

Phase IB Archaeological Monitoring – Sewer Replacement -
John Street/Burling Slip, New York, New York - Project
Number: MG41100-107MA - (NY SHPO: 07PR3695)



Prepared for:

The New York State Office of Parks, Recreation and
Historic Preservation
Albany, New York

City of New York - Landmarks Preservation Commission
New York, New York and

City of New York - Department of Parks and Recreation
New York, New York

Prepared by:

Alyssa Loorya, M.A., R.P.A., Principal Investigator
Christopher Ricciardi, Ph.D., R.P.A. and
Diane George, M.A., R.P.A.
for: Chrysalis Archaeological Consultants, Incorporated

Submitted to:

Trocom Construction Corporation
46-27 54th Road
Maspeth, New York 11378-1019

DRAFT REPORT – April 2011

Phase IB Archaeological Monitoring – Sewer Replacement -
John Street/Burling Slip, New York, New York - Project
Number: MG41100-107MA -(NY SHPO: 07PR3695)

Prepared for:

The New York State Office of Parks, Recreation and
Historic Preservation
Albany, New York

City of New York - Landmarks Preservation Commission
New York, New York

and

City of New York - Department of Parks and Recreation
New York, New York

Prepared by:

Alyssa Loorya, M.A., R.P.A., Principal Investigator
Christopher Ricciardi, Ph.D., R.P.A. and
Diane George, M.A., R.P.A.
for: Chrysalis Archaeological Consultants, Incorporated

Submitted to:

Trocom Construction Corporation
46-27 54th Road
Maspeth, New York 11378-1019

MANAGEMENT SUMMARY TABLE

NY SHPO Project Review Number:	07PR3695 NYC Parks Number: MG41100-107MA
Involved State/Federal Agencies:	New York State – Office of Parks, Recreation and Historic Preservation City of New York – Landmarks Preservation Commission City of New York – Department of Parks and Recreation
Phase of Survey:	Phase IB – Archaeological Field Monitoring
Location Information:	New York, New York County, New York
Survey Area:	N/A
USGS 7.5 Quad Map:	Jersey City Quadrangle, 1979
Archaeological Survey Overview:	N/A
Results of Archaeological Survey:	Evidence of mid to late nineteenth century landfilling to create dry-land was uncovered.
Results of Architectural Survey:	
Buildings within Project Area:	0
Buildings adjacent to Project Area	South Street Seaport Historic District
Previous N/R Buildings:	0
Eligible N/R Buildings	0
Report Authors:	Alyssa Loorya, M.A., MPhil., R.P.A. Christopher Ricciardi, Ph.D., R.P.A. Diane George, M.A., R.P.A.
Date:	April 2011

MANAGEMENT SUMMARY (TEXT)

In the Fall of 2009, Chrysalis Archaeological Consultants, Inc., was contracted by Trocom Construction Corporation, on behalf of The City of New York – Department of Parks and Recreation to undertake Phase IB Archaeological Monitoring for a portion of the John Street/Burling Slip Sewer Replacement Project. This task was part of a larger, reconstruction of the general John Street/Burling Slip area and the development of Imagination Playground. Phase IA and IB archaeological work for that portion of the project was undertaken by AKRF and Historical Perspectives, Inc., on behalf of the Lower Manhattan Economic Development Corporation prior to the onset of construction. This work was in addition to that work based on additional construction work for the project. Alyssa Loorya, M.A., M.Phil, R.P.A. served as the Principal Investigator and Christopher Ricciardi, Ph.D., R.P.A. served as the Field and Laboratory Director. Diane George, M.A., R.P.A, served as the on site Archaeologist.

A two hundred and twenty foot (220') long trench was excavated by mechanical and manual means for the installation of the new sewer line. Ground water intrusion was present throughout the site and pumping was required at all times.

Within the trench were several active and in-active existing utilities including electrical, gas and telephone lines, water and sewer mains, catch basins and manholes. The stratigraphy of the trench was congruous with the various utility activities that have occurred on site.

Artifacts recovered were, with the exception of a small sheet deposit just outside the trench, from clearly disturbed contexts consisting of secondary and/or tertiary re-deposits. Artifact mends and pieces from the same vessel were recovered throughout the length of the two hundred and twenty foot (220') long trench. Artifacts dated from the nineteenth to the twentieth centuries. Artifact materials suggest the area was filled later than the 1835 date depicted on various maps and in the documentary record.

Three human skeletal fragments were recovered within the trench. Medical Examination determined that the remains were clearly disarticulated and likely dated to the nineteenth century.

Due to the previous disturbances, the ground water intrusion and the installation of the new water main, no further cultural resource management work is recommended within this specific project area. All cultural resource remains have been removed and documented from within the project area.

TABLE OF CONTENTS

	<i>Page:</i>
Management Summary	i
Table of Content	iii
List of Maps, Illustrations, Tables and Images	iv
Acknowledgements	vii
I. Introduction and Project Information	01
II. Environmental and Physical Setting	05
III. Previous Project Area Work	06
IV. Archaeological Field Monitoring	10
V. Conclusion and Recommendations	41
VI. References	49
Appendices	
A – Request for Proposal and Scope of Work/Contract	51
B – Archaeological Monitoring Plan, Unanticipated Discoveries and Human Remains Plan	54
C – Field Monitoring Images	70
D – Artifact Database	83
E – Artifact Images	92
F – Human Remains	98
G – Curriculum Vitae	105
(NOTE: not included in NY SHPO or LPC versions)	

LIST OF MAPS, TABLES and PHOTOGRAPHS:

MAPS:

<i>Number:</i>	<i>Title:</i>	<i>Page:</i>
Map 01.	USGS Site Map	02
Map 02.	Street Map	03
Map 03	Water Lot Grant Map of 1772	07
Map 04.	Site Map for Sewer Replacement Project	11
Map 05.	John Street – showing detail of excavation/sheeting units	12
Map 06.	Photographic Image Location Map	13
Map 07.	Schematic detail of units within the excavation trench	15
Map 08:	Map detailing the approximate location of human remains	29

Tables:

<i>Number:</i>	<i>Title:</i>	<i>Page:</i>
01.	Stratigraphic Layers of the North Wall	20
02.	Stratigraphic Layers of the South Wall	21

Photographs:

<i>Number:</i>	<i>Title:</i>	<i>Page:</i>
Image 01.	John Street looking northeast	04
Image 02.	John Street, looking west during pile driving operation	10
Image 03.	John Street trench, looking east, showing concrete piles	14
Image 04.	Water continually filled the excavation trench	16
Image 05.	Standing water in trench	17
Image 06.	Soil conditions during active de-watering	18
Image 07.	General stratigraphic image	19
Image 08.	Gray-brown, water-logged soil	19
Image 09.	Representative image of utility intrusions throughout the trench	22
Image 10.	Representative image of utility intrusions throughout the trench	23
Image 11.	Previously disturbed remains of a possible brick sewer	24
Image 12.	Unit 1 general area excavated	25
Image 13.	Late nineteenth century porcelain polychrome painted plate	26
Image 14.	Example of water-logged site conditions	27
Image 15.	General area of Unit 3 – initial excavation	28

Photographs Continued:

<i>Number:</i>	<i>Title:</i>	<i>Page:</i>
Image 16.	Looking east beneath the bracing at the trench segment	30
Image 17.	Three bones comprising two human skeletal elements	31
Image 18.	General excavation area	32
Image 19.	Unit 4 – medicine bottle	32
Image 20.	Area of excavation Unit 5	33
Image 21.	Shoe from excavation unit 5	34
Image 22.	Excavation area – prior to water infiltration	35
Image 23.	Bull Horn	35
Image 24.	Excavation Unit 7 – showing area of wall collapse	36
Image 25.	Artifact “sheet deposit”	37
Image 26.	Sheet Deposit materials	38
Image 27.	Sheet Deposit remains	39
Image 28.	Western Area Extension	40
Image 29.	Ground water intrusion, coupled with previous utilities	41
Image 30.	Looking east – through the project area	42
Image 31.	Note the existing water line intrusion and brown silted water	43
Image 32.	Both utility lines and water intrusion in the trench	43
Image 33.	Pearlware, Flow Blue Transferprint	44
Image 34.	Green, Brown and Red Transferprinted whiteware	45
Image 35.	Whiteware, Polychrome	45
Image 36.	Smoking Pipes	46
Image 37.	Looking east through the project area	71
Image 38.	Looking east through the project area	71
Image 39.	Looking west through the project area	72
Image 40.	Looking south – excavation unit 7	72
Image 41.	Looking north – excavation unit 7	73
Image 42.	Looking east – excavation unit 1	73
Image 43.	Looking east – excavation unit 2	74
Image 44.	Excavation of unit 3	74
Image 45.	General stratigraphic example	75
Image 46.	General example of ground water intrusion	75
Image 47.	General example of ground water intrusion and modern utility	76
Image 48.	Excavating unit 8	76
Image 49.	Looking southward	77
Image 50.	Remains of possible brick sewer	77

Photographs Continued:

<i>Number:</i>	<i>Title:</i>	<i>Page:</i>
Image 51.	Looking east towards the East River	78
Image 52.	Muck and mud at the bottom of the trench	79
Image 53.	Ground water intrusion	80
Image 54.	Clearing away the concrete column support	81
Image 55.	East River/Ground Water intrusion	82
Image 56.	Leather shoe sole	93
Image 57.	Leather shoe sole	93
Image 58.	Whiteware, Blue Transferprint	94
Image 59.	Pearlware, Blue Transferprint	94
Image 60.	Stoneware medicine cup	95
Image 61.	Scissors	95
Image 62.	Bull Horn	96
Image 63.	Bull Horn	96
Image 64.	Mammal Bone	97
Image 65.	Mammal Bone	97

** NOTE: All images were taken by CAC unless otherwise noted

ACKNOWLEDGEMENTS

The authors wish to thank the following for making the project a success.

Anthony Santoro, President, David DeMartinis and Roman Titov from Trocom Construction Corporation and the entire Trocom crew.

Heidy Grullon, John Krawchuk and everyone from The City of New York – Department of Parks and Recreation for their support throughout the project.

Amanda Sutphin from The City of New York – Landmarks Preservation Commission was most helpful in shaping the nature of the project and understanding of the “special” circumstances that arose during the monitoring project.

Douglas Mackey from The New York State Office of Parks, Recreation and Historic Preservation was most helpful and understanding in offering advice and support to allow this project to come to completion

Dr. Sophia Perdikaris for, once again, providing support with regard to the human remains uncovered.

Dr. Bradley Adams from the City of New York – Office of the Medical Examiner for his support and guidance with regard to the human remains discovery.

I. INTRODUCTION

In the Fall of 2009 Chrysalis Archaeological Consultants (Chrysalis) was engaged by Trocom Construction (Trocom) to monitor the excavation for a new sewer line as part of the larger City of New York - Department of Parks and Recreation's (Parks) Imagination Playground Project (see Appendix A for the Archaeological Scope of Work). The playground is located at Burling Slip, on the north side of John Street between South Street and Front Street, New York, New York County, New York. The project area for the Phase IB Archaeological Monitoring of the John Street Sewer Line Installation was bordered by John Street to the south, South Street to the east, Burling Slip to the north and Front Street to the west (Map 01 and 02)¹. The area of the sewer line excavation was located adjacent to the southern edge of the original Burling Slip Area of Potential Effect (APE) as defined in the 2006 Phase IA study by AKRF and Historical Perspectives, Inc. (HPI) and within the street bed of John Street. The New York State Office of Parks, Recreation and Historic Preservation (NY SHPO) and the City of New York – Landmarks Preservation Commission (LPC), approved this Phase IA report, including its conclusions and recommendations.

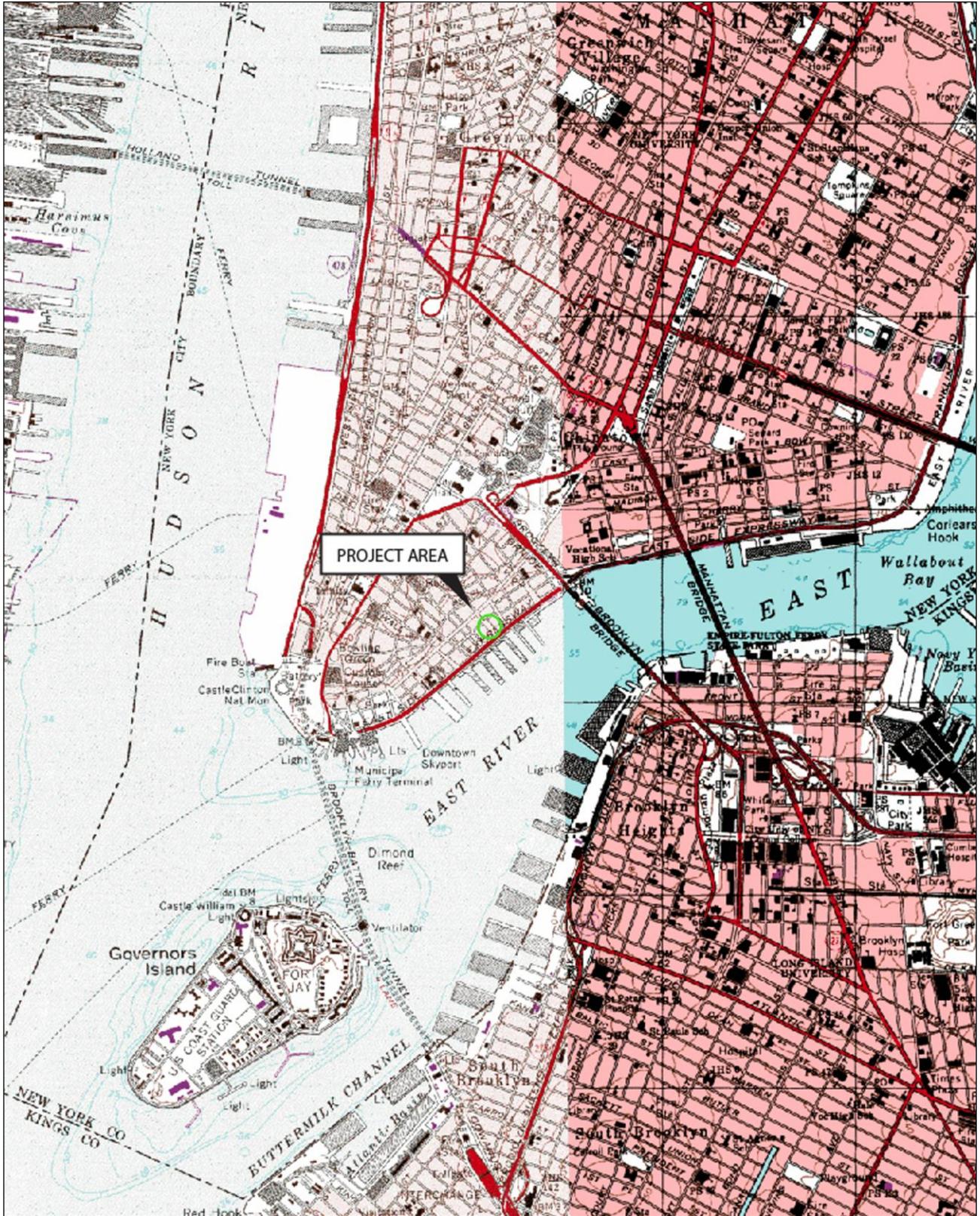
Work on the larger Imagination Playground project began in May 2009. AKRF conducted Phase IB testing within the APE prior to the start of construction. Results of this investigation are available in the NY SHPO and LPC approved *Phase IB Archaeological Survey Burling Slip New York, New York Report* (AKRF 2008).

Chrysalis was engaged in November 2009 and, verbally, informed by NY SHPO and LPC that although the new sewer excavation lay outside the original Phase IA APE for Burling Slip/Imagination Playground, additional Phase IA research was not required as the original Phase IA was considered sufficient for this project as well.

The sewer line excavation monitored by Chrysalis entailed a two hundred forty foot (240') east-west oriented trench excavated parallel to and fifteen feet (15') north of the John Street curb. An Archaeological Monitoring Plan and an Unanticipated Discoveries Plan was submitted to, and approved by, the NY SHPO and LPC (Appendix B).

Chrysalis was called to the site by Trocom during the first week of December 2009. By that time, due to the previous work for Imagination Playground and the pre-excavation work started in anticipation of the sewer line excavation, the modern pavement and bedding layers had been removed (Image 01). In total, approximately eighteen to twenty-four inches (18" - 24") had been removed prior to Chrysalis being engaged for this project and significant excavation had occurred in various areas throughout the larger Imagination Playground project area. Chrysalis informed the LPC of this through email.

¹ For clarity, the directions used in this report are aligned with the East River and the street grid in this area. East is considered to be the East River, Front and South Streets run north to south and John Street runs east to west.



Map 01: U.S.G.S. Jersey City Quad, 1979



Map 02: Current Street Map location



Image 01: John Street looking northeast

II. ENVIRONMENTAL AND PHYSICAL SETTING²

Manhattan Island lies within the Hudson Valley region and is part of the New England Upland Physiographic Province (Schuberth 1968:10). The underlying geology consists of “gneiss and mica schist with heavy, intercalated beds of coarse grained, dolomitic marble and thinner layer of serpentine” (Scharf 1886:6-7). During the three known glacial periods, ice was sometimes as thick as 1,000 feet over Manhattan. Advancing and retreating glaciers carved, scraped, and eroded the land surface in the Northeast. With the final retreat during the Post-Pleistocene, glacial debris, a mix of sand, gravel, and clay, formed the many low hills or moraines that constitute the present topography of the New York City area. Along these low hills many rivers, streams, lakes, and ponds were formed. The constant flow of these rivers and streams as well as the corresponding rise in sea level continued to mold the landscape. Manhattan Island is a low-lying island marked by hills, is surrounded by rivers and a large, protected deep-water bay, which was formed following the last of the three glacial periods.

The project site falls within the embayed section of the Coastal Plain, which extends along the Atlantic Coast and ranges from 100 to 200 miles wide. The Manhattan prong, which includes southwestern Connecticut, Westchester County, and New York City, is a small eastern projection of the New England uplands, characterized by 360 million year old, highly metamorphosed bedrock (Schuberth 1968:11). The Manhattan ridge generally rises in elevation toward the north, and sinks toward the south. South of 30th Street, the bedrock dips down several feet beneath the earth’s surface, and south of Washington Square Park it plunges down below 100 feet, forming a subterranean valley.

The prevalent gneissoid formation underlying the project site is Hudson River metamorphosed rock. Manhattan is characterized by a group of gneissoid islands, separated from each other by depressions, which are slightly elevated above tide and filled with drift and alluvium. The area consists of drift with underlying crystalline rocks including stratified gneiss, mica schist, hornblendic gneiss, and hornblende schist with some feldspar and quartz (Gratacap 1909:27).

Historical development has altered many of the natural topographic features that once characterized Manhattan, including the early historic shoreline (Gratacap 1909:5). During the late pre-contact and early historical periods, portions of the project site were submerged under the East River and the coastline was at the southeastern side of present day Pearl Street, about two blocks northwest of the Burling Slip APE. In the seventeenth and eighteenth centuries, the Burling Slip APE was inundated, lying outboard of the East River shoreline by about 250 feet (Viele 1865; Lyne 1730; Ratzler 1766/67).

² This section is excerpted, with minor modifications, from *Phase IA Archaeological Documentary Study Lower Manhattan Development Corporation Fulton Street Redevelopment Project Burling Slip Manhattan, New York* (Historical Perspectives, Inc 2006)

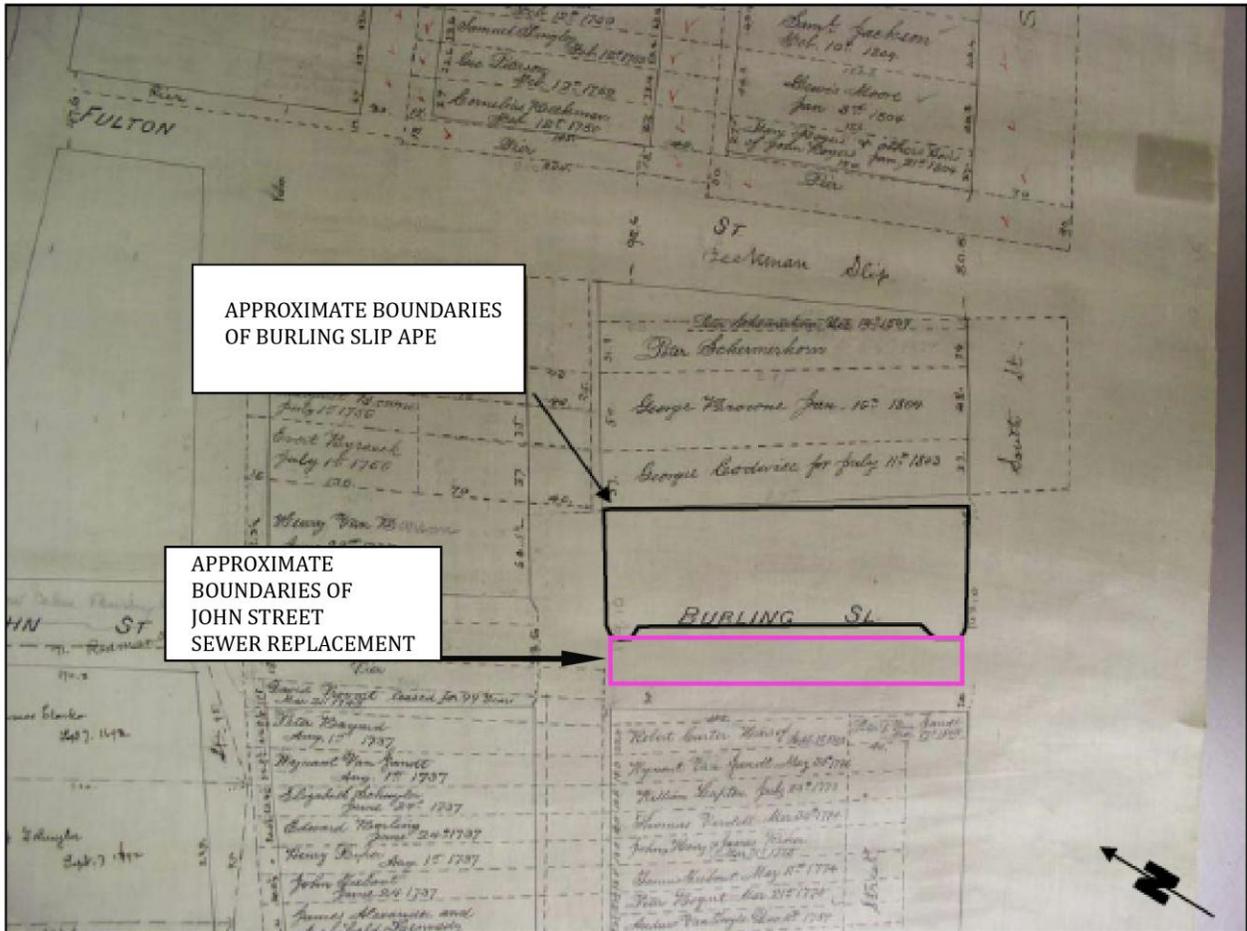
III. PREVIOUS PROJECT AREA WORK

The Phase IA for Imagination Playground (*Phase IA Archaeological Documentary Study Lower Manhattan Development Corporation Fulton Street Redevelopment Project Burling Slip Manhattan, New York* (Historical Perspectives, Inc (HPI) 2006) focused on the specific boundaries of the project area defined at the time and did not include the area of the sewer replacement monitored during this portion of the project. Chrysalis was informed that a project specific Phase IA was not required for the sewer replacement portion of the overall project as much of the general history, outlined in the Phase IA (HPI, 2006), remains the same. This information is summarized in this section³.

As per the Phase IA Documentary Study, the project area had no potential for pre-Contact sensitivity as it lay within the East River during the Prehistoric Period. Present-day John Street, between Front and South Streets, was situated within the East River throughout the eighteenth century and well into the nineteenth century. In 1766 a wharf, referred to as Burnett's Key, was constructed extending John Street to Dock Street (present-day Front Street). The water lot south and west of this was granted to Jacob Brewerton and was located in front of his storehouse located east of Dock (Front) Street between John and Fletcher Streets. Robert Carter held the water lot directly southwest of Dock Street and Peter Van Zandt owned a small lot to the south, fronting South Street on the southwest side of Burling Slip and extending two hundred (200') feet into the East River from Dock Street. These lots were all south of the project area. According to the Water Lot Grant map (1772). No lots were granted within the specific project area (Map 03).

In 1832, Burling Slip remained passable as far west as Front Street (formerly Dock Street). A notation in the Minutes of the Common Council from 1835 presents a motion to have the Slip filled and maps show the Slip filled to South Street by 1836. However, during the archaeological testing undertaken by AKRF, and reported in their Phase IB Report for Imagination Playground, several fill deposits containing materials dated circa 1850 were uncovered suggesting that filling may have occurred at or continued to a later date (AKRF 2008).

³ Please refer to *Phase IA Archaeological Documentary Study Lower Manhattan Development Corporation Fulton Street Redevelopment Project Burling Slip Manhattan, New York* (Historical Perspectives, Inc (HPI) 2006 for a more detailed history of the project area.



Map 03: 1772 Water Lot Grant Map – lots from East River to Whitehall Street to James Slip

In recent years, there have been several cultural resource management projects within lower Manhattan documenting urban landfill and waterfront development. Several projects have uncovered landfill deposits and landfill devices, the context and type of which can vary from site to site. However, in general, all slip filling begins with the initial step of constructing a bulkhead across the mouth of the slip. This was followed by the actual filling process. Within lower Manhattan has generally been seen in one of three forms.

1. Wooden cribbing that was constructed onshore; then sunken and filled.
2. Sinking wooden piles which were then secured by filling the spaces between the piles with earth and capping the structure with a plank surface.
3. The deliberate sinking of ships.

Some of the projects that have uncovered, and documented landfilling within New York City include (but are not limited to)⁴:

⁴ This section is excerpted and updated from Loorya and Ricciardi 2007 report, *Phase I of the Wall Street Water Mains Project* (Loorya and Ricciardi 2007)

175 Water Street

The 175 Water Street Project provided a wealth of information on landfilling techniques and construction materials in lower Manhattan. A detailed account of the history of landfilling gathered through the records of the Minutes of the Common Council of the City of New York, documented sources, map studies; and the archaeologically recovered material and stratigraphic record provided of sequence of events that led to the landfilling of the majority of Lower Manhattan. Links between local residents and the materials recovered were not attainable, but the types of materials, their usages and economic values were discussed (Geismar 1983).

The Phase 1B led to the discovery of a submerged English sailing ship. It was determined that the ship was deliberately sunk to help create cribbing for further refuse disposal. This combination of the ship (cribbing) and refuse material, created the landfill that would eventually make up the current streetscape (Geismar 1983).

55 Water Street

At 55 Water Street, a Stage 1A assessment was conducted. Following the lead of Geismar's 1983 work. The report outlined how the potential to uncover mid to late eighteenth century landfill and wharf remains could exist below two meters (2m) (six feet (6')) from present-day grade. A Stage 1B Field Test was recommended, but never undertaken (Historical Perspectives 2001).

Front Street

In 2002, an archaeological assessment of several lots along Front Street, located within the South Street Seaport Historic District, was undertaken. The report did not call for further testing within Block 97, Lots 18, 32, 37 and 58 (Bergoffen 2002).

New York Stock Exchange

The New York Stock Exchange and vicinity report outlines the potential for further historic resource studies within lower Manhattan. As part of the assessment limited testing revealed several sections of wooden water mains, one with a stop-cock still in place. Geismar, and others, suggest that other similar finds are likely to remain under the streets of lower Manhattan. She notes the finding of a wooden water main at Front and Water Streets in 1955. A description of the Manhattan (Water) Company which constructed the system is provided (Geismar 2003).

Coenties Slip

In 2005, Geismar reported on several pieces of wooden water mains along Coenties Slip that were uncovered and removed. Some of the log remains contained fittings. The report briefly outlines attempts at conservation on the remains (Geismar 2005).

Wall Street Water Mains

A Phase I project was undertaken along Beekman Street between Front Street and Pearl Street and intersecting Water Street. The project uncovered several wooden water mains, pier bulkheading and an *in situ* eighteenth century storeroom that led to an expanded documentary study. The majority of material remains were uncovered from approximately three feet (3') to approximately eight feet (8') below surface (Loorya and Ricciardi 2007).

Fulton Street Redevelopment

An overall assessment was undertaken for the proposed Fulton Street Redevelopment Project - including Burling Slip in 2006. This report was completed after the discovery of the water mains as part of the Wall Street Water Mains project. Due, in part, to the discoveries and conclusions of Wall Street Water Mains, the report calls for field monitoring for any area that may be impacted beyond one meter (1m) (three feet (3')) below ground surface (Historical Perspectives 2006).

Imagination Playground/Burling Slip (North)

The initial Phase IB investigations at Burling Slip, undertaken by AKRF, did not uncover any landfill retaining devices. It was surmised that such structures would have been at the perimeter of Burling Slip, just outside the boundaries of the APE. However, during construction activity a timber feature was uncovered. Further investigation by AKRF documented the northern bulkhead wall for Burling Slip. The bulkhead was constructed of stacked squared timbers in an east-west orientation and reinforced at irregular intervals by wooden piles. This discovery is documented in a memorandum to LPC and SHPO (AKRF July 2009).

The current APE/project area remained undeveloped until it was reportedly filled in 1835/1836, as per the Minutes and the Common Council and contemporary maps. However, several maps during this period often depicted streets in advance of filling, projecting the developing streetscape. This may be supported by the findings of AKRF's Phase IB Archaeological Survey, which identified 1850s materials within the fill deposits.

Post-filling, the project area served as a public street. According to the Phase IA, in 1890 a sewer line was installed adjacent to the location of the proposed sewer excavation. No information was available documenting the type of sewer installed or any maintenance or upgrades that may have occurred.

IV. PHASE IB ARCHAEOLOGICAL MONITORING

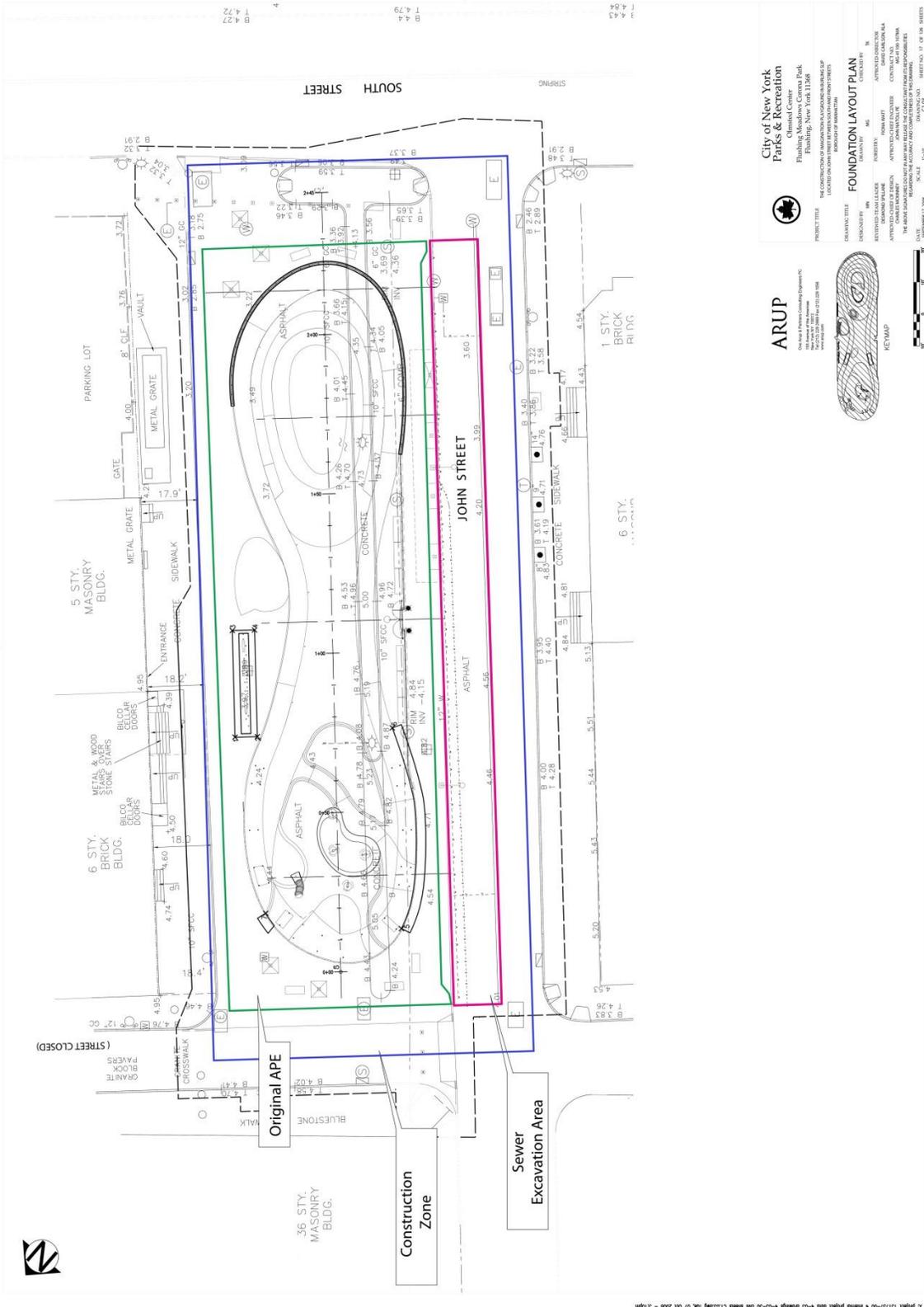
Excavation for the new sewer line entailed a two hundred forty foot (240') east to west oriented trench excavated parallel to, and fifteen feet (15'), north of the John Street curb. The initial un-sheeted trench measured fifteen feet (15') wide at the surface and was excavated to a depth of five feet (5') below street grade (Map 04).⁵ A small wedge-shaped area at the western end of the trench extended eight feet (8') (Map 05). With the exception of minor adjustments for sheeting, the trench boundaries were not altered during the course of the project.

Once the trench was excavated to the above noted dimensions, concrete and rebar piles, measuring one-foot (1') in diameter, were driven into the ground in two parallel lines through the entire length of the trench. The piles were aligned in north/south pairs approximately three feet (3') apart and at five-foot (5') intervals (Image 02). Map 06 details the approximate location from where the field images were taken from.



Image 02: John Street, looking west during pile driving operation – note the ground water intrusion

⁵ All references in this report to “below grade” pertain to the existing street grade (i.e. prior to removal of the pavement) unless otherwise noted.

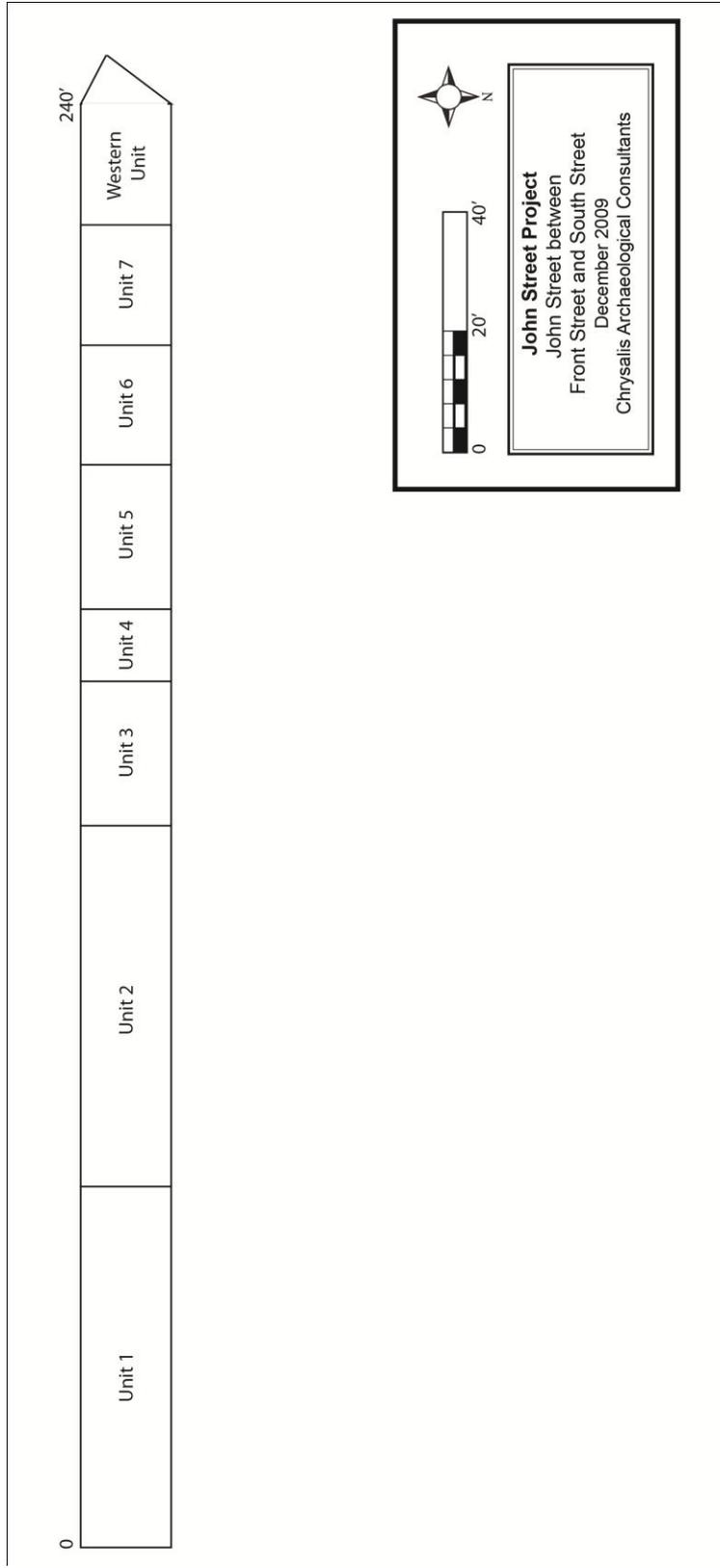


Map 04: Site Map for Sewer Replacement Project

After installation of the piles was completed, sheeting was installed in twenty-foot (20') increments during the course of the excavation. Boards measuring twenty feet (20') in length were placed upright along the trench wall (Image 03) and driven into the floor by the machine then braced with steel I-beams. Once a sheeting section was installed excavation continued from east to west to an overall depth of ten to fifteen feet (10' – 15') below grade. As each section was sheeted, excavation continued. Excavation was conducted in sections based upon the sheeting installation (Map 07).



Image 03: John Street trench, looking east, showing concrete piles and twenty-foot (20') sheeting boards prior to being driven into the ground for trench shoring.



Map 07: Schematic detail of units within the excavation trench

A combination of factors including the sheeting being driven into and down along the trench walls and the constant presence of standing water severely impeded observation during portions of the excavation. Sheeting was required per OSHA regulations to prevent the collapse of the trench walls. The un-solidified nature of the soils within the project area necessitated the sheeting method utilized. However, much of the excavation occurred manually and it was possible to examine soils as the construction crew excavated them. Water was a significant impediment to archaeological monitoring throughout the entirety of the excavation below five feet (5') (Image 04). The water table for the area is at approximately six feet (6') below street grade but water began pooling within the trench at approximately five feet (5') below the street surface. This water was dark, muddy and often opaque, obscuring all visibility. Pumps were brought in and operated continuously. This lowered the water level in the trench by several feet but only did so for short periods of time. Despite constant dewatering, between one to three feet (1' - 3') of standing water remained at all times throughout the excavation (Image 05).



Image 04: Water continually filled the excavation trench



Image 05: Standing water in trench

Installation of the vertical sheeting prior to excavation past five feet (5') also impeded archaeological observation. As a result no profiles were drawn below five feet (5'). Due to the high water content, soils quickly mixed within the trench further obscuring stratigraphic observation (Image 06). Soil type was monitored within the trench to the extent possible, during excavation and within the backhoe bucket and the back dirt pile, precise stratigraphic divisions were not always possible to identify. The following is a general stratigraphic profile based on available observations.



Image 06: Soil conditions during active de-watering

Surface layers of asphalt and concrete and sub-surface measuring twelve to eighteen inches (12” – 18”) covered the entire excavation area prior to the start of the Imagination Playground Project. Beneath the pavement to approximately five to six feet (5’ - 6’) below grade the matrix consisted of re-deposited fill soils. These were either a medium-brown or orange-brown sandy loam with pebble, gravel and small to medium rock inclusions, or one of several shades of clean sand. Below six to seven feet (6’ - 7’) and extending to approximately 10’ below grade, strata became darker and included some cultural materials. Slight variations at this depth in density and type of inclusions were noted between the east and west ends of the trench. Strata in both areas had a base matrix of a medium brown sandy loam. The eastern end contained some pockets of clay (Image 07). The matrix at the west end contained some coal in addition to plaster, brick, shell, mortar and slate, and rocks and pebbles. In some areas lower portions of the west end of the trench contained malodorous, dark gray/black sludge. Gray-brown waterlogged silt was the deepest stratum identified throughout the trench (Image 08).



Image 07: General stratigraphic image



Image 08: Gray-brown, water-logged soil

Excavation occurred as a combination of machine and manual (hand) excavation based upon site constraints. The pilings and wood bracing often made use of the machine difficult. More frequently, excavation was done by hand, in which soil was shoveled into a segment of the trench where it could be reached by the backhoe for removal. During manual excavation the archaeologist was able to directly observe excavated materials.

Throughout the excavation all professional standards of archaeological monitoring and documentation were maintained. Every effort was made to determine the stratigraphy of the site. However, entering the trench was only done with approval of the site Safety Officer due to the waterlogged conditions. The project archaeologist maintained field notes, took measurements, mapped and photographed the site as appropriate.

A. Preliminary Excavation Trench, General Stratigraphy and Existing Conditions

The first phase of excavation encompassed the entire two hundred forty foot (240') long trench plus an eight-foot (8') wedge-shaped extension at the west end. The entire length of the trench was excavated to a depth of five feet (5') below grade. The surface layer, removed earlier in the construction process for Imagination Playground, and not observed by Chrysalis, consisted of twelve to eighteen inches (12" - 18") of asphalt and concrete (Stratum I) along the entire length of the trench. Below the pavement was a bedding layer of medium-brown sandy loam (Stratum II) with numerous small pebbles, gravel and small rock inclusions. This stratum varied between twelve to eighteen inches (12" - 18") in thickness⁶.

The sub-surface stratigraphy was fairly uniform from east to west, but strata along the north wall varied slightly from the south wall, and some anomalies were present. The northern profile was characterized by Strata I and II followed by a yellow-tan sand (Stratum III) that measured three inches (3") thick. A slightly rusty sandy loam (Stratum IV) followed extending to five feet (5') below grade. At five feet (5') below grade groundwater began to rapidly seep into the trench floor creating a muddy surface (Table 01).

Stratum	Depth	Munsell	Description
I	0 – 12"		Pavement, asphalt and concrete bedding.
II	12" – 30"	2.5Y 4/2	Sandy loam with small pebbles, gravel and some small rock inclusions
III	30" - 33"	2.5Y 6/2	Sand
IV	33" – 60"	10YR 4/3	Sandy loam

Table 01: Stratigraphic Layers of the North Wall

⁶ This is based on information provided by the Trocom Project Manager and as reported in the Phase IB Report by AKRF (AKRF 2008).

The first two strata of the south profile were identical to the north. A slightly rusty medium-brown sandy loam characterized Stratum III. A tan sand fill deposit surrounded a modern water main that was exposed at various points along the trench wall. A slightly rusty sandy loam (Stratum IV) was present at approximately five feet (5') below grade. The matrix of this stratum was turning to a much darker brown sandy loam with rock and pebble inclusions. At this depth, groundwater began to rapidly seep into the trench floor creating a muddy surface obscuring the stratigraphy (Table 02).

Stratum	Depth	Munsell	Description
I	0 – 12”		Pavement, asphalt and concrete bedding.
II	12” – 30”	2.5Y 4/2	Sandy loam with small pebbles, gravel and some small rock inclusions
III	30” – 60”	10YR 4/3	Sandy loam
IV	60” – 65”	10YR 4/2	Sandy loam, wet

Table 02: Stratigraphic Layers of the South Wall.

There were several existing utilities present within the trench. The south wall matrix was intersected by two sand pockets associated with utilities, both within twenty-five feet (25') of the west end of the trench. The north wall matrix was interrupted by one sand pocket matching that in the south wall twenty-five feet (25') east of the west end. Most utilities were between two and four feet (2' - 4') below grade (Image 09).



Image 09: Representative image of utility intrusions throughout the trench.

The western end of the trench contained a large duct bank in the southwest corner as well as several two to four inch (2" to 4") iron pipes, ranging from eighteen inches to five feet (18" to 5') below grade. Several square concrete ducts and a concrete manhole box that extended to more than eight feet (8') below grade were located in the western half of the trench. Two ductile iron pipes were located in the eastern end of the trench, one at eighteen (18") and one at two feet (2') below grade. Both were perpendicular to the trench. A bank of four or five PVC ducts with the same north/south alignment was located at three feet (3') below grade in this area. Electrical cables encased in square concrete ducts and a telephone duct bank were also observed within the trench. The electrical cables crossed the trench on a southeast to northwest orientation from twenty-five to sixty feet (25' - 60') west of the eastern end of the trench. The telephone ducts were on the same orientation located at approximately one hundred eighty to two hundred ten feet (180' - 210') east to west.⁷ Both were between two to four feet (2' - 4') below grade. A water main, running east to west was partially exposed in the south wall of the trench at approximately three and one half feet (3 ½') below grade (Image 10).

⁷ All horizontal east/west proveniences were measured from the eastern end of the trench unless otherwise noted.



Image 10: Representative image of utility intrusions throughout the trench

In the western end of the trench, in the southwest wall of the wedge-shaped extension a possible circular brick sewer was exposed at four feet (4') below grade. This collapsed brick feature measured twenty-eight inches (28") wide and eighteen inches (18") high and had been previously disturbed. The bricks measured eight by three and one half by two and one half inches (8" x 3 1/2" x 2 1/2") and had no stamps or other visible markings. They appear to date to the late nineteenth century. No artifacts were found within the area of the possible sewer (Image 11).



Image 11: Previously disturbed remains of a possible brick sewer

No intact features and few artifacts were observed within this initial excavation trench. Late nineteenth and early twentieth century ceramic, modern brick pieces, some anthracite coal, fragments of oyster and clamshells, and a small amount of unidentifiable iron were observed throughout the area. Modern debris in the form of glass and plastic bottles were observed mixed throughout.

B. Excavation Unit One

Excavation by the contractor of Unit 1 (and all ensuing units) began at five feet (5') below grade following the installation of vertical wooden shoring along the northern and southern trench walls (Map 05). Three twenty-foot (20') segments were sheeted, from the east end of the trench. Unit 1 extended sixty feet (0' - 60') from the eastern end of the trench.

The first stratum of Unit 1, beginning at five feet (5') below grade was a dark brown sandy loam containing a substantial amount of rubble/debris, including brick, coal, clinker, plaster, wood fragments, charcoal, slate and mortar (Image 12). A large amount of small pebble and smooth and angular rock inclusions, similar to pea gravel was also present. This stratum extended to ten feet (10') below grade exposing a gray brown waterlogged silty sludge mixed with small to medium rocks. Pockets of black or gray natural clay were arbitrarily present within this lower stratum. Soil at the lower two to three feet (2' - 3') was malodorous, likely containing a substantial amount of organic material. Unit 1 was excavated to a final depth of twelve feet (12').



Image 12: Unit 1 general area excavated

A total of 149 artifacts were recovered from Unit 1. Of these 122 were recovered from the zero to thirty-foot (0' – 30') section dispersed through the five to twelve foot (5' – 12') depths. Eighty-four artifacts were identified between five and seven feet (5' – 7') below grade including transfer-printed pearlware and whiteware (post-1850); 3 4/64 pipe stems; a wooden peg and a late nineteenth to early twentieth century blue glazed tile. Thirty-eight artifacts were recovered from seven to twelve (7' – 12') below grade. Among these were wheel-turned redware flowerpot sherds, flow blue pearlware, 2 sherds of creamware, 1 4/64 pipe stem; a piece of late nineteenth century polychrome painted porcelain plate and a skeleton key (Image 13).



Image 13: Late nineteenth century porcelain polychrome painted plate

From the section between thirty to sixty feet (30' – 60') only 27 artifacts were recovered, all between seven and twelve feet (7' – 12') below grade. Among these were 7 faunal elements, pearlware and whiteware sherds, 1 sherd of late nineteenth century polychrome painted porcelain and a sewing scissor. One of the whiteware sherds mends with a sherd located within the zero to thirty-foot (0' – 30') section of Unit 1 between five and seven feet (5' - 7') below grade.

Throughout the entire sixty-foot length of Unit 1 fragments of late nineteenth century brick, anthracite coal and oyster and clam shells fragments were observed at various depths. No intact features or artifact deposits were uncovered.

C. Excavation Unit Two

Unit 2 extended across three shoring segments from sixty to one hundred twenty feet (60' – 120') (Map 05). Stratigraphy was consistent with that observed in Unit 1, although a larger amount of clean sandy fill was noted in this area. Water continued to impede excavation during monitoring from five (5') to the final excavation depth of twelve feet (12'). In this area water began to more rapidly seep through the trench walls. Despite having sump pumps running continuously the trench remained filled with approximately three and one half feet (3 ½') of opaque standing water. Excavation was monitored and every third backhoe bucket was sampled for closer inspection due to the limited visibility (Image 14).

Artifact recovery in Unit 2 occurred in two segments, from sixty to eighty feet (60' – 80') and eighty to one hundred feet (80' – 100'). Minimal artifacts were observed in both segments, 29 and 9 respectively. These were recovered throughout at various depths. Among the artifacts were two bullhorns, a partial boar jaw, transfer-printed and molded whitewares (post 1850) and flow blue pearlware. One shard is impressed with “Stafford ... RANTED”, likely *Staffordshire Warranted*”.



Image 14: Example of water-logged site conditions

D. Excavation Unit Three

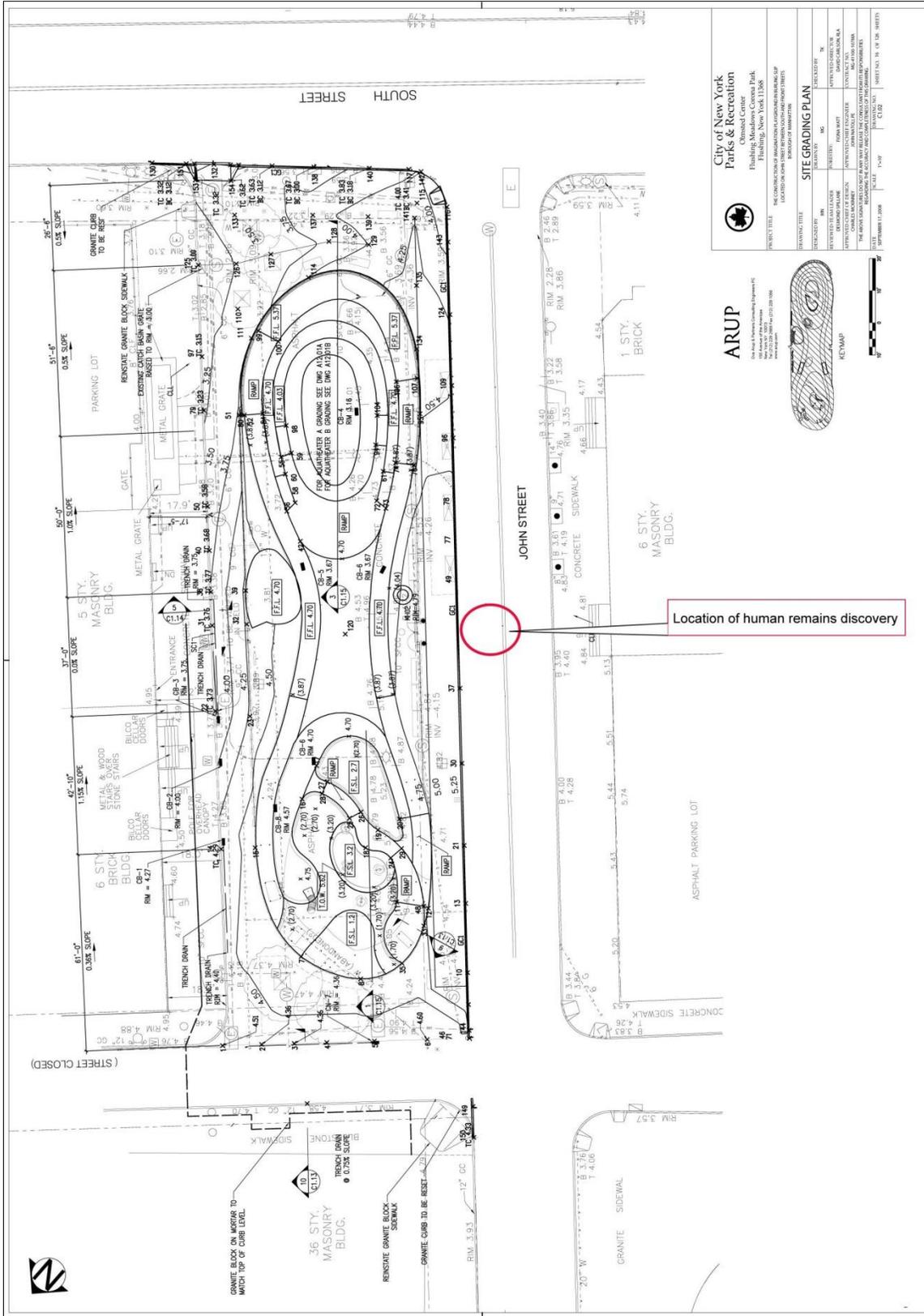
The area from one hundred twenty to one hundred forty-four feet (120' to 144') exhibited stratigraphic consistent with the previously excavated areas (Map 08). Materials similar to those from Units 1 and 2 were also observed in this area (Image 15).



Image 15: General area of Unit 3 – initial excavation

On December 30, 2009, an anomaly was exposed. At approximately one hundred forty feet (140') west, at ten feet (10') below grade, a human femur was removed from the trench (Map 06). The bone had been dislodged by the excavation and recovered by the construction crew (Image 16). The archaeologist halted all excavation within this area and the protocols laid out in the Unanticipated Discoveries Plan, including Human Remains (Appendix B) were put into effect.

The archaeologist entered the water-logged trench in the area where the femur was recovered and examined the area to determine if additional remains were present. At one hundred forty-four feet (144'), near the southwest corner of the sheeted area, two additional human skeletal elements were found at approximately twelve feet (12') below grade. The project notified all relevant parties including, NY SHPO, LPC, Parks and the City of New York – Office of the Medical Examiner (OME).



Map 08: Map detailing the approximate location of human remains



Image 16: Looking east beneath the bracing at the trench segment where the human remains were recovered

On December 31, 2009, Chrysalis' on-call Forensic Anthropologist, Sophia Perdikaris, positively identified one human female femur and one humerus, broken into two. It is likely that these are from the same individual. This information was reported to all parties, including the OME. The OME concurred that the skeletal components were isolated finds. Based on the historic context and disarticulated nature of the bones the OME had no further concerns and permission was given for the contractor to resume work (Appendix E) (Image 17).

It should be noted that other faunal remains were recovered from the general vicinity in which the human remains were found. All were positively identified as non-human.

A total of twenty artifacts were recovered from throughout this area. All were stoneware sherds, representing different vessels. In addition to the above mentioned human remains, seven other faunal elements of mammals were recovered. No intact deposits or features were observed within this unit.



Image 17: Three bones comprising two human skeletal elements

E. Excavation Unit Four

Unit 4 of the trench was a twelve-foot (12') section from one hundred forty-four to one hundred fifty-six feet (144' and 156') (Map 05). Stratigraphy remained consistent throughout and was similar to the previously excavated units. Small pieces of fragmented brick, wood and fragmented oyster and clam shells were observed throughout the excavation unit (Image 18).

A total of forty-seven artifacts were recovered throughout Unit 4. Among these were sixteen pipe stems measuring 4/64; 16 sherds of stoneware, transfer-printed pearlware; a whiteware chamber pot sherd and a medicine bottle. The artifacts were located at various depths throughout the unit (Image 19). No artifact concentrations or features were observed within Unit 4.



Image 18: General excavation area



Image 19: Unit 4 – medicine bottle

F. Excavation Unit Five

Unit 5 was a twenty-four foot (24') segment located between one hundred fifty-six and one hundred eighty feet (156' - 180') (Map 05). At seven feet (7') below grade, the soil morphed into a dark black sludge that was extremely malodorous. No clear soil division was evident to define this dark black sludge and it appeared as though some substance had leached into the soil in this area or it represents some other disturbance. At approximately ten feet (10') below grade the gray brown silty loam seen elsewhere was evident (Image 20).



Image 20: Area of excavation Unit 5

A total of 86 artifacts were recovered from Unit 5 throughout the five to twelve foot (5' – 12') excavation depths. Among these were 29 pipe stems measuring 6/64, 13 pipe bowls, 18 pearlware shards including blue edgeware, 2 leather shoe soles, 2 peach pits, polychrome painted pearlware; a sherd of mid-nineteenth century English porcelain; and a glass screw-top bottle (Image 21). Also noted but discarded in the field were pieces of slate, brick, shell, and a small amount of window glass.



Image 21: Shoe from excavation unit 5

No intact features or artifact concentrations were observed in this unit. Also, no explanation was discernible for the dark black sludge consistency of the soil in this area. However, the presence of a screw-top glass bottle, which dates to the early twentieth century, suggests some sort of disturbance.

G. Excavation Unit Six

This unit consisted of the twenty-foot (20') section between one hundred eighty and two hundred feet (180' to 200') (Map 04). The matrix was slightly lighter in color and less fetid than the prior section but was consistent in composition (Image 22).

A total of 56 artifacts were recovered from Unit 6. Forty-eight of these were recovered between five and seven feet (5' – 7') below grade including 14 pearlware sherds; 10 whiteware sherds, including post-1850 red transfer-print; a shard of late nineteenth century polychrome painted porcelain; 16 bull horns and 1 medicine bottle (Image 23). Between seven and twelve feet (7' – 12') below grade 27 artifacts were recovered. These include a whiteware chamber pot sherd; a stoneware medicine cup; 13 bullhorns and two leather shoe soles. Also among the artifacts was a Bakelite disk, possibly a game piece. This was an unexpected find as Bakelite dates post-1909.



Image 21: Excavation area – prior to water infiltration



Image 23: Bull Horn

H. Excavation Unit Seven

Unit seven, extended from two hundred to two hundred twenty feet (200' to 220'), adjacent to the westernmost unit (Map 05). The medium-brown sandy loam found throughout the trench beginning at six and seven feet (6' and 7') below grade was also present in this unit. Some brick, wood, mortar and slate were present and noted in this area.

Between seven and nine feet (7' - 9') below grade, the matrix became much coarser and contained coal, charcoal, bits of brick, mortar, shell, rough irregular pebbles, slate and some medium to medium-large rock inclusions. The soil was wet but not as waterlogged as elsewhere due to the large amount of gravel and rock. At nine (9') below grade, the matrix became a darker gray-brown with some ash and charcoal and containing fragmented oyster, a few pieces of clam shell. A gray brown sludge was present at the base of this unit (Image 24).



Image 24: Excavation Unit 7 – showing area of wall collapse

A total of 167 artifacts were recovered in three collection episodes. Between five and seven feet (5' - 7') below grade 66 artifacts were recovered. Among these were 5 whiteware sherds and 22 pearlware sherds. Pearlware types included blue and green edgware and transfer-print in various colors including red, brown and blue. Between seven and nine feet (7' - 9') 44 artifacts were recovered. Among these were whiteware chamber pot sherds; red and blue printed pearlware shards; red and brown transfer-printed whiteware; 2 medicine bottles and a shard of late nineteenth century polychrome painted porcelain. Beyond nine feet (9') below grade 57 artifacts

were recovered. These included 1 medicine bottle, stoneware sherds, transfer-printed whiteware (post 1850), one leather shoe sole and 1 coconut shell.

Despite the larger number of artifacts there were no distinct concentrations or artifact depositions within the confines of the unit. A molded whiteware sherd, with a distinctive floral pattern, is from the same vessel as a sherd recovered in Unit 2, at the opposite end of the overall excavation trench. This suggests some degree of flow, movement and/or re-deposition of cultural materials in this area.

Prior to installation of the sheeting in Unit 7, a partial wall collapse exposed a ceramic sheet deposit at approximately four feet (4') below grade and approximately two hundred five feet (205') west was uncovered. The deposit was offset from the trench wall and would not have been exposed had the wall not collapsed (Image 25).



Image 25: Artifact “sheet deposit”

Work was halted in this area and the deposit was excavated archaeologically. The feature was approximately two feet (2') from the *formal* southern trench wall and measured approximately three feet by four feet (3' – 4') and was six inches (6") thick. A larger four by five foot (4' x 5') area was excavated to ensure the entire deposit was recovered. The boundaries of the deposit were defined by an absence of cultural material and slight soil differentiation suggesting it was part of a re-deposition of soils from another area. Further supporting this are two pieces of PVC recovered at the edge of, but within, the deposit.

A total of 1152 artifacts were recovered from the sheet deposit. It consisted exclusively of ceramic, not counting the two pieces of pvc. Among the pottery were 287 undecorated pearlware sherds and 349 blue or green edgeware sherds. Other types included transfer-printed and painted pearlware and transfer-printed and plain whiteware dinnerwares. A small number of personal toilet related (i.e. chamber pot or basin) whiteware sherds were also recovered (Image 26 and 27).



Image 26: Sheet Deposit materials

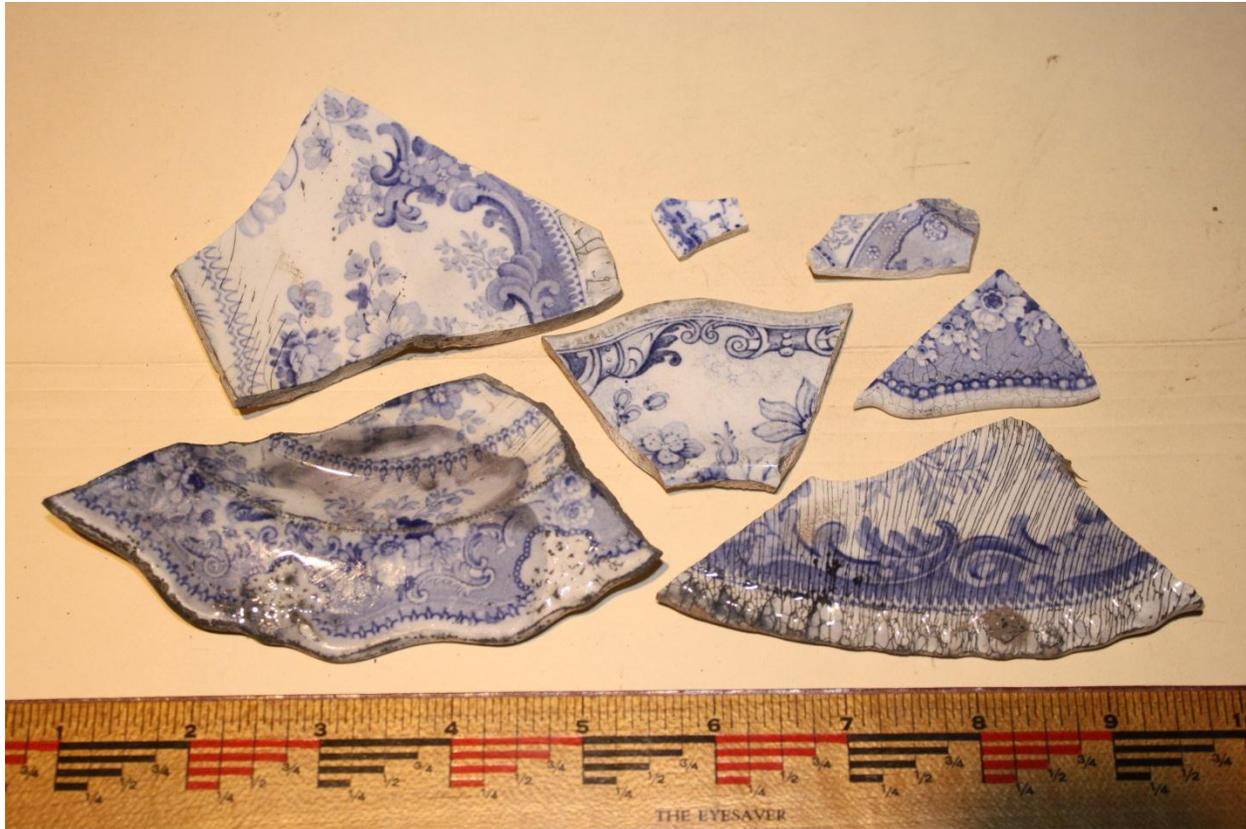


Image 27: Sheet Deposit remains

Some of the painted and transfer-printed patterns were identified. “Adam’s Rose” is among the polychrome painted pearlwares and dates circa 1820-1860. Several of the polychrome painted pieces utilize mulberry, or purple, which was not employed until circa 1845-1850. The other common polychrome painted pattern in the assemblage is “sprig” which dates 1819-1861. Among the transfer-prints was “Canova”, a pattern dated circa 1836; “Archery” a common transfer-print pattern among several manufacturers dated circa 1825-1860; and “Asiatic Birds”, a common transfer-print theme used by several manufacturers prior to 1880. A stipple pattern design characterizes several of the transfer-printed whitewares dating from 1855-1915. Based on the pottery analysis the assemblage dates to the mid-nineteenth century and post 1850.

I. Western excavation unit

At the western end of the trench a twenty by twenty foot (20' x 20') section, located at two hundred twenty to two hundred forty feet (220' to 240') was excavated (Map 05). The stratigraphy in this area differed only slightly from that in the east end of the trench. The stratum directly beneath the surface layers of asphalt and concrete was a medium brown sandy loam mixed with sandy clay. Modern construction debris including slate, brick and mortar were present throughout the area.

Several fragmented nineteenth century red bricks were uncovered from this area. These were similar to the bricks of the sewer noted earlier and it is possible that these bricks were from a previously demolished portion of that sewer. In addition to the above-mentioned construction debris, small leather scraps and some chicken bones were also observed.

This area was excavated to a depth of twelve feet (12') after which the western wall shoring was removed to extend the unit eight feet (8') in a wedge-shaped area. This allowed for an unobstructed view of the stratigraphy. The profile was consistent throughout the entire depth consisting of a medium brown coarse sandy loam heavily included with small pieces of coal, pebbles and small to medium sized river and angular rocks (Image 28).



Image 28: Western Area Extension

A total of 117 artifacts were recovered from the westernmost unit. Between five and seven feet (5' – 7') below grade 58 artifacts were recovered including 2 4/64 pipe stems; one leather shoe sole; transfer printed pearlware sherds; and whiteware sherds. Between seven and twelve feet (7' – 12') 59 artifacts including 5 leather shoe soles; an iron spigot; blue transfer-printed pearlware; brown transfer-printed whiteware; late nineteenth century porcelain; and the base of a champagne magnum were recovered. Additionally fragmented brick, shell, mortar and slate were noted but not saved. No intact features or artifact deposits were recovered.

VI. Conclusions and Recommendations

Site Summary

The John Street Project area is consistent with other landfilled sites exhibiting by modern construction and infrastructural development in lower Manhattan. Artifacts recovered from John Street consisted of secondary and/or tertiary re-depositions. In general, the John Street Sewer Replacement project area reflects a high level of disturbances due to various utility installations, repairs and upgrades throughout the last century.

Within the overall Burling Slip/John Street project area, the consistent presence of a significant amount of standing water, from the East River, reminds one that the project area lie within the East River until the second quarter of the nineteenth century (Image 29). Several of the images throughout this report document the extremity of the water influx in several sections of the overall trench. Only by constant pumping was the water temporarily lowered enough to undertake the required construction tasks (Image 30).



Image 29: Ground water intrusion, coupled with previous utilities were a constant throughout the site



Image 30: looking east – through the project area

Existing utilities were present throughout the project area from surface to five and a half feet (0' – 5 1/2') below grade (Image 31). These installations impacted the area disturbing and/or destroying potential *in situ* cultural resource deposits to a depth of five and a half feet (5 1/2'). In some areas modern utility disturbance extended to ten or twelve feet (10' – 12') due to sewers, manhole and catch basin installations (Image 32)⁸. In the vicinity of these previous manhole installations, modern twentieth century artifacts were recovered, or noted, in association with nineteenth century artifacts.

The stratigraphy of the overall trench was fairly simple and consistent with evidence of large scale utility disturbance. Perceived distinctions of stratigraphy during excavation in sheeted areas were largely the result of increased water content of the soil. From six to ten plus (6' – 10+') feet consistency of soil type suggests redeposited landfill with a broad date range of artifacts from the nineteenth to the twentieth centuries. At ten feet (10') below ground the overall consistency demonstrated a higher silt content, reflective of the river bottom.

⁸ Additional site images area presented in Appendix C.



Image 31: note the existing water line intrusion and brown silted water



Image 32: Both utility lines and water intrusion in the trench

There was a noted lack of cribbing or other landfilling devices that are normally associated with landfilled areas. Though the bulkhead was uncovered during an earlier phase of the Imagination Playground project, there has been no evidence of other associated materials. Any landfill devices that may have existed may have been removed during previous excavations in the area. The trench for the current sewer installation is immediately adjacent to an early twentieth century sewer line, several manholes and catch basins. These likely adversely impacted the archaeological record in this location.

Material Culture Summary

A range of artifacts from the turn of the nineteenth century through the early twentieth century were present throughout the site (see Appendix D for the Artifact Database). The majority of the artifacts date to the post 1825 period of the nineteenth century and were fragmentary in nature. No complete, or near complete, vessels were recovered (Image 33 and 34).⁹

The most common artifact type was ceramic. Types included painted and transfer-printed pearlwares, transfer-printed whitewares and late nineteenth century porcelain (sometimes referred to as hotelware) (Image 35). Stems of smoking pipes were recovered throughout the excavation area (Image 36). Though several examples of bull horns were also recovered from the overall trench, little in terms of faunal remains and few glass remains were recovered.



Image 33: Pearlware, Flow Blue Transferprint

⁹ Additional artifact images are presented in Appendix E.



Image 34: Green, Brown and Red Transferprinted whiteware



Image 35: Whiteware, Polychrome



Image 36: Smoking Pipes

The materials recovered are similar to those recovered during testing by AKFR on the opposite side of the lot prior to the onset of the Imagination Playground construction. AKRF reported that the collection was overall fragmentary and appeared to date to a period later than the slip was reportedly filled. They noted the presence of white granite, dated circa 1850, suggesting a later filling date for the Slip. The material collection from the John Street Sewer Project further supports this theory.

It was noted that several ceramic artifacts that either mended with each other or were from the same vessel, were recovered from opposite ends of the overall two hundred twenty (220') foot long excavation trench. Additionally, two bones, an arm and leg, of a human skeleton were recovered. However, no additional skeletal elements were present.

These two points suggest either a significant level of disturbance or a degree of drift and/or dispersment of material due to river current or other unknown action(s). These two examples lead to the larger question of how does analysis consider or account for float/distribution of artifacts, or human remains, thrown into a river with no apparent formal cribbing or other containment devices in place. Site formation processes are difficult to determine as artifacts may have been moving back and forth within the general wharf area, free to travel the full length of the area and beyond.

National Register Eligibility

As Federal funding was involved in the overall reconstruction effort. Archaeological monitoring falls under the guidelines of Section 106 of the National Historic Preservation Act of 1966, as amended and outlined in the National Park Service's, *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. A purpose of this Phase IB is to determine whether potentially significant buried cultural resource remains were present within the project area, and, if so, to provide recommendations as to how best to survey and/or mitigate for those resources.

National Register Criteria for Evaluation breaks down evaluation into four categories:

Criteria for Evaluation:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- a. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- b. That are associated with the lives of significant persons in or past; or
- c. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- d. That have yielded or may be likely to yield, information important in history or prehistory.

Although part of an existing National Register and New York City Landmarked area (South Street Seaport), upon examination this specific excavation area does not meet the criteria National Register of Historic Places eligibility:

Criteria A – There is no archaeological evidence of historically significant events having transpired at this site; no intact landfill deposits were identified and no landfilled devices exposed.

Criteria B - No historically famous person(s) resided at, or are associated with, the site

Criteria C - No distinctive building characteristics exists; no building features were Uncovered

Criteria D – No primary in situ, stratified, deposits and/or features were present on site

Although not eligible for inclusion on the National Register, the site does contribute to the larger history of development in the South Street Seaport area providing information about the changing landscape of lower Manhattan.

Recommendations

With the installation of the sewer line and the completion of Imagination Playground, there is no further construction, and hence, archaeological work, to be undertaken within the project area. All cultural resources exposed within the project area have been documented and/or removed. Therefore no additional work is recommended for this specific project area.

The City of New York – Department of Design and Construction (DDC) and the City of New York - Department of Parks and Recreation (Parks) are currently considering signage that narrates the history of the waterfront and the archaeology undertaken as part of the larger Imagination Playground. Signage such as this provides residents and tourists with a further sense of the area’s extensive history. This project supports and recommends the development and installation of such signage.

In consideration of the above, no further cultural resource management work is recommended for the specific project location. However, monitoring, and potential testing should continue be required as part of any future proposed action in this area as the potential remains to uncover intact landfill deposits and devices.

Section VII: REFERENCES

AKRF

- 2008 Phase IB Archaeological Survey – Burling Slip, New York, New York. Report on file at the New York City Landmarks Preservation Commission. New York, New York.
- 2009 Fulton Street Corridor Revitalization Project (07PR3695; LMDC/106-M): Burling Slip Unanticipated Archaeological Discovery: Impacts and Mitigation Report on file at the New York City Landmarks Preservation Commission. New York, New York.

Anonymous

- 1772 *ACC No 30041: 1772 Water Grants East River to Whitehall Street to James Slip*. Manhattan Borough President's Office, Topographical Division., New York, New York.

Bergoffen, Celia J.

- 2002 Historic Front Street Redevelopment - Block 97, Lots 18, 32, 37, 58 - New York City Department of City Planning - Borough of Manhattan, New York - Phase 1A Archaeological Assessment Report. Report on file at the New York City Landmarks Preservation Commission. New York, New York.

Geismar, Joan.

- 2005 Construction of Coenties Slip - Report on the Log Water main Discovery and Monitoring. Report on file at the New York City Landmarks Preservation Commission. New York, New York.
- 2003 New York Stock Exchange - Security and Streetscape Improvements - Stage 1A Archaeological Assessment. Report on file at the New York City Landmarks Preservation Commission. New York, New York.
- 1983 The Archaeological Investigation of the 175 Water Street Block - New York City. Report on file at the New York City Landmarks Preservation Commission. New York, New York.

Gratacap, Louis Pope

- 1909 *The Geology of the City of New York*. Henry Holt. New York, New York.

Historical Perspectives, Inc.

- 2006 Phase 1A Archaeological Documentary Study - Lower Manhattan Development Corporation - Fulton Street Redevelopment Project - Burling Slip - Manhattan, New York. Report on file at the New York City Landmarks Preservation Commission. New York, New York.

- 2001 Stage 1A Archaeological Assessment of 55 Water Street - Manhattan.
Report on file at the New York City Landmarks Preservation Commission. New York, New York.
- Loorya, Alyssa and Christopher Ricciardi
2007 Wall Street Water Mains Project - New York, New York - Monitoring and Limited Phase IA Documentary Report - Project Number: MED-583A. Report on file with the New York City Landmarks Preservation Commission. New York, New York.
- Lyne, James.
1730 Map of the City of New York.
- National Park Service.
n.d. National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation. National Park Service. Washington, DC
- Ratzer, Bernard.
1776 Map of the City of New York.
- Scharf, J. Thomas
1886 *History of Westchester County, New York*. Picton Press. Preston and Company. Philadelphia, Pennsylvania.
- Schubert, Christopher J.
1968 *The Geology of New York City and Environs*. Natural History Press. New York, New York.
- Unites States of America.
1979 USGS Topographical Survey Maps
- Viele, Egbert L.
1865 Map of the City of New York.

Appendix A:
Scope of Work

CHRYSALIS ARCHAEOLOGICAL CONSULTANTS
Cultural Resource Specialists



July 22, 2009

Anthony Santoro
Trocom Construction Corporation
46-27 54th Road
Maspeth, New York 11378-1019
Phone: (718) 937-2000
Fax: (718) 784-2824
Email:

Re: Proposal - Phase IB Cultural Resource Testing and Monitoring of Imagination
Playground in Burling Slip, New York, New York – Contract Number: MG41100-
107MA.

Dear Mr. Santoro:

My name is Alyssa Loorya, President of Chrysalis Archaeological Consultants, Inc (CAC). My firm is a fully licensed and insured, New York State registered female owned-small business holding membership with the Register of Professional Archaeologists (RoPA). We are listed on the approved list of Cultural Resource Management (CRM) firms for the City of New York - Landmarks Preservation Commission (LPC) and the New York State Office of Parks, Recreation and Historic Preservation (NY SHPO).

Thank you for contacting CAC with regard to the Request for Proposal (RFP) for Phase IB Cultural Resource Testing and Monitoring of Imagination Playground in Burling Slip, New York, New York – Contract Number: MG41100-107MA. Having worked within the field of Cultural Resource Management (CRM) (archaeology) for over a decade, CAC has completed numerous projects for both LPC and NY SHPO. More importantly, much of CAC's work has been completed on behalf of the City of New York – Department of Parks and Recreation (Parks).

As outlined in the Archaeological Monitoring Specifications provided by Parks, the following tasks will be required as part of this Scope Of Work (SOW):

1. Review of Phase IA (provided by Parks)
2. Creation of Archaeological Monitoring/Testing/Unanticipated Finds Plan
3. Archaeological Testing
4. Archaeological Monitoring
5. Potential for Archaeological Conservation
6. Potential for Archaeological Excavation (including Lab and Field Technicians)
7. Potential for Physical Anthropologist
8. Writing, Production and Completion of Draft and Final Reports

4110 Quentin Road Brooklyn, New York 11234-4322
Phone/Fax: (718) 645-3962 • Mobile: (347) 922-5581
info@chrysalisarchaeology.com • www.chrysalisarchaeology.com

Field Work/Personnel:

The majority of this work can be handled by the Principal Investigator/Project Manager for the Project, which I will serve as. CAC also maintains an on-call staff of Field Technicians and Specialists (i.e. Physical Anthropologists and Conservationists) if required.

Principal Investigator/Project Manager:	Alyssa Loorya, M.A, R.P.A.
Field Technician(s):	Staff (if required)
Specialist(s)	Various (if required)

Submissions:

CAC will prepare draft and final versions of the Phase IB Report upon completion of all field-work and, if necessary, laboratory analysis. It is recommended, although not required, that Trocom review a digital draft report prior to submission to LPC for official review. Generally Parks does not review the draft report, but if they wish, a digital copy will be sent to them. If LPC has any comments they will be incorporated into the final report. During this phase of the project, CAC will also provide two (2) printed and two (2) digital copies of the final report to Trocom for final submission to Parks. Two (2) printed and two (2) digital copies of the final report are required by LPC and Trocom will also receive a printed and digital copy of the final report for your records. Additional two (2) Mylar maps will be provided to Parks.

If artifacts are recovered, they are the property of Parks and must be returned to them upon completion of the project. The artifacts will be bagged, recorded and placed in archival storage boxes.

As per the Submittals section (#2) of the RFP, I have also put together the information that Parks generally requires for archaeological submissions (Technical Qualification Data Form RG-898, current Curriculum Vitae and references) and have included it as part of this proposal.

If you have any questions with regard to this proposal please contact me at the number(s) listed above.

Once again, thank you for the opportunity to submit this proposal and I hope that we can work together on this project.

Sincerely,



Alyssa Loorya, M.A., R.P.A.
President

Appendix B:

Unanticipated Material Remains and Human Remains Find Plan

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre Street, 9N, New York, NY 10007 (212) 669-7700 www.nyc.gov/landmarks

ENVIRONMENTAL REVIEW

LOWER MANHATTAN DEVELOPMENT CO/106-M 12/22/2009

Project number **Date received**

Project: Reconstruction of John Street (Imagination Playground)

Comments:

The LPC is in receipt of the, "Revised, Final Phase 1B Archaeological Monitoring Plan and Unanticipated Discoveries Plan for the Reconstruction of John Street (Imagination Playground Project), New York, New York- Contract Number: MG41100-107MA, prepared by Chrysalis Archaeological Consultants and dated December 14, 2009. The LPC concurs with the plan.

cc: SHPO

12/29/2009

SIGNATURE

DATE

5608_FSO_ALS_12292009.doc

CHRYSALIS ARCHAEOLOGICAL CONSULTANTS
Cultural Resource Specialists



To: City of New York - Landmarks Preservation Commission (LPC)
City of New York – Department of Parks and Recreation (Parks)
New York State Office of Parks, Recreation and Historic Preservation (NY SHPO)
Trocom Construction Corporation (Trocom)

Re: Revised, Final Phase IB Archaeological Monitoring Plan and Unanticipated Discoveries
Plan for the Reconstruction of John Street (Imagination Playground Project), New York,
New York - Contract Number: MG41100-107MA.

Date: December 14, 2009

This plan describes the tasks to be performed as part of the Phase IB Archaeological Monitoring Project for the Reconstruction of John Street – Borough of Manhattan (New York County), New York, Contract Number: MG41100-107MA.

The purpose of the cultural resource project is to: 1) determine whether the project area contains significant prehistoric and/or historic resources, 2) develop a historical and archaeological context(s) for the interpretation and evaluation of any potential archaeological resources that may be present within the Area of Potential Effect (APE); 3) recover potentially significant buried cultural resources; 4) outline the lines of communication that will be employed throughout the process; 5) detail what archaeological steps will be taken in the event of significant unanticipated archaeological remains, including, but not limited to human remains, are uncovered; 6) outline the laboratory process to be followed; and 7) provide all necessary services related to the cultural resource process during the overall construction project along John Street corridor.

As per the Request for Proposal (RFP) developed by the City of New York – Department of Parks and Recreation (Parks) and provided to Chrysalis Archaeological Consultants, Inc., (CAC) through Trocom Construction Corporation (Trocom), this Phase IB investigation will consist of several tasks: 1) develop an Archaeological Monitoring Plan based on the Phase IA and IB reports; 2) Develop an Unanticipated Discoveries Plan that will outline what steps will be followed if significant material or physical remains, beyond what is outlined in the Request for Proposal are uncovered; 3) Conduct Archaeological Monitoring of the project area based on the Phase IA and IB reports; 4) Undertake preliminary laboratory analysis of material remains recovered (i.e. washing, cataloging and creation of a database of the remains; 5) produce a draft and final report of the results.

PROJECT DESCRIPTION:

The project calls for impacts to eight (8) feet below ground with the installation of a new sewer and sewer lines as part of the overall construction of Imagination Playground on Burling Slip. This work will be located within the street bed along the southern side of John Street between Front and South Streets (Map 01).

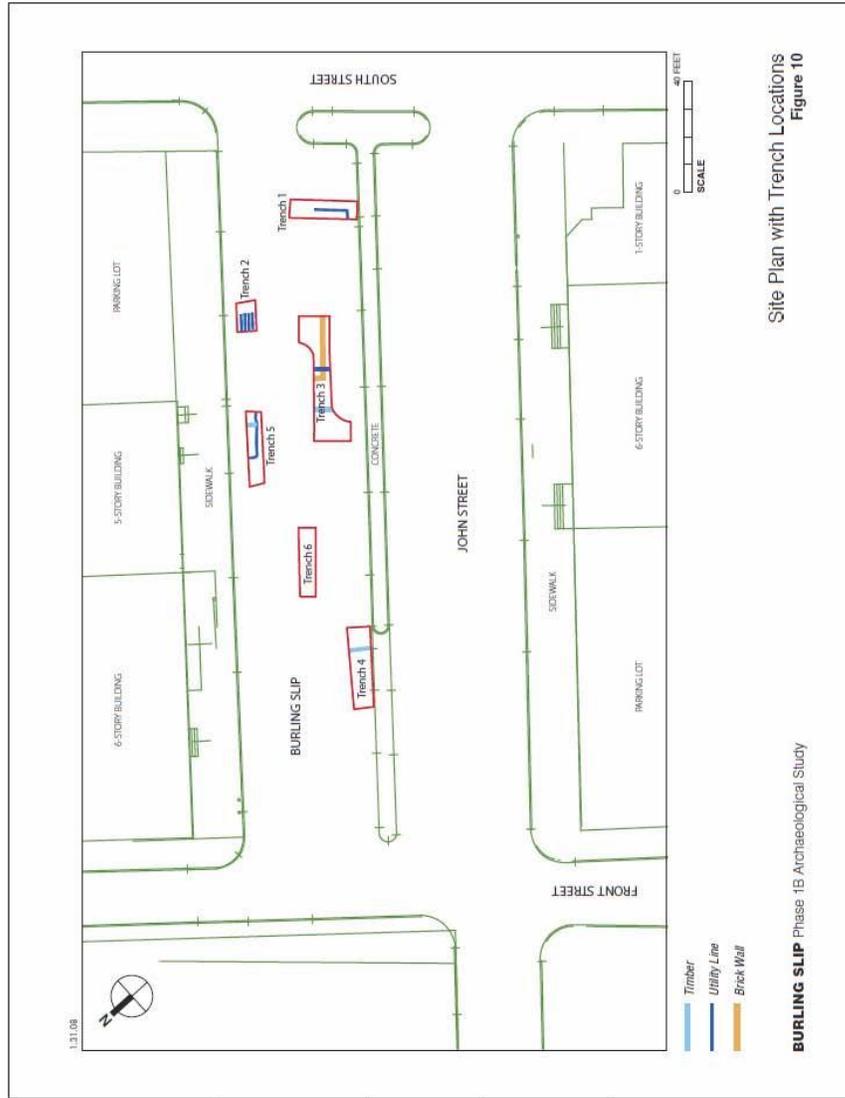
SUMMARY OF ARCHAEOLOGICAL SENSITIVITY:

A previous archaeological documentary study, *Phase IA Archaeological Documentary Study Lower Manhattan Development Corporation Fulton Street Redevelopment Project Burling Slip Manhattan, New York* (Historical Perspectives Inc. 2006) identified Burling Slip as having a significant degree of archaeological potential. As a result Phase IB testing was undertaken to identify potential resources (AKRF 2008). The Phase IB testing identified fill material dating to the period that the slip was filled. Wharf and landfill retaining structures were not present within the interior of Burling Slip but, based on the cartographic evidence; it was likely that wharf and retaining structures would only be present along the perimeter of the slip. The study concluded that further field investigation would not be likely to produce additional meaningful data along Burling Slip.

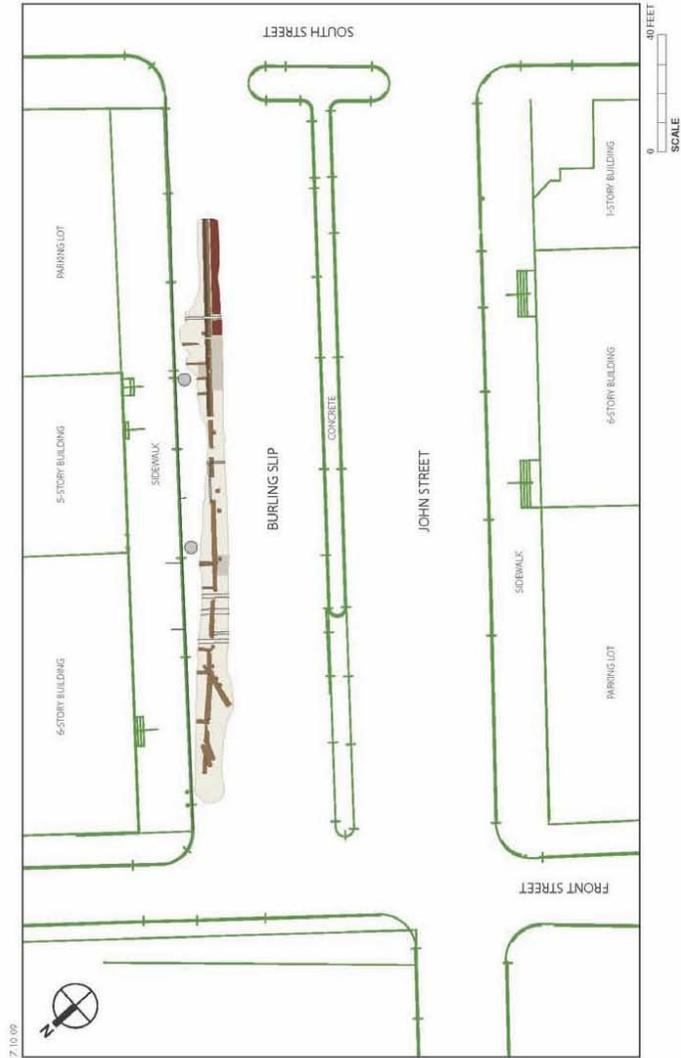
Additional work was undertaken in 2009 by ARKF in response to their unanticipated discoveries plan. Along the northern portion of Burling Slip and within the confines of the proposed Imagination Playground, remains of the historic wharf/bulkhead were uncovered (Map 02) (AKRF 2009). The in process report describes the bulkhead, a sampling of historic material remains and discusses the potential impacts from the construction of Imagination Playground with regard to the historic finds.

It was determined that there would be a slight impact to the bulkhead with the construction of certain portions of the playground. A proposal for mitigation was made and agreed upon by the City of New York – Department of Parks and Recreation (Parks).

The Phase IA report did not include John Street but did identify the potential for archaeological resources within the general area of the project. Additionally other Phase IB archaeological monitoring projects within the general area have uncovered cultural resources including foundation remains with associated artifacts, nineteenth century infrastructure in the form of wooden water pipes and wharf and landfilling devices (i.e. Loorya and Ricciardi 2007).



Map 01: Project Area Map (courtesy of AKRF 2008).



Map 02: Location of timber bulkhead (courtesy of AKRF 2009).

Location of Bulkhead in Burling Slip
Figure 1

BURLING SLIP Unanticipated Discoveries

Cultural Resources Regulations

For historic resources/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) requires 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.

Potential Archaeological Resources

Potential archaeological resources (which are physical remains, usually buried, of past activities on a site) are categorized into ‘prehistoric resources’ (remains from Native American people and their activities such as tools, refuse from tool making activities and habitation sites) or ‘historic period resources’ (remains since the European colonization of the New York area such as battle sites, foundations, wells and privies).

PROPOSED PHASE IB INVESTIGATION PROTOCOL:

The following testing protocol describes the tasks to be performed for the archaeologically sensitive areas identified in the previous studies. 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 SHPO guidelines for such projects (New York Archaeological Council [NYAC 1994]). The cultural resources specialists who will perform this work will satisfy the qualifications specified in 36 CFR 61, Appendix A. The Principal Investigator for the Stage 1B investigations will be certified by the Register of Professional Archaeologists (RPA).

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

The following sets forth the plan for Phase IB archaeological monitoring for this site, including research issues to be addressed and proposed fieldwork activities and describes additional mitigation measures that would 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.

RESEARCH ISSUES:

Research in the Phase IA, conducted by HPI and approved in 2006, and the Phase IB, conducted by AKRF and approved in 2008, found that the area was potentially sensitive for historical archaeological deposits in specific locations. Historical archaeological resources relating to institutions and residences are often preserved in privies, cisterns or wells, which in the days before the construction of municipal services, i.e. sewers and a public water supply, were an inevitable part of daily life. When rendered obsolete, these shafts became convenient receptacles for all sorts of trash, providing a valuable time capsule of stratified deposits for the modern archaeologist. These deposits frequently provide the best remains recovered on urban sites. Deposits may also be uncovered with the remnants of old foundation walls that lay within areas that street widening or other changes to the street and/or property lines have occurred. This was demonstrated along Beekman Street as part of the Wall Street Water Mains project (Loorya and Ricciardi 2007).

Other resources potentially in the APE include domestic features (e.g., wells, cisterns, and privies), infrastructure features (e.g., shoreline bulkheads, wood water pipes, pumps, street cisterns, and municipal wells), and structural features (e.g., sidewalk vaults and building footprints). South of Pearl Street these include historical fill, fill retaining devices, and wharves.

However the research also concluded that there is only the minimal potential for pre-contact archaeological resources in the APE, and if pre-contact deposits do exist in discrete locations, they would potentially be found where historical fill may have protected them from later disturbance.

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 2001:2).

Archaeological monitoring will be provided during ground-disturbing construction activities in order to ensure that archaeological resources are not overlooked and that all cultural resources encountered during construction are adequately protected from unnecessary impacts. Monitoring will be conducted so that the impacted resources are adequately recorded prior to construction. All monitoring activities will be in compliance with NYAC’s Guidelines for the Use of Archaeological Monitoring as an Alternative to Other Field Techniques and the Landmarks Preservation Commission’s Guidelines for Archaeological Work in New York City (2002).

The areas being monitored have been previously impacted utility installations, as such project plans call for all areas will be hand excavated. Depending on the size and number of construction activities, one or more archaeologists will be present to monitor all excavation activities located in archaeologically sensitive areas within archaeologically sensitive depths. The archaeologist(s) will observe construction localities listed above and will record all archeological resources, or suspected resources, uncovered during construction activities. Recordation will include vertical

and horizontal location of all resources encountered. Furthermore, the archaeologist(s) will also maintain drawings, photographs, and descriptions of all encountered resources as well as 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.

In the event that archaeological deposits are encountered, the archaeologist(s) will be permitted to halt excavations to examine the soil or potential resource 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 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. If more than 24 hours is required to document an intact deposit the archaeologist will notify and consult with all construction personnel, TROCOM and PARKS of the additional time needed.

If work stoppages occur: the construction contractor may only relocate to an area where archaeological monitoring is not required. However, if excavation is to occur in another potentially sensitive area, CAC will provide additional staff to monitor this area while work documenting the intact deposit occurs.

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

If intact historical resources are encountered, additional documentary research may be necessary in order to further understand the potential significance of deposits.

IF INTACT ARCHAEOLOGICAL DEPOSITS ARE FOUND:

If resources are encountered that are determined by the on-site archaeologist 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 agreed upon relevant parties, including, but not limited to, TROCOM, PARKS and LPC.

LPC will be consulted to determine if further 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 resources has been completed. 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.

DETERMINATION OF NATIONAL REGISTER ELIGIBILITY:

If this phase identifies potential City, State or Federal NR-eligible resources that will be impacted by the Project, the Scope of Work from PARKS allows for the continuation of the cultural resource process through an additional contract for Phase II, or III mitigation. If required, and depending on the type and extent of resources encountered, a scope of work for appropriate mitigation measures would be created in consultation with LPC.

METHODOLOGY:

During all excavations, assistance will be provided to the archaeological team by the construction personnel, if needed. This may include, but would not be limited to, pumping water from excavation areas, shoring trenches, meeting all OSHA regulations, and machine excavating non-sensitive levels to further reveal the 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.

In the event that archaeological deposits are encountered, professional standards for excavation, screening, recording of features and stratigraphy, labeling, mapping, photographing, and cataloging will be applied.

Documentation of archaeological deposits may require soil sampling or the excavation of a test unit. All soils from the test units will be screened through ¼-inch-mesh hardware cloth and excavated by natural strata. 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, conservation, and analysis. An artifact catalog, recording the depth and location of each recovered artifact, will be created. Soil profiles, cultural features, etc. will be described, photographed in digital format and illustrated by measured drawings in metric scale in plan and vertical perspective, as appropriate.

HUMAN REMAINS:

In the event that human remains are encountered during construction, the archaeologist will halt all construction activities in the area surrounding the find and instruct the Resident Engineer/Environmental Coordinator to contact the PARKS and TROCOM. PARKS will immediately notify both the New York City Police Department and the Medical Examiner's office of the find and notify, as required, the appropriate City law enforcement agency(s). The archaeologist will notify LPC. The PARKS will notify other parties as directed by LPC or as indicated by city/state law. Once the law enforcement agencies have determined that they have no concerns regarding the remains, the PARKS and/or Resident Engineer will direct the

archaeologist to begin a more detailed archaeological assessment of the find's significance and the potential effect of construction.

If the find is determined to be an isolated, disarticulated, or displaced human bone(s) not part of a deliberate or isolated burial, such as is occasionally found in areas created by landfilling or in deposits of fill, or is completely disturbed by previous construction activities, LPC will be consulted to allow construction to resume, subject to any further mitigation that may be required by city, state, and/or federal law.

If it is determined that intact interments are present, CAC's on-call Forensic Anthropologist will be consulted regarding the excavation and documentation of the interments. In consultation with LPC a plan for the documentation of the remains will be developed. If the interment(s) will be disturbed by continuing construction, the archaeologist will consult with the LPC, PARKS, the next of kin (if known), and other parties regarding additional measures to avoid or mitigate further damage. These measures may include: additional archaeological evaluation of the site; visits to the site by LPC, and other parties; preparation and implementation of a mitigation plan.

ARTIFACT ANALYSIS AND CURATION:

All artifacts will be cleaned and catalogued. Historical 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 which 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 SHPO and LPC guidelines, in this instance, the PARKS. CAC will properly prepare the collection for curation. Upon completion of the laboratory analysis the artifacts will be returned to the PARKS for long-term curation. It is the responsibility of PARKS to arrange for the long-term curation of the collection in an appropriate facility, such as the New York State Museum, or other comparable facility.

REPORT RESULTS:

A report documenting the results of the monitoring and any other background and/or documentary search, field effort, and artifact analyses will be prepared according to the New York Archaeological Council (NYAC) standards (1994). In addition, the report will include determinations regarding the potential National Register eligibility of any artifact deposits and/or features and recommendations for additional investigations, if needed. Draft reports will be submitted to TROCOM, PARKS and LPC for comments and review. Upon the approval of LPC, digital and printed copies of the finalized report will be provided to all parties.

UNANTICIPATED DISCOVERIES PLAN:

The Unanticipated Discoveries Plan is to be used as a guide for the construction company during portions of the project that are not required to be monitored by the archaeologist(s). Unanticipated Discoveries resources are defined as any cultural resources 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 TROCOM and the construction coordinator include, but are not limited to, human remains and recognizable, potentially significant concentrations of artifacts, features, or other evidence of human occupation.

TROCOM will appoint a Resident Engineer who is a member of the Supervisory team to coordinate with the professional archaeologist for implementation of the Unanticipated Discovery Plan. The Resident Engineer will obtain, review, and file on site this Unanticipated Discoveries Plan. The Resident Engineer will initiate implementation of the Unanticipated Discoveries Plan by sponsoring an awareness session with the on-site construction management personnel, equipment operators and laborers.

Cultural resource discoveries, that require reporting and notification to the Resident Engineer include:

1. Any human remains or faunal material
2. Any recognizable, potentially significant concentrations of artifacts, features, or other evidence of human occupation. Examples include: Piers, Wharves and Landfill Retaining Structures: In the City of New York, these structure types typically consist of walls made of logs stacked atop each other and notched at the corners in a manner similar to a log house. They might also consist of vertical timber piles and planks or stone retaining walls. Landfill retaining structures were generally filled with either large cobblestones or loose soils, sometimes containing trash such as clay pipes, bottles, leather scraps or pottery.
3. Infrastructure and Street Features: Utilities installed below the ground in streets and sidewalks pre-dating the twentieth century may be important. An example of an early utility that might be encountered is wood water pipes, which are typically round logs with hollowed-out cores. These are often found at relatively shallow depths in Lower Manhattan;
4. Shaft Features: Shaft features (including wells, privies, and cisterns) are typically round, square, or rectangular pits that are made of brick or stone. They are often filled with trash deposits from households or stores and could include broken dishes, food remains, coffee beans, drinking glasses, and other objects such as nails or buttons. Trash deposits from homes and businesses may also be encountered in sheets or pockets below ground surface.

5. Precontact Period Archaeological Resources: Native American resources that have been encountered in sites within the City of New York include, but are not limited to, shell heaps, pottery, stone tools (arrowheads, spear points) and stone flakes that are byproducts of tool-making.

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

1. If the unanticipated discovery of artifacts or historic property 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, TROCOM and the Resident Engineer has granted clearance.
2. The construction contractor/Resident Engineer will immediately notify the designated on-site Resident Engineer of the find.
3. The Resident Engineer will immediately notify TROCOM, PARKS and the archaeologist 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 Resident Engineer will identify the location and date of the discovery on the project plans and have the location of the find flagged/fenced to insure safety and avoidance of impacts.
4. The archaeologist will coordinate an on-site archaeological consultation to evaluate the find.
5. The archaeologist will conduct an on-site assessment of the find. If necessary, the archaeologist will coordinate with the Resident Engineer to direct the contractor to flag or fence off the archaeological discovery location and direct the contractor to continue work in another portion of the area. The contractor will not restart work in the area of the indentified archaeological resource until the Resident Engineer has granted clearance, after receiving word from the archaeologist that the archaeological resource has been fully examined.
6. The archaeologist will then promptly notify TROCOM and PARKS of the preliminary significance, if at all, of the find.

If the discovery is determined to lack significance by the archaeologist then TROCOM and/or the Resident Engineer will grant clearance to the contractor to resume work.

If the unanticipated find is determined to be sensitive, the following procedures would be followed:

1. The archaeologist will promptly notify LPC of the find. This notification will explain why the archaeologist believes the resource to be significant and define a scope of work for further evaluating the significance of the resource and evaluating 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 Monitoring Protocol.
4. TROCOM/PARKS will notify other parties, as directed by 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 site, then the archaeologist, TROCOM and PARKS will consult with the LPC and other parties regarding further mitigation and appropriate measures for recovery and/or appropriate measures for site treatment. These measures may include, but are not limited to:
 - Formal archaeological evaluation of the site;
 - Visits to the site by the LPC and other parties;
 - Preparation of a mitigation plan for approval by the 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 Resident Engineer, TROCOM, DEC and LPC and will request approval to resume construction, subject to any further mitigation that may be required by LPC.
7. The Resident Engineer will notify the Construction Contractor of clearance to resume work.

UNANTICIPATED DISCOVERY OF HUMAN REMAINS PROTOCOL:

According to NYAC policy, 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) requires special consideration and care. The Resident Engineer will promptly flag or fence off the site and protect the site from damage and disturbance. At all times human remains must be treated with the utmost dignity and respect. The following procedures will be followed:

1. The Resident Engineer will notify the archaeologist, TROCOM and PARKS and the archaeologist will immediately notify LPC.
2. The Resident Engineer will immediately notify both the New York City Police and the Medical Examiner's office of the find and cooperate with the coroner's office to notify, as required, the appropriate city law enforcement agency(s).
3. Once the Law Enforcement agencies have determined that they have no concerns regarding the remains, the Resident Engineer will direct the archaeologist to begin a more detailed archaeological assessment of the remains significance and the potential effect of construction. The Resident Engineer will notify other parties, including next of kin, if known, as directed by the LPC, or as indicated by City/State law.
4. If it is determined that intact interments are present and may be disturbed by continuing construction, then the archaeologist will consult with the LPC, and other parties regarding additional measures to avoid or mitigate further damage. These measures may include:
 - Formal archaeological evaluation of the site;
 - Visits to the site by LPC and other parties;
 - Preparation of a mitigation plan including procedures for disinterment, under the director of a Physical Anthropologist and re-interment, for approval by LPC;
 - Implementation of the mitigation plan; and
 - Approval to resume construction following completion of the fieldwork component of the mitigation plan.
5. If the find is determined to be an isolated disarticulated, displaced human bone(s), such as is occasionally found in areas created by landfilling or in deposits of fill, or completely disturbed by previous construction activities, then the archaeologist will consult with the Resident Engineer, LPC and other parties, and will request approval to resume construction, subject to any further mitigation that may be required by city, state and/or federal law.
6. The Resident Engineer will notify the Construction Contractor of clearance for the Contractor to restart work.

References:

AKRF.

- 2008 Phase IB Archaeological Survey – Burling Slip, New York, New York.
Report on file with the City of New York – Landmarks Preservation Commission.
New York, New York.
- 2009 Memorandum - Fulton Street Corridor Revitalization Project (07PR3695;
LMDC/106-M): Burling Slip Unanticipated Archaeological Discovery: Impacts
and Mitigation. Report on file with the City of New York – Landmarks
Preservation Commission. New York, New York.

Historical Perspectives, Inc.

- 2006 Phase IA Archaeological Documentary Study – Fulton Street Redevelopment
Project, Burling Slip, Manhattan, New York.
Report on file with the City of New York – Landmarks Preservation Commission.
New York, New York.

Loorya, Alyssa and Christopher Ricciardi.

- 2007 Wall Street Water Mains Project - New York, New York - Monitoring and
Limited Phase IA Documentary Report - Project Number: MED-583A.
Report on file with the City of New York – Landmarks Preservation Commission.
New York, New York.

Appendix C:

Field Images



Image 37: Looking east through the project area



Image 38: Looking east through the project area



Image 39: Looking west through the project area



Image 40: Looking south – excavation unit 7



Image 41: Looking north – excavation unit 7



Image 42: Looking east – excavation unit 1



Image 43: Looking east – excavation unit 2



Image 44: excavation of unit 3



Image 45: general stratigraphic exmaple



Image 46: general example of ground water intrusion



Image 47: general example of ground water intrusion and modern utility



Image 48: excavating unit 8



Image 49: looking southward



Image 50: remains of possible brick sewer



Image 51: looking east towards the East River



Image 52: muck and mud at the bottom of the trench



Image 53: ground water intrusion



Image 54: clearing away the concrete column support

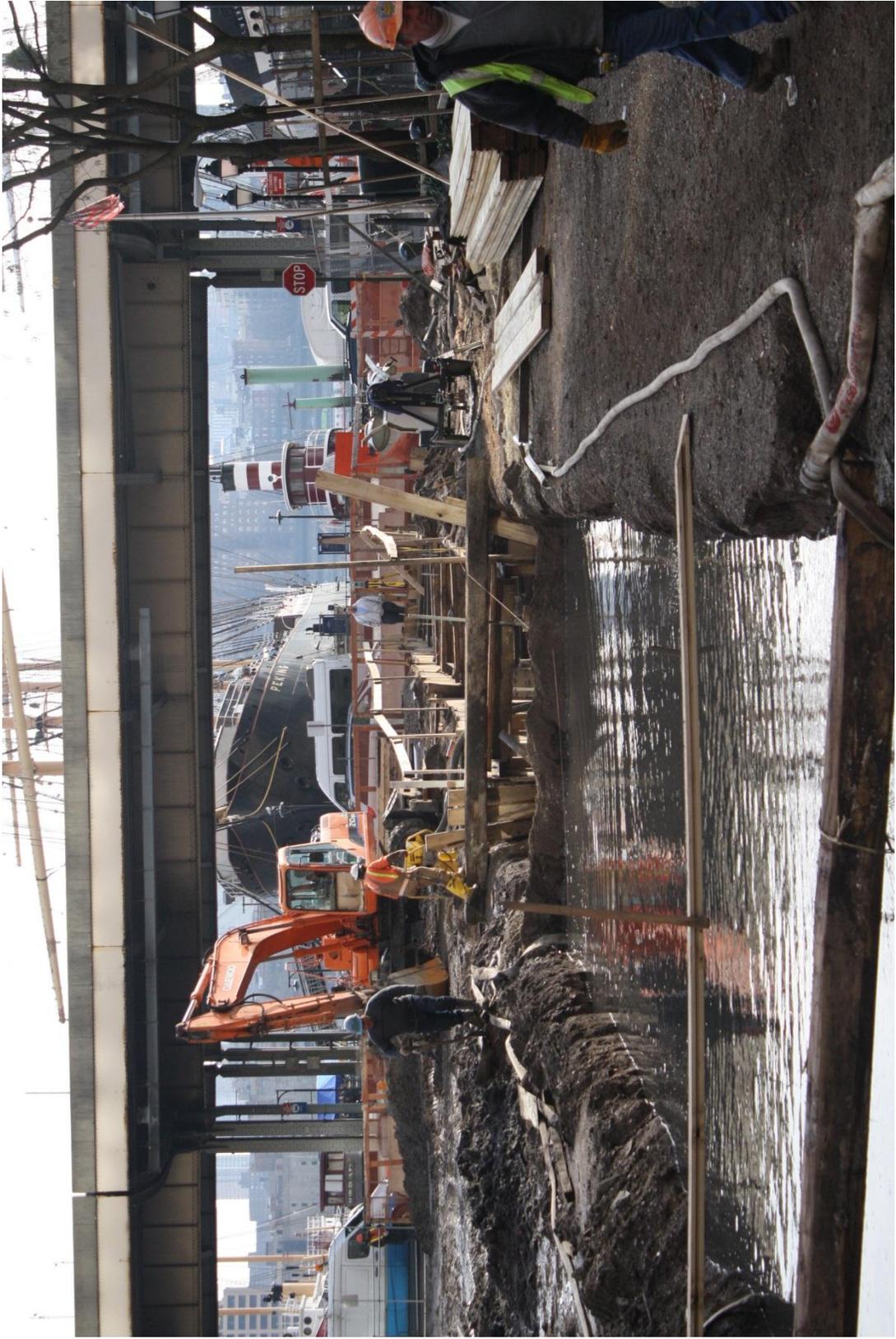


Image 55: East River/Ground Water intrusion

Appendix D:
Artifact Database

Unit		Bag Number	Quantity	Category	Class	Object	Material/Ware	Form	Date Range	Notes
01 (000-300 5-7)	1		1	Faunal	n/a	Tusk				
01 (000-300 5-7)	1		1	Personal	Smoking	Pipe Stem				
01 (000-300 5-7)	1		1	Personal	Medical	Bottle				
01 (000-300 5-7)	1		1	Food	Storage/Preparation	Liquor Bottle	Clear Glass	Square Base	1720-1750	
01 (000-300 5-7)	1		2	Food	Storage/Preparation	Liquor Bottle	Glass	Body		green
01 (000-300 5-7)	1		1	Food	Storage/Preparation	Liquor Bottle	Glass	Base		green
01 (000-300 5-7)	1		1	Food	Storage/Preparation	Container	Stoneware	Rim		Painted Cobalt Band, American Salt-Glazed
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Flakware	Pearlware	Rim	1775-1840	Green Edgeware
01 (000-300 5-7)	1		6	Food	Consumption/Serving	Flakware	Pearlware	Rim	1775-1854	Blue Edgeware
01 (000-300 5-7)	1		1	Food	Storage/Preparation	Hollowware	Redware	Base		Brown Glazed
01 (000-300 5-7)	1		1	Architectural	Building	Tile	Ceramic	n/a	Post-1875	Blue Glazed
01 (000-300 5-7)	1		3	Food	Consumption/Serving	Flakware	Whiteware	Body	post-1850	Transferprint - Mulberry
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Plate	Porcelain	Base		
01 (000-300 5-7)	1		2	Household	Consumption/Serving	Flower Pot	Redware	Body		Wheel turned, unglazed
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Flakware	Pearlware	Body	1795-1825	Polychrome Painted
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Bowl	Porcelain	Rim	late 18th century	Polychrome Painted
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Plate	Whiteware	Rim	post-1850	Black Transferprint - Stipple
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Plate	Whiteware	Body	post-1850	Brown Transferprint - Stipple
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Flakware	Pearlware	Base	1775-1840	
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1775-1840	
01 (000-300 5-7)	1		3	Food	Consumption/Serving	Flakware	Whiteware	Base	post-1850	
01 (000-300 5-7)	1		3	Food	Consumption/Serving	Hollowware	Whiteware	Body	post-1850	
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Flakware	Whiteware	Rim	post-1850	Scalloped Edge
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Flakware	Ironstone	base	1840-1860	
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Plate	Whiteware	Rim	post-1850	Blue Transferprint - same piece as in West Unit
01 (000-300 5-7)	1		2	Food	Consumption/Serving	Hollowware	Pearlware	Rim	1800-1840	Blue Transferprint
01 (000-300 5-7)	1		2	Food	Consumption/Serving	Flakware	Pearlware	Rim	1800-1840	Blue Transferprint
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Hollowware	Whiteware	Body	post-1850	Blue Transferprint
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Bowl	Porcelain	Rim		Blue Painted
01 (000-300 5-7)	1		3	Food	Consumption/Serving	Hollowware	Porcelain (Chinese)	Body	1790-1840	Blue Painted
01 (000-300 5-7)	1		1	Food	Consumption/Serving	Container	Stoneware	Base		Wheel turned, Glazed
01 (000-300 7-9)	2		1	Food	Storage/Preparation	Liquor Bottle	Green Glass	Neck		String Rim
01 (000-300 7-9)	2		1	Food	Storage/Preparation	Liquor Bottle	Green Glass	Base		Square Case
01 (000-300 7-9)	2		1	Household	Decorative	Flower Pot	Redware	Rim		
01 (000-300 7-9)	2		2	Household	Decorative	Flower Pot	Redware	Body		
01 (000-300 7-9)	2		1	Household	Decorative	Flower Pot	Redware	Body		mends with next item
01 (000-300 7-9)	2		2	Household	Decorative	Flower Pot	Redware	Base		mends with previous item
01 (000-300 7-9)	2		2	Food	Consumption/Serving	Hollowware	Porcelain	Rim	post-1850	Black Painted
01 (000-300 7-9)	2		1	Household	Decorative	Flower Pot	Redware	Rim		Molded
01 (000-300 7-9)	2		2	Food	Consumption/Serving	Plate	Pearlware	Base	1795-1825	Blue Painted
01 (000-300 7-9)	2		3	Food	Consumption/Serving	Plate	Whiteware	Rim	post-1850	Blue Edged - one vessel
01 (000-300 7-9)	2		2	Food	Consumption/Serving	Hollowware	Pearlware	Body	1795-1825	Blue Painted
01 (000-300 7-9)	2		2	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Blue Transferprint
01 (000-300 7-9)	2		1	Food	Consumption/Serving	Plate	Pearlware	Base	1800-1840	Red Transferprint - Stipple
01 (000-300 7-9)	2		1	Food	Consumption/Serving	Flakware	Whiteware	Body	post-1850	Red Transferprint - Stipple
01 (000-300 7-9)	2		7	Food	Consumption/Serving	Flakware	Whiteware	Base	post-1850	
01 (000-300 7-9)	2		2	Food	Consumption/Serving	Flakware	Whiteware	Base	post-1850	
01 (000-300 7-9)	2		1	Food	Consumption/Serving	Hollowware	Whiteware	Rim	post-1850	
01 (000-300 7-9)	2		1	Food	Consumption/Serving	Hollowware	Whiteware	Rim	post-1850	
01 (000-300 7-9)	2		1	Food	Consumption/Serving	Hollowware	Whiteware	Base	post-1850	
01 (000-300 7-9)	2		1	Architectural	Building	Nail	iron	Mammal		
01 (000-300 7-9)	2		3	Faunal	Building	Bone				
01 (000-300 7-9)	2		1	Architectural	Building	peg	Wood			
01 (000-300 7-9)	2		3	Personal	Smoking	Pipe Stem	Ksalin	4/4	post-1750	

05 (156'-180')	1-4	1	Food	Storage/Preparation	Hollowware	Stoneware	Body		Salt-glazed
05 (156'-180')	1-4	1	Food	Storage/Preparation	Hollowware	Stoneware	base		
05 (156'-180')	1-4	1	Food	Storage/Preparation	Hollowware	Stoneware	Body		Salt-glazed
05 (156'-180')	1-4	1	Food	Consumption/Serving	Flatware	Porcelain	Rim	post 1860	
05 (156'-180')	1-4	1	Food	Consumption/Serving	Hollowware	Porcelain	Body	1790-1840	Blue Painted - Chinese
05 (156'-180')	1-4	1	Personal	Toilet	Hollowware	Whiteware	Rim	post 1850	
05 (156'-180')	1-4	1	Food	Consumption/Serving	Cup	Whiteware	Rim	post 1850	
05 (156'-180')	1-4	1	Food	Consumption/Serving	Flatware	Pearlware	Rim	1800-1840	Blue Transferprint
05 (156'-180')	1-4	5	Food	Consumption/Serving	Flatware	Pearlware	Rim	1775-1840	Blue Edgeware
05 (156'-180')	1-4	1	Food	Consumption/Serving	Hollowware	Pearlware	Base	1775-1840	
05 (156'-180')	1-4	1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1775-1840	
05 (156'-180')	1-4	1	Food	Consumption/Serving	Flatware	Pearlware	Body	1775-1840	
05 (156'-180')	1-4	1	Food	Consumption/Serving	Flatware	Pearlware	Body	1800-1840	Blue Transferprint
05 (156'-180')	1-4	2	Food	Consumption/Serving	Flatware	Whiteware	Rim	post 1850	Blue Transferprint
05 (156'-180')	1-4	1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1795-1875	Polychrome Painted
05 (156'-180')	1-4	1	Food	Consumption/Serving	Flatware	Pearlware	Rim	1795-1875	Polychrome Painted
05 (156'-180')	1-4	1	Personal	Clothing	Shoe		Sole		
05 (156'-180')	1-4	1	Personal	Clothing	Shoe	Leather			
05 (156'-180')	1-4	1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Black Transferprint
05 (156'-180')	1-4	2	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Red Transferprint
05 (156'-180')	1-4	1	Food	Consumption/Serving	Flatware	Pearlware	Rim	1800-1840	Red Transferprint
05 (156'-180')	1-4	2	Flora		Peach Pit				
05 (156'-180')	1-4	1	Food	Decorative	Hollowware	Porcelain	Base	post 1880	English - Painted Blue/Gold
05 (156'-180')	1-4	1	Food	Storage/Preparation	Liquor bottle	Glass	Rim		
05 (156'-180')	1-4	1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1795-1825	Polychrome Banded
05 (156'-180')	1-4	4	Personal	Smoking	Pipe	Clay	Stem	post 1750	4/64
05 (156'-180')	1-4	15	Personal	Smoking	Pipe	Clay	Stem	post 1750	4/64 (Impressed)
05 (156'-180')	1-4	10	Personal	Smoking	Pipe	Clay	Stem	post 1750	4/64 (Impressed)
05 (156'-180')	1-4	13	Personal	Smoking	Pipe	Clay	Bowl	post 1750	complete Soda bottle
05 (156'-180')	1-4	2	Food	Drinking	Bottle	Clear	Soda		
06 (5'-7')	1	1	Food	Consumption/Serving	Plate	Porcelain	Rim	post 1880	English - Polychrome Painted
06 (5'-7')	1	3	Food	Consumption/Serving	Plate	Pearlware	Rim	1775-1840	Blue Edgeware
06 (5'-7')	1	1	Food	Consumption/Serving	Plate	Stoneware	Rim		White; Salt-glazed
06 (5'-7')	1	1	Food	Consumption/Serving	Plate	Porcelain	Rim	1790-1840	Blue Painted; Chinese
06 (5'-7')	1	2	Food	Consumption/Serving	Hollowware	Whiteware	Base	post 1850	
06 (5'-7')	1	2	Food	Consumption/Serving	Plate	Whiteware	Base	post 1850	Blue Transferprint
06 (5'-7')	1	3	Food	Consumption/Serving	Plate	Whiteware	Rim	600-1850	Blue Transferprint
06 (5'-7')	1	1	Food	Consumption/Serving	Plate	Pearlware	Rim	1835-1835	Blue Transferprint
06 (5'-7')	1	1	Food	Consumption/Serving	Plate	Pearlware	Rim	1835-1910	Flow-Blue Transferprint
06 (5'-7')	1	1	Food	Consumption/Serving	Plate	Pearlware	Rim	1835-1910	Flow-Blue Transferprint
06 (5'-7')	1	3	Food	Consumption/Serving	Hollowware	Pearlware	Base	1775-1840	
06 (5'-7')	1	2	Food	Consumption/Serving	Flatware	Pearlware	Base	1775-1840	
06 (5'-7')	1	2	Food	Consumption/Serving	Hollowware	Pearlware	Body	1775-1840	
06 (5'-7')	1	1	Food	Consumption/Serving	Hollowware	Pearlware	Base	1775-1840	
06 (5'-7')	1	1	Food	Consumption/Serving	Hollowware	Whiteware	Rim	post 1850	Red Transferprint
06 (5'-7')	1	4	Food	Consumption/Serving	Hollowware	Whiteware	Body	post 1850	Red Transferprint
06 (5'-7')	1	3	Personal	Medial	Bottle	Glass			
06 (5'-7')	1	1	Food	Storage/Preparation	Liquor bottle	Glass	Base		Green; Square
06 (7'-12')	1-2	2	Personal	Clothing	Shoe	Leather	Sole		
06 (7'-12')	1-2	1	Food	Storage/Preparation	Liquor Bottle	Glass	Neck		Green
06 (7'-12')	1-2	1	Food	Storage/Preparation	Liquor Bottle	Glass	Base		Green
06 (7'-12')	1-2	1	Food	Storage/Preparation	Liquor Bottle	Glass	top	late 20th century	Screw Top
06 (7'-12')	1-2	1	Faunal			Bone			
06 (7'-12')	1-2	1	Personal	Medial	Medicine Cup	Stoneware	base		
06 (7'-12')	1-2	1	Food	Consumption/Serving	Plate	Pearlware	Rim	1775-1840	Edgeware
06 (7'-12')	1-2	1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1775-1840	
06 (7'-12')	1-2	1	Personal	Toilet	Chamber Pot	Whiteware	Rim	post 1850	
06 (7'-12')	1-2	1	Food	Consumption/Serving	Jug	Pearlware	Body	1800-1840	Molded
06 (7'-12')	1-2	1	Personal	Smoking	Pipe	Clay	Stem	post 1750	4/64
06 (7'-12')	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Body	post 1860	Painted

06 (7-12)	1-2	1	Personal	Leisure	Game Disk	Bakelite			post.1893
07 (000-200 5-7)	1	3	Funeral	Consumption/Serving	Bone	Pearlware	Mammal		
07 (000-200 5-7)	1	12	Food	Consumption/Serving	Flatware	Pearlware	Rim	1775-1840	Green Edgeware
07 (000-200 5-7)	1	18	Food	Consumption/Serving	Flatware	Pearlware	Rim	1775-1840	Blue Edgeware
07 (000-200 5-7)	1	1	Food	Storage/Preparation	Flatware	Yellowware	base	post.1820	
07 (000-200 5-7)	1	3	Food	Consumption/Serving	Flatware	Pearlware	Body	1795-1823	Polychrome Painted
07 (000-200 5-7)	1	1	Food	Consumption/Serving	Cup	Porcelain	Body	post.1883	Glazed Edge
07 (000-200 5-7)	1	1	Food	Consumption/Serving	Plate	Porcelain	Rim	post.1860	English
07 (000-200 5-7)	1	2	Food	Consumption/Serving	Plate	Pearlware	Base	1800-1840	Blue Transferprint
07 (000-200 5-7)	1	2	Food	Consumption/Serving	Plate	Pearlware	Rim	1800-1840	Red Transferprint
07 (000-200 5-7)	1	5	Food	Consumption/Serving	Flatware	Pearlware	Body	1800-1840	Red Transferprint
07 (000-200 5-7)	1	1	Food	Consumption/Serving	Hollowware	Pearlware	Rim	post.1850	Brown Transferprint
07 (000-200 5-7)	1	1	Food	Consumption/Serving	Flatware	Pearlware	Body	1800-1840	Brown Transferprint
07 (000-200 5-7)	1	2	Personal	Toilet	Chamber Pot	White ware	Rim	post.1850	
07 (000-200 5-7)	1	1	Food	Storage/Preparation	Hollowware	Stoneware	Body		Salt-glazed
07 (000-200 5-7)	1	1	Food	Storage/Preparation	Hollowware	Redware	Body		Glazed
07 (000-200 5-7)	1	1	Food	Consumption/Serving	Flatware	Pearlware	Base	1775-1840	
07 (000-200 5-7)	1	3	Food	Consumption/Serving	Hollowware	White ware	Body	post.1850	
07 (000-200 5-7)	1	1	Personal	Toilet	Hollowware	Pearlware	Base	1762-1820	
07 (000-200 5-7)	1	5	Food	Consumption/Serving	Hollowware	Pearlware	Base	post.1850	
07 (000-200 5-7)	1	1	Food	Consumption/Serving	Hollowware	White ware	Rim	post.1850	
07 (000-200 7-9)	1	1	Personal	Smoking	Pipe	Clay	Stem		4/64
07 (000-200 7-9)	1	1	Food	Storage/Preparation	Cork	Cork		post.1750	
07 (000-200 7-9)	1	1	Food	Storage/Preparation	Liquid Bottle	Glass	Base		Green
07 (000-200 7-9)	1	1	Food	Storage/Preparation	Liquid Bottle	Glass	neck		Green
07 (000-200 7-9)	1	1	Personal	Toilet	Basin	White ware	Rim	post.1850	
07 (000-200 7-9)	1	1	Personal	Toilet	Chamber Pot	White ware	Rim	post.1850	
07 (000-200 7-9)	1	1	Personal	Toilet	Basin	White ware	Rim	post.1850	
07 (000-200 7-9)	1	2	Personal	Toilet	Basin	White ware	Rim	post.1850	
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Hollowware	White ware	Body	post.1850	
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Plate	Pearlware	Base	1762-1820	
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Cup	White ware	Rim	post.1850	
07 (000-200 7-9)	1	2	Food	Consumption/Serving	Plate	Pearlware	Rim	1775-1840	Blue Edgeware
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Plate	Porcelain	Rim	post.1860	Polychrome, English
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Cup	Pearlware	Rim	1775-1840	Polychrome
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Plate	Porcelain	Body	1790-1840	Blue Painted, Chinese
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Cup	Pearlware	Body	1800-1840	Red Transferprint
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Plate	Pearlware	Rim	1800-1840	Red Transferprint
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Plate	White ware	Rim	post.1850	
07 (000-200 7-9)	1	2	Food	Consumption/Serving	Plate	Pearlware	Base	1800-1840	
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Tea Cup	Pearlware	Rim	1800-1840	Blue Transferprint
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Platter	Pearlware	Rim	1800-1840	Blue Transferprint
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Hollowware	White ware	Body	post.1850	Brown Transferprint - stipple
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Plate	Pearlware	Rim	1800-1840	Brown Transferprint - stipple
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Hollowware	White ware	Body	post.1850	Floral Pattern - molded
07 (000-200 7-9)	1	1	Food	Consumption/Serving	Cup	Pearlware	Base	1800-1840	Black Transferprint
07 (000-200 7-9)	1	1	Food	Storage/Preparation	Hollowware	Stoneware	Rim	post.1850	Iron Oxide
07 (000-200 7-9)	1	1	Food	Storage/Preparation	Hollowware	Redware	Handle		glazed
07 (000-200 7-9)	1	1	Food	Storage/Preparation	Hollowware	Redware	base		glazed
07 (000-200 7-9)	1	2	Personal	Medical	Bottle	Glass	neck		
07 (000-200 7-9)	1	3	Funeral		Bone		Mammal		chicken
07 (000-200 7-9)	1	5	Funeral		Bone		Avian		
07 (000-200 8-9)	1-2	5	Food	Consumption/Serving	Flatware	Pearlware	Rim	1775-1840	Blue Edgeware
07 (000-200 8-9)	1-2	1	Food	Consumption/Serving	Plate	Pearlware	Base	1795-1823	Polychrome Painted
07 (000-200 8-9)	1-2	1	Food	Consumption/Serving	Cup	Pearlware	Rim	1795-1823	Polychrome Painted

07(200-220-58)	1-2	1	Food	Consumption/Serving	Plate	Whiteware	Rim	post 1850	Blue Transferprint
07(200-220-58)	1-2	1	Food	Consumption/Serving	Cup	Pearlware	Base	1800-1840	Blue Transferprint
07(200-220-58)	1-2	1	Food	Consumption/Serving	Flatware	Pearlware	Rim	1800-1840	Blue Transferprint
07(200-220-58)	1-2	1	Food	Storage/Preparation	Plate	Redware	Rim	1570-1850	American Slipware
07(200-220-58)	1-2	2	Food	Consumption/Serving	Platter	Whiteware	Rim	post 1850	Blue Transferprint
07(200-220-58)	1-2	3	Food	Consumption/Serving	Flatware	Pearlware	Base	1775-1840	Blue Transferprint
07(200-220-58)	1-2	1	Food	Consumption/Serving	Flatware	Whiteware	Base	post 1850	Molded
07(200-220-58)	1-2	2	Food	Consumption/Serving	Flatware	Whiteware	Rim	post 1850	Molded
07(200-220-58)	1-2	4	Food	Consumption/Serving	Platter	Whiteware	body	post 1850	Molded
07(200-220-58)	1-2	1	Food	Consumption/Serving	Flatware	Pearlware	Rim	1775-1840	Green Edgeware
07(200-220-58)	1-2	1	Food	Consumption/Serving	Hollowware	Pearlware	body	1790-1840	Basiced Amphibeware
07(200-220-58)	1-2	1	Food	Consumption/Serving	Flatware	Pearlware	base	1800-1840	Black Transferprint
07(200-220-58)	1-2	1	Food	Consumption/Serving	Hollowware	Whiteware	body	post 1850	Black Transferprint
07(200-220-58)	1-2	1	Food	Consumption/Serving	Flatware	Whiteware	Rim	post 1850	Black Transferprint
07(200-220-58)	1-2	3	Food	Consumption/Serving	Flatware	Whiteware	Rim	post 1850	Brown Transferprint
07(200-220-58)	1-2	2	Food	Consumption/Serving	Flatware	Pearlware	Rim	1800-1840	Brown Transferprint
07(200-220-58)	1-2	1	Food	Consumption/Serving	Hollowware	Whiteware	Rim	post 1850	Brown Transferprint
07(200-220-58)	1-2	1	Personal	Toilet	Chamber Pot	Whiteware	Rim	post 1850	Brown Transferprint
07(200-220-58)	1-2	1	Food	Storage/Preparation	Basin	Whiteware	Rim	post 1850	Whiteware
07(200-220-58)	1-2	1	Food	Storage/Preparation	Hollowware	Stoneware	body		salt-glazed, Colalt
07(200-220-58)	1-2	1	Food	Storage/Preparation	Hollowware	Stoneware	Base		Wheel turned
07(200-220-58)	1-2	1	Food	Storage/Preparation	Hollowware	Stoneware	Body		salt-glazed, Brown
07(200-220-58)	1-2	1	Floral		Coconut Shell				
07(200-220-58)	1-2	6	Faunal	Clothing	Bone				
07(200-220-58)	1-2	1	Personal	Smoking	Shoe	Leather	Sole		
07(200-220-58)	1-2	3	Personal	Smoking	Pipe	Clay	Stem		4/64
07(200-220-58)	1-2	4	Food	Storage/Preparation	Liquor Bottle	Glass	Base	post 1750	Green
07(200-220-58)	1-2	2	Food	Storage/Preparation	Liquor Bottle	Glass	Neck		Green
07(200-220-58)	1-2	1	Personal	Medicinal	Bottle	Glass	Base		Clear
West Unit (220-240-57)	1-3	1	Food	Storage/Preparation	Wine Bottle				
West Unit (220-240-57)	1-3	3	Food	Consumption/Serving	Pitcher	Glass	Base		Green
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Pitcher	Pearlware	Rim	1835-1910	Flow Blue Transferprint
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Pitcher	Pearlware	Handle	1835-1910	Flow Blue Transferprint
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1835-1910	Flow Blue Transferprint
West Unit (220-240-57)	1-3	7	Food	Consumption/Serving	Flatware	Pearlware	Base	1800-1840	Blue Transferprint
West Unit (220-240-57)	1-3	2	Food	Consumption/Serving	Flatware	Pearlware	Body	1800-1840	Blue Transferprint
West Unit (220-240-57)	1-3	4	Food	Consumption/Serving	Serving Dish	Pearlware	Rim	1800-1840	Blue Transferprint
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Plate	Pearlware	Base	1775-1840	Blue Transferprint
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Tea Cup	Pearlware	Base	1795-1825	Polychrome - Painted
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Flatware	Porcelain	Base	post 1850	Polychrome - Painted
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Plate	Porcelain	Rim	1775-1840	Blue, Chinese
West Unit (220-240-57)	1-3	3	Food	Consumption/Serving	Cup	Porcelain	Body	1790-1840	Blue Painted
West Unit (220-240-57)	1-3	4	Food	Consumption/Serving	Flatware	Whiteware	Rim	1775-1840	Blue Edgeware
West Unit (220-240-57)	1-3	1	Personal	Toilet	Hollowware	Whiteware	Rim	post 1850	Blue Edgeware
West Unit (220-240-57)	1-3	1	Personal	Toilet	Hollowware	Whiteware	Body	post 1850	Blue Edgeware
West Unit (220-240-57)	1-3	2	Food	Consumption/Serving	Hollowware	Whiteware	Base	post 1850	Blue Edgeware
West Unit (220-240-57)	1-3	1	Food	Consumption/Serving	Serving Dish	Pearlware	Base	post 1850	Blue Edgeware
West Unit (220-240-57)	1-3	1	Food	Storage/Preparation	Plate	Pearlware	Rim	1800-1840	English
West Unit (220-240-57)	1-3	1	Food	Storage/Preparation	Bowl	Redware	Body		Blue Transferprint
West Unit (220-240-57)	1-3	2	Food	Storage/Preparation	Hollowware	Yellowware	body	1800-1900	American Slipware
West Unit (220-240-57)	1-3	1	Food	Storage/Preparation	Hollowware	Redware	Body		glazed
West Unit (220-240-57)	1-3	1	Food	Storage/Preparation	Hollowware	Stoneware	Body		saltglazed
West Unit (220-240-57)	1-3	2	Personal	Smoking	Pipe	Stoneware	Body		Iron/oxide
West Unit (220-240-57)	1-3	1	Personal	Clothing	Shoe	Clay	Stem	post 1750	4/64
West Unit (220-240-57)	1-3	10	Faunal	Clothing	Shoe	Leather	Sole		4/64
West Unit (220-240-57)	1-2	1	Food	Storage/Preparation	Bottle	Glass	Base		Green - Champagne

West Unit (220'-240' >7)	1-2	2	Food	Storage/Preparation	Bottle	Glass	Glass	Base	Green - Wine
West Unit (220'-240' >7)	1-2	3	Food	Liquid Bottle	Neck	Glass	Neck		
West Unit (220'-240' >7)	1-2	2	Food	Storage/Preparation	Hollowware	Rehware	Body		Glass
West Unit (220'-240' >7)	1-2	2	Food	Storage/Preparation	Hollowware	Rehware	Rim		Glass
West Unit (220'-240' >7)	1-2	1	Food	Storage/Preparation	Hollowware	Rehware	Rim		Glass
West Unit (220'-240' >7)	1-2	1	Food	Storage/Preparation	Hollowware	Rehware	Base		Iron Oxide
West Unit (220'-240' >7)	1-2	2	Food	Consumption/Serving	Flakware	Pearlware	Base	1775-1840	
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Flakware	Whiteare	Rim	post 1850	Brown Transferprint
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Flakware	Pearlware	Rim	1800-1840	Blue Transferprint
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Flakware	Pearlware	Body	1835-1910	Flow Blue Transferprint
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Pearlware	Base	1800-1840	Blue Transferprint
West Unit (220'-240' >7)	1-2	2	Food	Consumption/Serving	Plate	Pearlware	Base	1795-1825	Blue Transferprint - stamped "Wirk" and "Flower Garden"
West Unit (220'-240' >7)	1-2	3	Food	Consumption/Serving	Plate	Pearlware	Rim	1800-1840	Blue Transferprint
West Unit (220'-240' >7)	1-2	2	Food	Consumption/Serving	Flakware	Porcelain	Body	1790-1840	Blue Painted; Chinese
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Rim	1790-1840	Blue Painted; Chinese
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Hollowware	Pearlware	Base	1800-1840	Blue Transferprint
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Cup	Porcelain	Body	post 1850	Gilded
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Base	post 1850	English
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Rim	post 1860	English
West Unit (220'-240' >7)	1-2	3	Food	Consumption/Serving	Plate	Porcelain	Body	post 1860	English
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Body	post 1860	Gilded; English
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Base	post 1860	Painted
West Unit (220'-240' >7)	1-2	1	Food	Consumption/Serving	Plate	Porcelain	Rim	post 1860	Polychrome
West Unit (220'-240' >7)	1-2	2	Food	Consumption/Serving	Hollowware	Whiteare	Rim	post 1850	
West Unit (220'-240' >7)	1-2	1	Personal	Toilet	Ewer	Whiteare	Rim	post 1850	
West Unit (220'-240' >7)	1-2	3	Personal	Toilet	Body	Whiteare	Rim	post 1850	
West Unit (220'-240' >7)	1-2	1	Personal	Toilet	Basin	Whiteare	Body	post 1850	
West Unit (220'-240' >7)	1-2	6	Personal	Smoking	Pipe	Clay	Handle		4/64
West Unit (220'-240' >7)	1-2	3	Personal	Smoking	Clay	Clay	Stem		4/64
West Unit (220'-240' >7)	1-2	3	Personal	Smoking	Clay	Clay	Bowl		4/64
West Unit (220'-240' >7)	1-2	1	Personal	Clothing	Shoe	Leather	Sole		
West Unit (220'-240' >7)	1-2	1	Tools		Spigot	Iron			threaded end
Sheet Deposit		1	Food	Storage/Preparation	Liquid Bottle	Glass	Body		Green
Sheet Deposit		1	Food	Storage/Preparation	Plate	Redware	Base		White Gilded
Sheet Deposit		1	Food	Storage/Preparation	Bottle	Glass	Base		Green Molded
Sheet Deposit		2	Food	Storage/Preparation	Bottle	Glass	Body		Green Molded - oxen-drawn cart and "ROAD"
Sheet Deposit		14	Food	Consumption/Serving	Dinner	Pearlware	Rim	1800-1840	Transferprint - Canova - Purple
Sheet Deposit		13	Food	Consumption/Serving	Dinner	Pearlware	Body	1800-1840	Transferprint - Canova - Purple
Sheet Deposit		15	Food	Consumption/Serving	Dinner	Pearlware	Body	1800-1840	Transferprint - Purple
Sheet Deposit		11	Food	Consumption/Serving	Saucer	Pearlware	Body	1800-1840	Transferprint - Canova - Purple
Sheet Deposit		1	Food	Consumption/Serving	Sugar Bowl	Pearlware	Rim	1800-1840	Transferprint - Purple
Sheet Deposit		10	Food	Consumption/Serving	Plate	Pearlware	Rim	1800-1840	Transferprint - Canova - Purple
Sheet Deposit		8	Food	Consumption/Serving	Saucer	Pearlware	Rim	1800-1840	Transferprint - Red
Sheet Deposit		8	Food	Consumption/Serving	Flakware	Whiteare	Rim	post 1850	Transferprint - Red
Sheet Deposit		7	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Transferprint - Red
Sheet Deposit		6	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Transferprint - Red
Sheet Deposit		2	Food	Consumption/Serving	Plate	Pearlware	Body	1800-1840	Transferprint - Red
Sheet Deposit		1	Food	Consumption/Serving	Flakware	Pearlware	Body	1800-1840	Transferprint - Red
Sheet Deposit		6	Food	Consumption/Serving	Flakware	Pearlware	Rim	1800-1840	Transferprint - Red
Sheet Deposit		4	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Transferprint - Red
Sheet Deposit		1	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Transferprint - Blue
Sheet Deposit		2	Food	Consumption/Serving	Cup	Pearlware	Base	1800-1840	Transferprint - Blue
Sheet Deposit		2	Food	Consumption/Serving	Flakware	Whiteare	Rim	post 1850	Transferprint - Blue
Sheet Deposit		21	Building	Utility	Pipe	PVC	Rim	post 1850	Modern Plastic moved into Deposit
Sheet Deposit		1	Food	Consumption/Serving	Plate	Whiteare	Rim	post 1850	Transferprint - Brown (likely A.S. Westall)
Sheet Deposit		6	Food	Consumption/Serving	Plate	Whiteare	Rim	post 1850	Transferprint - Brown (likely A.S. Westall)
Sheet Deposit		1	Food	Consumption/Serving	Cup	Pearlware	Rim	1800-1840	Transferprint - Brown
Sheet Deposit		5	Food	Consumption/Serving	Flakware	Pearlware	Rim	1800-1840	Transferprint - Brown
Sheet Deposit		7	Food	Consumption/Serving	Hollowware	Pearlware	Body	1800-1840	Transferprint - Brown

Appendix E:
Artifact Images



Image 56: Leather shoe sole



Image 57: Leather shoe sole



Image 58: Whiteware, Blue Transferprint



Image 59: Pearlware, Blue Transferprint



Image 60: Stoneware medicine cup



Image 61: Scissors



Image 62: Bull Horn



Image 63: Bull horn



Image 64: Mammal Bone



Image 65: Mammal Bones

Appendix E:
Human Remains

From: Alyssa Loorya [mailto:loorya@att.net]
Sent: Monday, January 04, 2010 10:26 AM
To: 'Amanda Sutphin'; 'Mackey, Douglas (PEB)'; Bradley Adams
Cc: 'David DeMartinis'; 'Grullon, Heidi'; 'Atanga, Joseph'
Subject: John Street human remains discovery
Attachment: John Street Human Remains Discovery (04-Jan-11).pdf; John Street 001.jpg; John Street 002.jpg

Please see attached.

Best,
Alyssa

Alyssa Loorya, M.A., MPhil., R.P.A., President
Chrysalis Archaeological Consultants, Inc.
4110 Quentin Road
Brooklyn, New York 11234-4322
Phone/Fax: (718) 645-3962
Cell: (347) 922-5581
Email: info@chrysalisarchaeology.com
Web: www.chrysalisarchaeology.com

From: Adams, Bradley [mailto:BADams@ocme.nyc.gov]
Sent: Monday, January 04, 2010 12:01 PM
To: Alyssa Loorya; Amanda Sutphin; Mackey, Douglas (PEB)
Cc: David DeMartinis; Grullon, Heidi; Atanga, Joseph; Borakove, Ellen
Subject: RE: John Street human remains discovery

Alyssa - Based on our discussion, your attached narrative, as well as the attached photos, it seems clear that these human remains are from an historic context. As such, they do not warrant further involvement from the Office of Chief Medical Examiner.

Thank you for your notification,

Bradley J. Adams, PhD, D-ABFA
Director of Forensic Anthropology
Office of Chief Medical Examiner
520 First Avenue
New York, NY 10016
Tel: 212-447-2760
Cell: 646-879-7873
Fax: 212-447-4339
Email: badams@ocme.nyc.gov
Web: www.nyc.gov/ocme

Chrysalis Archaeological Consultants
Cultural Resource Specialists



To: City of New York - Landmarks Preservation Commission
City of New York - Department of Parks and Recreation
City of New York - Office of the Chief Medical Examiner
New York State Office of Parks, Recreation and Historic Preservation
Trocom Construction Corporation

Subject: Discovery of Human Remains at John Street

Date: January 4, 2009

Archaeological monitoring of utility excavations along John Street, between Front and South Streets, by Trocom Construction has observed several landfill contexts of early nineteenth century materials. Among the materials are a range of faunal remains. Three of the skeletal elements recovered on December 30, 2009 were suspected to be human.

Work was halted in the area of the find while all interested parties (Parks, LPC and NY SHPO) were notified. The Medical Examiner's Office would be notified pending positive identification.

On December 31, 2009 Dr. Sophia Perdikaris positively identified one human female femur and one humerus, the humerus is broken in two bones that mend. It is likely that these are from the same individual.

These remains were uncovered from within a landfill context contained in a dense organic matter at approximately 12' below surface. The surface is below the water table and water is continually pumped from the site. On average there is approximately 12" of standing water at any given time. Other artifacts recovered in association with the remains include various types of stoneware pottery, early nineteenth century pearlware pottery, pipe stems, bottle glass and faunal remains including cattle, caprine and a boar tusk.

Monitoring will continue throughout the excavation and if additional remains are recovered all parties will be notified.

Photographs of the site location and a map follow.

4110 Quentin Road Brooklyn, New York 11234-4322
Phone/Fax: (718) 645-3962 • Mobile: (347) 922-5581
info@chrysalisarchaeology.com • www.chrysalisarchaeology.com



Image01: Looking southeast. The human remains were recovered from the western end of the sheeted area (in the center of the photo).

4110 Quentin Road Brooklyn, New York 11234-4322
Phone/Fax: (718) 645-3962 • Mobile: (347) 922-5581
info@chrysalisarchaeology.com • www.chrysalisarchaeology.com



Image 02: Looking south at the segment of trench from which the human remains were recovered

4110 Quentin Road Brooklyn, New York 11234-4322
Phone/Fax: (718) 645-3962 • Mobile: (347) 922-5581
info@chrysalisarchaeology.com • www.chrysalisarchaeology.com

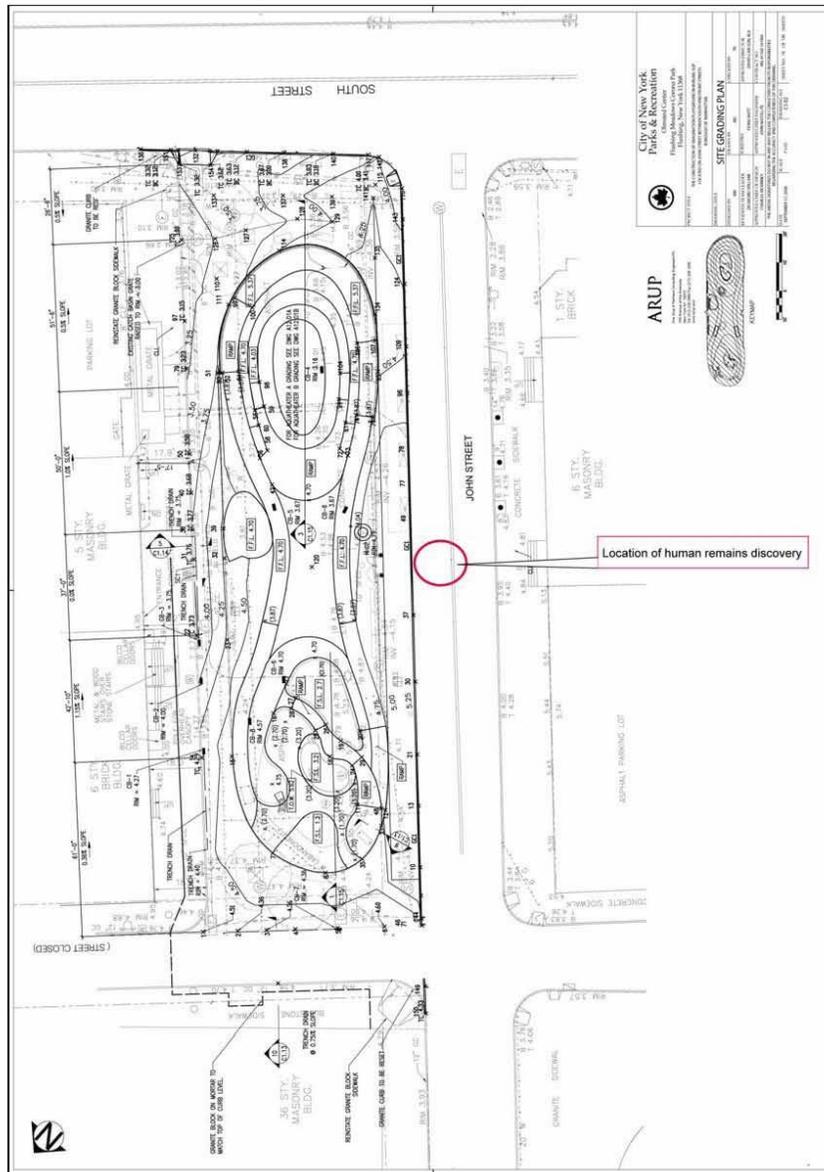


Image 03: looking into the trench segment from where the human remains were recovered



Image 04: looking east under brace into the trench segment from where the human remains were recovered

4110 Quentin Road Brooklyn, New York 11234-4322
Phone/Fax: (718) 645-3962 • Mobile: (347) 922-5581
info@chrysalisarchaeology.com • www.chrysalisarchaeology.com



4110 Quentin Road Brooklyn, New York 11234-4322
 Phone/Fax: (718) 645-3962 - Mobile: (347) 922-5581
 info@chrysalisarchaeology.com - www.chrysalisarchaeology.com

Appendix F:

Resumes

(not include in NY SHPO or LPC report version)