

**Phase IB Archaeological Monitoring for the South Street South Reconstruction from Old Slip to Fulton Street, New York, New York Project (NYC EDC Contract No. 17060019 and NY SHPO: 16PR06025 South Street Reconstruction).**



*Prepared for:*

New York State Office of Parks, Recreation and Historic Preservation  
City of New York – Landmarks Preservation Commission  
City of New York – Economic Development Corporation  
City of New York – Department of Transportation  
Jacobs Engineering

*Prepared by:*

Alyssa Loorya, M.A., MPhil., R.P.A.,  
Eileen Kao

*Edited by:*

Christopher Ricciardi, Ph.D., R.P.A.,  
Chrysalis Archaeological Consultants, Inc.

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June 2018

## MANAGEMENT SUMMARY TABLE

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NY SHPO Project Review Number:	16PR06025
Involved City/State/Federal Agencies:	New York State Office of Parks, Recreation and Historic Preservation City of New York – Landmarks Preservation Commission City of New York – Economic Development Corporation City of New York – Department of Transportation
Phase of Survey:	Phase IB
Location Information:	New York County
Survey Area:	
USGS 7.5 Quad Map:	Jersey City Quadrangle
Archaeological Survey Overview:	Phase IB
Results of Archaeological Survey:	Low to no potential for intact Historic resources
Recommendation:	No further work is recommended in project area, although monitoring is suggested for any future excavation below depths explored during current project. Depths between 10-40' bgs still hold low potential for recovery of historic cultural resource remains
Results of Architectural Survey:	N/A
Buildings within Project Area:	N/A
Buildings adjacent to Project Area	N/A
Previous N/R Buildings:	N/A
Eligible N/R Buildings	N/A
Report Authors:	Alyssa Loorya, M.A., MPhil., R.P.A. Eileen Kao
Report Editor:	Christopher Ricciardi, Ph.D., R.P.A.
Date:	June 2018

## MANAGEMENT SUMMARY

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Jacobs Engineering (Jacobs), on behalf of the New York City Economic Development Corporation (NYC EDC), contracted with Chrysalis Archaeological Consultants, Inc., (Chrysalis) to provide all Cultural Resource Management (Archaeological) services for the South Street South Reconstruction from Old Slip to Fulton Street, New York, New York Project. The project involves reconstruction of South Street from Old Slip to Fulton Street in the Borough of Manhattan, New York. The project is classified as a locally administered federal aid project, providing capital street reconstruction and streetscape improvements, as well as providing improved waterfront access for pedestrians and bicyclists. This project is one component of the East River Waterfront Esplanade and Piers Project, administered by the New York City Economic Development Corporation (NYC EDC). The proposed scope of work includes complete reconstruction of South Street between Old Slip and Fulton Street, with drainage improvements, curb improvements, new street lighting, and tree plantings along the west sidewalk. This project is being implemented under a joint collaboration between the City of New York - Department of Transportation (NYC DOT) and NYC EDC.

The project scope required excavation in an area adjacent to the South Street Historic District in Lower Manhattan. Previous Phase IA studies and soil borings indicated that there was no potential for the presence of prehistoric resources and low potential for the presence of historic resources (HPI 2008) within the project area. Throughout the excavation, no significant, *in situ*, archaeological material remains deposits were identified in the APE. Modern, twentieth century fill soils were encountered throughout the excavation trenches. Past construction activities involving the FDR Highway construction, repeated excavation and re-grading of the area, and the installation of buried modern utilities have undoubtedly impacted significant historic resources. However, fragmented features, including bulkheads were encountered. As these features were not intact as a continuous structure and were significantly impacted by modern development, these fragmented feature remains were deemed not to represent significant archaeological findings.

All archaeological work on the project was conducted in accordance with the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation's "Protection of Historic and Cultural Properties" (36 CFR 800). The investigation was also conducted pursuant to NY SHPO and NYC LPC guidelines for such projects (New York Archaeological Council [NYAC 1994; 2000; 2002]). The cultural resources specialists who performed work on the project satisfy the qualifications specified in 36 CFR 61, Appendix A as well as those outlined in the Landmarks Preservation Commission Guidelines for Archaeological Work in New York City (2002).

Alyssa Loorya, Ph.D., R.P.A., Principal Investigator and Eileen Kao authored this report on behalf of Chrysalis. All work was performed in accordance with the New York State Office of Parks, Recreation and Historic Preservation (NYSHPO), the City of New York – Landmarks Preservation Commission (LPC) and New York Archaeological Council guidelines and regulations.



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## ACKNOWLEDGEMENTS

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## I. INTRODUCTION

Jacobs Engineering (Jacobs), on behalf of the New York City Economic Development Corporation (NYC EDC), contracted with Chrysalis Archaeological Consultants, Inc., (Chrysalis) to provide all Cultural Resource Management (Archaeological) services for the South Street South Reconstruction from Old Slip to Fulton Street, New York, New York Project (NYC EDC Contract No. 17060019 and NY SHPO: 16PR06025 South Street Reconstruction). The total project area spans South Street between Old Slip and Fulton Street in New York (New York County), New York (Map 01 and 02).

The purpose of the Phase IB Archaeological Monitoring was to: 1) determine whether the project area contains significant (i.e. National Register eligibility) cultural resources based on the archaeological sensitivity as determined by the Phase IA Archaeological Assessment (Chrysalis 2013); 2) develop historical and archaeological context(s) for the interpretation and evaluation of any potential cultural or archaeological resources that are or may be present within the APE; 3) potentially recover significant buried cultural resources; 4) perform any/all laboratory analysis of material remains recovered (i.e. washing, cataloging, creation of a database); 5) produce a draft and final report of the results.

All archaeological work on the project was conducted in accordance with the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation's "Protection of Historic and Cultural Properties" (36 CFR 800). The investigation was also conducted pursuant to NY SHPO and NYC LPC guidelines for such projects (New York Archaeological Council [NYAC 1994; 2000; 2002]). The cultural resources specialists who performed work on the project satisfy the qualifications specified in 36 CFR 61, Appendix A as well as those outlined in the Landmarks Preservation Commission Guidelines for Archaeological Work in New York City (2002).

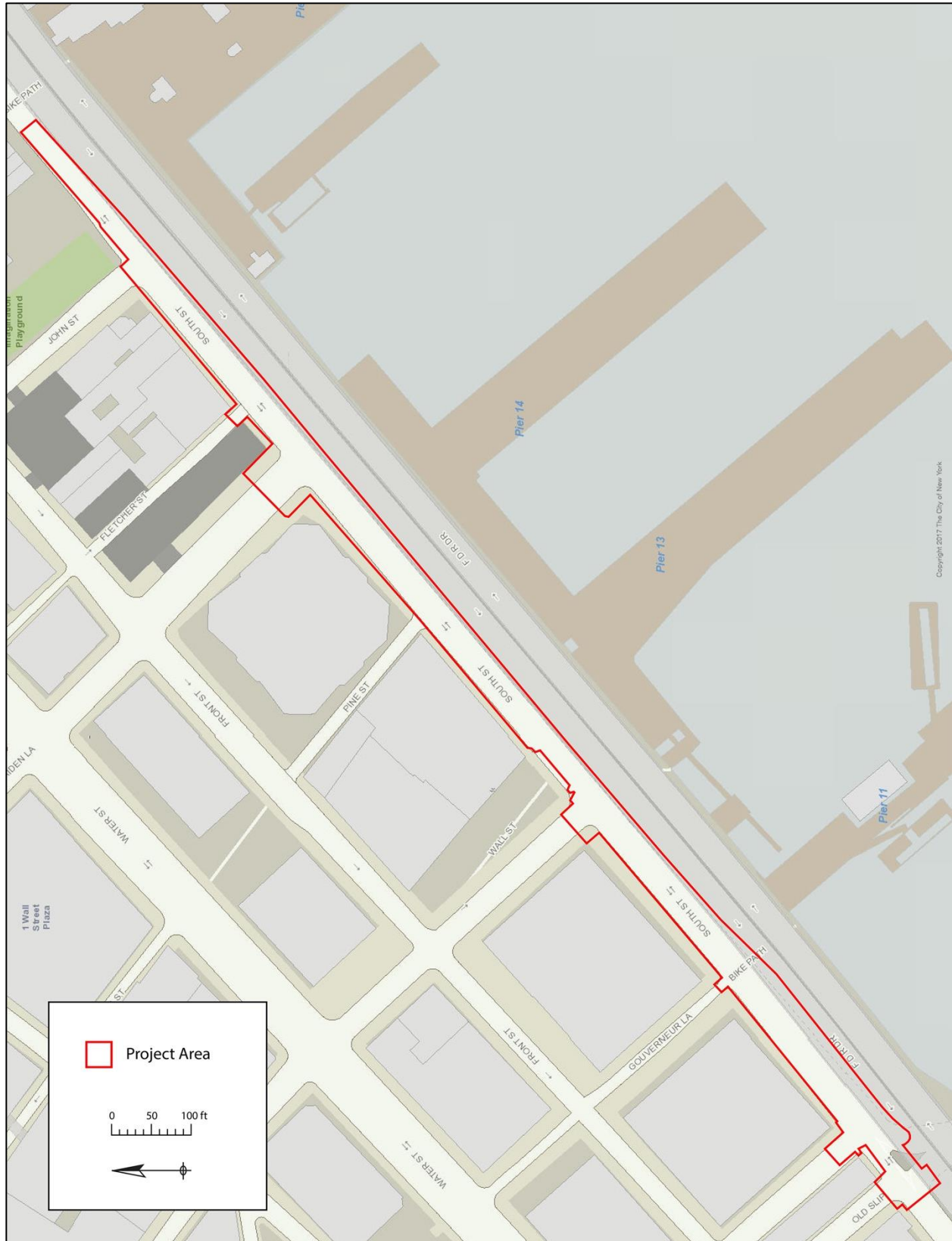
Alyssa Loorya, Ph.D., R.P.A., Principal Investigator and Eileen Kao authored this report on behalf of Chrysalis. All work was performed in accordance with the New York State Office of Parks, Recreation and Historic Preservation (NYSHPO), the City of New York – Landmarks Preservation Commission (LPC) and New York Archaeological Council guidelines and regulations.

The project scope required excavation in an area adjacent to the South Street Historic District in Lower Manhattan. Previous Phase IA studies and soil borings indicated that there was no potential for the presence of prehistoric resources and low potential for the presence of historic resources (HPI 2008) within the project area. Archaeological monitoring during construction activities would be sufficient to identify and recover any archaeological resources that may exist in the Area of Potential Effect (APE). Archaeological monitoring of subsurface construction activities was limited to the eastern half of South Street and East River Esplanade beneath the Franklin Delano Roosevelt (FDR) Highway, from Gouverneur Lane to Wall Street and from Maiden Lane to John Street (Map 03 and Map 04). Throughout the excavation, no significant, *in situ*, archaeological material remains deposits were identified in the APE. Fragmented portions of features, including bulkheads were encountered. However, these features were not intact, did not represent parts of a continuous structure, and were significantly impacted by modern development. Considering this, these fragmented remains are not deemed to represent significant archaeological findings. More

complete forms of similar feature types are present elsewhere in the Seaport area. See Chrysalis Archaeology 2018 and AKRF 2011 for examples.)

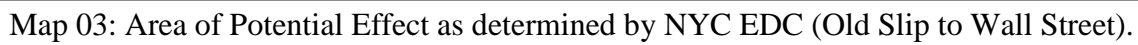


Map 01: USGS – Jersey City Quadrangle, 2016.

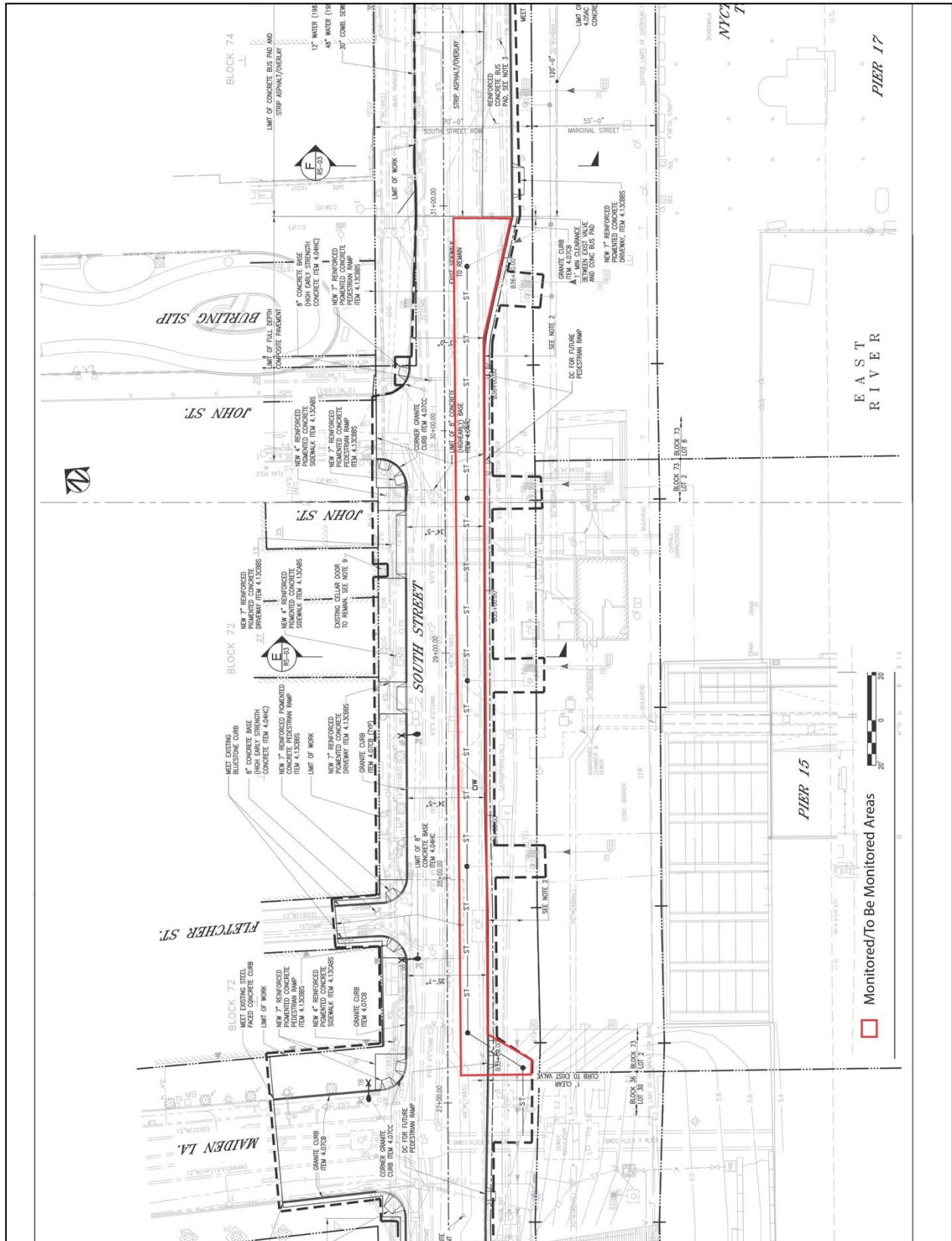


Map 02: Project area map.









Map 04: Area of Potential Effect as determined by NYC EDC (Maiden Lane to John Street).

## **II. SUMMARY OF ARCHAEOLOGICAL SENSITIVITY**

The project area is located within the boundaries of the East River Waterfront Esplanade and Piers Project. In 2007, concern for the work being conducted in the South Street Seaport Historic District and potential impacts to the historic East River bulkhead as part of the East River Waterfront Esplanade and Piers project led to the development of a Programmatic Agreement (PA) between Lower Manhattan Development Corporation (LMDC) and NY SHPO. The PA set forth a plan to mitigate or avoid any potential adverse effects on historic resources that might be identified as the design process of the current project moved forward. This required the completion of a Phase IA study to examine the potential for archaeological resources in the outlined APE and Archaeological Monitoring/Testing, if necessary (LMDC 2007). Historical Perspectives, Inc. (HPI) completed a Phase IA review of the East River Waterfront Esplanade and Piers project (HPI 2007) and Archaeological Field Monitoring and Soil Boring Analysis Report (HPI 2008).

### **PHASE IA RESULTS**

The Phase IA review concluded that significant changes to the environment and landscape have made it highly unlikely that any prehistoric resources remain in the project area. These changes also lessen the potential for recovery of cultural resources from the historic period. The original Lower Manhattan water line generally followed the path of Water Street, except between Wall Street and Fulton Street where there was a shallow cove, and the shoreline was at Pearl Street. The current shoreline was entirely underwater until the earliest landfilling activities began between 1744 and 1754. In the project area, landfilling was not officially undertaken until 1798. By 1811, most of APE had been filled except for where there were still functioning slips: Old Slip, Coffee House (Wall Street), and Burling Slip (John Street). These slips would eventually be filled by 1835.

Bulkhead structures followed in the late-nineteenth to early-twentieth centuries. As a result of these activities, the Phase IA review lists the following categories of potential archaeological remains that could be found in the APE: eighteenth and nineteenth century landfill retaining devices, deposits, river bottom remains, sunken vessels, and nineteenth century wooden water mains. These remains could be present anywhere between 2' and 40' below ground surface (bgs) and between the surface paving and bedrock. Additionally, buried modern utilities have the potential to impact some archaeological resources, although not all as some of these resources may be buried as deep as 40' bgs.

### **ARCHAEOLOGICAL FIELD MONITORING AND SOIL BORING RESULTS**

In 2008, HPI monitored the excavation of test pits/soil borings to assess the potential of finding intact archaeological resources in the APE. The boring data collected in the subsequent Archaeological Field Monitoring and Soil Boring Analysis Report confirmed that dredging, bulkheading, and filling activities prior to 1800 had limited any potential prehistoric and early historic resources from remaining intact in the area. Soil boring logs indicated the absence of river mud strata and significant fill deposits between 15' and 40' bgs (HPI 2008).

Field Monitoring data collected from two test trenches excavated to determine the size of the FDR Drive column footings concluded that the area of disturbance for the installation of the columns is approximately 15' by 13', to approximately 6' bgs. Therefore, only the areas extending beyond the 7' radius of each FDR Drive column is to be considered archaeologically sensitive (HPI 2008).

### **III. THE PROJECT**

The project will reconstruct South Street from Old Slip to Fulton Street in the Borough of Manhattan, New York. The project is classified as a locally administered federal aid project, providing capital street reconstruction and streetscape improvements, as well as providing improved waterfront access for pedestrians and bicyclists. This project is one component of the East River Waterfront Esplanade and Piers Project, administered by the New York City Economic Development Corporation (NYC EDC). The proposed scope of work includes complete reconstruction of South Street between Old Slip and Fulton Street, with drainage improvements, curb improvements, new street lighting, and tree plantings along the west sidewalk. This project is being implemented under a joint collaboration between the City of New York - Department of Transportation (NYC DOT) and NYC EDC.

Construction activities began along the west half of South Street working south from Fulton Street to Old Slip. Upon completion of work in the west half the street, construction moved to the east half, working north from Old Slip. Chrysalis was contacted to monitor excavations for drainage improvement activities once construction moved to the east half, beginning at Gouverneur Lane. These drainage improvement activities included:

- excavation adjacent to the FDR Highway columns for the installation of catch basins (CB);
- N-S trench excavations in the street, west of the east curb line, for the installation of new 16" drainage pipe and pre-cast manholes (MH); and
- E-W trench excavations for the 12" CB-MH connection pipes.

### **IV. ARCHAEOLOGICAL MONITORING PLAN**

Prior to the start of excavation, an Archaeological Monitoring Plan and Unanticipated Discoveries Plan was developed and submitted to Jacobs and NYC EDC for review and approval (Appendix A). This plan was then submitted to NY SHPO and NYC LPC, via NYC EDC, for formal review and approval. The Plan described the procedures and tasks to be performed as part of the Phase IB Archaeological Project.

Phase IB fieldwork is employed to determine the presence/absence of archaeological resources within the APE. Its goal is to determine whether significant (i.e. National Register eligible) resources that could be adversely affected by the proposed project activities exist within the project APE. Archaeological construction monitoring offers an efficient way to ensure archaeologically sensitive resources are not impacted by ongoing construction activities. If such resources are uncovered, archaeologists are on-site and prepared to mitigate any adverse effects to the resource(s).

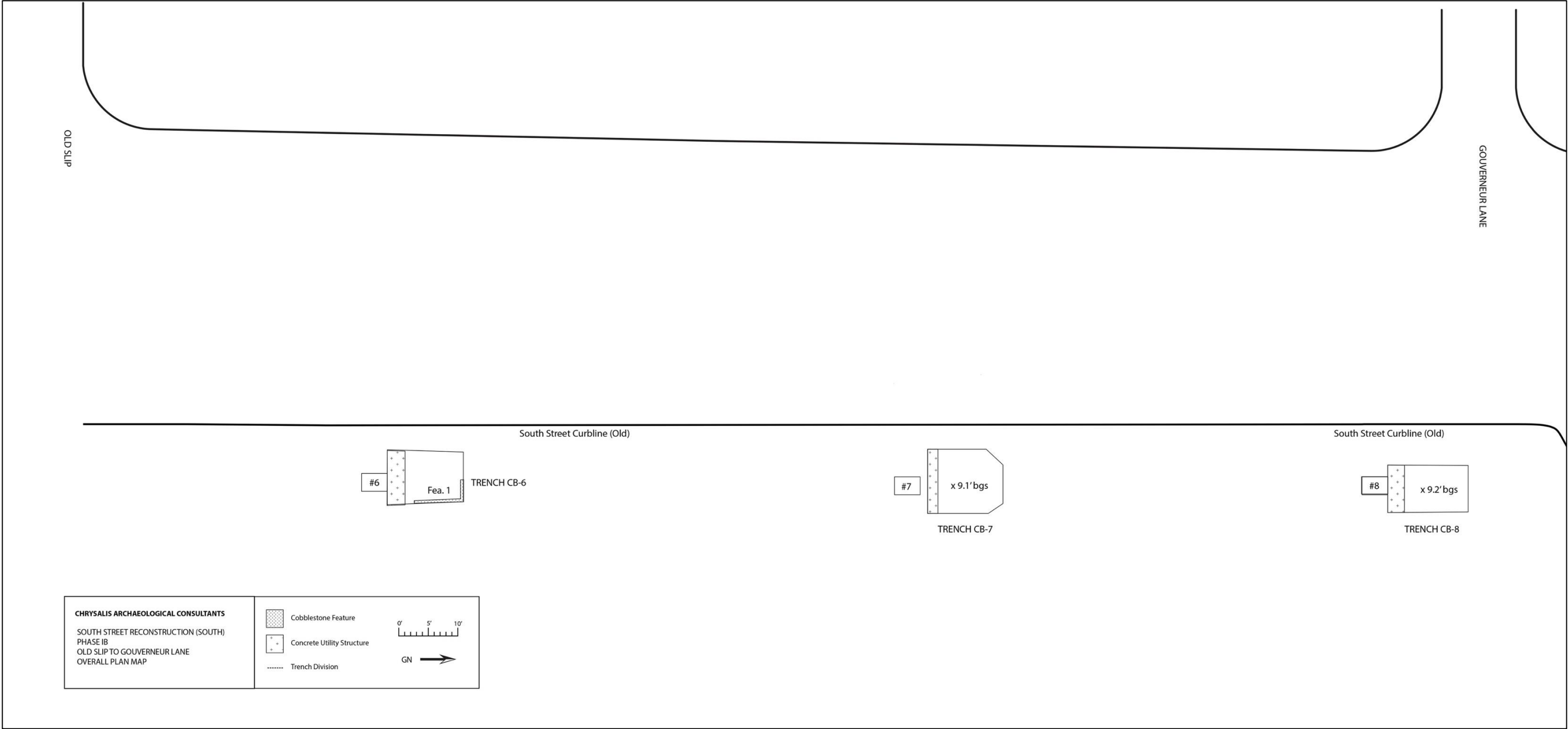
## V. FIELD RESULTS

Excavation activities for the project impacted road and sidewalk areas of South Street and the East River Esplanade. For the purposes of the excavation project, a grid was assigned north along the South Street axis. Old Slip was the southern boundary and Fulton Street was the northern boundary of the APE. Catch Basins (CB) #6 through #11 and Trenches 1-3 were excavated between Old Slip and Wall Street (Maps 05 and 06). Trenches 4 through 8 were excavated between Maiden Lane and Fulton Street (Maps 07 and 08). To facilitate documentation and discussion of the field results, catch basin trenches and drainage pipe trenches were treated as separate excavations despite connections in some areas. Additionally, trench sections between each FDR Column were treated as individual trenches, despite being connected as one very long trench. Measurements for these drainage pipe trenches began at the southern edge of the base of each FDR column and ended at the southern edge of the next column.

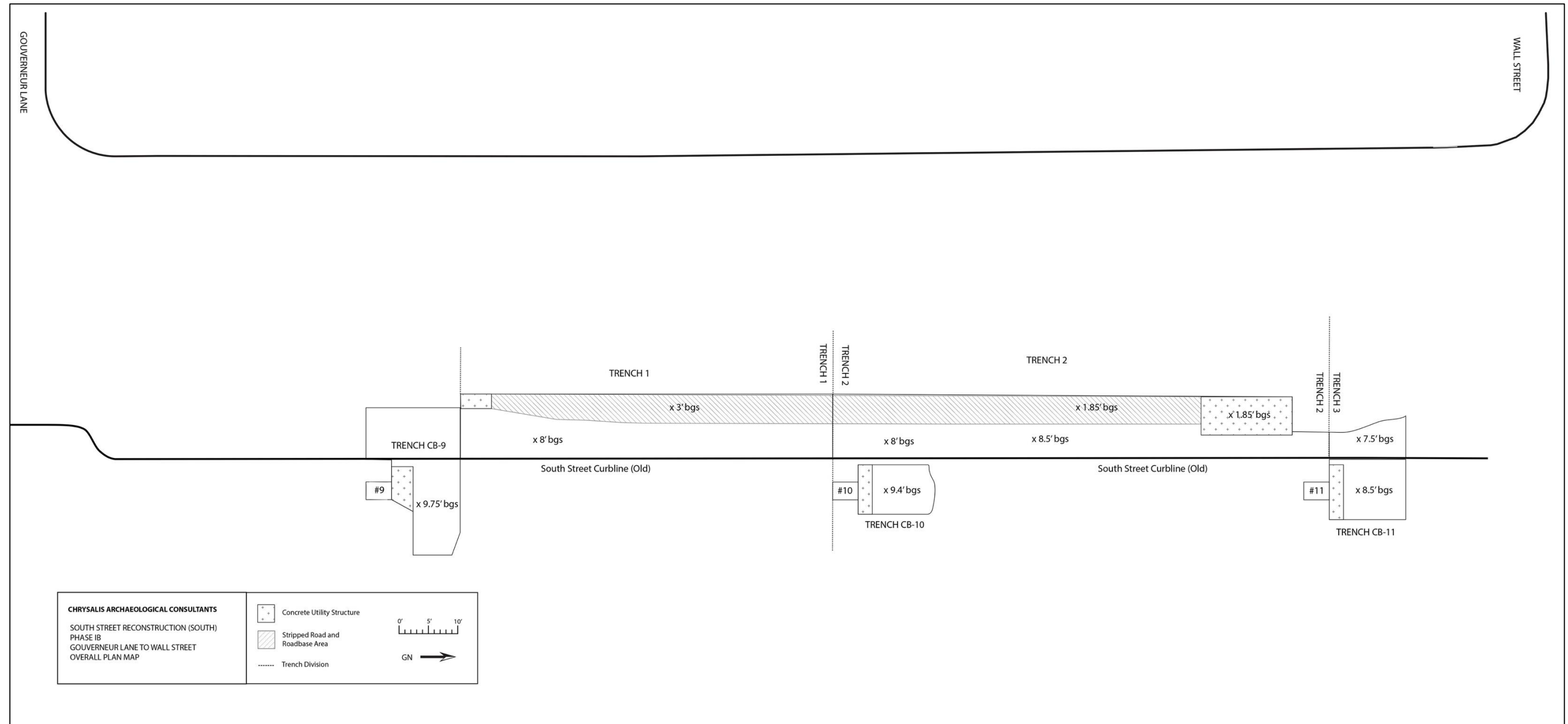
The excavation trenches were excavated to a maximum depth of 10.75' below ground surface (bgs), although that depth was not common. Generally, the trenches were excavated to between 7.75' and 9.5' bgs. At these depths, flooding of the trench from groundwater was a common issue. Even at times of low tide, there could be at least 1' of groundwater in the floor of the trench.

Excavation uncovered mainly modern (i.e. twentieth century onwards) fill soils. Stratigraphy generally consisted of various modern fill deposits beneath the asphalt and concrete road base and current esplanade pavement. These fill layers were combined and identified as Stratum I. Beneath Stratum I, the next common deposit was a brownish sandy loam, 10YR 3/4 – 4/3. In some cases, the brownish soil resembled the dark soil that is typically indicative of historic fill, but the absence of significant artifact concentrations made it more likely that the deposit was modern backfill that is similar in color and texture. Stratum II typically extended from the base of the roadway to the floor of the trench in the east portion of the trench. Stratum III, yellow sand (2.5Y 6/2) used to backfill modern utilities, would make up the western portion of the trench from the base of the roadway to the floor of the trench, primarily in the portion of the trench where significant utility disturbance was encountered. The exception would be the additional presence of Stratum III around the E-W running utilities.

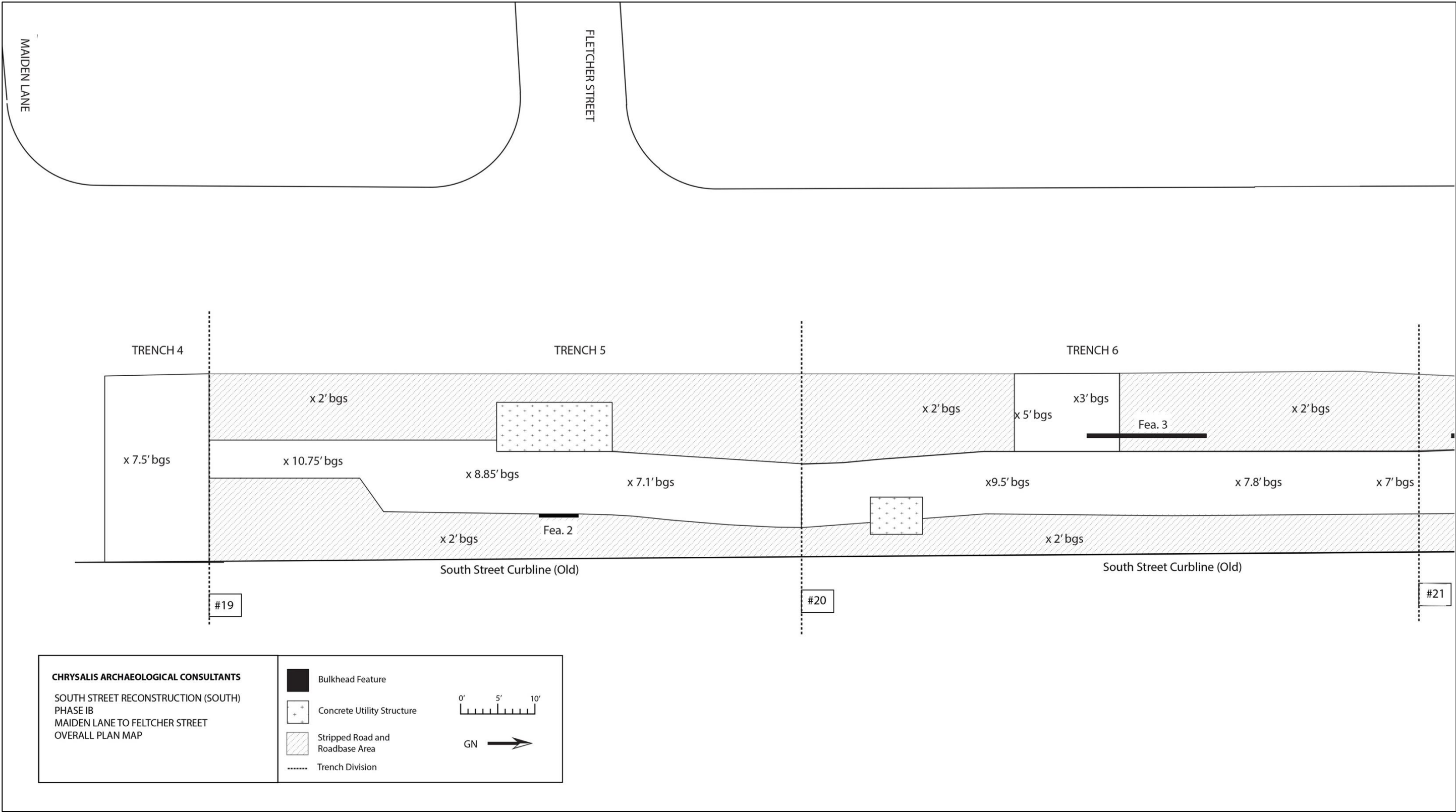
No significant archaeological deposits were encountered, as expected from the level of disturbance from modern utilities and development in the area. The occasional nineteenth century artifact was observed in excavated soils (pearlware, whiteware), as well as a few bone fragments and shell. These items were noted, but not collected as they were not part of any *in situ*/intact deposits nor representative of any wider concentration. A total of four features were identified throughout the excavation. These features were a cobblestone surface beneath the esplanade and a few bulkhead sections beneath the roadway.



Map 05: Site Plan Map – Old Slip to Gouverneur Lane.

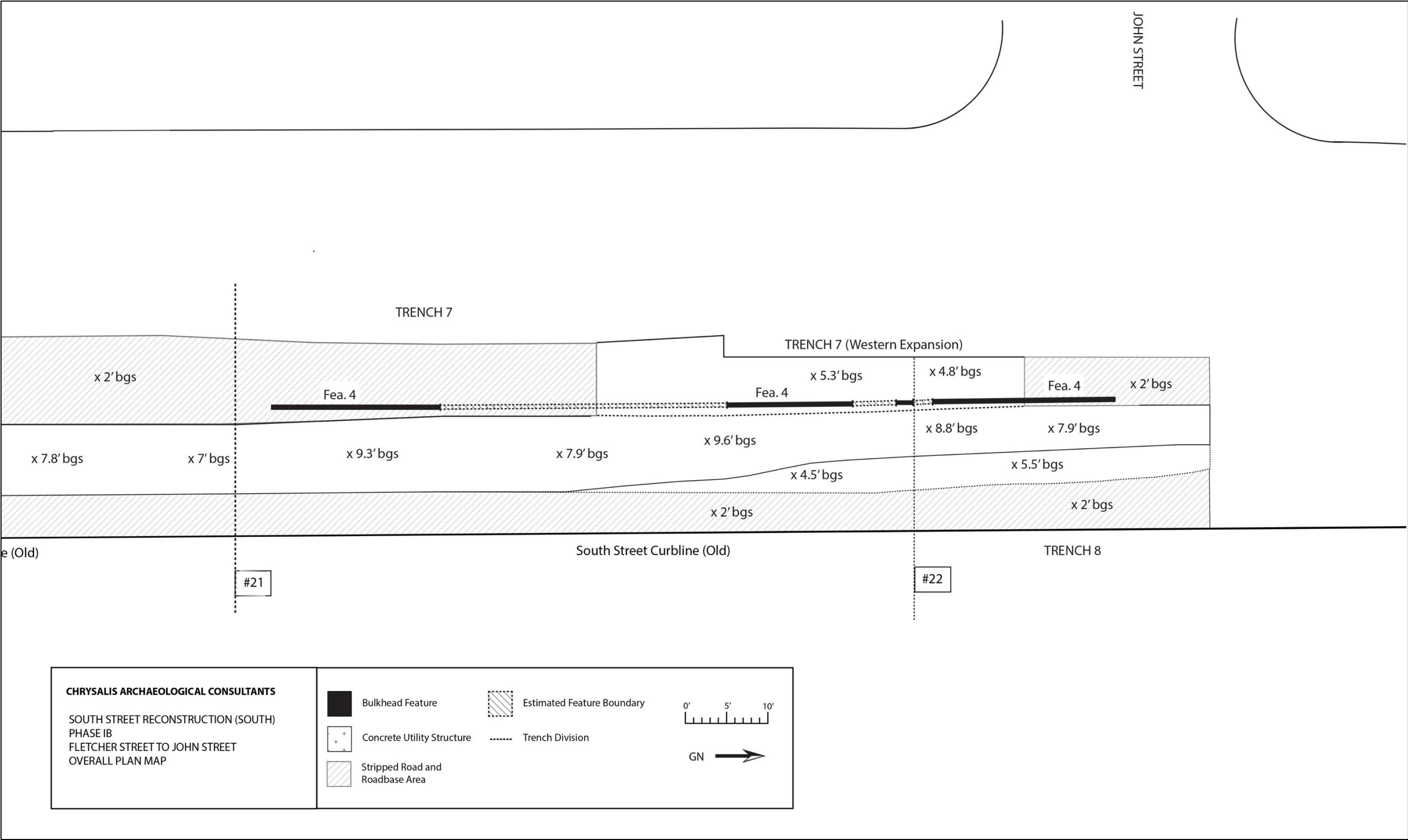


Map 06: Site Plan Map – Gouverneur Lane to Wall Street.



Map 07: Site Plan Map – Maiden Lane to Fletcher Street.





Map 08: Site Plan Map – Fletcher to John Street.



## CATCH BASIN EXCAVATIONS

The Catch Basin trenches were excavated adjacent to the FDR Highway columns of corresponding number. A total of six excavations for new catch basins (CB) were monitored from FDR Column #6 through Column #11. For clarity as well as correspondence to construction plans, number designations for each excavated were assigned according to location of the excavation and not in the order in which they were excavated<sup>1</sup>. For organizational purposes, the catch basins will be discussed in number order, from Trench CB-6 to CB-11.

### *Catch Basin 6*

Trench CB-6 was excavated at the base of FDR Column #6 (Map 05). The trench measured approximately 12.9' (N-S) and between 8.34' and 9.4' (E-W) and was widest in the south abutting the column base. The trench contained modern fill soils in the west half as a result of previous excavation. The east half was made up of various layers of fill and displayed what was likely 3 previous modern walking surfaces. These surfaces are represented by a layer of Belgian blocks just beneath the current walking surface at .5' bgs, a layer of concrete at 1.75' bgs, and a layer of cobblestone at 3.3' bgs (Image 01). The concrete layer likely represents the base of a modern surface that was used prior to the current esplanade. The cobblestone represents an older living surface and was designated Feature 1. The lack of any diagnostic associations leaves the date of the cobblestone indeterminate. The cobblestone surface is present only in the east and north profiles, disturbed by the drainage pipe excavation in the west half and the foundation for FDR column #6 in the south. Reddish loamy sand (7.5YR 5/6) containing brick fragments lay beneath Feature 1, extending to the floor of the trench. No other archaeologically significant items were visible in the profile. The trench excavation terminated at 9.25' bgs.

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<sup>1</sup> For example, Trench CB-6 was excavated adjacent to FDR Column #6, Trench CB-7 was excavated adjacent to FDR Column #7, etc. Catch basins were not installed from FDR Column #1 to FDR Column #5, therefore Trench CB-1 through Trench CB-5 do not exist.



Image 01: Trench CB-6, east profile showing previous walking surfaces.

### *Catch Basin 7*

CB-7 was located at the base of FDR highway column #7, between Old Slip and Gouverneur Lane (Map 05). The trench measured approximately 12.75' (N-S) and between 7.3' and 10.8' (E-W) and was widest in the south abutting the column base. The west profile of the trench showed modern fill soils from the backfilling of a previously excavated drainage trench. The east half of the trench retained a clear stratigraphic profile of several fill deposits (Image 02). A measured profile drawing of the east profile was not possible due to the instability of the east edge of the trench. However, observance of the trench profile revealed several layers of fill, including what appears to be a thick reddish fill layer composed of brick fragments and mortar. No other significant archaeological deposits were observed in profile or while excavating, however two artifacts were observed in the back dirt (large mammal bone and nineteenth century ceramic plate fragment). These artifacts were not indicative any archaeological deposit; the items were noted but not collected. Trench excavation terminated at 9.1' bgs.



Image 02: Trench CB-7, east and north profiles, facing northeast.

### *Catch Basin 8*

Catch Basin #8 (Trench CB-8) was excavated at the base of FDR Column #8 (Map 05). The trench measured approximately 15' (N-S) and between 7' and 8' (E-W) and was widest in the south abutting the column base (Image 03). The stratigraphy in CB-8 resembled that of CB-6 and CB-7 in that there were several layers of fill visible in the east profile only. The trench profile also contained evidence of at least two previous walking surfaces represented by a concrete layer and the same cobblestone surface as that seen in CB-6 (Feature 1). The concrete layer began at 2.4' bgs, but was not as intact as that seen in CB-6. Still, it is likely the remains of the base of a modern surface that was used prior to the current esplanade. The cobblestone layer was at 3.45' bgs on top of reddish fill containing brick fragments and mortar (Image 04). Beneath this reddish fill was darker soil usually indicative of historic fill, however no artifacts were visible in the profile or recovered from the excavation.





Image 03: Trench CB-8 Plan View with catch basin in place, facing south.



Image 04: Trench CB-8 east profile, walking surfaces visible in profile.



### *Catch Basin 9*

Catch Basin #9 (Trench CB-9) was excavated at the base of FDR Column #9 (Map 06) (Image 05). This trench measured 16' (N-S) and 9' (E-W) in the west half and 11' (N-S) and 10.2' (E-W) in the east half (Figure 01). Based upon the soil profile, it was clear that this portion of the trench contained modern fill soils (10 YR 5/4 and 10 YR 4/3) typically associated with construction backfill. Darker soil (10 YR 3/4) with visible wood debris remained to be excavated in the east half of CB-9 (Image 06). Based on recent excavations in the South Street Seaport Historic District (Chrysalis Archaeology 2017), this kind of darker soil has typically been associated with historic fill deposits. However, the location between a manhole to the north and large concrete box to the south, makes it unlikely that the deposit would be intact if that were the case. The east half of CB-9 was excavated to approximately 9.75' below ground surface (bgs), although a visual of the base of the trench was obscured. Water began entering the excavation at approximately 7' bgs and leveled off at 6.75' bgs. No archaeologically significant findings were identified.



Image 05: Trench CB-9 plan view.



Image 06: Trench CB-9, east half, dark fill soils with wood debris.

### *Catch Basin 10*

CB-10 was excavated to the east of Trench 2<sup>2</sup>, adjacent to the base of Column #10 (Map 06). The trench measured 12' N-S and 8' E-W. The stratigraphy in Trench CB-10 consisted of various layers of modern fill as well as similar concrete and Belgian block surfaces observed in the previously excavated catch basin trenches (Image 07). Additionally, large metal pipe fragments (12" dia, and 8" dia) were encountered in the fill at approximately 7.1' bgs, indicating modern disturbance throughout the trench. The overall depth of the excavation reached 9.4' bgs, with water appearing at the base of the excavation around 8.4' bgs. No archaeologically significant findings were identified in this trench.

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<sup>2</sup> Trench 2 is discussed later as part of the Drainage Trench Excavations.



Image 07: East profile of Trench CB-10.

### *Catch Basin 11*

Trench CB-11 was excavated north of the base of FDR Column #11 and measured 13' N-S and 10.25' E-W (Map 06). Excavation reached a maximum depth of 8.5' bgs. Stratigraphy observed in the east half of the trench varied from the previous catch basin excavations. Beneath the concrete and asphalt surface were just two fill strats; a yellowish sand fill (2.5Y 6/2) from 1.2'-3.55' bgs and brownish fill (10YR 4/3) from 3.55'-8.5' bgs. Loose rounded wood timbers were recovered from the brown fill stratum in the east half of the excavation at approximately 7' bgs (Image 08), although exact depth and position were unclear as water began entering the trench around the same depth and obscured the remaining excavation. The timbers were roughly 6-7" in diameter and of varying lengths between 2 and 6' long. The timbers were splintered on the ends and in the same context as discarded conduits. These timbers were possibly the remains of wooden cribbing structures that facilitated the filling in of the shoreline in the nineteenth century but have been severely disturbed. No archaeologically significant findings were identified.





Image 08: Possible cribbing timbers in Trench CB-11.

## DRAINAGE TRENCH EXCAVATIONS

Trenches 1-3 were actually one very long trench, excavated between Gouverneur Lane and Wall Street, from FDR Column #9 to Column #11. Trenches 4-8 were also one very long trench, excavated between Maiden Lane and John Street, from FDR Column #19 to #23. The trenches are divided and discussed according to location between the FDR columns to facilitate recordation/organization.

### *Trench 1*

Trench 1 was excavated to the north of CB-9 along the South Street eastern curb line for the installation of a drainage pipe between FDR Columns #9 and #10 (Map 06) (Image 09). Trench 1 measured 11' (E-W) from the curb line and 63.25' (N-S). This trench was excavated to a maximum depth of 8' bgs, although the western 5' was only excavated to 3' bgs due to the presence of North-South running Consolidated Edison (ConEd) feeder utility lines. In the first 10' of the trench north of CB-9, stratigraphy remained similar to that seen in the west half of CB-9, as a result of the continuing utilities and other modern disturbances. The stratigraphy of TR 1 changed after approximately the first 10', at about the point where an East-West running pipe crossed the trench at 2.5' bgs. From approximately 5.5'-8' bgs in the southernmost portion of the trench, stratigraphy consisted of brown fill consistent with historic fill in the area, but no artifacts were observed during excavation.

Proceeding north along the trench, layers of concrete and a dark black-brown soil alternated underneath the paved pedestrian surface on the east side of the trench to approximately 2.5' bgs, forming Stratum I. A tan-brown lens of soil reoccurred occasionally beneath these layers as well as the reddish fill observed in catch basin excavations on site (Stratum II). This reddish fill contained some brick and brick fragments, although nothing was articulated to suggest the existence of a feature. An oyster shell was observed near the base of excavation in this fill. The very base of excavation began to uncover the darker fill that suggests historic deposits, but no artifacts were visible in the profile or recovered from the excavation.

The stratigraphy in TR 1 was interrupted by a large East-West running utility, 18" in diameter, intersecting perpendicularly with the trench at approximately 38' north of the northern edge of FDR Column #9 (Image 10). The utility was surrounded by a layer of clean yellow sand, 2.5Y 6/2, atop which was clean light brown clean fill, extending less than 1' on either side of the utility in the eastern profile. The clean fill sand is typical of utility backfill and was also present along the west half of the trench surrounding the ConEd feeders (Stratum III). No archaeologically significant findings were identified in this section of trench.



Image 09: Beginning of excavation of Trench 1 abutting Trench CB-9.





Image 10: Trench 1 east profile, interrupted by 18" utility and associated modern fill 37' N.

## *Trench 2*

Trench 2 was excavated between FDR Columns #10 and #11 (Map 06). The trench measured 80' (N-S) and was excavated to maximum depth of 8' bgs, most of which was within modern fill soils. The total width of the trench measured 10.75' wide from the east curb line, although the western 4.5' was only excavated to a maximum depth of 1.85' bgs due to the known location of North-South running ConEd feeders below.

A continuation of the stratigraphy observed in Trench 1, soil in the trench consisted of primarily modern fill deposits with evidence of previous modern surfaces, indicated by concrete and asphalt layers at 1.85-3.4' bgs in the east soil profile (Stratum I) (Image 11). Below 3.4' bgs, brown fill (10YR 3/4) appeared (Stratum II) followed by slightly reddish sandy fill (7.5YR 4/4). The brown soil was reminiscent of historic fill deposits that have been found in the area, but no artifacts were recovered from this stratum. Like Trench 1, the reddish soil stratum contained a distinct layer of brick and mortar fragments which began at approximately 6' bgs. The coloration of this layer is attributed to the brick fragment content of the soil. As excavation moved northward between 30'-55' N of FDR Column #10, the brick and mortar layer descended and became thinner (Image 12). The line of brick fragments appeared between 6.75 and 7' bgs and within the same brown fill stratum of Stratum II. In this section, the brick also appeared between two hydric layers. No discernible form or structure was identified; brick fragments were likely from demolition of a previous structure in that place. This deposit had also been disturbed by an east-west running 16" pipe present at approximately 57' north of FDR Column #10.

Wood debris was also identified in this portion of the trench, but it is likely that the wood fragments are the remains of old wood sheeting and not from a historic context. The remains of wood sheeting for the installation of the 16" pipe was still visible in the east profile of the trench (Image 13). A large concrete manhole also appeared in the west half of the trench from a 62.5' to 78' north of Column #10 and according to the north profile Trench 2, the builder's trench for the manhole began at just 2' west of the east curb line, indicating significant modern disturbance to the area. The stratigraphy around the several utilities in the trench consisted to 2.5Y 6/2, yellow sand typical of fill used to bury modern utilities. The manhole box was 15.5' long, ending 2' south of Column #11 in soils that were likely further disturbed by the installation of the foundation of the column.



Image 11: Trench 2 East profile from MH #10 to 27' N, brick and mortar at 6' bgs.





Image 12: Trench 2 East profile from approximately 31-46', thinner layer of brick fragments towards base of excavation.



Image 13: East profile of Trench 2, and E-W running pipe at 57' N of FDR Column #10.

### *Trench 3*

Trench 3 marked the last drainage trench excavation in the area south of Wall Street. Trench 3 was located on the west side of the curb line that bounded Trench CB-11; it measured 13' North-South and 7.25' East-West and was excavated to 7.75' bgs (Map 06). Stratigraphy in this trench varied from the other trenches to the south. More wood debris was encountered in the excavation beginning at 2' bgs and was associated with large stone and concrete pieces as well as a lot of loose brick (Image 14). The east profile was obscured by the presence of old wooden sheeting (the same as that encountered in the west wall of CB-11) and utility sand in the west profile (Stratum III). Some wooden timbers were possibly observed in the floor of the excavation however water entering the trench obscured identification. No other artifacts or archaeologically significant features were identified.



Image 14: Wood and other debris in Trench 3.



#### *Trench 4*

Trench 4 abutted the east curb line of South Street, adjacent to FDR Column #19, and was excavated to install Manholes #12 and #13 and connection to Catch Basin #11 at Column #19 (Map 07). The northern boundary of the trench was in line with the southern edge of the base of Column #19. The total dimensions of the trench measured 14' (North-South) by 25.3' (East-West). The eastern portion of Trench 4 (14' x 18') had been opened and excavated to install a section of 16" pipe (Image 15). This part of the trench was excavated to approximately 7.5' below ground surface (bgs), measured from the esplanade, and was partially backfilled behind the installed pipe. A 20" high-pressure water main had been exposed at 5.5' bgs impeding further installation of the drainage pipe; its center was approximately 14.6' west of the east curb line (Image 02). This impediment resulted in the expansion of the trench 7' to the west for a total length of 25.3' (East-West) (Image 16).

The western expansion of the trench was excavated to a maximum depth of 2.85' bgs, halting on top of two sets of four, 4" electrical feeders (Image 17). During excavation of this expansion, as material fell into the previously opened trench, the area west of the 20" water main was excavated further (Image 17). This portion of Trench 4 terminated at approximately 8.5' bgs.

Stratigraphy in Trench 4 consisted of large sections of modern fill deposits. Beneath the 1.75' thick road base, two distinct fill deposits were observed. As mentioned previously, stratigraphy in the first 8.4' length of trench beginning from the east curb was not observed, however it is likely that the soils were similar to that seen in the next 4', a 10YR 3/4 sandy silt loam indicative of modern backfill (Stratum II). Stratum II was present from beneath the concrete road base to the base of the excavation (1.75' - 7.5' bgs). This observation is consistent with soils observed in early excavations near the foundations of the FDR columns. The second type of fill soil was characterized as yellowish brown sand, 10YR 6/2, that is common of backfilling for utilities (Stratum III). Stratum III was present west of Stratum II, from 12.5' west of the east curb line to 18.5' west and from beneath the concrete road base to the base of the excavation (1.75' - 8.5' bgs). Stratigraphy beneath the 4" electrical feeders was not observable in the westernmost 7' of the trench due to undercutting of the trench, although it likely consists of clean sand/utility fill as well.



Image 15: Trench 4 excavation upon arrival on site, eastern portion backfilled behind new pipe.



Image 16: Excavation of western expansion of trench.





Image 17: Excavation in the space between 20" water main and western expansion, which exposed ConEd feeders, from 15.5' west of east curb line to 18.5' west of east curb line.

### *Trench 5*

Trench 5 was excavated between FDR Columns #19 and #20, beginning at the south edge of the base of FDR Column #19, which was also the northern boundary of Trench 4 (Map 07). Trench 5 totaled in length 80.75' (North-South) and was excavated to a maximum depth of 10.75' bgs. The trench measured 5' (East-West) up to approximately 38' north of FDR Column #19 and was located between 11.25' and 16.25' west of the current South Street east curb line. Excavation followed the path of the abandoned 20" high-pressure watermain (WM), the center of which was located at 12.85' west of the curb line at 5.9' bgs. The WM was removed as excavation progressed.

At approximately 20.25' N, Trench 5 shifted eastward towards the curb to mitigate intrusion by the large concrete manhole between 38.5' and 54' north and to continue following the abandoned 20" WM (Image 18). The eastern boundary of the trench here was shifted to 6.67' west of the east curb line. The concrete ConEd manhole formed the western boundary of the trench, 14.67' west of the east curb line. Trench 5 east of the manhole was excavated to a max depth of 8.85' bgs. Moving north of the large manhole, the trench gradually moved closer towards the curb line as it followed the 20" WM. At the end of Trench 5 (between 71'-80.75' north of #19), the trench was 3.5-11.5' west of the curb line. The trench measured between 7.5' and 8' wide, varying as a result of the unstable trench walls.

During excavation of the trench adjacent to the large manhole, a remnant of historic bulkhead was exposed in the east wall of the trench between 44.25' and 49.5' north, 5.5' west of the east curb line. The bulkhead section was designated Feature 2. The bulkhead consisted of 7 vertical timbers east of a 12x12" horizontal timber, at 4' bgs (Image 19). There was a metal bolt in the southernmost vertical timber. The ends of the horizontal timber were obscured by persistent cave-ins of the soil but could continue north and south beyond the remaining vertical timbers. The entire structure was previously impacted by twentieth century development in the area.

Stratigraphy in the trench was consistent with fill previously observed during drainage excavations. Stripping of the road base to 2.33' bgs revealed primarily 10YR 4/3 fill down to 8.75' bgs (Stratum II). Stratum II was observed primarily in the eastern portion of the trench, up to 6.75' west of the curb line. Stratum III (2.5YR 6/2 sandy fill) was observed around utilities throughout the trench, including the large 20" WM, from approximately 6.75' west of the curb line to the western boundary of the trench (Image 19). In areas that were excavated to 10.75' bgs, Stratum IV was encountered beneath the WM, 10YR 2/1. However, this difference in color could just be a result of the hydric conditions at that depth due to regular, heavy flooding. The floor of the trench was usually obscured by 2' of groundwater resulting in muddy, unstable soils.





Image 18: Trench 5 shifted a few feet eastward towards the curb to mitigate intrusion by the large concrete manhole between 38.5' and 54' north of Column #19.



Image 19: Feature 2 consisting of 7 vertical timbers behind a long, 12x12" horizontal timber.





Image 20: Trench 5 - Stratum II and Stratum III in the north profile.



## *Trench 6*

Following installation of MH #14 at the end of Trench 5, excavation continued into Trench 6, between FDR Columns #20 and #21 (Map 07). The North-South running ConEd feeders continued to serve as the western boundary of Trench 6 at 14.5' west of the east curb line. The trench measure at total of 9.5' wide with 4" metal ducts forming the eastern boundary of the trench at 5' west of the east curb line. The trench measured 82' (North-South) and was excavated to a maximum depth of 10' bgs, but most of the trench was excavated to only 7.4' bgs. Several utility structures were located in the trench. From 13.5- 20.5' north of FDR Column #20, there was a concrete manhole located 7.15' west of the curb line. The manhole base was at 6.83' bgs. At 27.75' north of #20, a combined sewer pipe with concrete cradle ran east-west in the trench. The top of the pipe was 5.3' bgs, base at 7.5' bgs. The combined sewer had been previous impacted by the installation of the 20" WM. At 38.25' north of #20, a 12" sewer pipe ran east-west in the trench at 2.67' bgs. As a result of the many utilities, stratigraphy in the trench was primarily composed of mixed fill contexts (Image 21).

Starting at approximately 58.85' north of FDR Column #20, as unstable soils caused the trench walls to collapse, the west wall was extended to 15.4' west of the curb line. This expansion revealing another bulkhead section (Feature 3) (Image 22). Feature 3 extends from 38.25' to 52.95' north of FDR Column #20 and lay beneath the north-south running ConEd feeders at 4.6' bgs. Like Feature 2, Feature 3 is composed of connected vertical timbers behind a 12"x12" horizontal timber. The southern end was previously disturbed, likely by the installation of the east-west running sewer at 38.25' north. The northern end was disturbed by the 6' wide, east-west running sewer between 58.85' north and 64.85' north (Image 23). Feature 3 is not part of the same bulkhead as Feature 2. Feature 3 was located approximately 15' west of the east curb line while Feature 2 was located 5.5' west of the east curb line.



Image 21: Trench 6, mixed fill soils in excavation.



Image 22: Trench 6, Feature 3 beneath ConEd feeders.



Image 23: Trench 6, Feature 3 northern end abutting and disturbed by concrete sewer.

### *Trench 7*

Trench 7 was excavated between FDR Columns #21 and #22 (Map 08). The trench measured 9' (East-West) and 82.5' (North-South), excavated to a maximum depth of 9.6' bgs. At the beginning of excavation, the trench was located between 5.5' and 14.5' west of the east curb line. As excavation progressed north, the trench gradually moved closer to the east curb line to continue following the north-south running 20" WM. At approximately 60' north of Column #21, the eastern boundary of the trench was as close as 4.7' west of the curb line, but this varied greatly as the east wall of the trench could be unstable and collapsed at various sections. Generally, Trench 7 varied between 8.5 to 10' wide, not including the western expansion of Trench 7. By the end of the trench, the eastern boundary had gradually moved west again so that the eastern boundary of the trench was 7' west of the east curb line.

The north-south running ConEd feeders identified previously continued in the trench, forming the west boundary of the excavation at 14.5' west of the east curbline. Like the east wall, soils in the west wall were also unstable. Between approximately 4.5' N and 24.75' N of Column #21, portions of the west wall collapsed beneath the feeders and revealed another section of bulkhead (Feature 4). Feature 4 was made up of vertical timbers, with two metal bolts visible in the planks. The timbers were located 15.3' west of the east curbline. The bulkhead section did not continue beyond 24.75' N; the bulkhead was disturbed by an E-W running 12" WM. The top of the feeders were obscured by the feeders but the depth is approximately 4.5' bgs.



At 43.7' north of FDR Column #21, the trench was expanded westward. It became necessary to fully expose the feeders in order to wing them back to accommodate MH #15. Between 43.7' north of FDR Column #21 and 13.5' north of FDR Column #22, the western boundary of the excavation was located 20.9' west of the east curb line (Image 24). During excavation of this western expansion, another section of bulkhead was uncovered beneath the ConEd feeders. The highest point of the bulkhead was at 4.5' bgs, between 59.5' and 74.75' N of FDR Column #21, approximately 15.2' west of the east curb line and is a continuation of Feature 4 (Image 25).

Only the western face of this bulkhead section was visible, compared the eastern face observed in the other features. The western expansion was excavated to maximum depth of 6.2' bgs around the bulkhead, revealing just the top 1.7' of bulkhead, but only 4.8' bgs everywhere else. The bulkhead had obviously been impacted by the installation of the feeder pipes but continued northward beneath the feeder pipes beyond the scope of excavation in Trench 7 western expansion. Excavation into Trench 8 revealed that Feature 4 continued beneath the feeders (Image 26). Feature 4 ended at 24.2' north of Column #22 where a large east-west running 18" metal pipe and its concrete cradle impacted the bulkhead (Image 27).

Similar to previous trenches, several utilities were present throughout the trench resulting in modern fill soils. In addition to the 20" WM, several east-west running pipes and concrete objects were observed in the trench. From 38.4' to 40.75' north of Column #21, a large concrete slab was uncovered in the floor of the trench at 7.9' bgs. At 50.4' north of Column #21, a 6' wide east-west running combined sewer was identified at 5.9' bgs. These modern intrusions, among others, contribute to the heavily disturbed stratigraphy. No archaeologically significant findings were identified in the trench.

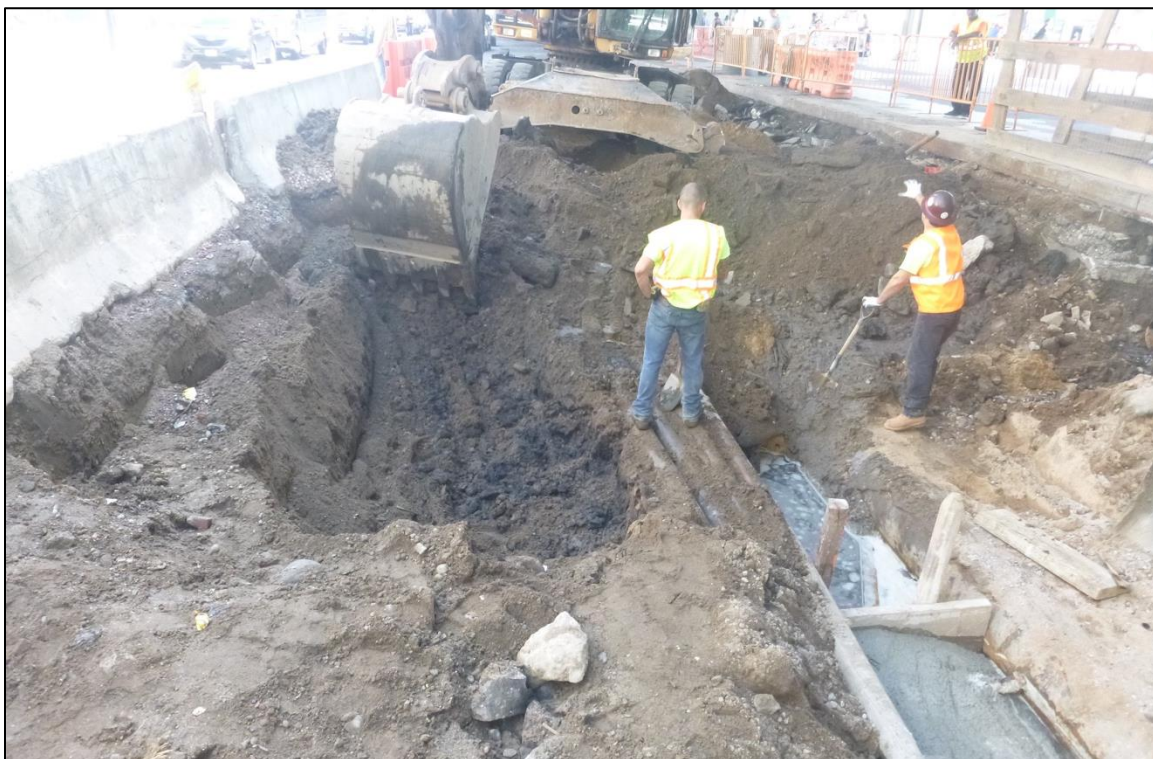


Image 24: Trench 7 western expansion to wing back feeders.





Image 25: Trench 7 western expansion, Feature 4, west face of bulk head visible.



Image 26: Trench 7/8, Feature 4 present south of new CB in Trench 7 and continues north of CB into Trench 8; facing south.



Image 27: Trench 8, Feature 4 on west wall of trench, abutting 18" pipe and concrete cradle.

### *Trench 8*

Trench 8 was the final trench excavated within the project area. Approximately 35.75' of Trench 8, beginning at FDR Column #22, was monitored (Map 08). Based on the subsurface characteristics of the project area observed to date, it was determined that the Unanticipated Discoveries Plan would be implemented for the remaining 53.25', up to Column #23.

Trench 8 measured 5' (east-west) between 10'-15' west of the east curb line where fully excavated to maximum depth of 8.8' bgs, although the area was opened up as close as 7' west of the curb line. Like the trenches before it, Trench 8 was marked by heavy utility disturbance. The 20" WM continued north-south in the trench in the east wall of the excavation at 10' west of the curb line. The fill surrounding the 20" WM is consistent with Stratum III (2.5Y 6/2 yellow sand fill) beneath 0-2.6' bgs of layered modern fill making up the road base (Image 28). In the west half of the trench, the soil is primarily Stratum II, modern fill, but mixed the yellow sand. This mixed context is likely the result of the repeated excavations in the area to install different utilities over time, including the previously mentioned 18" pipe at 24.2' north of Column #22 that impacted Feature 4 (Image 29). Likely a result of heavy utility disturbance, no further archaeologically significant resources were identified.





Image 28: Trench 8, excavation in progress. Stratum II surrounding 20" WM in East Profile.



Image 29: Trench 8, mixed fill soils in west half of excavation due to heavy utility disturbance.

## VI. SUMMARY AND CONCLUSIONS

The Phase IA concluded that significant changes to the environment and landscape have made it highly unlikely that any prehistoric resources remain in the project area. These changes also lessen the potential for recovery of cultural resources from the historic period. However, the location of the APE adjacent to the South Street Seaport Historic District suggested some level of potential for the recovery of historical resources, especially considering that archaeological investigations nearby have produced significant archaeological finds (AKRF 2011 and Chrysalis 2018).

Despite that proximity, monitoring along the eastern half of South Street between Old Slip and Fulton Street identified minimal archaeological resources. There were modern fill deposits throughout all of the trenches excavated, attributed to the heavy utility disturbances. There were no distinct *in situ* artifact concentrations or intact features, but four disturbed archaeological features were documented as part of this project.

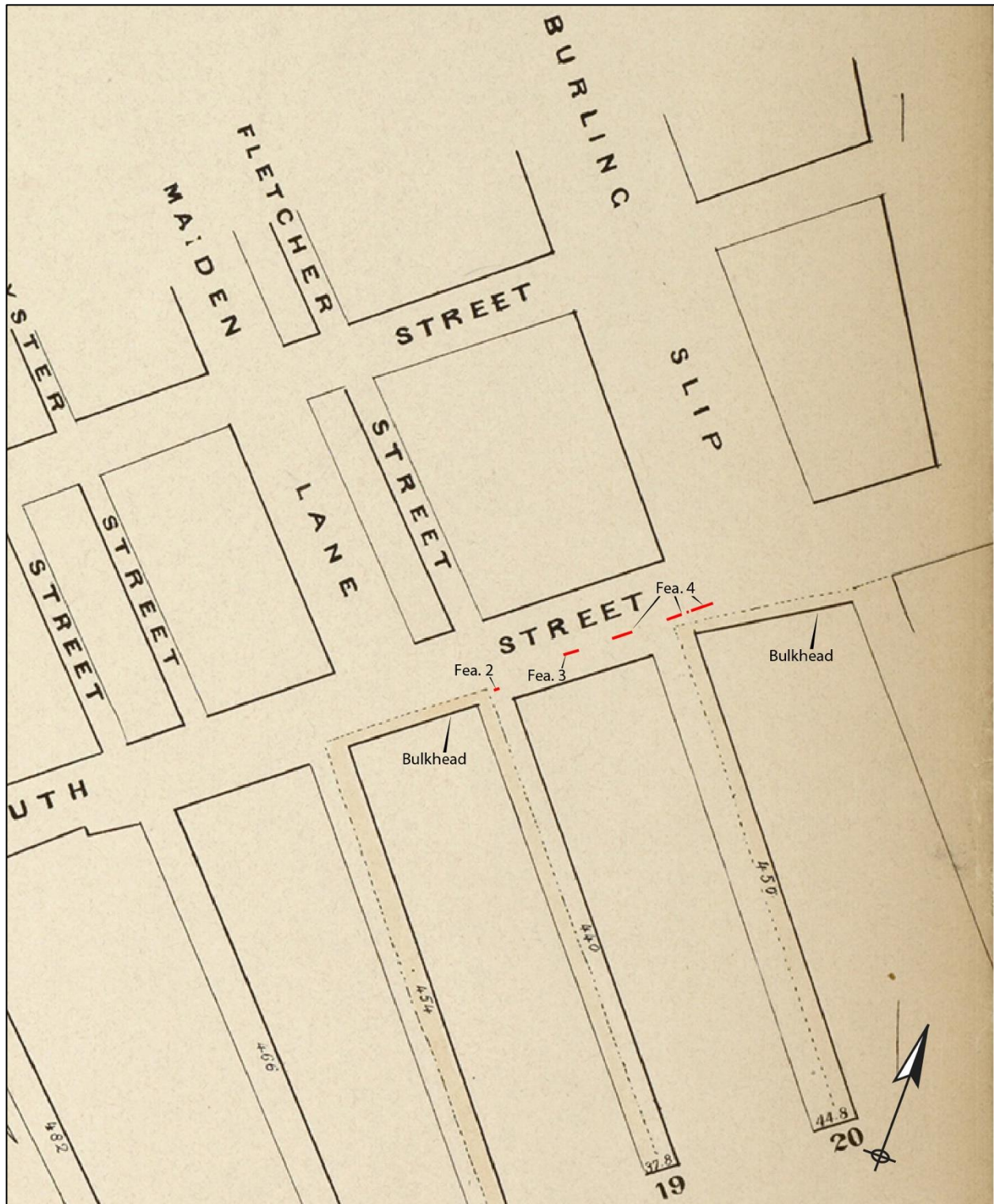
Feature 1 was a previously unidentified cobblestone layer appearing in the profiles of Trench CB-6 and CB-8. Cobblestone surfaces have been exposed in other areas of the South Street Seaport area (Chrysalis 2018). While these cobbles could represent some similar feature, there was limited information, due to construction circumstances, to make any such determination. The absence of diagnostic material associated with the cobblestone as well as the presence of concrete and mortar beneath could suggest that the cobblestone does not represent a significant historic feature. There were no artifacts or intact resources associated with the cobblestone to aid in determining a date. The brick and mortar noted beneath the cobblestone consisted of a few scattered fragments from within a disturbed fill context. No specific date or structural context could be ascribed to these fragments. However, given the cobblestones' horizontal location between the modern bulkhead and nineteenth century bulkhead line (as determined by Features 2 - 4), it can be inferred that the cobblestone was deposited sometime post-1900. According to the Phase IA results, no additional structures apart from the nineteenth century bulkhead had been built in this portion of the APE between 1840 and 1900; the modern bulkhead was completed in the APE in 1904 and involved years of extensive dredging up to approximately 42.5 feet inland from the water line (HPI 2007).

Features 2 thru 4 were bulkheads sections, the remains of mid-nineteenth century to early-twentieth century bulkhead structures associated with historic Fly Market Slip (Maiden Lane) and Burling Slip (John Street). These bulkheads can be identified on historic maps of the wharves and piers of the East River (Map 09). The sections exposed were uncovered more than 42.5 feet inland from the modern bulkhead line and were not fully impacted by dredging for the bulkhead. However, while these sections are considered *in situ*, modern fill and heavy utility concentrations surrounded the features on all sides indicating that the structures have been significantly impacted by other, or additional modern development in the area. The utilities that run parallel or through these structures also impacted these features. These features are similar to other and more intact structures that are already known to exist in the area (see Chrysalis 2018 and AKRF 2011). For example, a section of early-nineteenth century bulkhead with a continuous length of approximately 190 feet was uncovered to the west, and slightly north, of the APE on the north half of John Street (Burling Slip) (AKRF 2011: 3-1). The bulkhead was a part of the wharf that was in place before Burling Slip was filled. The intact and extensive nature of the bulkhead lent to the determination



that the Burling Slip Bulkhead was historically significant and met criteria for inclusion on the State/National Register of Historic Places under Criterion D (AKRF 2011: 4-5). The bulkhead features uncovered in the present APE represent neither intact nor extensive examples of nineteenth century wharf structures and offer little information regarding such structures other than existence itself.

Past construction activities involving the FDR Highway construction, repeated excavation and re-grading of the area, and the installation of buried modern utilities have undoubtedly impacted significant historic resources. However, sub-surface construction excavation has definitively demonstrated that archaeological features were present in the area, including those listed as potential finds in the Phase IA review. The presence of *in situ* archaeological resources in the South Street area indicates that features like eighteenth and nineteenth century deposits, river bottom remains, sunken vessels, and nineteenth century landfill retaining devices and wooden water mains, among other resources, may still be present between 2' and 40' along the streets immediately adjacent to the East River. As a result, the potential for future construction activities to impact significant archaeological resources remains present and archaeological monitoring should be taken into consideration in any planning and execution phases of future works.



Map 09: *Maps of the Wharves & Piers on the Hudson and East Rivers, from the Battery to 13<sup>th</sup> St, New York (1855)* showing the historic bulkheads and piers and approximate location of uncovered features (red). Note: No scale provided on original bulkhead map. (NYPL Map Division).

## VII. REFERENCES

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Lower Manhattan Economic Development Corporation.

- 2007 Programmatic Agreement for the East River Waterfront Esplanade and Piers Project. Report on file with the New York State Office of Parks, Recreation and Historic Preservation Office. Albany, New York.

## Appendix A:

### Unanticipated Discoveries and Archeological Monitoring Plan



To: New York State Office of Parks, Recreation and Historic Preservation  
City of New York – Landmarks Preservation Commission  
City of New York – Economic Development Corporation  
City of New York – Department of Transportation  
Jacobs Engineering

From: Alyssa Loorya, M.A., MPhil., R.P.A., and Christopher Ricciardi, Ph.D., R.P.A.

Re: Phase IB Archaeological Monitoring Plan, Unanticipated Discoveries Plan and Human Remains Protocol for the South Street South Reconstruction from Old Slip to Fulton Street, New York, New York Project (NYC EDC Contract No. 17060019 and NY SHPO: 16PR06025 South Street Reconstruction)

Date: June 30, 2017 (**Revised**)

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## **INTRODUCTION**

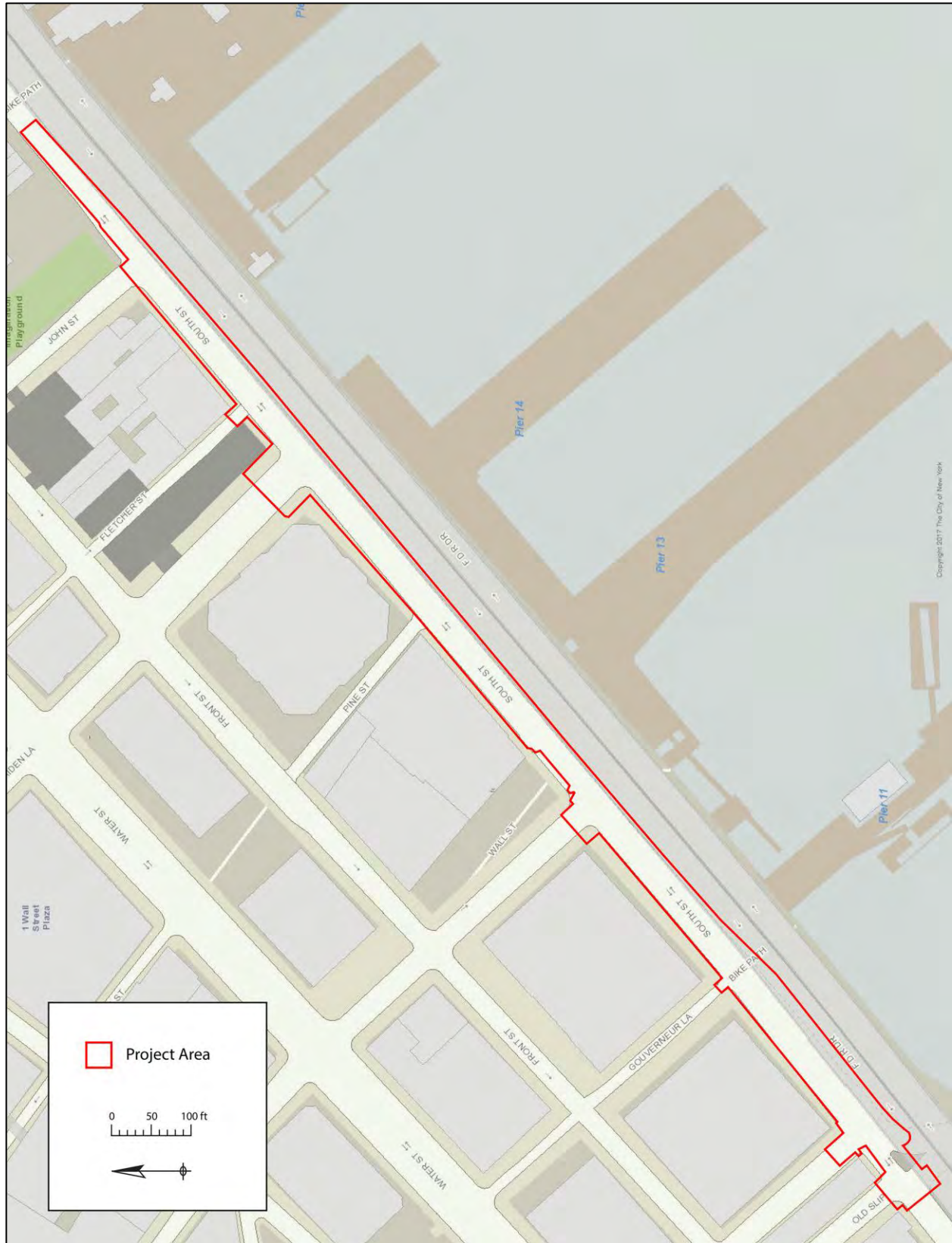
Jacobs Engineering (Jacobs) on behalf of the New York City Economic Development Corporation (NYC EDC) contracted Chrysalis Archaeological Consultants, Inc., (Chrysalis) to provide all Cultural Resource Management (Archaeological) services for the South Street South Reconstruction from Old Slip to Fulton Street, New York, New York Project (NYC EDC Contract No. 17060019 and NY SHPO: 16PR06025 South Street Reconstruction). The project area spans South Street between Old Slip and Fulton Street in New York (New York County), New York (Map 01).

This document consists of two components: the Archaeological Monitoring and Unanticipated Discoveries Plan. The NYC EDC established the overall project area, the Area of Potential Effect (APE) as the entire project area listed above and outlined in Map 02.

This plan is provided to the New York State Office of Parks, Recreation and Historic Preservation (NY SHPO) and the City of New York – Landmarks Preservation Commission (NYC LPC), the two Cultural Resources Regulatory Agencies for the project and the NYC EDC for review, approval and implementation. It describes the procedures and tasks to be performed as part of the Cultural Resources portion of the project and what is to occur in the event that archaeological and/or human remains are exposed when the project archaeologist is not on site.



Map 01: USGS – Jersey City Quadrangle, 2016



Map 02: Project area map.



The purpose of the overall cultural resources project guided by this Archaeological Monitoring and Unanticipated Discoveries Plan is to: 1) determine whether the project area contains significant cultural resources (i.e. National Register Eligibility, etc.) and/or human remains; 2) develop a historical and archaeological context(s) for the interpretation and evaluation of any potential cultural or archaeological resources that are or may be present within the Area of Potential Effect (APE); 3) potentially recover significant buried cultural resources; 4) detail protocols to be followed in the event that either fragmentary or *in situ* human remains are discovered; 5) outline the lines of communication and protocols that will be employed throughout the process, including when an archaeologist is not on site; 6) detail what steps will be taken in the event that significant unanticipated archaeological remains, including, but not limited to, human remains, are uncovered; 7) outline the laboratory process to be followed, if required; and 8) provide all necessary services related to the cultural resource process during the overall project.

The archaeological tasks required as part of the Phase IB project include:

1. Preparation and development of an Archaeological Monitoring and Unanticipated Discoveries Plan, based on the current Scope of Work provided by Jacobs and NYC EDC.
2. Outline procedures and protocols to be followed by the project if significant material or human remains are exposed during the course of the project, including in areas where archaeological monitoring is not required.
3. Conduct Archaeological Monitoring and/or Testing of the project area based on the archaeological sensitivity; conduct laboratory analysis of any material remains recovered (i.e. cleaning, cataloging, and creation of a database of the remains); and conduct recordation and analysis of any human skeletal remains, if discovered, throughout the project.
4. Produce a draft and final report of the results.
5. Based on the results of what is uncovered in the field, develop either Phase II or Phase III Mitigation Plans, if needed.
6. Provide all additional related cultural resource management services that may arise, including participation in project delivery team meetings and consultation with review agencies and interested parties.



## **PROJECT DESCRIPTION**

The project will reconstruct South Street from Old Slip to Fulton Street in the Borough of Manhattan, New York. The project is classified as a locally administered federal aid project, providing capital street reconstruction and streetscape improvements, as well as providing improved waterfront access for pedestrians and bicyclists. This project is one component of the East River Waterfront Esplanade and Piers Project, administered by the New York City Economic Development Corporation (NYC EDC). The proposed scope of work includes complete reconstruction of South Street between Old Slip and Fulton Street, with drainage improvements, new street lighting and tree plantings along the west sidewalk. This project is being implemented under a joint collaboration between the City of New York - Department of Transportation (NYC DOT) and NYC EDC.

## **CULTURAL RESOURCE REGULATIONS**

For cultural resources and structures, the National Historic Preservation Act (NHPA) and the Advisory Council on Historic Preservation (ACHP) define, under ‘Section 106 Regulations’, that federal agencies (and other governmental agencies using federal funds) must consider the effects of their actions on any properties listed on, or determined eligible for listing on, the National Register for Historic Places (NR). Likewise, the State Historic Preservation Act (SHPA) and the (New York) City Environmental Quality Review Act (CEQRA) require that agencies must consider the effects of their actions on any properties listed on, or determined eligible for listing on, the State and City Register for Historic Places.

The proposed work will be conducted in accordance with the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation’s “Protection of Historic and Cultural Properties” (36 CFR 800). The investigation will also be conducted pursuant to NY SHPO and NYC LPC guidelines for such projects (New York Archaeological Council [NYAC 1994; 2000; 2002]). The cultural resources specialists who will perform this work satisfy the qualifications specified in 36 CFR 61, Appendix A as well as those outlined in the Landmarks Preservation Commission Guidelines for Archaeological Work in New York City (2002).

## **SUMMARY OF ARCHAEOLOGICAL SENSITIVITY**

The project area is located within the boundaries of the East River Waterfront Esplanade and Piers Project. In 2007, concern for the work being conducted in the South Street Seaport Historic District and potential impacts to the historic East River bulkhead as part of the East River Waterfront Esplanade and Piers project led to the development of a Programmatic Agreement (PA) between Lower Manhattan Development Corporation (LMDC) and NY SHPO. The PA set forth a plan to mitigate or avoid any potential adverse effects on historic resources that might be identified as the design process of the current project moved forward. This required the completion of a Phase IA study to examine the potential for archaeological resources in the outlined APE and Archaeological Monitoring/Testing, if necessary (LMDC 2007).

Historical Perspectives, Inc. (HPI) completed a Phase IA review of the East River Waterfront Esplanade and Piers project (HPI 2007) and Archaeological Field Monitoring and Soil Boring Analysis Report (HPI 2008).

## **PHASE IA RESULTS**

The Phase IA review concluded that significant changes to the environment and landscape have made it highly unlikely that any prehistoric resources remain in the project area. These changes also lessen the potential for recovery of cultural resources from the historic period. The original Lower Manhattan water line generally followed the path of Water Street, except between Wall Street and Fulton Street where there was a shallow cove, and the shoreline was at Pearl Street. The current shoreline was entirely underwater until the earliest landfilling activities began between 1744 and 1754. In the project area, landfilling was not officially undertaken until 1798. By 1811, most of APE had been filled except for where there were still functioning slips: Old Slip, Coffee House (Wall Street), and Burling Slip (John Street). These slips would eventually be filled by 1835. Bulkhead structures followed in the late-nineteenth to early-twentieth centuries.

As a result of these landfilling activities, the Phase IA review lists the following categories of potential archaeological remains that could be found in the APE: eighteenth and nineteenth century landfill retaining devices, deposits, river bottom remains, sunken vessels, and nineteenth century wooden water mains. These remains could be present anywhere between .6m (2') and 12.2m (40') below ground surface (bgs) and between the surface paving and bedrock. Additionally, buried modern utilities have the potential to impact some archaeological resources, although not all as some of these resources may be buried as deep as 12.2m (40') bgs.

## **ARCHAEOLOGICAL FIELD MONITORING AND SOIL BORING RESULTS**

In 2008, HPI monitored the excavation of test pits/soil borings to assess the potential of finding intact archaeological resources in the APE. The boring data collected in the subsequent Archaeological Field Monitoring and Soil Boring Analysis Report confirmed that dredging, bulkheading, and filling activities prior to 1800 had limited any potential prehistoric and early historic resources from remaining intact in the area. Soil boring logs indicated the absence of river mud strata and significant fill deposits between 4.6m (15') and 12.2m (40') bgs (HPI 2008).

Field Monitoring data collected from two test trenches excavated to determine the size of the FDR Drive column footings concluded that the area of disturbance for the installation of the columns is approximately 4.6m (15') by 4m (13'), to approximately 1.8m (6') bgs. Therefore, only the areas extending beyond the 2.1m (7') radius of each FDR Drive column is to be considered archaeologically sensitive (HPI 2008).

## **PHASE IB ARCHAEOLOGICAL PLAN PROTOCOLS**

Phase IB fieldwork is designed to ascertain the presence/absence, type, and extent of archaeological resources within a site. Its ultimate goal is to determine whether significant (i.e., National Register [NR] eligible) resources that could be adversely affected by project construction are extant within the APE.

The following sets forth the plan for Phase IB archaeological monitoring and investigation for the South Street South Reconstruction Project. It describes additional mitigation measures that will be undertaken should archaeological resources be encountered during the archaeological investigations, including artifact analysis such as laboratory work, written reports, and further documentary research, if necessary.

### **ARCHAEOLOGICAL MONITORING**

Archaeological monitoring is defined as “the observation of construction excavation activities by an archaeologist in order to identify, recover, protect and/or document archaeological information or materials” (NYAC 2002:2).

For this project site, the Area of Potential Effect (APE) was determined by NYC EDC based on the results of the approved Phase IA for the project. The areas to be archaeologically monitored as presented in Maps 03 and 04 (split due to map size only).

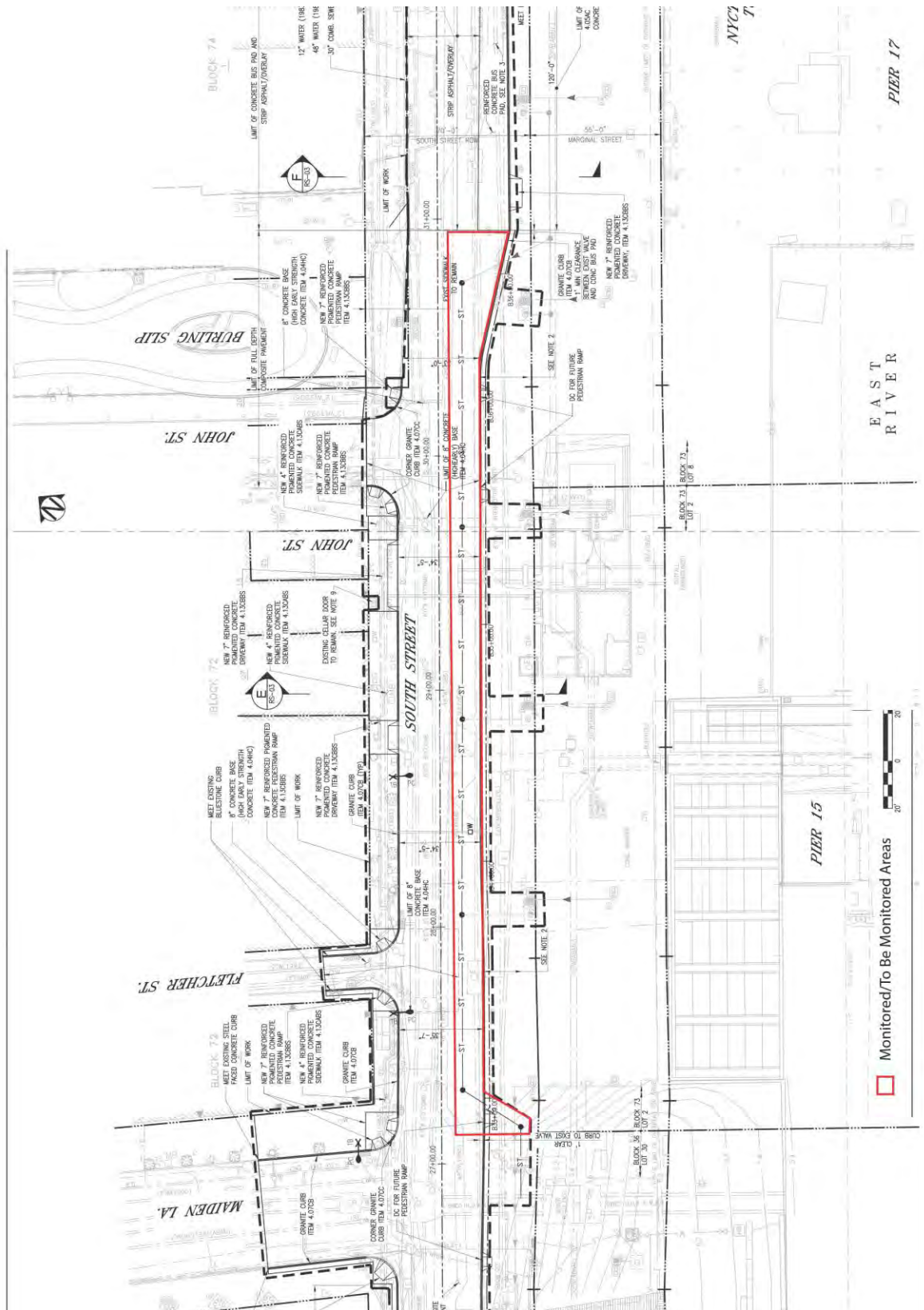
All monitoring activities will be in compliance with NYC LPC’s Guidelines for Archaeological Work in New York City (LPC 2002) and NYAC’s Guidelines for the Use of Archaeological Monitoring (NYAC 2002). The archaeologist(s) will maintain drawings, photographs, and descriptions of all encountered resources as well as an up-to date log of all monitoring activities, including the date, time, and duration of all monitoring episodes, accompanied with a description of the activity being monitored.

Archaeological Monitoring will occur in the excavation area along the eastern portion of South Street. Removal of the concrete and/or asphalt surfaces does not require archaeological monitoring. Monitoring will occur until the final construction depths are reached in all archaeologically sensitive areas and/or if the archaeological monitor determines the excavation to have reached sterile soil (with regard to potential archaeological deposits and resources).

An archaeological monitor is required for each excavation area as noted. If excavations requiring archaeological monitoring are occurring simultaneously in more than one area at a time, additional archaeological monitors will be required to ensure that each excavation area is monitored in accordance with the protocols. The project will provide at least 24 hours’ notice prior to the beginning of excavation work in any areas that require archaeological monitoring so that the adequate staffing resources can be provided.







Map 04: Area of Potential Effect as determined by NYC EDC (Maiden Lane to John Street).

In the event that archaeological deposits or feature are encountered, the archaeologist(s) will be permitted to temporarily halt excavation to examine the soil and potential resource(s) in the trench more closely. The archaeologist will be permitted to halt excavation for a period of up to 24 hours to allow time for photography, drawing of plan views and profiles, screening of removed soil for artifacts, removal of soil samples, hand excavation, and any other actions deemed necessary to determine the nature, extent, and potential significance of the discovery. The archaeologist will determine the level of documentation for each discovery.

If more than 24 hours is required to document a deposit or feature, then the archaeologist will notify and consult with the Jacobs' Project Manager of the additional time needed. Additional documentary research may be also necessary in order to further understand the potential significance of deposits or features.

If work stoppages occur, the construction contractor may relocate to an area or task where archaeological monitoring is not required. However, if excavation is to occur in another potentially sensitive area, the archaeological team will provide additional staff, within a minimum mutually agreed upon notification period for staffing changes, to monitor this additional area while work documenting the cultural resource occurs.

If the resources encountered are deemed significant, it will be necessary to consult with NY SHPO and NYC LPC.

If the resources encountered do not appear potentially significant, the on-site professional archaeologist will notify the appropriate construction personnel, and construction may resume.

## **GENERAL METHODOLOGY**

During all excavation, the construction contractor will provide assistance to the archaeological team, as needed. This may include, but is not limited to, pumping water from excavation areas, providing additional shoring to trenches, meeting all OSHA regulations, and machine excavation of non-sensitive levels to further reveal resource(s). Construction personnel will allow the archaeologist access to the excavation area at a maximum of 60-minute intervals, as requested, to enter and observe soils and stratigraphy within the excavation area.

If excavation depths extend below 1.5m (5'), archaeologists will observe the excavation from the street level and may request specific soil deposits be temporarily piled beside the excavation in order to closely examine them. It may be necessary to temporarily halt excavation to enter the construction excavation area in order to observe the deeper deposits.

In the event that archaeological deposits or features are encountered, professional standards for excavation, screening, recording of features and stratigraphy, labeling, mapping, photographing, and cataloging, as outlined in Federal, State and City archaeological regulations as detailed in the Cultural Resource Regulations section of this Plan<sup>1</sup>, will be applied. If intact deposits or features are identified below 1.5m (5'), all health and safety concerns will be addressed prior to the archaeologists entering the confined space to examine the deposits.

Documentation of archaeological deposits may require soil sampling or the hand excavation of features, cultural layers or test units. Screening of soils from the excavation will be based upon the judgment of the archaeologist. Soils will be screened through ¼ inch-mesh screen and excavated by natural strata or in pre-determined controlled levels. Soils from both the trenches and units will be described using the Munsell color system and standard texture classifications. All artifacts recovered during screening will be retained, with the exception of bulk materials such as concrete rubble, brick, large metal objects, ash coal, cinders, and slag. In the case of such materials, a sample will be described from each provenience and the remainder will be quantified and discarded in the field. Recovered artifacts will be bagged according to their unique provenience and transported to the laboratory for processing and analysis. A provenience log, recording the depth and location of recovered artifacts, will be created along with an artifact catalog. Soil profiles, cultural features, etc. will be described, photographed in digital format and illustrated by measured drawings in metric or Engineers scale in plan and vertical perspective, as appropriate.

If NRHP-eligible archaeological sites are identified during construction monitoring, all work will cease in the area of the discovery until NR eligibility evaluation (Phase II) and, if necessary, mitigation through data recovery (Phase III) is completed. A scope of work for the potential Phase II and/or III work will be developed in consultation with NY SHPO, NYC LPC and NYC EDC and implemented prior to further construction to retrieve significant information before all or part of the site is impacted by construction. Preparation of a scope of work for potential Phase II and/or Phase III investigation may cause a delay in construction, given the requirement for agency review and approval prior to initiating those tasks.

The project will provide a protected area within the project site or field office to temporarily store equipment and/or material remains recovered from the excavation trenches. Material remains may require temporary storage prior to transportation to Chrysalis' laboratory facility.

<sup>1</sup> As detailed in the National Historic Preservation Act of 1966, as amended, and the Advisory Council on Historic Preservation's "Protection of Historic and Cultural Properties" (36 CFR 800); 36 CFR 61, Appendix A, NY SHPO (New York Archaeological Council [NYAC 1994; 2000; 2002]) and NYC LPC's Guidelines for Archaeological Work in New York City (2002).

## **IF SIGNIFICANT ARCHAEOLOGICAL DEPOSITS ARE FOUND**

If archaeological resources are encountered that the on-site archaeologist determines to be potentially significant, e.g. appearing to meet eligibility criteria for listing on the National Register of Historic Places (NR-eligible), the archaeologist will notify all project shareholders, including, but not limited to, Jacobs, NY SHPO, NYC LPC and NYC EDC.

NY SHPO, NYC LPC and NYC EDC will be consulted to determine if further archaeological field-testing and/or mitigation is necessary. If no additional testing is required, the archaeologist will notify the construction contractor/manager that work may resume once documentation of the resource(s) has been completed. The specific time required for the documentation effort will be coordinated with the project team. The construction contractor should plan, schedule, and execute their work in a manner such that work stoppages will not result in a total shutdown of any construction work.

## **LARGE SCALE DISCOVERIES**

In the event of a significant large-scale discovery, defined as a significant discovery containing a large volume of materials, sunken vessels, and/or features that will require additional archaeological excavation for data recovery, all project shareholders including Jacobs, NY SHPO, NYC LPC and NYC EDC, will be consulted to develop a path forward meeting the needs of the potential discovery. Following this consultation it may be recommended that additional archaeological measures and resources be employed. This may include, but is not limited to, additional staffing, specialist consultants and expanded archaeological testing/excavation such as Phase II or III data recovery.

The ability to bring in additional archaeological staff and resources would allow for a more expeditious approach toward the recovery and documentation of any large-scale discoveries.

In the event of a large-scale discovery the following procedures will be followed:

1. Upon discovery, Chrysalis will halt excavation and notify Jacobs, who will, in turn, notify NYC EDC. Chrysalis will notify NY SHPO and NYC LPC.
2. A meeting will be held to discuss how to best address the discovery. If NY SHPO and/or NYC LPC determines that extensive excavation and recovery are required (i.e. Phase II or Phase III Mitigation), Chrysalis will create a SOW for the specific tasks outlined at the meeting, to include time and budget, within ten business days. The SOW will be provided to Jacobs and NYC EDC for approval.
3. Upon written approval from Jacobs, Chrysalis will bring in the additional resources required to complete the specific task(s).
4. Once the agreed upon tasks of the SOW are completed, any additional resources and services will no longer be required unless further along in the project additional large-scale discoveries are made.



## HUMAN REMAINS

Special consideration and care is required if human remains are uncovered. Any action related to the discovery of human remains is subject to the statute law as defined in the *Rules of the City of New York*, Title 24 - Department of Mental Health and Hygiene, specifically Title 24, Title V, Article 205. In addition, the NY SHPO and NYC LPC regulations regarding human remains and the New York Archaeological Council's (NYAC) policy on the discovery of human remains and items of cultural patrimony as defined by Section 3001 of the Native American Graves Protection and Repatriation Act (NAGPRA) will be taken into consideration – providing they do not conflict with the City of New York statute regulations.

This project does not anticipate encountering buried, *in situ* human remains. However, in the event that any intact, *in situ*, or fragmentary human remains are uncovered, Chrysalis will notify Jacobs, who will in turn notify NYC EDC. Chrysalis will also coordinate with NY SHPO and NYC LPC and all regulations, described above, will be adhered to. This includes contacting the local Police Precinct; coordination with the NYC Office of the Medical Examiner (OME); and retaining a funeral director, as only funeral directors are authorized to transport human remains within New York City.

## ARTIFACT ANALYSIS AND CURATION

All artifacts will be cleaned, catalogued and stored in archival safe materials. Pre-contact and historic artifacts will be analyzed in terms of material type, form, function, and temporal attributes (e.g., Noël Hume 1969, South 1977, Miller 1991). Detailed analysis will include the identification of the Terminus Post Quem (TPQ) of artifacts for each context and generation of mean beginning and end dates for assemblages. This information will be used to establish context and to determine whether such assemblages represent primary or secondary deposits.

Any artifact collection removed from the project site will be the property of the project site owner, in accordance with NYC LPC guidelines. It is the responsibility of NYC EDC to arrange for the long-term curation of the collection in an appropriate facility. It should be noted that the New York City Archaeological Repository (NYCAR) may accept significant and representative materials recovered from the site for curation based upon coordination following the completion of the analysis of the material remains. If there are any significant deposits that may be curated, the material remains must be prepared in accordance with NYC LPC's curation guidelines (in process) and the standards of the receiving repository. The artifacts will be returned to the project for transmittal to the long-term curation facility upon completion of the laboratory analysis and with the submission of the final report. There may be archaeological materials and deposits recovered that the NYCAR will not accept for curation. These materials will be returned to NYC EDC. It is the responsibility of NYC EDC to arrange for their storage, curation with another facility or final disposition. The archaeological team will prepare any materials not being delivered to the NYCAR for long-term storage according to current archaeological standards. There is a possibility that the project may not recover material remains deemed significant for curation. In that event, it is the responsibility of the NYC EDC to determine and facilitate what is to become of the collection.

## **REPORT RESULTS**

A report detailing the results of the monitoring, analysis, additional background and/or documentary research, and field efforts will be prepared according to NY SHPO and NYC LPC standards. In addition, the report will include recommendations regarding the potential National Register eligibility of any artifact deposits and/or features documented and recommendations for additional investigation or mitigation, as necessary. A digital, preliminary draft report will be submitted to Jacobs and NYC EDC for initial review. Upon approval, the formal draft report will be submitted in printed form to NYC LPC and in digital form to NY SHPO via the CRIS system. It is the responsibility of NYC EDC to inform NY SHPO that Chrysalis requires access to the Project Site to upload any relative field documentation. Upon approval from NY SHPO and NYC LPC, two printed copies will be provided to NYC LPC for their records. Digital copies will be provided to all other parties unless printed copies are requested.

## **ARCHAEOLOGICAL AWARENESS**

Due to the sensitivity and nature of the site, construction personnel will be relied upon to work with the archaeological team in the identification of archaeological resources, deposits, and features. This plan should be provided to the onsite construction foreman to ensure the construction contractor understands the nature of the archaeological significance of the area and the procedures of this combined Archaeological Monitoring Unanticipated Discoveries Plan.

## UNANTICIPATED DISCOVERIES PLAN

The Unanticipated Discoveries Plan is to be used as a guide for construction personnel during portions of the project that do not require archaeological monitoring. Unanticipated Discoveries are defined as any cultural resources, including human remains, found during construction in any portion of the project site not monitored by the archaeologist. Cultural resource discoveries that require immediate reporting and notification to the archaeological team and the construction coordinator include, but are not limited to concentrations of artifacts, features, or other evidence of human occupation, and human remains. All project team members and construction personnel should be made aware of this plan.

The Jacobs Project Manager will coordinate with the professional archaeologist for implementation of the Unanticipated Discoveries Plan. The Jacobs Project Manager will obtain, review, and file this Unanticipated Discoveries Plan on site. The Jacobs Project Manager will initiate implementation of the Unanticipated Discoveries Plan by sponsoring an awareness session with the archaeologist, on-site construction management personnel, equipment operators, and laborers.

Cultural resource discoveries that require reporting and notification to the Jacobs Project Manager include (but are not limited to):

1. Any recognizable, potential concentrations of artifacts, features, faunal material or other evidence of human occupation.
2. Building or other structural foundations. These may be constructed of wood, stone or brick. It is possible that artifact deposits exist within these features. Foundation walls may be intact, but often only sections of a wall are uncovered and/or remain.
3. Any wooden structure or features that may be landfilling devices or potential sea vessels.
4. Any human remains including coffins, burial vaults or other evidence of burials.

In the event that previously unanticipated archaeological resources are found during construction in any portion of the project site, the following procedures will be followed:

1. If an unanticipated discovery of artifacts or feature remains, as defined above, occurs during construction, all work will immediately stop in the area of the find to protect the integrity of the find. Work may not resume in the area of the find until the archaeologist and the Jacobs Project Manager has granted clearance.
2. The construction foreman will immediately notify the designated on-site Jacobs Project Manager of the discovery. The Jacobs Project Manager will instruct the construction foreman to flag and fence off the area of the discovery to ensure safety and avoidance of impacts.



3. The Jacobs Project Manager will immediately notify the archaeologist and NYC EDC of the find. The notification will include the specific location of the discovery within the disturbed area of the project site and the nature of the discovery. The Jacobs Project Manager will identify the location and date of the discovery on the project plans.
4. The archaeologist will coordinate an on-site archaeological consultation to evaluate the find. A reasonable amount of time must be given to the archaeologist to not only arrange to return to site (generally within 24 hours) but to complete the assessment of the discovery (generally within 24 of arriving on site). These timeframes may vary based on the nature of the discovery (i.e. size, complexity, etc.).
5. The archaeologist will conduct an on-site assessment of the find. If necessary, the archaeologist will coordinate with the Jacobs Project Manager to direct the contractor to further flag or fence off the archaeological discovery location and direct the contractor to continue work in another portion of the project area. The contractor will not restart work in the area of the identified archaeological resource until Jacobs Project Manager has granted clearance, after receiving word from the archaeologist that the archaeological resource has been fully examined.
6. The archaeologist will then promptly notify the Jacobs Project Manager, who will in turn notify NYC EDC, of the preliminary significance, if any, of the find.

If the discovery is determined to lack potential significance by the archaeologist, the Jacobs Project Manager will grant clearance to the contractor to resume work.

If the unanticipated find is determined to be potentially significant, the following procedures will be followed:

1. The archaeologist will promptly notify the Jacobs Project Manager, who will notify NYC EDC, and NY SHPO and NYC LPC of the find. This notification will explain why the archaeologist believes the resource to be significant and define a SOW for further evaluating the significance of the resource and project effects on it. All work to evaluate significance will be confined to the area of potential effect.
2. The archaeologist will conduct a more detailed assessment of the material remains significance and the potential effect of construction.
3. The archaeologist will document the find in accordance with the guidelines presented in the Archaeological Plan/Protocol.
4. Jacobs will notify other parties, as directed by NY SHPO and/or NYC LPC, or as indicated by City/State law.

5. If the find is determined to be significant, and continuing construction may damage more of the resource, then the archaeologist, Jacobs and NYC EDC will consult with NY SHPO and NYC LPC regarding further mitigation and appropriate measures for recovery and/or appropriate measures for site treatment. These measures may include:
  - Formal archaeological evaluation of the site
  - Visits to the site by NY SHPO and NYC LPC and other parties
  - Preparation of a mitigation plan for approval by NY SHPO and NYC LPC
  - Implementation of the mitigation plan
  - Approval to resume construction following completion of the fieldwork component of the mitigation plan
6. If the find is determined to be isolated or completely disturbed by previous construction activities, the archaeologist will consult with the Jacobs Project Manager, NYC EDC, NY SHPO and NYC LPC and will request approval to resume construction, subject to any further mitigation that may be required by NY SHPO and NYC LPC.
7. The Jacobs Project Manager will notify the Construction Contractor of clearance to resume work.

## **CONTACT INFORMATION:**

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**New York City – Landmarks Preservation Commission**

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## REFERENCES

City of New York

- 2015 Rules of the City of New York.

City of New York – Landmarks Preservation Commission.

- 2002 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

Historical Perspectives, Inc.

- 2007 East River Waterfront Esplanade and Piers—Inboard Resources Whitehall Street to North of the Brooklyn Bridge Phase IA Archaeological Assessment. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

- 2008 East River Waterfront Esplanade and Piers – Archaeological Field Monitoring and Soil Boring Analysis Report. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

Lower Manhattan Economic Development Corporation.

- 2007 Programmatic Agreement for the East River Waterfront Esplanade and Piers Project. Report on file with the New York State Office of Parks, Recreation and Historic Preservation Office. Albany, New York.

New York Archaeological Council.

- 1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.

- 2000 Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York Standards for Cultural Resource Investigations. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.

- 2002 Guidelines for the Use of Archaeological Monitoring as an Alternative to Other Field Techniques. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.

New York State Office of Parks, Recreation and Historic Preservation.

- 2013 Guidelines for The Discovery of Human Remains on Archaeological Sites. New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.

Appendix B:  
Archaeological Monitoring Plan and Unanticipated Discoveries Plan  
NY SHPO and NYC LPC Approvals



## Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO  
Governor

ROSE HARVEY  
Commissioner

June 21, 2017

Ms. Kathryn Prybylski  
Assistant Vice President – Capital Program  
New York City Economic Development Corporation  
110 William Street  
New York, NY 10038

Re: NYCEDC  
South Street Reconstruction  
Borough of Manhattan, New York County, NY  
16PR06025

Dear Ms. Prybylski:

Thank you for requesting the comments of the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the submitted materials in accordance with the New York State Historic Preservation Act of 1980 (section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Division for Historic Preservation and relate only to Historic/Cultural resources.

OPRHP has reviewed the revised version of this document – *Phase IB Archaeological Monitoring Plan, Unanticipated Discoveries Plan and Human Remains Protocol for the South Street South Reconstruction from Old Slip to Fulton Street, New York, New York Project (NYC EDC Contract No. 17060019)* (Chrysalis Archaeological Consultants, 30 June 2017).

We concur with the revised document. Please continue consultation with this office as the investigation proceeds.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit  
Phone: 518-268-2175  
e-mail: [philip.perazio@parks.ny.gov](mailto:philip.perazio@parks.ny.gov)

via email only

cc: Clinton Jackson, Jacobs; Erin Maciel, NYC DOT  
Jessica MacLean, Daniel Pagano, Gina Santucci, & Amanda Sutphin, LPC  
Alyssa Loorya & Chris Ricciardi, Chrysalis

## ARCHAEOLOGY

**Project number:** DEPUTY MAYOR FINANCE/ECO DEV / 106-M  
**Project:** 0 E RIVER WATERFRONT ESPLANADE AND PIERS  
**Date received:** 6/26/2017

**Comments:** as indicated below. Properties that are individually LPC designated or in LPC historic districts require permits from the LPC Preservation department. Properties that are S/NR listed or S/NR eligible require consultation with SHPO if there are State or Federal permits or funding required as part of the action.

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**This document only contains Archaeological review findings. If your request also requires Architecture review, the findings from that review will come in a separate document.**

The LPC is in receipt of the revised, "Phase 1B Archaeological Monitoring Plan, Unanticipated Discoveries Plan, and Human Remains protocol," for the South Street South Reconstruction plan prepared by Chrysalis Archaeological Consultants and dated June 30, 2017.

The document has been revised as requested. Please alert the LPC when the work will begin.

Cc: NYSHPO



6/27/2017

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SIGNATURE  
Amanda Sutphin, Director of Archaeology

DATE

**File Name:** 6920\_FSO\_ALS\_06272017.doc



Appendix C:  
Additional Field Images



Image C.01: Trench CB-9 –water flooding base of excavation, facing southeast.



Image C.02: Trench 1 – excavation in progress, facing northeast.





Image C.03: Trench 1 – Plan view in progress, ConEd feeders in west profile





Image C.04: Trench CB-7 – South profile with FDR Column #7 base foundation.



Image C.05: Trench CB-7 – catch basin installation.





Image C.06: Trench CB-6 – excavation in progress, facing north





Image C.07: Trench CB-8 – plan view in progress, facing northeast



Image C.08: Trench 1 – general stratigraphy, Stratum II in east half, Stratum III in west half, facing north.





Image C.09: Trench 2 – East profile, mixed fill stratigraphy.





Image C.10: Trench 2 – excavation in progress, facing northeast



Image C.11: Trench 2 – partially backfilled (approx.. 0-30' N), facing south.





Image C.12: Trench CB-10 – opening excavation next to Trench 2, facing southwest



Image C.13: Trench 2 – continued excavation, mixed fill stratigraphy, facing north





Image C.14: Trench CB-11 – excavation in progress, mixed fill, facing north.



Image C.15: Trench CB-11 – excavation in progress, wood sheet in west wall.





Image C.16: Trench 3 – excavation in progress, facing north.



Image C.17: Trench 4 – west half, ConEd feeders in west profile.





Image C.18: Trench 5 – excavation in progress, old WM in center of trench, facing north.



Image C.19: Trench 5 – East profile in progress, facing northeast.





Image C.20: Trench 5 – excavation in progress, water flooding trench, facing south.



Image C.21: Trench 5 – excavation in progress, Feature 2 appearing in east profile, facing northeast.





Image C.22: Trench 6 – excavation in progress, mixed fill, facing northeast.



Image C.23: Trench 6 – excavation in progress, old WM in base of trench, facing north.





Image C.24: Trench 6 – excavation in progress, facing south.



Image C.25: Trench 6 – north profile, fill, facing northeast.





Image C.26: Trench 6 – Feature 3, zoom view of bulkhead beneath ConEd feeders in west wall.



Image C.27: Trench 6 – Feature 3, zoom view of bulkhead beneath ConEd feeders in west wall.





Image C.28: Trench 6 – western expansion to wing back feeders, facing west.



Image C.29: Trench 7 – east profile in progress, modern utility fill.





Image C.30: Trench 7 – first section of Feature 4 bulkhead visible in west wall beneath feeders.



Image C.31: Trench 7 – excavation in progress, facing north.





Image

Image C.32: Trench 7 – zoom of Feature 4 in west profile beneath feeders, impacted by E-W pipe.



Image C.33: Trench 7 – plan view in progress, heavy utility disturbance.





Image C.34: Trench 7 – excavation of western extension in progress, facing west.



Image C.35: Trench 7 western expansion, Feature 4, west face of bulk head visible west of feeders, facing south.





Image C.36: Trench 8 – excavation in progress, facing northwest.



Image C.37: Trench 8 – east profile in progress, modern utility fill, facing east.





Image C.38: Trench 8 – west profile, Feature 4 does not continue north of E-W pipe.

Appendix D:  
Construction Archaeological Safety Plan

## **SOUTH STREET SOUTH RECONSTRUCTION PROJECT PROTECTION PLAN**

**NYCEDC CONTRACT NO. 17060019**

**EAST RIVER WATERFRONT SOUTH STREET SOUTH RECONSTRUCTION FROM OLD SLIP TO FULTON ST.**

### **Project Description:**

The project will reconstruct South Street from Fulton Street to Old Slip in the Borough of Manhattan, New York (see attached map).

The project is classified as a locally administered federal aid project, providing capital street reconstruction and streetscape improvements, as well as providing improved waterfront access for pedestrians and bicyclists.

This project is one component of the East River Waterfront Esplanade and Piers Project, administered by the New York City Economic Development Corporation (NYCEDC).

The proposed scope of work includes complete reconstruction of South Street between Fulton and Old Slip, with drainage improvements, new street lighting and tree plantings along the west sidewalk.

### **Construction Sequence:**

The proposed sequence of construction is as follows:

#### South Street- West Side

- Fulton to John Street
- John Street to Maiden Lane
- Maiden Lane to Wall Street
- Wall Street to Gouvernour Lane
- Gouvernour Lane to Old Slip

#### South Street- East Side

- Old Slip to Gouvernour Lane
- Gouvenour Lane to Wall Street
- Wall Street to Maiden Lane
- Maiden Lane to John Street
- John Street to Fulton



**Protection Plan:**

A site specific safety plan will be developed for the project and the defined scope of work.

Prior to work starting, there will be meetings and discussions with the building property managers to explain to them the proposed work that will occur in front of their buildings and the protection methodology that will be implemented.

Maintenance Protection Traffic plans (MPT) are implemented for each sequence of work location and will consist of water filled barriers and concrete barrier (traffic side) to encapsulate the entire work zone. All equipment, material and personnel will enter through a designate access point which is control by a flag man.

An archeologist firm will be onsite providing monitoring services during the construction activity- installation of drainage pipe on the East side of South Street from Old Slip to Wall Street and then Maiden Lane to Fulton.



## LOCATION PLAN



**PROJECT AREA**

**SOUTH STREET SOUTH RECONSTRUCTION PROJECT PROJECTION PLAN  
NYCEDC CONTRACT NO. 17060019  
EAST RIVER WATERFRONT SOUTH STREET SOUTH RECONSTRUCTION  
FROM OLD SLIP TO FULTON ST.**