 upon completion of excavation showing the waterside (western) stone face of the former 1866 seawall and the defunct concrete utility encasement at the top of the image, facing east (Image 3430: September 18, 2013).





Photo 3 The landward side face of Feature 3, the 1883 seawall, within the seawall repair excavation showing more recent repairs to the left (east), facing southeast (Image 4558: June 30, 2014).



Photo 4 The portion of the storm drainage trench between CB 10.01 and MH 10.05 showing part of the waterside face of Feature 3, the 1883 seawall, facing northeast (Image 5185: August 8, 2014).



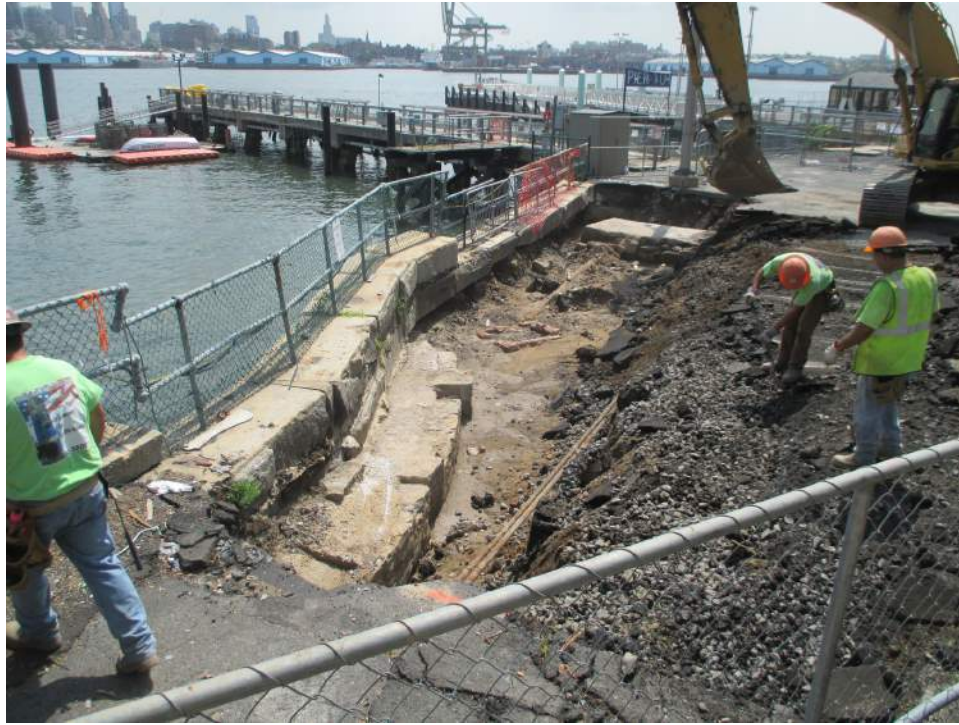


Photo 5 Feature 4, part of the 1857 – 1906 pier, shown within the seawall repair from Stations 104+36 to 105+00 as excavation progressed, with the stone edges of the pier at the top (southeast) and bottom of the photo (northwest), a defunct brick catch basin in the center of the excavation and a wooden member and two excavation units between the catch basin and southeastern stone wall segment above in the image, facing southeast (Image 5108: August 4, 2014).



Photo 6 The wooden beam in Feature 4 after excavation that exposed part of vertical wooden planks beneath it, also showing part of the southeastern segment of the stone wall on the right of the image (southeast), facing northeast (Image 4686: July 7, 2014).

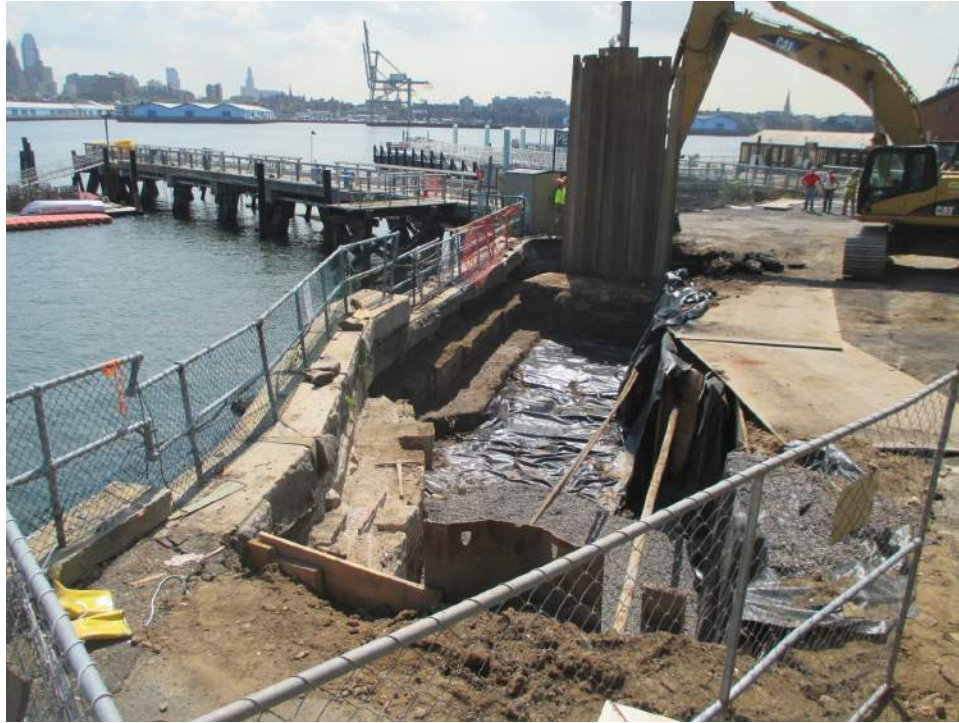


Photo 7 Feature 4 at the completion of excavation for the seawall repair from Stations 104+36 to 105+00, depicting the lower courses of existing seawall extending inland with excavation depth, facing southeast (Image 5131: August 5, 2014).



Photo 8 The waterside face of the southeastern portion of Feature 4, facing northwest (Image 4779: July 9, 2014).





Photo 9 The landward side face of northwestern portion of Feature 4, facing north (Image 4804: July 9, 2014).



Photo 10 Feature 5, part of the 1902 coal shed foundation, found in the storm drainage excavation between Outfall 13 and MH 13.01, facing northeast (Image 4931: July 22, 2014).





Photo 11 A large section of previously displaced mortared stone wall, found in the feature fill, that may once have been part of Feature 5 (Image 4611: July 3, 2014).

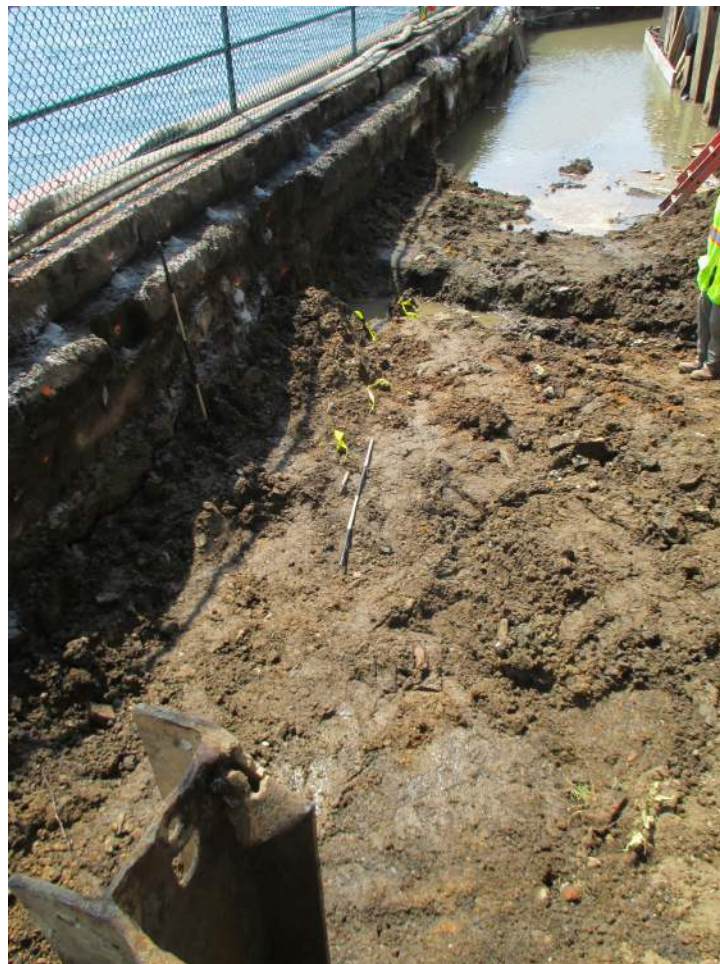


Photo 12 The top of Feature 6, wooden landfill retaining structure, identified within TT 07 and shown within the seawall repair excavation from Stations 96+14 to 96+42 with yellow caution tape tied to the exposed elements, facing south (Image 5058: August 1, 2014).





Photo 13 Close-up view of a section of the planks that were part of Feature 6, facing northeast (Image 5071: August 1, 2014).



Photo 14 Feature 7, part of a possible historic seawall found at Station 110+00, at the completion of excavation, facing northeast (Image 5466: August 29, 2014).



Photo 15 Two of the wooden elements comprising Feature 8, possible interior cribbing of Pier 102, found in the storm drainage trench excavation between CB 13.04 and CB 13.12, facing north (Image 5483: August 29, 2014).



Photo 16 Feature 9, part of a flagstone foundation wall of the pre-1867 stable, shown in the profile after the installation of CB 29.01 (concrete at the lower left side of photo), facing south (Image 5551: September 5, 2014).





Photo 17 TT 02 at the base of excavation showing buried concrete, facing east (Image 2523: March 20, 2013).



Photo 18 The completed seawall repair excavation from Stations 10+23 to 10+88 showing the concrete seawall buttress, facing south (Image 3639: October 29, 2013).



Photo 19 Excavation for the seawall repair around Castle Williams showing the stratigraphy beneath Carder Road, from near Station 13+20, facing south (Image 3522: October 16, 2013).



Photo 20 Seawall repair excavation in progress from Stations 9+50 to 9+60 showing remnants of the wooden forms used during seawall construction at the base of excavation, facing north (Image 4204: April 17, 2014).





Photo 21 Frayed wood found in the base of seawall repair excavations at approximately Station 9+50, facing northwest (Image 4224: April 7, 2014).

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# Appendix A

## Artifact Proveniences



GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT PROVENIENCES

FIELD BAG #	EXC. DATE	CONTEXT/COMMENTS	FEATURE #
1	03/20/13	TT02 Strat 2 screened	
2	03/20/13	TT02 Strat 2	
3	03/20/13	TT02 Strat 3	
4	03/20/13	TT02 Strat 4	
5	03/18/13	TT05 east, Strat 2 from level above concrete footing	5
6	03/18/13	TT05 east, Strat 3 near mid trench ~5' bgs	5
7	03/18/13	TT05 west, Strat 2 2'-4' bgs	5
8	03/15/13	TT07 Strat 1 Lvl 1	6
9	03/15/13	TT07 Strat 1 Lvl 2	6
10	03/15/13	TT07 Strat 2 Lvl 1	6
11	03/15/13	TT07 Strat 2 Lvl 2	6
12	03/19/13	TT08 Strat 2 Lvl 1	
13	03/19/13	TT08 Strat 2 Lvl 2	
14	03/19/13	TT08 Strat 2 Lvl 3	
15	03/19/13	TT08 Strat 2 back dirt removed from wall collapse 4'-5.5' bgs	
16	03/15/13	TT05 east, Strat 1	5
17	03/15/13	TT05 east, Strat 2	5
18	03/15/13	TT05 east, Strat 3	5
19	03/15/13	TT05 east, Strat 2	5
20	03/14/13	TT10 Strat 2 Lvl 1	1
21	03/14/13	TT10 Strat 2 Lvl 2	1
22	03/14/13	TT10 Strat 4	1
23	03/14/13	TT10 Strat 4 furnace deposit	1
24	04/11/13	TT03 Strat 3	4
25	04/11/13	TT03 Strat 4	4
26	09/16/13	TP 1 Strat 3	
27	09/16/13	TP 3 Strat 3	
28	09/16/13	TP 4 Strat 3	
29	09/17/13	TT01 Strat 4 adjacent to stone wall on west side of trench	2
30	09/17/13	TT01 Strat 5 adjacent to stone wall on west side of trench	2
31	09/18/13	TP 2 Strat 2	
32	10/16/13	Sta 13+10 – Sta 13+25 from ash layer near Castle Williams 2.5'-4' bgs	
33	10/21/13	Approx. Sta 13+20 from ash layer near Castle Williams	
34	06/23/14	Sta 84+00 5' bgs	
35	06/24/14	Sta 84+80 ~ 7' bgs	
36	06/24/14	Sta 84+60 refuse deposit 6' bgs	
37	06/26/14	Sta 84+80 – Sta 85+00 fill on waterside of historic seawall	3
38	06/26/14	Sta 84+85 in situ fill landward side of historic seawall 4.0' bgs	3
39	06/26/14	Sta 85+23 - Sta 85+15 historic fill on landward side of historic seawall	3
40	07/01/14	Approx. Sta 85+60 7' bgs	
41	07/01/14	Approx. Sta 86+00 3' bgs	
42	07/02/14	OF 12 historic fill	
43	07/07/14	TT03 DR 8' north of concrete 3' west of wood beam 3' bgs screened sample	4
44	07/07/14	TT03 DR 8' north of concrete east of wood between wood and seawall ~ 3' bgs	4
45	07/07/14	TT03 DR adjacent to wood 7' north of concrete	4
46	07/07/14	TT03 DR trowling around wood beam	4

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT PROVENIENCES

FIELD BAG #	EXC. DATE	CONTEXT/COMMENTS	FEATURE #
47	07/08/14	EU 1 Strat 1 Lvl 2	4
48	07/08/14	EU 1 Strat 1 Lvl 3	4
49	07/08/14	EU 1 Strat 1 Lvl 4	4
50	07/08/14	EU 1 Strat 1 Lvl 5	4
51	07/08/14	EU 1 Strat 1 Lvl 6	4
52	07/08/14	EU 1 Strat 1 Lvl 7	4
53	07/08/14	EU 2 Strat 1 Lvl 2	4
54	07/09/14	EU 2 Strat 1 Lvl 3	4
55	07/09/14	EU 2 Strat 1 Lvl 4	4
56	07/09/14	TT03 DR from soil adhering to pier wall approx. 4.5' bgs on waterside	4
57	07/09/14	TT03 fill on seawall end of pier wall	4
58	07/18/14	OF 13 to MH 13.01 fill south of pier wall	5
59	07/21/14	Sta 92+00 assoc. with poss. LFR	
60	07/22/14	OF 13 to MH 13.01 above historic wall approx. 2.5' bgs	5
61	07/22/14	Sta 94+55	
62	07/24/14	Sta 84+80 - Sta 85+00 5' east of MH 13.01 ~ 5' bgs	
63	07/24/14	east of MH 13.01 below electrical under sidewalk ~ 4.5' bgs	
64	07/25/14	Sta 95+30	
65	07/25/14	Sta 95+60	
66	07/29/14	MH 13.01	
67	07/30/14	Sta 95+88 4' bgs	
68	07/30/14	Sta 96+42 from inside metal conglomerate less than 4' bgs	6
69	07/31/14	MH 13.01 - MH 13.08 Strat 2 historic fill	
70	07/31/14	TT07 Sta 96+00 - Sta 96+10 associated with piling ~ 5' bgs shovel	6
71	07/31/14	TT07 Sta 96+22 ~5.2' bgs shoveled	6
72	07/31/14	TT07 Sta 96+42 - Sta 96+30 5.5' bgs shoveled	6
73	07/31/14	Collected by contractor discarded in lab	
74	07/31/14	Collected by contractor along seawall	
75	08/01/14	MH 13.01 - MH 13.08 Strat 1	
76	08/01/14	MH 13.01 - MH 13.08 void between duct bank and concrete discarded in lab	
77	08/01/14	TT07 DR Sta 96+26 against seawall ~ 4.5' btsw	6
78	08/01/14	TT07 DR Sta 96+25 4.5' btsw	6
79	08/01/14	TT07 DR Sta 96+29 abutting seawall 4.7' btsw	6
80	08/01/14	TT07 DR Sta 96+32 2' inland 5.5' bgs screened	6
81	08/01/14	TT07 DR Sta 96+21 4' inland 6' bgs screened	6
82	08/01/14	TT07 DR Sta 96+36 5' inland 5' bgs screened	6
83	08/01/14	TT07 DR Sta 96+29 4.5' bgs	6
84	08/01/14	TT07 DR Sta 96+35 2.5' inland 5.5' bgs screened	6
85	08/01/14	TT07 DR interior fill at boe	6
86	08/01/14	TT07 DR Sta 96+27 5' inland 5' bgs screened	6
87	08/01/14	Sta 104+92 6' bgs	
88	08/04/14	CB 13.09 3.5' bgs	
89	08/05/14	CB 13.10 - CB 13.09 Strat 2	
90	08/05/14	CB 13.10 - CB 13.09 Strat 3	
91	08/05/14	MH 13.08 - CB 13.09 Strat 2	
92	08/08/14	CB 10.01 - MH 10.05 south of historic seawall	3

**GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT PROVENIENCES**

<b>FIELD BAG #</b>	<b>EXC. DATE</b>	<b>CONTEXT/COMMENTS</b>	<b>FEATURE #</b>
93	08/08/14	MH 12.01 Strat 1	
94	08/08/14	MH 13.08 - CB 13.09 Strat 3 4.5' bgs	
95	08/07/14	CB 13.11 - CB 13.10 Strat 1 close to CB 13.10	
96	08/07/14	CB 13.11 - CB 13.10 sand deposit close to CB 13.11	
97	08/07/14	CB 13.11 - CB 13.10 Strat 2 CB 13.10 side of gravel deposit	
98	08/08/14	OF 10 - MH 10.05 north/ inland side of historic seawall ~ 6.4' bgs	3
99	08/08/14	MH 10.04 - CB 10.01 fill under existing water main	
100	08/13/14	MH 10.04 - CB 10.01 historic fill under Kimmel Road	
101	08/13/14	CB 12.04 Strat 1 0.6' bgs	
102	08/15/14	CB 12.04 - CB 12.06 Strat 2	
103	08/15/14	CB 12.04 - CB 12.06 Strat 3	
104	08/20/14	OF 10 northeast portion of historic seawall after trench excavation, inland side	3
105	08/20/14	CB 11.04A - CB 11.04 historic fill	
106	08/22/14	MH 13.01 - MH 13.02 Strat 2	
107	08/27/14	Sta 110+60 - Sta 110+75	
108	08/27/14	Sta 110+75 - Sta 110+90	
109	08/27/14	Sta 111+00 - Sta 111+10 top of seawall	
110	08/27/14	Sta 111+35 - Sta 111+48	
111	08/28/14	MH 13.03 - CB 13.04 next to possible interior cribbing	8
112	08/28/14	MH 13.03 - CB 13.04 possible interior cribbing 4.1' bgs screened sample #1	8
113	08/28/14	MH 13.03 - CB 13.04 possible interior cribbing screened sample #2	8
114	08/29/14	CB 13.04 - CB 13.13 south edge of possible cribbing	8
115	08/29/14	CB 13.12 screened from first layer of possible cribbing	8
116	08/29/14	CB 13.12 - CB 13.04 under wood in sand deposit 3.4' bgs screened	8
117	08/29/14	CB 13.12 ash deposit	8
118	08/28/14	CB 13.12 west profile ash deposit 3.9' bgs screened	8
119	08/28/14	CB 13.12 south of wood middle of trench 5.2' - 5.7' bgs screened	8
120	08/28/14	MH 13.02 - CB 13.07 Strat 2	
121	08/28/14	CB 13.12 on top of wood beam ~5.0' bgs	8
122	09/02/14	CB 13.04 - CB 13.05 in sand fill	
123	09/09/14	CB 14.01 - CB 14.02 Strat 2	
124	09/09/14	CB 14.03 Strat 2	
125	07/22/14	OF 13 - MH 13.01 boe	5
126	09/11/14	CB 14.03 - CB 14.02 Strat 2	
127	06/23/14	Sta 83+60 boe	

## Appendix B

### Artifact Inventory

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
1	03/20/13	Ceramic	redware		1	red		c.1725	present
1	03/20/13	Ceramic	redware		1	red	glazed interior and exterior; ridged	1830	1900+
1	03/20/13	Ceramic	stoneware		1	gray	unglazed interior; clear and brown glazed exterior; engine turned	1861	present
1	03/20/13	Glass		curved	1	amber		c.1860	present
1	03/20/13	Glass		curved	1	clear	Embossed "...ELD/...AT.-OFF.-..."	1875	present
1	03/20/13	Glass		curved	1	green			
1	03/20/13	Shell	clam		1		hard shell		
1	03/20/13	Stone	argillite?		1		possible flake		
2	03/20/13	Bone	faunal		1		saw cut		
2	03/20/13	Ceramic	ironstone	rim	1	white	burned	early 19th C.	present
2	03/20/13	Ceramic	pearlware		1	white		1779	1820+
2	03/20/13	Ceramic	refined earthenware		1	white	black floral transfer print on interior	1785	1864
2	03/20/13	Ceramic	refined earthenware		2		unglazed; waster		
2	03/20/13	Ceramic	stoneware		1	gray	unglazed interior; clear and brown glazed exterior	1820	present
2	03/20/13	Ceramic	stoneware		1	gray/buff	brown mineral glazed interior; clear and brown glazed exterior	1720s	present
2	03/20/13	Ceramic	whiteware		1	white		early 19th C.	present
2	03/20/13	Ceramic	whiteware		1	white		early 19th C.	present
2	03/20/13	Glass		flat	3	clear			
2	03/20/13	Shell	clam		1				
3	03/20/13	Bone	faunal		1		saw cut		
3	03/20/13	Ceramic	ironstone		1	white		early 19th C.	present
3	03/20/13	Ceramic	pearlware	lid	1	white	black floral transfer print; "...CREAM"	1785	1867
3	03/20/13	Ceramic	pearlware	rim	1	white	molded	1779	1820+
3	03/20/13	Ceramic	pearlware	rim	1	white		1779	1820+
3	03/20/13	Ceramic	pearlware		1	white	blue transfer print on exterior	1784	mid 19th C.
3	03/20/13	Ceramic	redware		2	red		c.1750	1900
3	03/20/13	Ceramic	refined earthenware	rim	1	white	black transfer print on interior with sailboats, cabin, and floral borders	1785	1867
3	03/20/13	Ceramic	whiteware		1	white		early 19th C.	present
3	03/20/13	Ceramic	whiteware		1	white		early 19th C.	present
3	03/20/13	Ceramic		kiln prop	1	white			
3	03/20/13	Glass		base	1	dark green	empontilled; hand blown	mid 18th C.	1870
3	03/20/13	Glass		curved	2	white	milk glass	1890s	1960s+

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
3	03/20/13	Glass		flat	3	clear			
3	03/20/13	Stone	granite		1	gray	polished on one side; cut; 9/10 " thick		
4	03/20/13	Ceramic	ironstone	rim	1	white		early 19th C.	present
4	03/20/13	Ceramic	porcelain	rim	1	white			
4	03/20/13	Ceramic	refined earthenware	rim and spout	1	white	brown circular maker's mark "THE PRIZE MEDAL OF THE GREAT EXHIBITION OF 1851/ AWARDED TO JOSIAH WEDGWOOD & SONS CLASS XXV/ DISSOCIATA LOCIS CONCORDI PACE LIGAVIT"; Description from reference site "Seated woman with a wreath on her head and wearing draped cloths is placing a wreath on the head of a woman kneeling before her. There are 4 women standing and watching. In the background are a small bust, a machined gear and other objects."	1851	1851
4	03/20/13	Ceramic	stoneware		1	buff	unglazed	1720s	c. 1820
5	03/18/13	Ceramic	pearlware		1	white		1779	1820+
5	03/18/13	Ceramic	porcelain	rim	1	white	unglazed interior		
5	03/18/13	Ceramic	refined earthenware	base	1	white	blue transfer print; interior only	c.1780	early 20th C.
5	03/18/13	Ceramic	refined earthenware	tile	1	cream	1" square; clear glaze 1 side		
5	03/18/13	Ceramic	refined earthenware		1	white	red transfer print; interior only	1828	early 20th C.
5	03/18/13	Ceramic	whiteware		1	white		early 19th C.	present
5	03/18/13	Glass		flat	1	clear			
6	03/18/13	Ceramic	refined earthenware	tile	1	cream	1" square, clear marbled glaze one side, possible adhesive residue on unglazed side		
6	03/18/13	Ceramic	pearlware	base	1	white	blue transfer print, int; botanical in center and geometric sides of well/marley	c.1780	early 20th C.
6	03/18/13	Ceramic	porcelain	rim to base	1	white			
6	03/18/13	Glass		bottle neck and finish	1	green	molded; hand finished; applied lip	c.1820	c. 1930
6	03/18/13	Glass		curved	1	clear		1875	present
7	03/18/13	Bone	faunal		1				
7	03/18/13	Ceramic	ironstone		1	white		early 19th C.	present
7	03/18/13	Ceramic	pearlware	base	1	white	blue sponge exterior	c.1830	1930s
7	03/18/13	Ceramic	porcelain		1	white	non tableware		
7	03/18/13	Ceramic	redware		1	red	clear glazed interior	c.1775	1900
7	03/18/13	Ceramic	refined earthenware	rim	1	white	blue shell edge; scalloped	1780s	1840



GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
7	03/18/13	Ceramic	refined earthenware	tile	1	cream	1" square; clear marble glaze 1 side		
7	03/18/13	Ceramic	refined earthenware	tile	1	cream	1" square; clear glaze 1 side		
7	03/18/13	Ceramic	refined earthenware		1	white	blue transfer print on one side	c.1780	early 20th C.
7	03/18/13	Ceramic	stoneware		1	gray	mineral glazed interior; clear glazed exterior	c.1800	1870
7	03/18/13	Ceramic	whiteware	rim	1	white	unglazed; waster	early 19th C.	present
8	03/15/13	Ceramic	ironstone	base	1	white	waster	early 19th C.	present
8	03/15/13	Ceramic	ironstone	base	1	white	burned after broken	early 19th C.	present
8	03/15/13	Ceramic	ironstone	rim	1	white	embossed partial decoration; interior	early 19th C.	present
8	03/15/13	Ceramic	ironstone	rim	1	white	molded	early 19th C.	present
8	03/15/13	Ceramic	pearlware	base	1	white	molded	c.1795	1840
8	03/15/13	Glass		bottle	1	aqua	embossed "...ONGFIELD&SCO..." or "SCC..."	mid 19th C.	present
9	03/15/13	Ceramic	ironstone	rim	1	white	molded	early 19th C.	present
9	03/15/13	Ceramic	pearlware	plate rim to base	1	white		1779	1840s
9	03/15/13	Ceramic	pearlware	rim	1	white	beaded edge	1779	1840s
9	03/15/13	Ceramic	pearlware	rim	1	white	embossed lettering "H"; water worn	1779	1840s
9	03/15/13	Ceramic	porcelain	plate base	1	white			
9	03/15/13	Ceramic	stoneware	base	2	red/grey	mends; mineral glaze interior, clear glaze exterior; bubble in body; waster?; poorly reduced		
9	03/15/13	Glass		curved	1	green			
10	03/15/13	Ceramic	creamware	handle	1	white		1762	1820
10	03/15/13	Ceramic	ironstone	rim	1	white	molded	early 19th C.	present
10	03/15/13	Ceramic	ironstone	rim	1	white	molded edge and partial embossed design	early 19th C.	present
10	03/15/13	Ceramic	pearlware	rim	1	white	molded edge	1779	1820+
10	03/15/13	Ceramic	pearlware		1	white	annular ware; 3 blue stripes and blue/green glaze; exterior	1854	1878
10	03/15/13	Ceramic	porcelain	plate base	1	white	possible modification post manufacture; circle on interior surface 1.15" diameter		
10	03/15/13	Ceramic	whiteware	plate rim to base	1	white		early 19th C.	present
10	03/15/13	Ceramic and metal	porcelain	door knob	1	white	metal accretion at fastener end		
10	03/15/13	Glass		flat	1	clear	ridged side; water worn		
10	03/15/13	Stone	marble		2	white	architectural		
11	03/15/13	Bone	faunal		1				

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
11	03/15/13	Ceramic	ironstone	rim	2	white	molded	early 19th C.	present
11	03/15/13	Ceramic	pearlware	base	1	white	partial printed mark "ONE CHINA/"PEARL"/"J.WEDGW..."	1841	1860
11	03/15/13	Ceramic	pearlware	rim	1	white		1779	1820+
11	03/15/13	Ceramic	porcelain	plate base	2	white			
11	03/15/13	Ceramic	stoneware		1	gray	brown mineral glaze	early 18th C.	late 19th C.
11	03/15/13	Ceramic	whiteware	plate base to rim	1	white	hotel ware	1880s	1940s
11	03/15/13	Glass		bottle base	1	clear	empontilled; scar; side mold seams; filled with green mold	mid 18th C.	1870
11	03/15/13	Stone	granite?	tile?	1	gray	4" x 2 5/8" and 1" thick		
11	03/15/13	Stone	marble	tile?	1	pale yellow	3" x 2 1/4"		
11	03/15/13	Stone	marble	tile?	1	white	2 1/8" x 1 3/8"		
12	03/19/13	Ceramic	ironstone		1	white		early 19th C.	present
12	03/19/13	Ceramic	whiteware		2	white	mends	early 19th C.	present
12	03/19/13	Ceramic	whiteware		3	white	mends	early 19th C.	present
12	03/19/13	Stone	marble		1	white	cut; 1/2" thick		
13	03/19/13	Ceramic	soft paste porcelain	rim	1	white	perforated prior to glazing		
14	03/19/13	Bone	faunal	bird?	1				
14	03/19/13	Bone	faunal		2				
14	03/19/13	Ceramic	ironstone	base	1	white	burned; crazed	early 19th C.	present
14	03/19/13	Ceramic	pearlware		2	white	mends	1779	1820+
14	03/19/13	Ceramic	refined earthenware	rim	1	white	2 brown banded ridges surrounded by light blue glaze	1790s	1810
14	03/19/13	Glass		bottle base	1	green	push up; valve mark	1850s	1920s
14	03/19/13	Glass		bottle lip	1	aqua			
14	03/19/13	Glass		curved	2	green			
15	03/19/13	Ceramic	pearlware		2	white		1779	1820+
15	03/19/13	Ceramic	porcelain	base	2	white	mends; blue Chinese motif int		
15	03/19/13	Ceramic	refined earthenware	cup rim	1	white	blue sponge pattern on exterior and on interior rim	c.1830	1930s
15	03/19/13	Ceramic	refined earthenware	rim	1	white	octagonal; blue transfer print exterior, interior rim only	1780s	early 20th C.
15	03/19/13	Ceramic	refined earthenware	rim	1		blue transfer print, rim only	1784	mid19th C.
15	03/19/13	Ceramic	refined earthenware		2	white	mends; blue transfer print on interior with cityscape and palm trees	c.1780	early 20th C.
16	03/15/13	Bone	faunal	mammal	1				

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
17	03/15/13	Bone	faunal	mammal	1		saw cut		
17	03/15/13	Bone	faunal	mammal	3				
17	03/15/13	Bone	faunal		1				
17	03/15/13	Bone	faunal		2		scrap		
17	03/15/13	Botanical	wood		1				
17	03/15/13	Ceramic	ironstone		1	white	brown partial maker's mark, illegible	c.1830	early 20th C.
17	03/15/13	Ceramic	porcelain	rim	1	white	polychrome; blue flower?, green leaves, brown stem; painted on one side		
17	03/15/13	Glass		curved	1	green			
17	03/15/13	Glass		flat	1	clear			
17	03/15/13	Plaster			1	white	painted white		
18	03/15/13	Bone	faunal		1				
18	03/15/13	Ceramic	pearlware	base	1	white		1779	1820+
18	03/15/13	Ceramic	pearlware	rim	1	white		1779	1820+
18	03/15/13	Ceramic	salt glaze stoneware	base	1	white		c.1720	1805
18	03/15/13	Ceramic	soft paste porcelain	base	1	white	molded		
18	03/15/13	Glass		bottle	1	clear	whole; molded; hand finished lip?	1870	c. 1930s
18	03/15/13	Glass		curved	1	green			
19	03/15/13	Glass		bottle	2	aqua	whole; embossed body "CHAS. A HEITMANN"/(logo)"/"REGISTERED/No141 HESTER ST/N.Y." logo is initials"CAH" on top of each other; base logo inside diamond; machine made	c.1893	
19	03/15/13	Glass		bottle base	1	aqua	embossed "BE SOLD"; 2 side mold seams; 1 seam on base, "C/4"	mid 19th C.	present
20	03/14/13	Bone	faunal	mammal	1				
20	03/14/13	Ceramic	redware	flower pot base	1	red		1725	present
20	03/14/13	Glass		bottle base	1	green	machine made	late 19th C.	present
20	03/14/13	Glass		bottle neck and finish	1	green	machine made	late 19th C.	present
21	03/14/13	Ceramic	porcelain		2	white			
21	03/14/13	Glass		flask	1	clear	embossed "WA.../FLASK/encircled H.W. HOLTGREWE/1 STATE ST./N.Y."	c.1900	
21	03/14/13	Metal	alloy	cup rim	1		whole; iron corrosion		
22	03/14/13	Ceramic	ironstone	base	1	white	impressed "H", raised concentric rings, underglaze small mark, brown	early 19th C.	present

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
22	03/14/13	Ceramic	ironstone	bowl rim to base	1	white		early 19th C.	present
22	03/14/13	Ceramic	ironstone	bowl? rim	2	white	mends, small bowl/serving dish	early 19th C.	present
22	03/14/13	Ceramic	ironstone	rim to base	1	white	encircled maker's mark "STONE CHINA/U.P.W." with eagle logo in center	early 19th C.	present
22	03/14/13	Ceramic	porcelain	base	1	white			
22	03/14/13	Ceramic	porcelain	bowl rim to base	1	white	tea bowl; floral; overglaze enamel; gilded vase, pink peony, vine with green leaves, raised gilded flowers and red buds from branch, grey cast to glaze	post 1877	
22	03/14/13	Ceramic	redware	flower pot rim	1	red		1725	present
22	03/14/13	Ceramic	refined earthenware	cup rim and handle	1	white	blue transfer print; floral; on rim and handle	1784	1859
22	03/14/13	Ceramic	refined earthenware	rim	1	white	gilded overglaze on rim, green/gold underglaze transfer print; scalloped	1860s	early 20th C.
22	03/14/13	Ceramic	refined earthenware	rim to base	5	white	mends; brown floral transfer print on rim, very clean line, geometric bands at rim and base int.	1840	c. 1860
22	03/14/13	Ceramic	refined earthenware	rim to base	2	white		1860s	early 20th C.
22	03/14/13	Ceramic	yellowware	base	1	buff	foot?; clear glaze interior and exterior	1720s	present
22	03/14/13	Glass		base and body	1	clear	molded; separate base part; 2 3/4" diameter	c.1850	mid 1920s
22	03/14/13	Glass		bottle	1	amber	whole; embossed "GILMORE'S/AROMATIC WINE/LEROY.N.Y."; 2 3/4" diameter, 9 5/8" height	1883	1886
22	03/14/13	Glass		bottle	1	clear	whole; milk bottle; embossed on two sides "PROPERTY OF/BORDEN'S/CONDENSED MILK CO." "GAIL BORDEN/EAGLE BRAND/TRADE MARK" with eagle logo; base embossed large "B" with 2 small illegible letters at top and "3/4" at bottom; 2 15/16" diameter, 4" height	1900	1919
22	03/14/13	Glass		bottle	1	clear	milk bottle	1875	
22	03/14/13	Glass		bottle	1	clear	whole; emponilled; dip molded?; 2 1/2" diameter, 12 1/2" height	late 1850s	c. 1870
22	03/14/13	Glass		bottle	1	clear	whole; molded; threaded exterior lip; embossed base "JAW & Co"; 2 1/2" diameter, 5" height	1867	
22	03/14/13	Glass		bottle	2	clear	whole; medicine bottle; embossed on two sides; "VAN DUZER" "NEW YORK" and base "1"; 5 1/4" height, 2" X 1" width	1855	1890
22	03/14/13	Glass		bottle	1	clear	whole; embossed medicine bottle "QUALITY GUARANTEED," "QUALITY" "GUARANTEED," base "L2"; 5 1/4" height, 1" X 7/8" width	late 1870s	1920s
22	03/14/13	Glass		bottle	1	clear	whole; medicine bottle; embossed base; "WAT./U.S.A."; 3 3/4" height, 1 1/2" X 1 7/8" width	1867	

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
22	03/14/13	Glass		bottle	1	clear	whole; molded; medicine bottle?; 3.4" height, 1.7 x 1.1 width	1867	present
22	03/14/13	Glass		bottle	1	clear	whole; molded; 2.6" height, 1" diameter	1867	present
22	03/14/13	Glass		bottle	1	green	whole; round bottom; embossed mark on base "0"; 2" diameter, 9 1/16" height	1840s	1910s
22	03/14/13	Glass		bottle	1	green	whole; round bottom; embossed mark on base "N"?; 2 1/8" diameter, 9 1/4" height	1840s	1910s
22	03/14/13	Glass		bottle	2	green	whole; round bottom; 2 1/4" diameter, 9 1/4" height	1840s	1910s
22	03/14/13	Glass		bottle	1	green	whole; multipart mold; mamelon; embossed "JOHN GILLON & C _os/KING Wm IV"; 3 3/8" diameter, 9 3/4" height	1888	1920s
22	03/14/13	Glass		bottle	1	green	whole; emponilled; mamelon; hand finished; string rim	1880s	1920s
22	03/14/13	Glass		bottle base	1	amber	molded	c.1860	present
22	03/14/13	Glass		bottle base	1	clear	milk bottle; embossed on two sides (partial eagle logo) "BRAN.../...ADE/MARK" "NSED MILK" on base large "B" in center surrounded by "PATD SEPT 17 89/2"; 2 3/4" diameter	1889+	1939
22	03/14/13	Glass		bottle base	1	clear	embossed base; "...D."	1867	present
22	03/14/13	Glass		bottle base	1	clear	embossed body; "...ENSE..."	1867	present
22	03/14/13	Glass		bottle base and body	3	aqua	emponilled; hand blown; tapered towards foot; 2 1/2" diameter	late 1850s	c. 1870
22	03/14/13	Glass		bottle base and body	2	clear	mends; molded; separate base part; 2 3/4" diameter	1867	present
22	03/14/13	Glass		bottle base and body	1	clear	horizontal ribbed sauce bottle; 1 3/4" diameter	early 1870s	20th C.
22	03/14/13	Glass		bottle base and body	1	clear	medicine bottle; embossed on two sides; "...DUZER" "NEW YORK"; base 2" X 1" width	1855	1890
22	03/14/13	Glass		bottle base and body	1	green	round bottom; missing neck and finish; embossed mark on base (illegible)	1840s	1910s
22	03/14/13	Glass		bottle body and base	4	clear	mends; milk bottle; embossed "GAIL BORDEN/(eagle logo)/EAGLE...BRAND/BO.../CONDENSED" "BORDEN'S" on base "B/BT/3/4"; 3 3/4" diameter; 9" height	1868	1939
22	03/14/13	Glass		bottle body and shoulder	1	clear	milk bottle; embossed "GAIL.../(eagle logo)/...AGLE/TRADE MAR../PROPERTY.../OR..."	1868	1939
22	03/14/13	Glass		bottle finish	1	amber		c.1860	present
22	03/14/13	Glass		bottle finish and shoulder	1	green	crown cap finish	1930s	present
22	03/14/13	Glass		bottle finish to shoulder	1	clear	embossed on side "...RRA..."; double raised strip on shoulder	1867	present
22	03/14/13	Glass		bottle neck and finish	1	aqua	roughly cylindrical		
22	03/14/13	Glass		bottle neck and shoulder	2	clear	mends; square bottle; threaded lip on exterior	1840s	present

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
22	03/14/13	Glass		bottle neck and shoulder	3	clear	molded; patent lip	late 19th C.	early 20th C.
22	03/14/13	Glass		bottle neck and shoulder	1	aqua			
22	03/14/13	Glass		bottle shoulder and lip	1	clear	milk bottle; embossed on two sides; "PROPERTY OF/BORD..."	1868	1939
22	03/14/13	Glass		curved	1	amber	"GAIL BORDEN/BRAND/...RK", partial eagle logo in center	c.1860	present
22	03/14/13	Glass		curved	1	clear	2 raised parallel strips run vertically		
22	03/14/13	Glass		curved	2	green	mends		
22	03/14/13	Glass		curved	1	green	molded	1881	present
22	03/14/13	Glass		curved	1	light green			
22	03/14/13	Glass		curved	3	aqua	2 mend		
22	03/14/13	Glass		curved	2	green			
22	03/14/13	Glass		drinking glass	1	clear	5 1/4" height, 2" diameter at base; straight side	18th C.	present
22	03/14/13	Glass		flask	1	clear	whole; embossed "HONEST MEASURE/encircled S. STEINER./555-2nd ave:/NEW YORK/ ONE HALF PINT"; 2 5/8" diameter, 6" height	1902	1915
22	03/14/13	Glass		flask base	1	clear	strapped?; 2 parallel raised strips run vertically along sides; embossed; base "O. D"	1867	present
22	03/14/13	Glass		flat	1	clear			
22	03/14/13	Glass		ink jar base and shoulder	1	clear	molded; 3 1/4" diameter; embossed base "CARTER'S/"ARTER'S"; mistakenly double struck	1909	1976
22	03/14/13	Glass		jar	1	aqua	whole; missing part of finish; food jar; molded with cap seat; embossed on two sides; "MELLIN'S FOOD CO/BOSTON, U.S.A." "LARGE SIZE/MELLIN'S FOOD"; base "P/14"; 3 1/8" diameter, 6 1/4" height	1874	c.1906
22	03/14/13	Glass		jar	1	clear	whole; food jar; pickle or preserved food bottle; multisided, 10; embossed base, illegible; 3 1/8", 5 5/8" height	1867	present
22	03/14/13	Glass		jar	1	clear	whole; food jar; pickled or preserved food bottle; multisided, 10; embossed base "PATENTED..."; 2 1/2" diameter, 5" height	1867	present
22	03/14/13	Glass		jar	1	white	whole; milk glass; embossed base "MACLAREN'S IMPERIAL/CHEESE", in center "TRADE MARK/R.G.S. D (with 2 horned cow logo)"	1892	1920
22	03/14/13	Glass		jar neck and finish	1	clear	food jar; pickled and preserved food bottle	1893	present
22	03/14/13	Glass		jar shoulder and finish	1	clear	food jar; pickled or preserved food bottle	1893	present
22	03/14/13	Glass		partial base	1	aqua	embossed lettering (illegible)	1867	present



# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
22	03/14/13	Leather			2		shoe parts		
22	03/14/13	Metal	copper alloy	belt buckle	1		embossed "US"(encircled); 3.1" X 2"		
22	03/14/13	Metal	iron	hardware	1		approx. 1" wide x 10 5/8" long with bend		
22	03/14/13	Metal	iron	nail +	1		nail attached to very corroded mass		
22	03/14/13	Metal		nail	1		very corroded; 3 7/8" long		
22	03/14/13	Metal		nail	1		very corroded; 2 3/4" long		
22	03/14/13	Unknown			1	blue	powdery substance		
22	03/14/13	Unknown			1		possible partial game board; 10 3/4" length, 3 1/4" width		
23	03/14/13	Cloth			1	black	tubular; possible stocking		
24	04/11/13	Ceramic	ball clay	pipe stem	2	white			
24	04/11/13	Ceramic	pearlware		1	white	blue transfer print both sides, Chinese motif	1783	1873
25	04/11/13	Glass		bottle base	2	amber	mold seam along heel	c.1860	present
25	04/11/13	Glass		bottle base	1	light green	water worn		
26	09/16/13	Ceramic	porcelain	rim	1	white	molded edge; scalloped; gilded rim; transfer print overglaze yellow and green floral design on both sides	post 1850	
26	09/16/13	Ceramic	porcelain	rim	1	white	waster; pink and green floral underglaze		
26	09/16/13	Ceramic	porcelain		1	white	molded; possible lid?		
26	09/16/13	Ceramic	porcelain		1	white	burned		
26	09/16/13	Ceramic	porcelain		1	white	eroded; possibly burned?; makers mark "Queen.../(crown crest)"	1870	
26	09/16/13	Glass		curved	1	clear		1875	present
27	09/16/13	Bone	faunal	mammal	2		saw cut		
27	09/16/13	Bone	faunal		2		mammal		
27	09/16/13	Bone	faunal		2		scrap		
27	09/16/13	Ceramic	pearlware	base	2	white		1779	1820+
27	09/16/13	Ceramic	pearlware	rim	1	white	blue transfer print on interior; geometric pattern	1784	mid 19C.
27	09/16/13	Ceramic	pearlware		1	white	blue transfer print	1784	mid 19C.
28	09/16/13	Ceramic	ball clay	pipe bowl	1	white			
28	09/16/13	Ceramic	earthenware	lid	1	buff	clear glaze		
28	09/16/13	Ceramic	earthenware	rim	1	buff	clear glaze; embossed		
28	09/16/13	Ceramic	earthenware		2	buff	mends; clear glaze; embossed leaves?		
28	09/16/13	Ceramic	earthenware		1	buff	clear glaze; embossed		
28	09/16/13	Ceramic	porcelain	doll's pitcher	1	white	1 3/4" height		
28	09/16/13	Ceramic	porcelain		1	white	burned		

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
28	09/16/13	Ceramic	redware	flower pot base and body	1	red		1725	present
28	09/16/13	Ceramic	redware	pipe bowl and stem	1	red	unsmoked		
28	09/16/13	Ceramic	refined earthenware	base	1	white			
28	09/16/13	Ceramic	refined earthenware	pitcher	2	white	mends; corn pattern; light and dark green glaze, majolica?		
28	09/16/13	Ceramic	refined earthenware	pitcher	3	white	corn pattern; light and dark green glaze, majolica?		
28	09/16/13	Ceramic	refined earthenware	pitcher handle	1	white	corn pattern; light and dark green glaze, majolica?		
28	09/16/13	Ceramic	refined earthenware	pitcher rim	2	white	mends; corn pattern; light and dark green glaze, majolica?		
28	09/16/13	Ceramic	stoneware	rim	1	buff	clear glaze; dots		
28	09/16/13	Ceramic	yellowware	rim	1	buff	clear glaze	1830	1900
28	09/16/13	Ceramic	yellowware	rim to base	3	buff	mends; clear glaze	1830	1900
28	09/16/13	Ceramic	yellowware		1	buff	clear glaze	1830	1900
28	09/16/13	Glass		base	1	clear		1875	present
28	09/16/13	Glass		bottle	1	clear	whole; medicine bottle; embossed base"H"; height 5 3/8"; width 1 1/4" x 2 1/4"	1867	present
28	09/16/13	Glass		bottle	2	green			
28	09/16/13	Glass		bottle base and body	1	green	rounded cone; mameion; 3 1/4" diameter	1880s	1910s
28	09/16/13	Glass		bottle lip	2	clear	mends	1875	present
28	09/16/13	Glass		bottle lip	1	clear	mold seam		
28	09/16/13	Glass		bottle lip and finish	1	amber	rounded	c.1860	present
28	09/16/13	Glass		bottle neck and shoulder	1	amber	molded; tapered	c.1860	present
28	09/16/13	Glass		cover?	1	clear	domed?; cut edge; diameter 1 5/16"	1875	present
28	09/16/13	Glass		curved	3	amber	mold seam		
28	09/16/13	Glass		curved	1	white	milk glass	1890	1960s+
28	09/16/13	Glass		flask	2	amber	whole; height 7"; width 3 1/4" x 1 3/4"; Union Oval Liquor with side straps	post 1865	mid 20th C.
28	09/16/13	Glass		flat	1	clear	melted		
28	09/16/13	Glass		flat	1	clear			
28	09/16/13	Glass			1	white	melted		

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
29	09/17/13	Bone	faunal		1		saw cut		
29	09/17/13	Bone	faunal		2		scrap		
29	09/17/13	Ceramic	ball clay	pipe stem	2	white			
29	09/17/13	Ceramic	pearlware	base	1	white		1779	1820+
29	09/17/13	Ceramic	pearlware	base	2	white	mends	1779	1820+
29	09/17/13	Ceramic	pearlware		1	white		1779	1820+
29	09/17/13	Ceramic	refined earthenware	rim	1	white	light blue transfer print on interior; blue transfer print on exterior	1818	1867
29	09/17/13	Ceramic	refined earthenware		1	white	green and dark blue lines, annular ware	c.1850	early 20th C.
29	09/17/13	Ceramic	refined earthenware		1	white	light brown glaze on one side; possible annular ware;>0.05" (very small)		
29	09/17/13	Ceramic	stoneware		1	gray	clear glaze on exterior		
29	09/17/13	Glass		flat	1	clear			
29	09/17/13	Glass		rim	1	white	milk glass	1890	1960s+
29	09/17/13	Shell	clam		1				
29	09/17/13	Shell	oyster		1				
30	09/17/13	Ceramic	pearlware	base	1	white		1779	1820+
30	09/17/13	Ceramic	pearlware		3	white		1779	1820+
30	09/17/13	Ceramic	pearlware		1	white	blue transfer print	1784	mid 19th C.
30	09/17/13	Ceramic	pearlware		1	white	mocha ware	c.1790s	1939
30	09/17/13	Ceramic	refined earthenware	rim	1	white	scalloped edge; blue floral print on interior; molded	1818	1867
30	09/17/13	Ceramic	refined earthenware		1	white	possible ironstone		
30	09/17/13	Ceramic	refined earthenware		1	white	water worn, severely weathered		
30	09/17/13	Ceramic	stoneware		1	gray	brown glaze		
30	09/17/13	Glass		bottle	8	aqua	mends; embossed base "DR.S.H. & C .../REGISTERED/45/PR..."; cup-mold	1867	present
30	09/17/13	Glass		curved	2	clear	mold seam	1875	present
30	09/17/13	Glass		curved	5	clear		1875	present
30	09/17/13	Glass		flat	2	clear			
30	09/17/13	Metal	alloy	nail	1		square shank; 1 1/2" length		
30	09/17/13	Metal	copper alloy		1		cylindrical with elbow; 2"		
31	09/18/13	Bone	faunal		1				
31	09/18/13	Ceramic	pearlware		1	white		1779	1820+

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
31	09/18/13	Ceramic	pearlware		1	white	hand painted, blue dots with brn/red background	1779	1820+
31	09/18/13	Ceramic	redware		1	red	brown glaze on one side		
31	09/18/13	Ceramic	refined earthenware	rim	2	white	mends; blue shell edge; symmetrical scalloped	1780s	1840
31	09/18/13	Glass		curved	1	white	frosted		
32	10/16/13	Ceramic	porcelain	base and body	1	white	partial printed blue mark ".D." on base		
32	10/16/13	Ceramic	porcelain	handle and body	1	white			
32	10/16/13	Ceramic	porcelain	rim	1	white	burned		
32	10/16/13	Ceramic	porcelain		1	white			
32	10/16/13	Glass		bottle	1	aqua	whole; embossed "DR.S. PITCHER'S" "CASTORIA" on sides; "B.12." on base; height 5 3/4"; base 1 7/8 x 7/8	1900	1909
32	10/16/13	Glass		bottle	1	aqua	whole; embossed "THREE_IN_ONE" "G W COLE CO." devitrified; height 4"; base 1 1/2 x 3/4"	1894	1905
32	10/16/13	Glass		bottle	1	clear	whole; catsup; embossed base "H.J. HEINZ_CO/7/PATENTED/C/H"; height 8"; diameter 2 1/8"	1880	1910
32	10/16/13	Glass		bottle	1	cobalt	whole; medicine bottle; vent marks; embossed "BROMO-SELTZER/EMERSON/DRUG_CO./BALTIMORE, MD" "A_B_CO."; "1261/2_6" on base; 4"h x 1 5/5" dia round	1895	pre1920
32	10/16/13	Glass		bottle base and body	1	clear	embossed base "3139/M"; mamelon; diameter 2 7/8"	1875	present
32	10/16/13	Glass		bottle neck and finish	1	clear	bulged neck	1875	present
32	10/16/13	Glass		curved	1	cobalt	melted; devitrified	1890s	1960s
32	10/16/13	Glass		flask	1	clear	whole; 2 mold seams up body; cork finish, height 6 5/16"; base 2 15/16 x 1 1/4"	1870+	1920+
32	10/16/13	Glass		flat	1	clear			
32	10/16/13	Glass		jar finish to body	1	clear	devitrified; 2 mold seams up body, ends at lip; applied lip?, olive jar	c.1890	1930+
33	10/21/13	Glass		bottle	1	amber	whole: possible past bottom mold; embossed base "SB_&_G_Co/15"	1888	1909
33	10/21/13	Glass		bottle	1	green	whole; applied glass cartouche embossed within oval edges "HUILE D'OLIVE/SUPERFINE"/ "Bertrand Freres" (in script)/"GRASSE"; applied lip	c.1898	1919+
33	10/21/13	Glass		bottle	1	green	whole: rounded bottom; 2 piece mold; applied lip	mid 19th C.	mid 20th C.
34	06/23/14	Glass		bottle	1	olive	whole; seam below shoulder		
35	06/24/14	Glass		bottle	1	green	whole; rounded base; applied crown lip; embossed "418"	1867	present
35	06/24/14	Glass		bottle	1	green	whole; embossed interlocking script maker's mark	1867	present

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
36	06/24/14	Ceramic	refined earthenware	base?	1	white			
36	06/24/14	Glass		bottle	1	amber	whole; cup mold; "SB & GCo, 6"embossed on base	1881	1905
							whole; embossed below neck "F.N"; on body "FERDINAND_NEUMER" (arched letters), "LAGER_BEER/155_W_20th_ST/N.Y./Registered" other side "THIS BOTTLE/NOT TO BE SOLD" REGISTERED/THIS_BOTTLE_NOT_TO_BE_SOLD"; on base "B13"	1888	post 1917
36	06/24/14	Glass		bottle	1	aqua			
36	06/24/14	Glass		bottle	1	clear	whole; olive oil type; 13 tall; stretch marks on neck		
36	06/24/14	Glass		bottle	1	green	whole; rounded; applied crown lip	c. 1900	c. 1920s
							embossed on body "...EE.../20th/NY/ REGISTERED/" other side "THIS BOTTLE NOT TO BE SOLD"; ON BASE "B12"	1876	
36	06/24/14	Glass		bottle base and neck	3	aqua	whole; embossed below neck "F.N"; on body "FERDINAND_NEUMER" (arched letters), "LAGER_BEER/155_W_20th_ST/N.Y./Registered" other side "THIS BOTTLE/NOT TO BE SOLD" REGISTERED/THIS_BOTTLE_NOT_TO_BE_SOLD"; on base B8"	1888	post 1917
							whole; embossed below neck "F.N"; on body "FERDINAND_NEUMER" (arched letters), "LAGER_BEER/155_W_20th_ST/N.Y./Registered" other side "THIS BOTTLE/NOT TO BE SOLD" REGISTERED/THIS_BOTTLE_NOT_TO_BE_SOLD"; on base B11"	1888	post 1917
36	06/24/14	Glass		bottle base and neck	2	aqua			
							whole; embossed below neck "F.N" on body; "FERDINAND_NEUMER" (arched letters), "LAGER_BEER/155_W_20th_ST/N.Y./Registered" other side "THIS BOTTLE/NOT TO BE SOLD" REGISTERED/THIS_BOTTLE_NOT_TO_BE_SOLD"/"B & M.S.CO" "256." on base	c.1897	1920
36	06/24/14	Glass		bottle base and neck	1	clear			
36	06/24/14	Glass		bottle neck and lip	1	green			
36	06/24/14	Glass		bottle top	1	clear	siphon/seltzer type; metal top etched "N.Y. BOTTLING CO."; glass straw	c.1829	present
37	06/26/14	Bone	faunal	large mammal	1		long bone; saw cut; proximal end		
37	06/26/14	Bone	human		1		mandible; right half; one canine		
37	06/26/14	Bone	faunal	mammal	1		long bone; saw cut; distal end; possible juvenile		
37	06/26/14	Brick		roof tile?	1	red			
37	06/26/14	Ceramic	ball clay	pipe bowl	1	buff	interior and exterior slip and glaze		

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
37	06/26/14	Ceramic	refined earthenware		1	white	holloware; over and underglaze hand painted bird, flower on exterior		
37	06/26/14	Ceramic	stoneware	bottle	1	gray	beer, "04_BUCHAN_&_PORTABELLO_EDINBURGH"; 2 tone glaze	1878	1945
37	06/26/14	Ceramic	stoneware	bottle spout	1	gray	ink; approx. 8" height	pre 19th C.	19th C.
37	06/26/14	Glass		bottle	1	amber	whole; liquor; cup bottom mold	1880s	1910+
37	06/26/14	Glass		bottle	1	amber	beer; "SB_&_G_Co7" embossed; export style, cup bottom mold	1881	1905
37	06/26/14	Glass		bottle	1	clear	whole; olive oil; mold seam		
37	06/26/14	Glass		bottle	1	clear	3 piece mold; round; prescription bottle; 9" height; 3.5" diameter; "179" embossed	1867	present
37	06/26/14	Glass		bottle	1	green	whole; rounded bottom; 2 piece mold; "6359" embossed; applied crown finish	1892	1920s
37	06/26/14	Glass		bottle	1	green	whole; rounded bottom; 2 piece mold; applied crown finish	1892	1920s
37	06/26/14	Glass		bottle	1	green	whole; rounded bottom; 2 piece mold; devitrified; applied crown finish	1892	1920s
37	06/26/14	Glass		bottle	1	green	rounded bottom; 2 piece mold, blob-top	1870s	1910
37	06/26/14	Glass		bottle	1	green	torpedo; 2 piece mold; blob top; "K" embossed	1870s	1910
37	06/26/14	Glass		bottle	1	olive	whole; wine; possible applied lip		
37	06/26/14	Glass		bottle base	1	green	semi-rounded; 2 piece mold; broken at shoulder	1810	
37	06/26/14	Glass		bottle base to shoulder	1	blue	embossed on body "H_HUBNER/"(arched text)"127_WEST_24th_ST/NEW_YORK" other side "H" (open letter)/ "1880"	1880	
37	06/26/14	Glass		bottle mouth and neck	1	amber	liquor	c. 1860	present
37	06/26/14	Glass			1	green	whole; semi-round, 2 piece mold; "6273" embossed; applied crown finish	1892	1920s
37	06/26/14	Wood			1		compression board?; possibly treated		
38	06/26/14	Ceramic	refined earthenware	rim	1	red	possible int/ext slip, hollow		
38	06/26/14	Glass		bottle base	1	green	whole; embossed on body "FERDINAND NEUMER" (Arched text)/ "LAGER BEER/ 155 W 20TH STREET/ NY/ REGISTERED" other side THIS BOTTLE NOT TO BE SOLD;" on base "B"	1888	post 1917
39	06/26/14	Ceramic	porcelain	saucer	1	white	grey blue transfer print geometric botanical, "John Mad...ns Royal Vitrous" encircled, "England" center, "A", makers mark	c.1870	1960s
39	06/26/14	Ceramic	refined earthenware	cup rim	1	white			
39	06/26/14	Ceramic	refined earthenware	rim	1	white	everted, blue splotches in glaze		



GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
39	06/26/14	Ceramic	refined earthenware		1	white			
39	06/26/14	Glass		bottle base	1	green	soda bottle, possible Codd bottle, embossed on body "CODD_&...BARNES..." and large star.	1873	1885+
40	07/01/14	Ceramic	refined earthenware		1	white	transfer print light blue, landscape, architecture, people in design	1818	1867
40	07/01/14	Leather		shoe	1		interior portion?, chain stitching around edge		
41	07/01/14	Ceramic	ironstone	base	1	white	transfer print black makers mark "OPAQUE.../WOOD...AR/BURSLEM"; plate?	1785	1864
41	07/01/14	Glass		bottle base	1	olive	large mamelon	1880s	1910s
42	07/02/14	Glass		bottle	1	light blue	whole; post bottom mold?; applied rounded lip; embossed on body "H.K." (open lettering), other side "H.KNEBEL" (open lettering, arched)/ "No.458_4th_ST/NEW_YORK"	1850	1920
43	07/07/14	Bone	faunal		1				
43	07/07/14	Ceramic	pearlware		1	white	ridged	1779	1820+
43	07/07/14	Ceramic	pearlware		1	white	hand painted?, blue on blue botanical pattern, interior	1779	1820+
43	07/07/14	Ceramic	stoneware		1	gray/red	salt glaze exterior, interior unglazed	pre 19th C.	present
43	07/07/14	Glass		flat	1	clear	linear ridge pattern, possibly frosted; architectural?		
43	07/07/14	Glass			1	clear	spall; possible molded design		
43	07/07/14	Plastic?			1	green	thin, curved, eroded on one side		
44	07/07/14	Glass		bottle? base	1	clear		1875	present
44	07/07/14	Glass		curved	3	clear	devitrified	1875	present
44	07/07/14	Glass		curved	1	clear	paneled exterior; drinking glass?	1875	present
44	07/07/14	Glass		curved	1	clear	embossed "...S/...OF..."?, very small	1867	present
44	07/07/14	Glass		curved	1	light blue	clouded surface		
44	07/07/14	Glass		curved	1	light green	clouded surface		
44	07/07/14	Glass			1	amber		c.1860	present
45	07/07/14	Ceramic	pearlware		1	white	curved	1779	1820+
45	07/07/14	Ceramic	pearlware		2	white	no glaze one side	1779	1820+
46	07/07/14	Glass		bottle	1	cobalt	possible square, paneled, ridged, embossed on body "NOT_TO_B..."	1890	1960s
46	07/07/14	Glass		curved	1	clear	possible bottle neck, raised band exterior, clouded surface	1875	present
47	07/08/14	Bone	faunal		1		possible cut marks		
47	07/08/14	Ceramic	pearlware	rim	1	white	molded botanical design	1779	1820+
47	07/08/14	Ceramic	pearlware		2	white	small	1779	1820+
47	07/08/14	Ceramic	refined earthenware	possible rim	1	white			

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
47	07/08/14	Ceramic	refined earthenware		1	white	transfer print blue, geometric interior, geometric exterior	1784	1859
47	07/08/14	Glass		base	1	cobalt	possible small circular bottle; embossed "4"	1890s	1960s
47	07/08/14	Glass		curved	1	green	very thin, possible lighting glass		
48	07/08/14	Ceramic	ball clay	pipe bowl and spur	1	white	molded geometric linear pattern		
48	07/08/14	Ceramic	pearlware	rim	1	white	cross mends with sherd in FB49, green shell edge, exterior surface missing	c.1790	1860s
48	07/08/14	Ceramic	pearlware		1	white	ridge with pooled glaze	1779	1820+
48	07/08/14	Ceramic	refined earthenware	rim	1	white			
48	07/08/14	Ceramic	refined earthenware		1	white	worn, spall		
48	07/08/14	Ceramic	stoneware	base	1	gray	interior and exterior magnesium glaze	c.1800	present
48	07/08/14	Ceramic	stoneware		1	buff	salt glaze exterior, blue under glaze exterior; unglazed interior	1790	1900
48	07/08/14	Glass		bottle?	1	olive			
48	07/08/14	Glass		curved	1	light blue			
48	07/08/14	Glass		flat	1	light blue			
48	07/08/14	Metal	iron	fastener?	1				
49	07/08/14	Bone	faunal		1				
49	07/08/14	Ceramic	pearlware	rim	1	white	cross mends with sherd FB48; green shell edge ; interior side missing	c.1790	1860s
49	07/08/14	Ceramic	redware		1	red	spall		
49	07/08/14	Ceramic	refined earthenware	rim	1	white	possible pearlware, rim flat incurvate		
49	07/08/14	Ceramic	refined earthenware	rim	1	white	hand painted blue thin band interior, blue band darker borders and interior dots on exterior; >0.05" (very small)		
49	07/08/14	Ceramic	refined earthenware		1	white	paste only		
50	07/08/14	Bone	faunal		3		two pieces mend, saw cut		
50	07/08/14	Ceramic	ball clay	pipe bowl	1		interior burned, exterior molded geometric design		
50	07/08/14	Ceramic	pearlware		1	white	cat's eye, greyish background	1811	19th C.
50	07/08/14	Ceramic	refined earthenware		1	white	cat's eye, yellow background, missing interior surface	1811	19th C.
50	07/08/14	Metal	iron	fastener?	1				
51	07/08/14	Ceramic	pearlware		1	white		1779	1820+
51	07/08/14	Ceramic	stoneware	rim or base?	1	buff/gray	glaze, slip one side, worn		
51	07/08/14	Glass		curved	1	light blue			

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
51	07/08/14	Glass		flat	1	clear			
51	07/08/14	Glass		flat	1	clear	clouded surface		
51	07/08/14	Glass		lighting glass	1	clear			
52	07/08/14	Ceramic	porcelain		1	white	curved		
52	07/08/14	Ceramic	refined earthenware		1	white	1 side missing, water worn		
52	07/08/14	Glass		curved	1	light blue			
52	07/08/14	Glass		curved	1	white	milk glass	1890s	1960s+
52	07/08/14	Glass		flat	1	light blue			
52	07/08/14	Glass		lid	1	white	milk glass; screw thread cap, 1 1/8" diameter at widest, closure for bottle or small jar with internal thread	1890s	1960s+
53	07/08/14	Ceramic	refined earthenware		1	white	transfer print blue Chinese motif int, makers mark transfer print blue "EY"	1783	1834
53	07/08/14	Plastic		capsule	1	green/brown	3/4" long translucent brown capsule, green top with molded "T"	modern	
53	07/08/14	Plastic		curved	1	blue	molded; flexible	1940	
54	07/09/14	Ceramic	stoneware		1	gray	glazed exterior, incised line, impressed diagonal pattern under both on exterior	1820	present
54	07/09/14	Glass		curved	1	clear	slight pink cast		
54	07/09/14	Glass		curved	1	light blue			
54	07/09/14	Glass		flat	1	light green			
54	07/09/14	Plastic		pen cap	1	blue		1958	
55	07/09/14	Bone	faunal		1				
55	07/09/14	Ceramic	refined earthenware		1	white	slight curve, interior spalls, water warn		
55	07/09/14	Glass		curved	1	amber		1860	present
55	07/09/14	Glass		curved	1	light blue	~1/4" thick		
55	07/09/14	Glass		flat	1	light blue	worn surface both sides		
55	07/09/14	Glass			1	clear	~1/2" long; 1/16" thick		
56	07/09/14	Ceramic	ball clay	pipe stem	1	white	slightly flattened		
56	07/09/14	Ceramic	ironstone		1	white	eroded	early 19th C.	present
57	09/08/14	Ceramic	pearlware	rim	1	white	shell edge, blue; scalloped; impressed curved lines	c.1820	1840
57	09/08/14	Ceramic	refined earthenware		1	white	slight curve		
57	09/08/14	Glass		bottle base	1	clear	molded design at base; geometric; embossed on base "B C.Co/6/6"	1867	present
57	09/08/14	Glass		bottle base	1	cobalt	base finish paneled; cross bottom finish circular	1890s	1960s
57	09/08/14	Glass		bottle?	2	olive	mends		

# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
58	07/18/14	Glass		bottle neck and mouth	1	amber	visible mold seams on neck, applied lip	c.1860	present
59	07/21/14	Bone	faunal	mammal	1		saw cut, both ends; long bone		
59	07/21/14	Ceramic	refined earthenware		1	white	small crazing, possible pearlware		
59	07/21/14	Ceramic	stoneware	bottle	1	buff	whole, slip and glaze exterior and over lip; impressed "NASSAU SELTZERS" around impressed circle; handle scars	c.1846	c.1910
59	07/21/14	Ceramic	tin glaze	pitcher rim mouth and neck	1	red	hand painted; green and blue underglaze, orange over glaze, ext; handle scar with drilled holes, possible repairs	16th C.	1800+
60	07/22/14	Metal	alloy	teaspoon	1		impressed mark back of handle "NICKEL SILVER"		
61	07/22/14	Ceramic	pearlware	rim	1	white	transfer print, light blue Chinese motif; flatware	1818	1867
62	07/24/14	Glass		bottle	1	green	whole; hinged bottom mold, iron pontil, embossed on body "NEWTON & Co. BOTTLERS/ NEW YORK/ PREMIUM N"	1845	1850
63	07/24/14	Ceramic	ironstone	saucer	1	white	pooled glaze exterior; interior paneled	early 19th C.	present
64	07/25/14	Glass		bottle	1	light blue	whole; round prescription; cup mold; 5" in height, 2" diameter	mid 1880s	mid 20th C.
65	07/25/14	Ceramic	ironstone	handle	1	white	arched; with knobs and raised rib interior/exterior; incised at edge interior/exterior; blue grey cast in glaze	early 19th C.	present
66	07/29/14	Ceramic	ball clay	pipe stem	1	white	impressed botanical geometric design; "R" and "D"		
66	07/29/14	Ceramic	pearlware	base	2	white	plate; crazed	1779	1820+
66	07/29/14	Ceramic	pearlware	pedestal base	1	white	crazed interior	1779	1820+
66	07/29/14	Ceramic	pearlware	plate/soup rim	1	white	impressed feather; no color; not feather edge	1779	1820+
66	07/29/14	Ceramic	refined earthenware		1	white	possible pearlware; eroded surface		
66	07/29/14	Glass		bottle base and neck	1	aqua	"Dr. BROWN NY. B" embossed; "X" mark handwritten	1869	present
66	07/29/14	Glass		bottle neck and lip	1	aqua	applied tooled lip		
67	07/30/14	Glass		bottle	1	clear	prescription; oval base with strap sides; tooled prescription finish; 5" in height, 2.5" diameter at widest	1875	
68	07/30/14	Metal	alloy	disk	1		possible coin or button		
69	07/31/14	Bone	faunal		1		saw cut		
69	07/31/14	Bone	faunal		3				
69	07/31/14	Ceramic	ball clay	pipe stem	1	white			
69	07/31/14	Ceramic	ironstone	base	1	white		early 19th C.	present
69	07/31/14	Ceramic	pearlware	rim	1	white	unscaloped embossed shell edge with simple shallow repetitive molding; blue	1840s	1860s
69	07/31/14	Ceramic	pearlware		1	white	eroded on one side	1779	1820+

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
69	07/31/14	Ceramic	pearlware		1	white	inflected	1779	1820+
69	07/31/14	Ceramic	porcelain	plate rim to base	1	white			
69	07/31/14	Ceramic	porcelain		1	white	thick		
69	07/31/14	Ceramic	refined earthenware	rim to base	1	white			
69	07/31/14	Ceramic	refined earthenware		1	white			
69	07/31/14	Ceramic	stoneware	bottle	1	gray	whole; clear glaze; impressed "S.S. KNICKERBOCKER"; 6" height; 2 5/8" diameter	1840s	early 20th C.+
69	07/31/14	Ceramic	stoneware	bottle base and body	1	buff	clear salt glazed exterior; brown slip interior; 2 1/2" diameter	c.1800	present
69	07/31/14	Glass		base	1	green	2 3/4" diameter		
69	07/31/14	Glass		base	1	green	mamelon; 3 1/8" diameter	1880s	1910s
69	07/31/14	Glass		base	1	green	mamelon	1880s	1910s
69	07/31/14	Glass		bottle finish to neck	1	amber	bulged neck	c.1860	present
69	07/31/14	Glass		bottle finish to neck	1	green	tapered		
69	07/31/14	Glass		bottle neck?	1	green			
69	07/31/14	Glass		bottle shoulder to base	1	aqua	beer bottle?; embossed "BROWN STOUT" "R.C. & T./ NEW YORK"; 2 mold seams on body ; 2 5/8" diameter	1852	c.1857
69	07/31/14	Glass		bottle shoulder to base	1	blue	embossed "UNION GLASS WORKS PHIL.a / SUPERIOR/ MINERAL WATER" "W. EAGLE/NEW YORK; 2 mold seams on body; paneled bottom of body; 2 1/2" diameter; devitrified	1847	1857
69	07/31/14	Glass		curved	1	green			
69	07/31/14	Shell	oyster		2				
70	07/31/14	Ceramic	ironstone	rim	1	white	ribbed under rim	19th C.	present
70	07/31/14	Ceramic	porcelain	base	1	white			
70	07/31/14	Ceramic	stoneware		1	buff	salt glazed exterior; glazed interior	c.1720	1805
70	07/31/14	Leather		shoe	7		possibly from the same shoe; mostly sole; includes nails		
70	07/31/14	Metal	copper alloy		1		strip or sheet		
70	07/31/14	Wood			1		possibly worked; approx. 7 1/4" length		
71	07/31/14	Glass		bottle	1	lt. aqua	whole; square prescription; blue ink residue	19th C.	20th C.+
72	07/31/14	Ceramic	coarse earthenware	sewer pipe?	1	buff	interior/exterior brown glaze and slip; 2" interior diameter		
72	07/31/14	Ceramic	coarse earthenware	sewer pipe?	1	red	glaze and slip on one side; eroded on other side; dent in rim		

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
72	07/31/14	Ceramic	stoneware	base	1	white	badly eroded		
72	07/31/14	Ceramic	stoneware		1	buff	glazed; curved		
74	07/31/14	Bone	faunal	toothbrush	1		approx. 6" length; almost complete		
75	08/01/14	Ceramic	pearlware	rim	2	white	shell edge blue with impressed lines; flatware, likely 2 vessels	1780s	1840s
75	08/01/14	Glass		bottle base	1	olive	key mold base ; beveled edge	late 1840s	1870s
75	08/01/14	Glass		bottle bottom and body	1	aqua	embossed body "H&J" (open letters); other side embossed "HARROLD & JOHNSTON" (arched)/ NEW YORK"; off center valve? mark	1852	
77	08/01/14	Ceramic	porcelain	plate? rim	1	white	cloud and trellis banding; Canton type	c.1775	c. 1853
78	08/01/14	Ceramic	refined earthenware	rim	1	white			
79	08/01/14	Ceramic		kiln stilt	1	white	impressed shell design	1862	1883
80	08/01/14	Ceramic	earthenware		1	red	brick?		
80	08/01/14	Ceramic	porcelain		1	white			
80	08/01/14	Ceramic	redware		1	red			
80	08/01/14	Ceramic	refined earthenware		1	white	crazed; stained		
80	08/01/14	Glass		bottle?	1	green			
80	08/01/14	Glass		curved	1	green	drinking glass/lighting glass?		
80	08/01/14	Mortar			1		smooth one side		
80	08/01/14	Slag			2				
81	08/01/14	Bone	faunal		1		possible saw cut; juvenile		
81	08/01/14	Ceramic	pearlware		1	white		1779	1820+
81	08/01/14	Cinder			4				
81	08/01/14	Coal			1				
81	08/01/14	Glass		bottle base	1	olive	vent mark		
81	08/01/14	Glass		bottle lip?	1	green			
81	08/01/14	Glass		bottle neck?	1	green			
81	08/01/14	Glass		curved	2	clear	single rib band	1875	present
81	08/01/14	Glass		curved	1	green			
81	08/01/14	Glass		flat	1	light blue			
81	08/01/14	Glass		flat	1	light blue	devitrified		
81	08/01/14	Metal	iron	fastener	2				
81	08/01/14	Metal	iron		1		square cut nail	1798	c.1890
81	08/01/14	Rubber?			1	black	thin; curved; flexible		
81	08/01/14	Shell	mussel		1				



# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
82	08/01/14	Ceramic	refined earthenware	rim	1	white	hand painted blue on one side		
82	08/01/14	Ceramic	stoneware	rim	1	buff/pink/grey	salt glaze exterior, partial glaze and slip interior; poorly reduced		
82	08/01/14	Coal			1				
82	08/01/14	Glass		flat	1	light blue			
82	08/01/14	Shell	clam	lip	1				
82	08/01/14	Slag			1		partially cinder		
83	08/01/14	Glass		bottle	1	clear	whole; 3 piece mold; circular body; cylindrical neck; flanged lip; 5.5" height; possible medicine bottle; swirl on base	1875	present
84	08/01/14	Bone	faunal	bird	1				
84	08/01/14	Ceramic	refined earthenware		1	white			
84	08/01/14	Glass		flat	1	clear			
84	08/01/14	Metal	iron	fastener?	1		very rusted with accretions		
85	08/01/14	Ceramic	stoneware	spittoon	2	buff	mends; interior and exterior slip glaze brown; notched opening; inward sloping top; base unglazed		
85	08/01/14	Glass		bottle	1	clear	whole; square prescription; embossed "A" on base; 4" height, approx. 1" base	1875	present
86	08/01/14	Bone	faunal		2		long bone fragment; one tiny piece		
86	08/01/14	Ceramic	redware		1	red			
86	08/01/14	Ceramic	refined earthenware	plate rim to base	1	white	possible pearlware; blue green cast; tiny craze mark		
86	08/01/14	Cinder			1				
86	08/01/14	Glass		bottle base	1	blue	iron pontil; vent marks; embossed base "SODA WAT..."	c.1845	
86	08/01/14	Glass		flat	1	clear	corner		
86	08/01/14	Glass		flat	1	light blue			
86	08/01/14	Shell			1		possible oyster		
87	08/04/14	Bone	faunal	ruminant?	1		mandible with teeth		
88	08/04/14	Bone	faunal	cow	2		proximal tibia possible R; young cow approx. 9-10 months; unfused epiphysis; PAT saw cut		
89	08/05/14	Glass		bottle	1	light green	whole; round bottom; applied lip; blob top	1870s	1910s
90	08/05/14	Bone	faunal		1		saw cut?		
90	08/05/14	Ceramic	stoneware	bottle neck	1	grey	glazed exterior; brown slip and glaze interior; approx. 3/4" lip	1800	1930
90	08/05/14	Ceramic	stoneware	bottle neck	1	buff	ginger color slip and glaze on exterior; raised rings below lip	1800	1930
90	08/05/14	Glass		bottle neck	1	green	linear "stretch" marks in glass; applied lip		
91	08/05/14	Bone	faunal	large mammal	2		saw cut		
91	08/05/14	Brick			1	red			

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
91	08/05/14	Glass		bottle base	1	olive	domed kick up with mamelon	1880s	1910s
91	08/05/14	Metal	copper alloy	button?	1		possible domed type		
92	08/08/14	Bone	faunal	large mammal	1		saw cut		
92	08/08/14	Ceramic	refined earthenware	jar	1	white	transfer print label on body, black "GRAND MEDA..." over a botanical wreath, inside "JAMES...D.../MARMALADE"; "K" under bow at base of ribbon in wreath; under wreath "ONLY PRIZE MEDAL FOR MARMALADE/LONDON. 1862/GREAT BRITAIN"	c.1871	end 19th C.
92	08/08/14	Glass		bottle	1	clear	whole; Philadelphia oval type; flattened front; embossed base ""O D"	mid 19thC.	present
92	08/08/14	Glass		bottle	1	clear	whole; rectangular; embossed body "RIKER/NEW YORK" (at slant); front flat panel; curved shoulder with rectangular stop; 7"tall	c.1888	c. 1910
92	08/08/14	Glass		bottle	1	light blue	whole; oval with side straps; embossed body "POND'S EXTRACT"; on base "1846/A"; 2 part finish	1849	1895+
93	08/08/14	Bone	faunal		1		saw cut?		
94	08/06/14	Bone	faunal	large mammal	1		saw cut		
94	08/06/14	Bone	faunal		2				
94	08/06/14	Bone	faunal		2		mends; whole long bone; approx. 7" long		
95	08/07/14	Bone	faunal		1		butchered calcine bone; bleached white		
95	08/07/14	Ceramic	ball clay	pipe bowl and spur	1	white	rouletting at rim		
95	08/07/14	Glass		bottle?	1	amber	devitrified	c.1860	present
96	08/07/14	Ceramic	ironstone	rim	1	white	rib below flat rim; handle fragment	early 19th C.	present
96	08/07/14	Ceramic	refined earthenware		1	white	annular ware; blue and black	c.1850s	early 20th C.
96	08/07/14	Glass		bottle base	1	light blue	possible suction cut off scar		
97	08/07/14	Bone	faunal	large mammal	1		saw cut		
97	08/07/14	Ceramic	ironstone	bowl rim	1	white	bowl; inverted rim; overglaze gilding; eroded at rim	early 19th C.	present
97	08/07/14	Ceramic	ironstone		1	white		early 19th C.	present
97	08/07/14	Ceramic	refined earthenware	rim	1	white	flow blue; botanical interior; angled rim	1840	1929
97	08/07/14	Ceramic	refined earthenware	rim	1	white	hand painted botanical green and blue interior; sprig ware	1835	1870s+
97	08/07/14	Ceramic	refined earthenware		1	white			
97	08/07/14	Ceramic	stoneware	rim	1	buff	slip?; glaze		
97	08/07/14	Glass		bottle	1	aqua	rectangular with flat chamfers; key mold seam	late 1840s	1870

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
97	08/07/14	Glass		flat	1	light blue			
98	08/08/14	Glass		bottle	1	amber	whole; cup bottom mold; embossed on bottom "SB & Cco/6"	1881	1905
98	08/08/14	Glass		bottle	1	blue	whole; embossed body "B&B/BROWN & BORGER"; arched 513-519/WEST 25th STREET/NEW YORK" on back "REGISTERED"	1867	
98	08/08/14	Glass		bottle	1	blue	whole; approx. 9.5" height; embossed circle on body with text "JOHN FOLKEN/441 E. 52nd ST/N.Y." on back "THIS BOTTLE/NOT TO/BE SOLD" on bottom "KARL HUTTER/XX N/NEW YORK"	1893	
98	08/08/14	Glass		bottle	1	clear	whole; 3" height; rectangular style ink bottle; slightly curved shoulder; "W&T_24" embossed on base	mid 19thC.	present
98	08/08/14	Glass		bottle	1	green	whole; Philadelphia oval type; 4.5" height; cup bottom mold	1880s	1910+
98	08/08/14	Glass		bottle	1	green	whole; round bottom; applied lip		
98	08/08/14	Glass		jar body to finish	1	green	11.5" height; cylindrical condiment; olive jar; embossed on body "32/DON CARLOS/CYLINDER"	c.1890	1930+
99	08/18/14	Ceramic	ironstone	plate/soup rim	1	white		early 19th C.	present
99	08/18/14	Ceramic	ironstone	rim	1	white	maker's mark "IRONSTONE..." crown and oval black transfer	early 19th C.	present
99	08/18/14	Ceramic	ironstone		1	white	stamped oval inside oval lettering in between; illegible	early 19th C.	present
99	08/18/14	Ceramic	pearlware	rim	1	white	shell edge blue; scalloped; molded botanical at rim	1820s	1830s
99	08/18/14	Ceramic	refined earthenware	rim	1	white			
100	08/13/14	Ceramic	pearlware	cup rim	1	white	indented band	1779	1820+
100	08/13/14	Ceramic	pearlware	rim	1	white	unglazed interior		
100	08/13/14	Ceramic	refined earthenware	base ring	1	white	unglazed interior and exterior		
100	08/13/14	Ceramic	refined earthenware	base ring	1	white	holloware; unglazed interior and exterior		
100	08/13/14	Ceramic	refined earthenware	rim	1	white	light blue transfer print; botanical	1818	1867
101	08/13/14	Bone	faunal		1				
102	08/15/14	Ceramic	ball clay	pipe stem	1	white	impressed geometric design; bowl end		
102	08/15/14	Ceramic	pearlware	base	1	white	blue botanical design; hand painted interior?	1779	1820+
102	08/15/14	Ceramic	pearlware		1	white	glaze eroded	1779	1820+
102	08/15/14	Ceramic	pearlware		1	white	curved; rust stain on interior	1779	1820+
102	08/15/14	Ceramic	refined earthenware	plate? base	1	white	blue cast to glaze		
102	08/15/14	Ceramic	refined earthenware	rim	1	white	slightly inverted lip; possible pearlware		

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
102	08/15/14	Ceramic	refined earthenware	rim	1	white	uncurved		
102	08/15/14	Ceramic	stoneware		1	grey	slip and glaze; interior brown; exterior light brown	1720	present
103	08/15/14	Bone	faunal	mammal	1		long bone; saw cut		
103	08/15/14	Bone	faunal		1		tiny		
104	07/08/14	Ceramic	porcelain	base?	1	white	blue band; hole 1/4" diameter in center		
104	07/08/14	Ceramic	refined earthenware	rim	1	white	alphabet ware; molded band at rim and "N.O.P." on marley; small portion of black transfer print on interior base	late 18th C.	present
104	07/08/14	Ceramic	refined earthenware	rim	1	white	transfer print, greenish gold, botanical motif; gilded bands, overglaze; interior	post-1850	
104	07/08/14	Ceramic	refined earthenware		1	white	blue transfer print; botanical design on one side	1784	1859
104	07/08/14	Glass			1	clear	possible pedestal; molded; paneled; most of cross section square; round on one end		
105	08/20/14	Ceramic	porcelain		2	white	mends		
105	08/20/14	Ceramic	porcelain		1	white	thicker towards one end		
105	08/20/14	Ceramic	refined earthenware	rim to base	1	white	blue cast to glaze; possible milk pan or serving dish		
105	08/20/14	Ceramic	refined earthenware	rim?	1	white	partial molded design on exterior	c. 1840s	
105	08/20/14	Ceramic	refined earthenware		1	white			
105	08/20/14	Glass		flat	1	light blue			
105	08/20/14	Glass		flat	3	light green			
105	08/20/14	Glass		tile?	1	light green	0.5" thick		
105	08/20/14	Metal	copper	sheet	1		botanical design on front; small raised clots on back possibly for mounting		
106	08/22/14	Ceramic	pearlware	bowl base	1	white	approx. 2 3/4" diameter; blue on light blue body decoration	1779	1820+
106	08/22/14	Ceramic	pearlware		1	white	hand painted botanical; blue, green, black on blue background; one side; curved and bent	1779	1820+
107	08/27/14	Ceramic	ironstone		1	white	thick white glaze; slight curve	early 19th C.	present
107	08/27/14	Ceramic	pearlware	base	1	white	transfer print, light blue, architectural and botanical interior; transfer print, light blue maker's mark "...&_so..."; flatware	1818	1867
107	08/27/14	Ceramic	pearlware		1	white	bend at one edge	1779	1820+
107	08/27/14	Ceramic	porcelain		1	white	slight bend		
107	08/27/14	Ceramic	redware	base	1	red	paste very refined and light red; slip interior and exterior; unglazed; impressed design interior follows curve of base; possible botanical/geometric; waster?		

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
107	08/27/14	Ceramic	refined earthenware	tile?	1	white	one side paste only; possible edge		
107	08/27/14	Ceramic	refined earthenware		1	white	pearlware?; bend		
107	08/27/14	Ceramic	refined earthenware		1	white	transfer print; blue botanical interior; transfer print' blue fountain and botanical exterior; possible holloware	1784	1859
107	08/27/14	Glass		bottle base	1	olive	wine/liquor; 3 3/4" dia.; rounded cone basal profile; several large air bubbles; no visible seams; kick up; rough on exterior		
107	08/27/14	Glass		curved	1	white	milk glass	1890s	1960s+
107	08/27/14	Shell	oyster		1		4" long; whole valve		
108	08/27/14	Ceramic	ironstone		1	white	approx. 0.5" thick; possible tile	early 19th C.	present
108	08/27/14	Ceramic	pearlware	base	1	white	edge is worn	1779	1820+
108	08/27/14	Ceramic	refined earthenware	rim	1	white	shell edge blue; impressed curved lines, symmetrical scallop edge	1800s	1830's
108	08/27/14	Ceramic	stoneware	neck and finish	1	buff	salt-glazed exterior; brown slip and glazed interior; inscribed lines	1800	present
108	08/27/14	Glass		curved	1	dark aqua			
109	08/27/14	Ceramic	pearlware	base	1	white	slightly larger than 2" diameter; spalled; worn edges	1779	1820+
109	08/27/14	Ceramic	porcelain	base	1	white	blue Chinese motif	1783	1835
109	08/27/14	Glass		perfume vial	1	clear	metal cap; plastic dipper; 2" length	1940	
110	08/27/14	Ceramic	refined earthenware	rim	1	white	flow blue, transfer print botanical interior; paneled	1862	1929
110	08/27/14	Ceramic	refined earthenware	rim	1	white	transfer print, light blue interior; paneled	1818	1867
111	08/28/14	Metal	iron	spike	1		square cut; 12" length; wood attached		
112	08/28/14	Bone	faunal		1				
112	08/28/14	Ceramic	coarse earthenware		1	red	architectural?		
112	08/28/14	Ceramic	refined earthenware		1	white	blue decoration; unidentifiable		
112	08/28/14	Coal			4				
112	08/28/14	Glass		flat	1	lt blue			
112	08/28/14	Metal	iron	fastener	1		rusted		
112	08/28/14	Metal	iron	nail head?	1				
112	08/28/14	Metal	iron	sheeting?	1		very rusted		
112	08/28/14	Mortar			1				
113	08/28/14	Cinder			2				
113	08/28/14	Concrete			1				

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
113	08/28/14	Metal	iron	fastener	1				
113	08/28/14	Metal	iron	nail	1		2" length; square?		
113	08/28/14	Metal	iron		3		possible slag		
113	08/28/14	Stone	chert?		1	brown/black/white	possibly worked		
114	08/29/14	Ceramic	refined earthenware		1	white	spall; grey blue stripes one side	1854	early 20th C.
115	08/29/14	Cement			1	white	white "paint" one side		
115	08/29/14	Ceramic	coarse earthenware		2	buff			
115	08/29/14	Ceramic	coarse earthenware		2	red	brick?		
115	08/29/14	Ceramic	earthenware		1	red	brick?		
115	08/29/14	Ceramic	pearlware	base ring/feet	1	white		1779	1820+
115	08/29/14	Ceramic	refined earthenware		1	white			
115	08/29/14	Ceramic	refined earthenware		1	white	spall		
115	08/29/14	Glass		flat	1	clear			
115	08/29/14	Glass		flat	1	light blue	wire reinforced internal; tile, translucent ribbed back adhesive visible	1910	present
115	08/29/14	Shell	oyster?		1				
116	08/29/14	Bone	faunal		1				
116	08/29/14	Ceramic	coarse earthenware		1	red	molded linear; architectural?		
116	08/29/14	Ceramic	pearlware		2	white	slight bend	1779	1820+
116	08/29/14	Glass		curved	1	clear	3/8" thick	1875	present
117	08/24/14	Ceramic	stoneware	bottle	1	brown	whole; impressed on body "VITREOUS STONE BOTTLE/J.BOURNE & SON/PATENTEES/DENBY POTTERY/NEAR DERBY/-"P.&J ARNOLD/LONDON" above text enclosed in square with arched top' impressed below "ENGLAND" 9.5" length	c.1850	1916
117	08/24/14	Glass		bottle	1	cobalt	whole; embossed on body "MARCHANDS/PEROXIDE of/HYDROGEN/(medicinal)/NEW YORK" round flat finish; 7 3/4" length	1897	1917
118	08/28/14	Ceramic	porcelain	cup? rim	1	white	holloware		
118	08/28/14	Glass		curved	2	clear	mends	1875	present
118	08/28/14	Glass		curved	2	clear	white "paint" one side; molded; curved/angled	1875	present
118	08/28/14	Glass		flat	2	light blue			



# GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
118	08/28/14	Metal	iron	fastener	1		possible nail with wood attached		
119	08/28/14	Ceramic	ball clay	pipe stem	1	white			
119	08/28/14	Ceramic	ironstone		1	white		early 19th C.	present
120	08/28/14	Bone	faunal	cow	1		femur; saw cut		
120	08/28/14	Bone	faunal	large mammal	1		possibly saw cut		
120	08/28/14	Bone	faunal		1		rib		
120	08/28/14	Botanical	rosin		2		mends; 6"x4" dimension; solid; partial white coating exterior; possibly pine		
120	08/28/14	Ceramic	ironstone	base	1		molded botanical design; possibly architectural	early 19th C.	present
121	09/03/14	Ceramic	ball clay	pipe bowl	1	white	faint indented band at lip		
122	09/02/14	Glass		bottle	1	amber	whole; embossed dots on base; over embossed "6 NO DEPOSIT" (symbol- possible anchor hocking) "NO REFILL 76" and "32"; embossed dots on body; screw threads at lip	late 1930s	
123	09/09/14	Ceramic	pearlware	rim	1	white	blue shell edge; straight impressed lines; symmetrically scalloped rim	1800	1830
123	09/09/14	Ceramic	porcelain	rim to base	1	white	saucer?; cloud band blue; Chinese motif	1660	1860
124	09/09/14	Bone	faunal	mammal	1		saw cut		
124	09/09/14	Bone	faunal	mammal	1				
124	09/09/14	Ceramic	pearlware	base	1	white	partial blue transfer print on exterior, possible cup	1779	1820+
124	09/09/14	Ceramic	pearlware	plate rim to base	1	white	blue geometric transfer print with 2 birds on interior; Chinese	1779	1820+
124	09/09/14	Ceramic	pearlware	rim	1	white	blue edge ware; cord and herringbone; scalloped edge; garland motif	1820+	
124	09/09/14	Ceramic	pearlware		1	white	molded on marley		
124	09/09/14	Ceramic	porcelain	base	1	white	spall; blue geometric transfer print, Chinese		
124	09/09/14	Ceramic	porcelain		1	white	blue handpainted Chinese motif; structure and botanical		
124	09/09/14	Ceramic	redware	bowl	1	red	brown glaze on exterior and interior; interior glaze eroded; base unglazed		
124	09/09/14	Ceramic	refined earthenware	rim	2	white	possible cup?		
124	09/09/14	Ceramic	refined earthenware		1	white			
124	09/09/14	Ceramic	refined earthenware		1	white	Canary ware; yellow glaze on interior and exterior	1790	1840
124	09/09/14	Metal	iron	nail	1		corroded; 5" length; some wood attached		
125	07/22/14	Glass		bottle	1	clear	whole; embossed on body "J M FARINA/C O L O G N E"; emponilled; 4 3/4" height; paneled base approx. 2 7/8" diameter; devitrified	c.1843	

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
ARTIFACT INVENTORY

FB#	EXC. DATE	MATERIAL	IDENTITY	FORM	#	COLOR	DESCRIPTION	START	END DATE
126	09/23/14	Ceramic	ironstone	base	2	white	mends; blue and dark blue transfer print buildings, shore scene, boats, trees, interior; partial blue transfer makers mark, banner "TRIBUS-UNUM" ext	1840s	c. mid 19th C.
126	09/23/14	Ceramic	pearlware	rim	1	white	straight; blue cord and herringbone edge; embossed floral garland on marley	1780	c. post 1830
127	08/23/14	Ceramic	earthenware	handle	1	white	molded lines and circles; gray paste		
127	08/23/14	Glass		bottle	1	aqua	whole; medicine; embossed on body "THE GREAT/DR./KILMER'S/SWAMP/ROOT/KIDNEY/LIVER &/BLADDER/CURE/SPECIFIC; on sides "BINGHAMPTON, N.Y." "DR. KILMER & CO.; 8" height; 3" x 1 3/4" base	1905	1917
127	08/23/14	Glass		flask	1	amber	whole; side strapped; embossed base "193"; 6 1/8" height; 2 1/2" x 1 5/16" base	c.1860s	early 1900s
TOTAL					852				

# Appendix C

## Wood Sample Inventory

GOVERNORS ISLAND FULL SEAWALL REHABILITATION PROJECT  
Sample Log

SAMPLE BAG #	EXC. DATE	CONTEXT/COMMENTS	FEATURE #	EXCAVATORS	LOGGED BY	Notes: Will Johnson examination 12/1/2014
1	7/7/2014	TT03 wood beam cross section	4	LS, EG	Geminder	oak?
2	8/1/2014	TT07 wood sample 1 - round section	6	LS	Stone	cedar
3	8/1/2014	TT07 wood sample 2- square section	6	LS	Stone	oak
4	8/1/2014	TT07 wood sample 3 - plank	6	LS	Stone	cedar

Appendix D  
Landfill Retaining Structure  
Field Inventory Form  
(Feature 6)

# LANDFILL RETAINING STRUCTURE FIELD INVENTORY FORM

## General Information

Project: Governors Island Full Seawall Rehabilitation Project  
Owner: Trust for Governors Island  
Address: Governors Island, New York City, NY  
Coordinates: Seawall stations 96+14 to 96+42  
Feature #: Feature 6  
Investigator: Linda Stone, RPA  
Date: August 1, 2014  
Structure examined *in situ* Yes  
Dislocated/disturbed portions of structure examined No  
Was entire extend of structure exposed?  
    Vertical No  
    Horizontal No  
Length of portion examined: 25 feet (7.6 m)  
Height of portion examined: 1 foot (30 cm)  
Depth from current ground surface to top of feature: 5.5 feet (168 cm)  
Depth from current ground surface to mean high water: 4.9 feet (149 cm)  
Depth from current ground surface to mean low water: 9.5 feet (290 cm)  
Elevation of top of feature relative to mean sea level: 2 - 2.75 feet (61-84 cm) above sea level  
Did dewatering occur? No  
Timber samples taken? Yes  
Present repository of materials recovered: Governors Island, Building #140  
Long-term repository (if known): New York City Repository

## Primary Structural Material

### Wood

Wood type, if known: cedar and oak  
Shape of Wood Members: Round Squared Planks  
Tooling of Wood Members: Undetermined  
Typical Diameter/Width of Members: Round = 0.5 feet (15 cm)  
Squared = 1 x 1.2 feet (30-37 cm)  
Planks = 10 x 2 inches (25 x 5 cm)  
Typical Length: n/a

## Fill Material

Can fill Retained within Structure be distinguished from External or Adjacent Fill? Yes  
Fill Material within Structure was Examined: Yes  
Are Fill Soils Stratified: No  
    If Yes, number of soil levels: two deposits were arbitrarily defined for artifact recovery  
Level 1:  
Depths: 5 feet (152 cm) Color/s: 10YR3/3 Soil Types: Silty sand  
Level 2:  
Depths: 6 feet (183 cm) Color/s: 10YR3/1 and 3/2 Soil Types: Silty sand with clay pockets  
Are Rocks/Stones a Major Component of Fill? Yes



Estimate Percentage of Rock to Soil Fill: 70%  
 Describe rock/stone type and Average Dimensions: 2 inch (5 cm) and smaller  
 Other Materials Present in Fill: Other: slag, cinder, coal  
 Artifact Types Represented: Ceramics Glass Shell Leather Bone  
Wood Other: brick frags, metal and rubber  
 Fill Materials Adjacent to (Outside of) Landfill Retaining Structure were Examined: Yes  
 Location of External Fill Materials in Relation to Landfill Retaining Structure: directly  
adjacent to structure, possibly internal fill if the LFR extended beyond the excavation  
footprint  
 Are Fill Soils Stratified: No  
 If Yes, number of soil levels: two deposits were arbitrarily defined for  
artifact recovery  
 Level 1:  
 Depths: 5.5 feet (168 cm) Color/s: 10YR3/3 and 3/6 Soil Types: sandy silt with clay pockets  
 Level 2:  
 Depths: 5.5 feet (168 cm) Color/s: 10YR4/6 and 7/8 Soil Types: sandy silt with clay pockets  
 Are Rocks/Stones a Major Component of Fill? No  
 Estimate Percentage of Rock to Soil Fill: 30%  
 Describe rock/stone type and Average Dimensions: water worn pebbles, 1 inch (3  
cm) and smaller  
 Other Materials Present in Fill: Other: slag, mortar  
 Artifact Types Represented: Ceramics Glass Bone Other: metal

### Structure Form

Is the Structure Form Known? No  
 Wall: Yes  
 Crib: Possible  
 Are the following features present?  
 Piles along: Exterior Face Another location: 6-7 feet (182-213 cm) away  
 Joined by: Unknown

### Structure Type

Is the Structure Type Known: Yes  
 Continuous Linear Shoreline Possible  
River  
 Wharf: No  
 Slip: No  
 Other: Revetement

### Vernacular Construction Method

Stacked Log Construction: No  
 Timber-Frame Construction: No  
 Pile Construction: Yes  
 Type of Pile Construction:  
 Closely Spaced Vertical Piles Creating a Solid Linear Wall: No  
 Piles Supporting Superstructure: No  
 Other: Pile spacing on drawing  
 Plank Construction: Yes

Horizontal Planks

Joined with:

Unknown

Joined to:

Unknown

Describe: No fasteners visible

Masonry Construction:

No