

Brooklyn Bridge Park Project: Pier 2 Uplands

BLOCK 199, LOT 3

BROOKLYN, KINGS COUNTY, NEW YORK

Phase 1B Archaeological Investigation Final Report

SHPO Project Review Number 03PR02488

Prepared for:

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JULY 2018

Management Summary

SHPO Project Review Number:	03PR02488
Involved Agencies:	Empire State Development Corporation and Brooklyn Bridge Park Development Corporation
Phase of Survey:	Phase 1B Archaeological Survey
Location Information:	
<i>Location:</i>	New York City Tax Block 199, Lots 3
<i>Minor Civil Division:</i>	04701
<i>County:</i>	Kings
USGS 7.5 Minute Quadrangle Map:	Brooklyn
Archaeological Survey Overview:	
<i>Number of Shovel Tests/Units:</i>	None
<i>Number of Trenches:</i>	One
<i>Trench Length:</i>	50 feet
<i>Trench Width:</i>	4 feet
<i>Depth:</i>	7 feet
<i>Total Area Excavated:</i>	200 square feet
Results of Archaeological Survey:	
<i>Number of Prehistoric Sites Identified:</i>	None
<i>Number of Historic Sites Identified:</i>	None
<i>Number of Sites Recommended for Phase 2/Avoidance:</i>	None
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Date of Report:	July 2018

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A. PROJECT DESCRIPTION

Brooklyn Bridge Park Corporation (BBPC) is undertaking the creation of the roughly 85-acre Brooklyn Bridge Park (BBP) along 1.5 miles of East River waterfront between Atlantic Avenue and Jay Street in Brooklyn, Kings County, New York (the western portion of the park, consisting of Pier 1 through Pier 6 is indicated on **Figure 1**). Project elements include, but are not limited to: utility installation; creation of new topography and landscape features; and construction of buildings and other structures that may be supported by piles. As part of this project Brooklyn Bridge Park Corporation is planning to construct an Irrigation Reuse Tank and drainage system in the vicinity of the Pier 2 uplands (the “Project Area”), which is the subject of the current report. Impacts from construction of this system are expected to extend 4 to 8 feet below grade, triggering a requirement for archaeological monitoring, per the 2007 testing protocol described below (see **Figures 2 and 3**).

The Pier 2 Uplands consist of the portion of the park adjacent to Pier 2 and bound by Furman Street to the east. The site is currently occupied by a partially paved storage and parking area. A small, one-story masonry utility building is located along the eastern portion of the upland area.

B. PROJECT HISTORY

The effect of the current project upon archaeological resources was assessed in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, Section 14.09 of the New York State Historic Preservation Act (NYSHPA), and the New York State Environmental Quality Review Act (SEQRA), which require that agencies consider the effects of their actions on historic properties listed or determined eligible for listing on the State or National Registers of Historic Places (S/NR). The results of the assessment of the park’s resources were presented in a Phase 1A Archaeological Assessment (Phase 1A) (Historical Perspectives, Inc. [HPI] & Raber Associates, April 2005) and summarized in the final environmental impact statement (FEIS) (AKRF 2005) prepared for this project.

2005 PHASE 1A

The 2005 Phase 1A identified the potential for BBP and the Pier 2 Uplands to contain buried archaeological resources related to the 19th and 20th century development of the Brooklyn waterfront. Specifically, in the vicinity of the Pier 2 uplands, these resource types consisted of pre- and post-1840s landfilling devices such as timber bulkheads and piers and the foundations of 19th century warehouses. The Phase 1A recommended that once the horizontal and vertical extent of the impacts related to construction of the proposed park was known, the plans should be compared to the areas of potential archaeological sensitivity. The Phase 1A further recommended that where potential impacts could not be avoided and potential archaeological resources would be impacted (i.e., where construction would extend to the depths of archaeological sensitivity), archaeological testing measures should be implemented to determine the presence or absence, type, and extent of archaeological resources on the project site in consultation with the New York City Landmarks Preservation Commission (LPC) and the New York State Historic Preservation Office (SHPO).

2007 TESTING PROTOCOL AND UNANTICIPATED DISCOVERIES PLAN

Procedures for investigating and evaluating resources at the park were set forth in an Archaeological Testing Protocol (AKRF 2007) in consultation with LPC and OPRHP. The protocol identified the affected potential resources, the research issues associated with the kinds of expected resources, and identified both testing areas and monitoring areas. Testing areas were to be archaeologically tested to a

depth of 4 to 5 feet below grade in advance of construction. Excavation associated with construction activity beyond a depth of 4 or 5 feet below grade in the Monitoring Areas was to be monitored by an archaeologist. The protocol identified one test area (Test Area 5) and one monitoring area (Monitoring Area 4) in the Pier 2 Uplands portion of the park. The testing protocol included an unanticipated discoveries plan detailing procedures to be followed in the event that potentially significant archaeological resources are encountered during construction.

2009 PHASE 1B ARCHAEOLOGICAL TESTING

In 2009 URS completed a Phase 1B archaeological investigation of Test Area 5 (Pier 2 Uplands) and encountered a number of brick walls and mortar-faced spread footers. The remains were not associated with significant artifact deposits and found to be typical of local 19th-century warehouses. URS recommended no additional fieldwork of these features.

A. RESEARCH DESIGN

The Phase 1A identified seven archaeological resources or resource types that could be affected by the project, although only three of them extend into the current Pier 2 Uplands Project Area (see **Figure 2**). The anticipated resources, associated research questions, and survey methods were previously established in the 2007 Testing Protocol (see **Figure 3**). These are identified and discussed below, categorized by resource. All types of potential resources could have been located at depths that would be impacted by the proposed project. As described above, the potential for 19th-century warehouse foundation remains were considered during URS's 2009 Phase 1B archaeological investigation of Test Area 5 (Pier 2 Uplands) and were not determined to be significant archaeological features.

Table 1
Potential Archaeological Resources and Project Impacts

Resource	Potential Remains	Expected Location/Extent (see Figure 1)
Pre-1840s landfilling devices	Timber elements of piers and landfilling devices; bulkhead facing; fill material	<i>Horizontal:</i> Continuous throughout study area, between original shoreline and post-1840s landfilling devices. <i>Vertical:</i> Tops of piers and landfilling devices expected 5-10 feet below ground surface; bottom of landfilling devices ca. 20-25 feet below ground surface.
Post-1840s landfilling devices	Timber elements of piers and landfilling devices; bulkhead facing; fill material	<i>Horizontal:</i> Continuous throughout study area, between pre-1840s landfilling devices and post-1904 landfilling devices. <i>Vertical:</i> Tops of piers and landfilling devices expected 5-10 feet below ground surface; bottom of landfilling devices ca. 20-25 feet below ground surface.
19th-century warehouses	Foundation remains	<i>Horizontal:</i> Almost continuous west of Furman Street between Joralemon Street and Doughty Street. <i>Vertical:</i> Remains could begin just below ground surface
Source: HPI 2005 and AKRF 2007		

PRE- AND POST-1840S LANDFILLING DEVICES AND BULKHEADS

RESOURCES

Until the early 18th century, almost the entire BBP study area was under the East River. Over time, landfilling (the creation of artificial land through the construction of landfill retaining devices) occurred in numerous episodes across the study area. Landfilling activities in the study area are thought to have occurred from the mid-18th century through the late 20th century. Methods of constructing landfill varied according to period and location, but typically consisted of timber crib-work containing stone and other fill materials such as sand, soil, gravel, and rubbish. Bulkhead faces had a variety of treatments ranging from granite ashlar to wood retaining elements.

Although landfilling occurred in numerous episodes, as detailed in the Phase 1A (HPI 2005: 42-52), for the purposes of broad resource classification, these resources have been broken into chronological categories of pre- and post-1840s construction. This distinction was made in part because previous studies have identified a trend towards the standardization of landfilling device construction techniques around the mid-19th century.

POTENTIAL REMAINS

Physical elements of bulkheads anticipated below ground surface include timber cribwork and/or spiles; landfill contained within retaining devices, such as stones, sand, soil, gravel, and rubbish; bulkhead facing, consisting of wood or stone; and decks or upper finishes of piers and landfill structures.

RESEARCH QUESTIONS

As discussed in the Phase 1A, “timber bulkhead construction was diverse and remains incompletely documented with no well-defined regional patterns,” particularly in examples dating before ca. 1840 (HPI 2005:48). For the era prior to more standardized designs, variations in timber joining methods have been identified as sources of potentially significant information (Louis Berger and Associates, Inc. 1990). As described in the original Phase 1A study, “surviving original vernacular design components below contemporary mean low water levels could include timber construction, joinery, and filling methods, or systems of cribwork bottoms support, and could be potentially eligible for the National Register under criteria C and D” (HPI 2005:50). Investigation of landfilling structures dating to the second half of the 19th century could also yield important comparative data to support or contest the theory of standardization in this period.

Cribwork bottoms should be regarded as important because they are highly variable, poorly documented, and tend to remain well-preserved below the water. It has been found that upper components of bulkheads and landfill retaining devices have more frequently been subject to decay or subsequent replacement. (Green 1917:52; Raber Associates 1984:46-51). However, upper components have in some cases been preserved beneath later landfilling projects, and when intact, may yield significant data.

Fill material used in timber bulkheads was probably varied and possibly included industrial, commercial and domestic refuse. Fill size and material often reflected the design of fill-retaining structures, and sample fill documentation could inform our understanding of waterfront substructure designs. In addition, this fill could provide important time-markers for the study of the project area waterfront structures, shoreline development, and urban history (HPI 2005:50).

The BBP study area presents an opportunity to sample a large waterfront area that has undergone numerous landfilling episodes over time. The changes in design; the number of landfilling episodes in a given area; the methods used to marry new landfilling structures to earlier ones, could provide meaningful information regarding both changing construction methods, and the development of the Brooklyn waterfront over time. This data could be related to other data sets in New York City and the eastern seaboard to draw conclusions regarding the role of coastline in industrialization and urban development. As described in the Phase 1A study:

The range of waterfront substructures in various project areas would constitute a large sample of structures built over a century, and could include significant data on the evolution of local bulkhead lines and vernacular waterfront engineering within a narrow range of environmental conditions. There may also be significant new information at any intact, uppermost bulkhead edges, including local variations such as stone finishes (HPI 2005:50).

B. FIELD METHODS AND PROCEDURES

Testing consisted of the machine excavation of one large backhoe trench under the supervision of an archaeologist as opposed to archaeological monitoring during construction, as originally proposed. This decision was made to avoid potential delays during construction if resources were encountered. The trench was positioned to examine a representative area where deeper impacts associated with the proposed action are expected in the vicinity of the monitoring area proposed in the 2007 testing protocol.

The trench was initially intended to be 20 feet in length and 4 to 6 feet in width. However, given the presence of a live utility lines that were not identified on project site maps or in a pre-excavation utility mark-out, the trench was extended to a final length of 50 feet. When utilities were encountered, excavation was stopped and continued to the southwest. On-site representatives from Kelco and Brooklyn Bridge Park were notified of all encounters with utility lines. Upon encountering structural features, the features were cleared by hand for examination. Where not obstructed by utilities or structural remnants, the trench was excavated to a depth of 7 feet. All exposed resources were photographed. Artifacts were not observed in sufficient quantities to warrant collection. Professional standards for excavation, screening, recording of features and stratigraphy, labeling, mapping, and photographing were followed.

As described in **Chapter 2, “Research Design and Survey Methods,”** fieldwork consisted of the excavation of one large backhoe trench monitored by an archaeologist. The trench extended partially through Monitoring Area 4 and Testing Area 5 as identified in the Testing Protocol. The trench’s location was selected to examine the area of deepest proposed disturbance associated with the proposed Irrigation Reuse Tank and was also selected to confirm the presence or absence of mapped utility lines in the area (see **Photograph 1 on Figure 5**).

The eastern 20-foot section of the trench contained two sets of live utility conduits spaced approximately 10 feet apart (see **Photograph 2 on Figure 5**). The presence of these utilities prevented the excavation of the trench in this area. The first set of conduits included five parallel utility lines running northwest-southeast across the trench situated at a depth of less than 1 foot below the ground surface. The second set of utilities comprised a pair of larger lines running east-west across the trench at a depth of 2.5 feet below the ground surface. Minimal excavation was completed between the two sets of utilities.

The trench was continued to the west of the utility lines for a length of more than 25 feet. Where possible, the trench was excavated to a depth of 6 to 7 feet below ground surface. Along the entire western half of the trench, only fairly uniform, loose light-colored sandy fill deposits were observed (see **Photograph 3 on Figure 6**). One feature was observed approximately 17 feet east of the western end of the trench. The feature was an approximately 5-foot square brick footer the top of which was situated at a depth of 2 feet below ground surface (see **Photograph 4 on Figure 6**). The footer was cleared off by hand and a discernable corner was identified, though the width of the feature appeared to taper toward its sides. The feature did not seem to be archaeologically significant and no other features, including landfill deposits or landfill-retaining structures, were observed. Similar features are described in URS’ 2009 Phase 1B survey report.

Fieldwork resulted in the observation of a small number of artifacts in low concentrations within disturbed fill contexts. Since none of the artifacts had any research value they were not collected for analysis. No evidence of landfilling devices or significant 19th century warehouse foundations was observed in the trench.

The objective of the current Phase 1B Investigation of the Pier 2 Uplands Project Area was to determine the presence or absence of pre- and post-1840s landfill-retaining features to depths of up to 6 feet below grade. The survey consisted of the machine excavation of one large trench and photo-documentation of existing utilities and a structural feature encountered in the trench. As described in greater detail in the previous chapter, no significant archaeological resources were observed during the excavation of Trench 1. Excavation in the northeastern portion of the trench was prevented by two sets of active utility lines that were not identified on site plans or utility mark-outs. A brick support footer was observed in the southwestern portion of the trench. As described in the preceding discussion, similar footers and remnants from 19th century factory buildings have been found elsewhere throughout the park and have been determined to have low research value (URS 2009). No evidence of landfill-retaining features was present within the trench. In addition, the sandy fill and demolition debris encountered in the trench contained only a very small quantity of miscellaneous architectural and refuse of no archaeological research value.

In conclusion, based on the absence of historic resources, features, or artifact concentrations, the improvements to the Pier 2 Uplands Project Area will have no effect on archaeological resources. This report marks the completion of the archaeological investigation of Brooklyn Bridge Park. With this report and all of the preceding reports, each of the test areas and monitoring areas identified in the 2007 testing protocol have been investigated, with the exception of Monitoring Area 1 on the Pier 6 Uplands. Monitoring Area 1 has been developed with plantings and walkways and did not involve deeper construction activities requiring archaeological monitoring. An unanticipated discoveries plan remains in effect, in the event that unanticipated discoveries are made during construction.

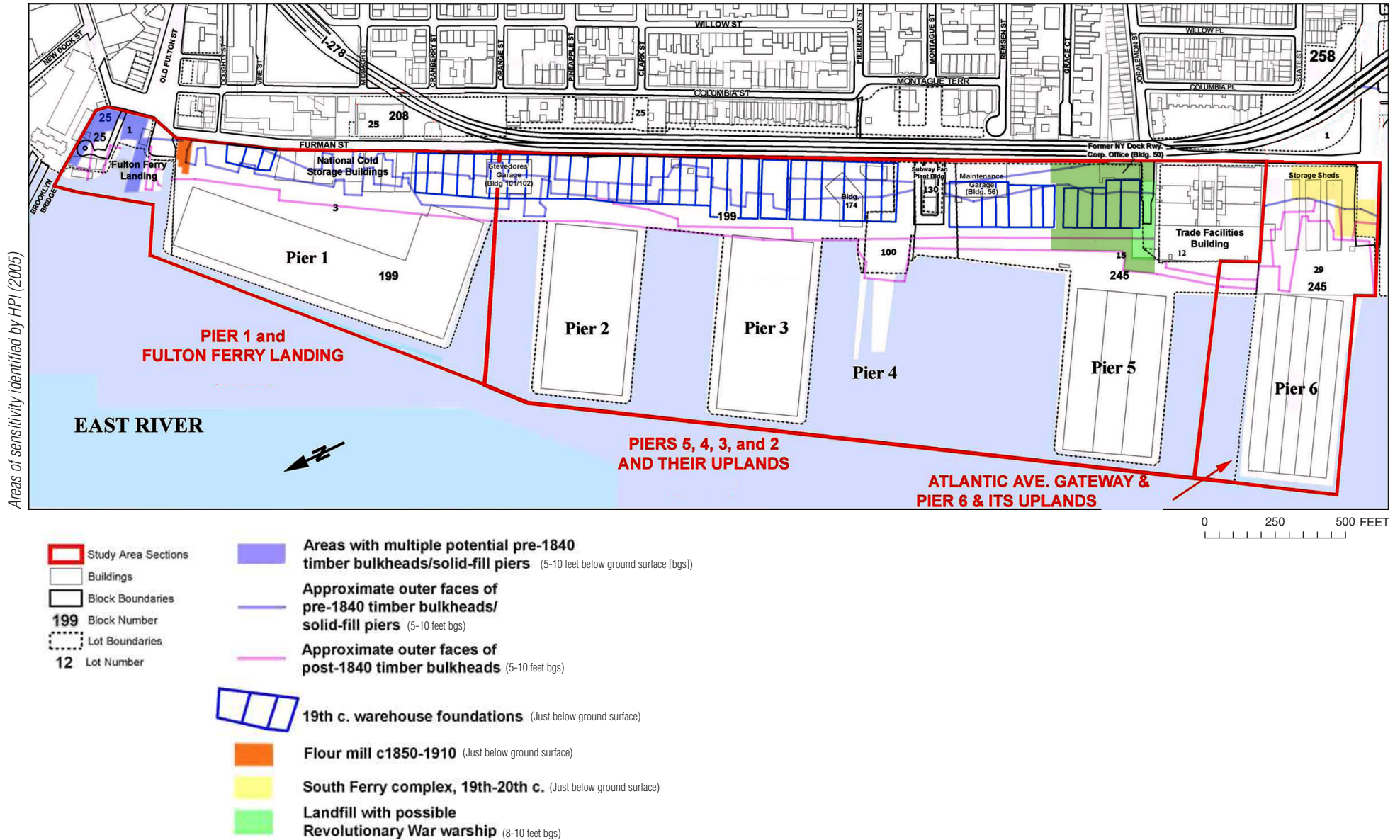
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1990 *The Assay Site: Historic and Archaeological Investigations of the New York City Waterfront*. Prepared for: HRP International, Ltd., New York, NY.
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Figures

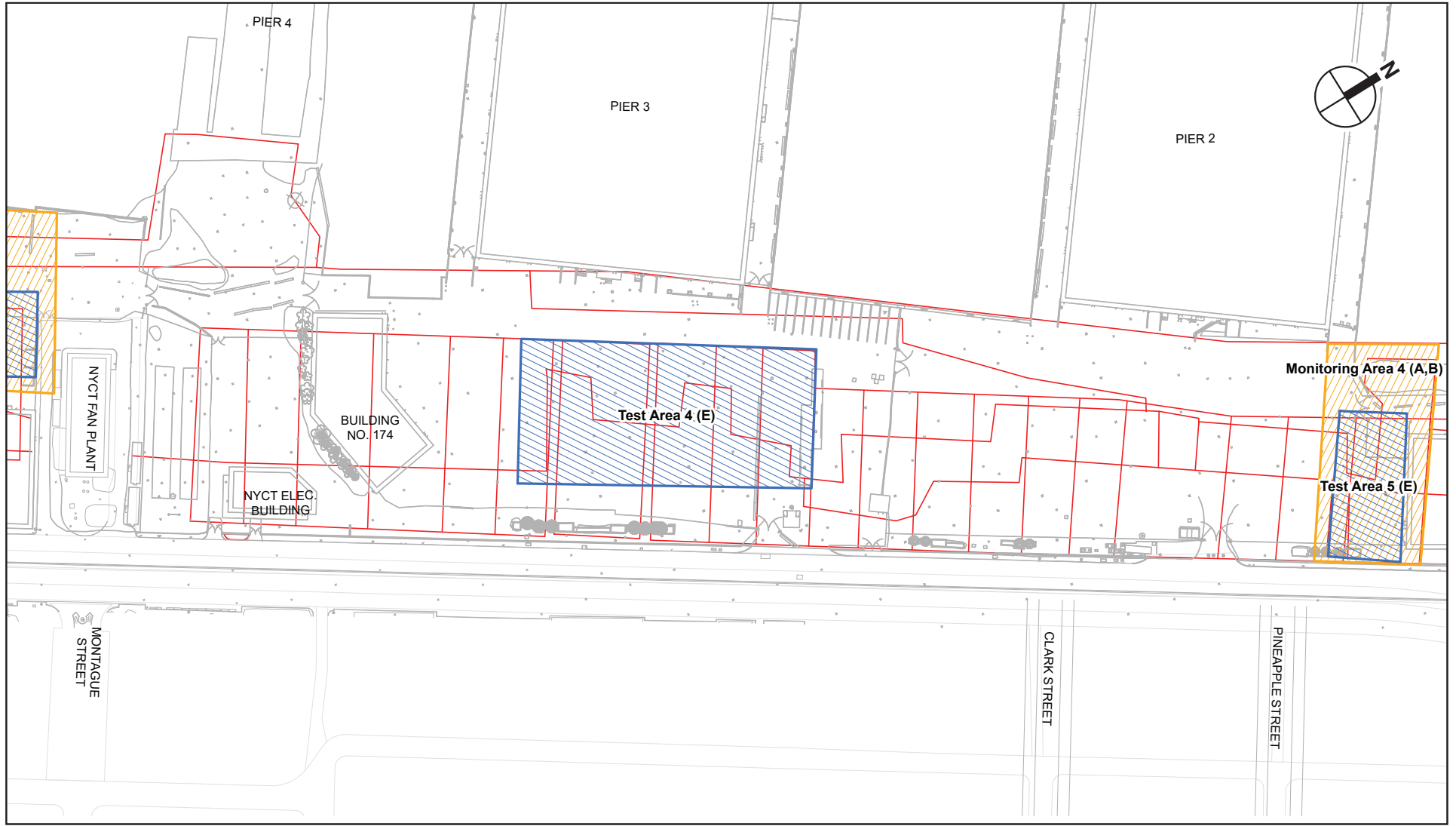


- Brooklyn Bridge Park Project Area
- Pier 2 Uplands



Areas of sensitivity identified by HPI (2005)

Areas of Potential Archaeological Sensitivity Identified in 2005 Phase 1A Study
Figure 2

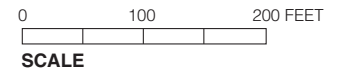


Source: AKRF (2007)

- Areas of Archaeological Sensitivity
- Monitoring Areas
- Test Areas

Potential Archaeological Resources

- (A) Pre-1840s Landfilling Devices
- (B) Post-1840s Landfilling Devices
- (C) South Ferry Complex Remains
- (D) Potential Revolutionary War-Period Ship Remains
- (E) Nineteenth Century Warehouse Remains
- (F) Flour Mill Remains
- (G) Arbuckle Bros. Sugar Refinery Building Remains



Testing Locations Identified in 2007 Testing Protocol **Figure 3**



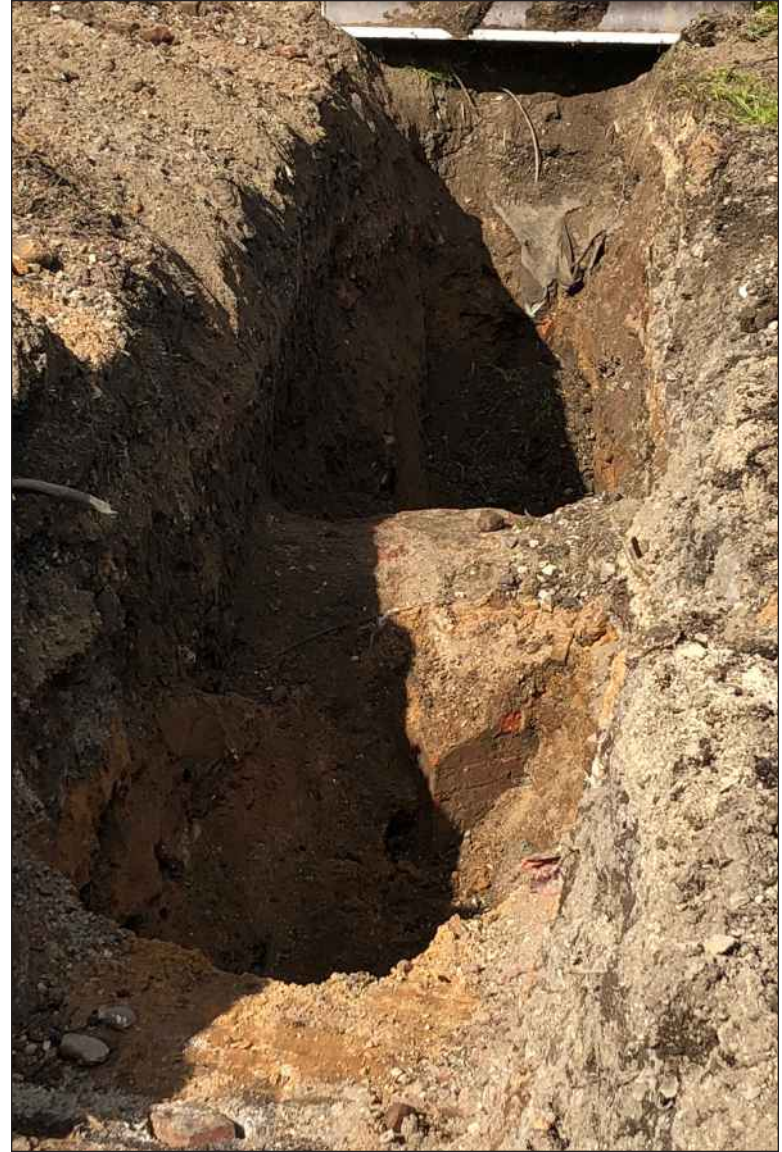
View southwest of the location of Trench 1 prior to excavation 1



View of Trench 1 after excavation, showing two sets of utilities in foreground and brick footer in background 2



Looking northeast at Trench 1, showing sandy fill in foreground and utility lines in background **3**



The northeastern face of the brick footer in the southwestern end of the trench, showing visible corner **4**