

January 2011

*Prepared for*  
MTA/NYC Transit

**Phase IB Archaeological Investigation  
for the East 50<sup>th</sup> Street Ventilation Plant,  
MTA/LIRR East Side Access Project,  
Construction Contract CM013**

**New York, New York**



*Prepared by:*

**URS**

Burlington, New Jersey

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MTA/LIRR East Side Access Project,  
Construction Contract CM013**

**New York, New York**

*Prepared for*

MTA/NYC Transit  
2 Broadway  
New York, New York

*Prepared by*

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and  
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**January 2011**

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## Management Summary

The ESA project will provide new LIRR service to Grand Central Terminal by connecting the Port Washington Branch and Main Line tracks adjacent to the Sunnyside Yards in Queens to the lower level of the existing 63rd Street Tunnel beneath the East River, and continuing in a new tunnel to Grand Central Terminal in Manhattan. The Final EIS (FEIS) for the project was published in March 2001. Subsequent to the FEIS, project engineering has continued, and new project elements are under consideration. These were not assessed in the FEIS and have the potential to affect archaeological resources through in-ground disturbance. Specifically, the potential construction of a ventilation facility between East 50th and East 49th Streets and Madison and Park Avenues in the City of New York, New York County, New York is proposed. Accordingly, the Area of Potential Effect (APE) for archaeological resources was redefined and in 2003, an Addendum report, *Stage IA Archaeological Assessment East 50th Street Vent Plant: MTA/Long Island Rail Road East Side Access Project*, was issued. This report determined that the project area possessed the potential to contain buried archaeological resources and recommended Stage 1B archaeological investigations (HPI 2003).

Accordingly, URS Corporation carried out these investigations in advance of construction. The investigations consisted of a series of Stage IB archaeological test trenches that were monitored and documented on December 6, 2010. The testing occurred within Block 1285, Lots 43, 45 and 46 at the proposed East 50th Street Vent Plant site. This work was carried out as part of the overall East Side Access (ESA) project. URS' investigations did not encounter any buried archaeological resources of any kind. Bedrock was encountered almost directly below the basement levels that potentially capped significant historic deposits.

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# 1

## Introduction

The ESA project will provide new LIRR service to Grand Central Terminal by connecting the Port Washington Branch and Main Line tracks adjacent to the Sunnyside Yards in Queens to the lower level of the existing 63<sup>rd</sup> Street Tunnel beneath the East River, and continuing in a new tunnel to Grand Central Terminal in Manhattan. The potential environmental effects of the proposed project were assessed in an environmental impact statement (EIS) prepared for the project, which included an evaluation of the project's potential effects on historic and archaeological resources. As part of the EIS process, Historical Perspectives, Inc. (HPI), completed a Phase IA archaeological assessment in 1999. The final EIS (FEIS) for the project was published in March 2001.

Subsequent to the FEIS, project engineering has continued and new project elements are under consideration. These new elements were not assessed in the FEIS and have the potential to affect archaeological resources through in-ground disturbance. Specifically, the potential construction of a ventilation facility between East 50<sup>th</sup> and East 49<sup>th</sup> Streets and Madison and Park Avenues in the city of New York, New York County, New York, is proposed (Figure 1.1). Accordingly, the area of potential effects (APE) for archaeological resources was redefined and, in 2003, an addendum report, *Stage IA Archaeological Assessment East 50<sup>th</sup> Street Vent Plant: MTA/Long Island Rail Road East Side Access Project*, was issued. This report determined that the project area possessed the potential to contain buried archaeological resources and recommended Stage IB archaeological investigations (HPI 2003).

Accordingly, URS Corporation (URS) carried out these investigations in advance of construction. The investigations consisted of a series of Phase IB archaeological test trenches that were monitored and documented on December 6, 2010. The testing occurred within Block 1285, Lots 43, 45, and 46, at the proposed East 50<sup>th</sup> Street Ventilation Plant site. This work was carried out as part of the overall East Side Access (ESA) project. Contrary to the 2003 addendum report, URS' investigations did not encounter any buried archaeological resources of any kind. Bedrock was encountered almost directly below the basement levels that potentially capped significant historic deposits. The following report details the findings of the URS Phase IB archaeological investigations.

URS Senior Archaeologist Alyssa Loorya (M.A., RPA) oversaw the field effort, assisted by URS Archaeological Supervisor Daniel Eichinger. James Burton and Thomas Kutys also assisted. Scott Hood produced the report graphics, and Paul Elwork (M.A.) edited the overall report for content and style.



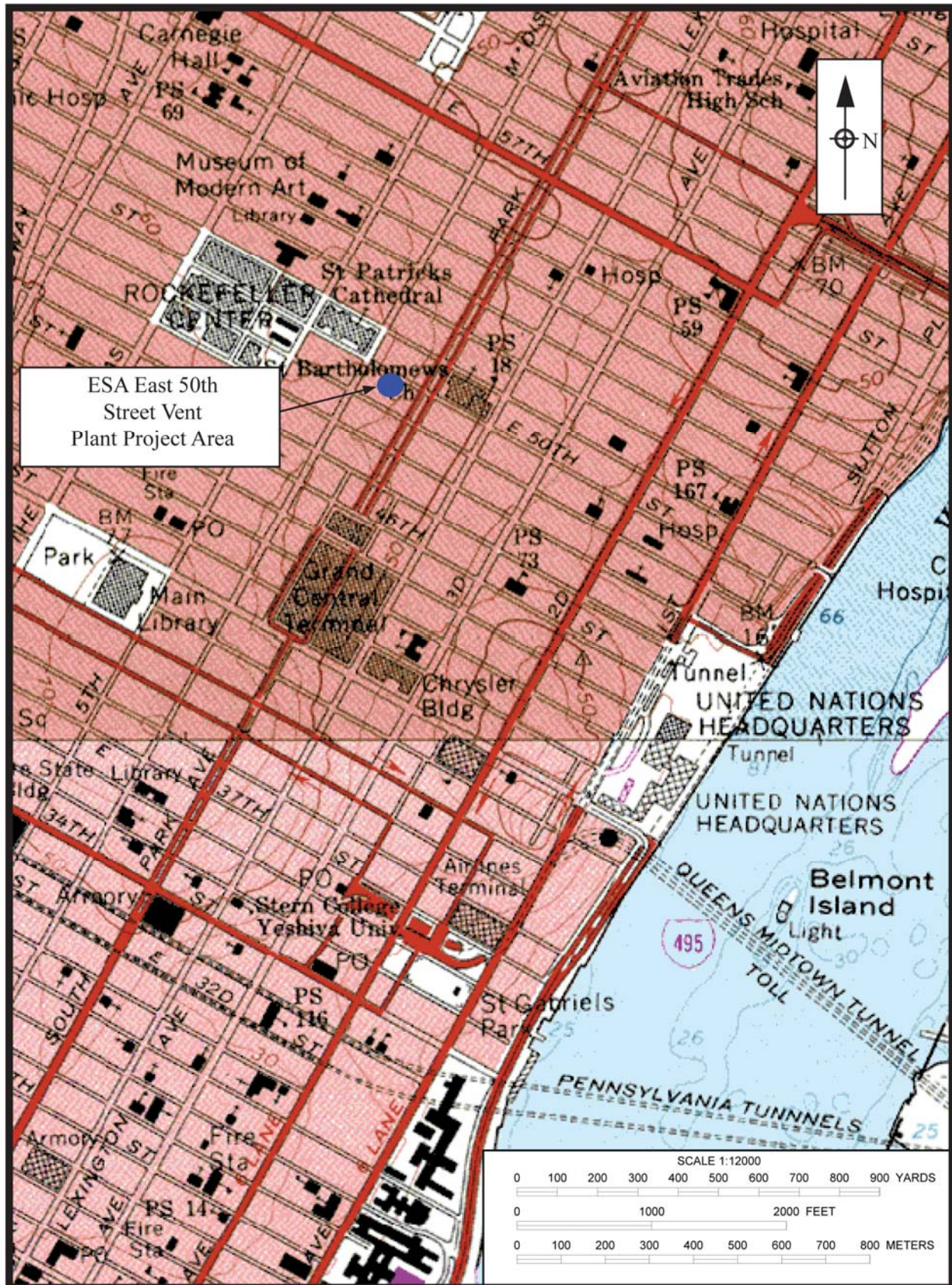


Figure 1.1 ESA East South Street Vent Plant project area (Source: NY, NY, MyTopo 2008).



## Environmental and Physical Setting

### PHYSIOGRAPHY AND UNDERLYING GEOLOGY

The East 50<sup>th</sup> Street Ventilation Plant project area is located in Midtown Manhattan, to the southwest of Central Park. This area falls within the southern end of the Manhattan Prong section of the New England Uplands physiographic province (Bennington and Merguerian 2006). The underlying geology of the project area consists of the Walloomsac Formation. This formation dates to the Middle Ordovician and consists of a gray, fissile, fine-to-medium-grained schist. It exhibits thin foliations and a wavelike structure, and may become tan or rusty colored if exposed to weathering. This formation unconformably overlies the Inwood Marble Formation, and is in contact with the Manhattan Schist Formation (Baskerville 1994).

In natural settings, glacial till overlies the Walloomsac Formation. The till is the product of the Wisconsin ice sheet (glacier), which began 100,000 years before present (B.P.) and ended within the Holocene (i.e., 10,000 years B.P.). This glacier flowed from north to south and was at least one half of a kilometer thick over northern New Jersey and New York City. The impacts of the weight of the glacier upon the landscape are still extant. Exposed surfaces have been either rounded/polished by this great weight, or show grooves and striations carved via glacial movement. Such landscape features can be seen in nearby Central Park. During the advance of the ice, existing valleys were widened and glacial lakes carved across the landscape of New York and New Jersey (Bennington and Merguerian 2006; Cadwell 1989). The retreat of the Wisconsin glacier also left its mark upon the landscape. The melting ice left multi-tons of material behind. In the New York City area, this consists of glacial till or outwash, which underlies the present ground surface and caps the bedrock formations (New York City Soil Survey Staff 2005). Glacial till consists of unsorted particles of various sizes, from boulders to pebbles to sand, which the melting ice released and deposited. Outwash consists of sorted and stratified materials transported away from the ice via glacial meltwater. Till fills valleys, covers bedrock substrates, and accumulates in moraines. Moraines occur in two forms: side moraines and end moraines. Side moraines consist of deposits that form on the edges of glaciers, while end moraines are formed of material pushed along during the ice movement. End moraines are broken into two further subcategories—recessional and terminal moraines. Recessional moraines are formed during pauses in a glacier's movement, and terminal moraines mark the furthest advance of a glacier. Three such terminal moraines form the twin forks of Long Island (Bennington and Merguerian 2006).

### UNDERLYING SOILS

Specific soils within the project area consist of Pavement and Buildings, Till Substratum (0–5% slopes). This consists of nearly level to gently sloping landscapes within highly urbanized areas where impervious pavements and buildings cover more than 80% of the surface. Unsorted and unstratified glacial till is located beneath these urban surfaces (New York City Soil Survey Staff 2005). In general, bedrock (i.e., the Walloomsac Formation) is relatively close to the surface in this portion of Midtown Manhattan. Between Central Park South and 42<sup>nd</sup> Street, the average depth to bedrock is 10 meters or less (Barr and Cohen 2010). Additionally, the Stage IA report (HPI 2003) indicates that bedrock in the vicinity of the project area was located at approximately 8 feet below street level.

### HYDROLOGY AND ELEVATION

The East River, located 3,736 feet (1.14 kilometers) to the east, currently provides drainage. The East River forms the eastern boundary of Manhattan and flows southward for approximately 5.5 miles (8.8 kilometers), where it and the Hudson River enter the Upper Bay. Historically, the project area occupied the drainage divide between two unnamed stream/stream systems. Towards the east, DeVoor's Mill Stream—a tributary of the East River—provides drainage (Ensign 1845; HPI 2003). This stream eventually entered the river via Turtle Bay, which was located where the United Nations Headquarters presently resides. Towards the west, an unnamed braided stream system that eventually entered the Hudson near 42<sup>nd</sup> Street provides drainage (Ensign 1845). Elevations within the project area are 49 feet above mean sea level.



## Cultural Background and Archaeological Sensitivity

### BACKGROUND RESEARCH

#### *Prehistoric Period*

Archaeological traces of settlement in the greater New York City area extend back to the Paleoindian period, circa 11,000 to 10,000 B.P. (Cantwell and Wall 2001:40ff). Settlement continued throughout the ensuing Archaic and Woodland periods, accompanied by a steady increase in population. By the time of the Middle Archaic, people systematically exploited the coastal resources of Manhattan. The Middle Archaic sites found in the lower Hudson Valley area are, for the most part, shell middens with compact natures and waterfront locations that protected many from destruction during eighteenth- and nineteenth-century development (Cantwell and Wall 2001:54). Many of the Late Archaic sites in the area are also shell middens (Cantwell and Wall 2001:57), although intact Archaic sites of any period are scarce in New York City. The available evidence suggests that people had established seasonal rounds by the Late Archaic (Cantwell and Wall 2001:59). Large groups occupied base camps during the summer; groups split up during other seasons to visit smaller hunting, fishing, or plant-procurement stations. This pattern continued throughout the ensuing Transitional and Early and Middle Woodland periods.

Agriculture became established in the Northeast during the Late Woodland period (after 1000 A.D.), but the timing of coastal peoples' subsistence switch from complete dependence on hunting and gathering to mixed foraging and agriculture is a matter of debate among archaeologists. By the time of European settlement in the early seventeenth century, native people kept well-established fields for growing the triad of corn, beans, and squash, along with other domesticated plants. The Munsees—part of a larger group now called the Delaware or Lenape—occupied western Long Island at the time of European contact. Small, permanent communities characterize the Munsee settlement pattern, along with temporary sites for the collection of particular resources (Cantwell and Wall 2001:114). The Munsees farmed on a small scale, but also utilized the plant and animal resources of the land. Early writers described their fields and the large palisaded settlements that accompanied them (e.g., Van der Donck 1968), but archaeologists do not agree on the temporal depth of this village-settlement pattern. Some see the pattern extending back several hundred years, others see it as a response to European trade (Cantwell and Wall 2001:94–95).

#### *Historic Period*

As HPI's 2003 addendum report contains a thoroughly researched historic background of Midtown Manhattan and the project area, only a précis of the available information is necessary. Accordingly, the following is abstracted from the 2003 HPI report.

The European colonization of Manhattan Island began with the Dutch in 1625. Under the auspices of the Dutch West India Company, a fort and company farms were laid out on the southern tip of the island. Lower Manhattan (New Amsterdam) expanded for many years and remained in the hands of the Dutch until 1640, when the British became ascendant. What is now the Midtown region of Manhattan was sparsely populated woodland until the construction of the Eastern Post Road between 1669 and 1671. This artery allowed easy travel between southern Manhattan and the Midtown region, which spurred the growth of farmsteads in the area.

By the time of the American Revolution, Robert Murray, a prominent Quaker, had acquired most of the Midtown area. The area was called Murray Hill and witnessed many of depredations of the invading British Army. After the war, the Common Council of New York surveyed Murray Hill and divided the area into lots for individual sale, leading to the establishment of the hamlet of Yorkville, although many extensive farm fields remained. In 1815, the Common Council authorized the construction of 3<sup>rd</sup> Avenue, which helped transform the landscape into a domesticated area with large estates bordering the East River, small, scattered settlements along the Post Road, and the hamlet of Yorkville in the north.

The nineteenth century saw the transformation of the Midtown region from rural to urban. As working-class European immigrants settled in the downtown area, the upper class moved into the Midtown region and the Upper

East Side. By 1853, all the streets south of 42<sup>nd</sup> were paved and regulated. At this time, Yorkville grew into a village and was joined by the villages of Harlem and Manhattanville. North of 42<sup>nd</sup> Street was less pleasant. Shantytowns, open dumps, and decrepit taverns populated this area. Outcrops of bedrock dotted the areas and squatting was rampant. Efforts to clean up the area included the creation of Central Park, the removal of squatter's shacks, and the covering of DeVoor's Mill Stream. These efforts led to more development, the rise of real estate prices, and the establishment of 5<sup>th</sup> Avenue as New York's newest fashionable neighborhood. Also situated in the area was Columbia College, an orphanage, and Mt. Sinai Hospital. Light industries, such as breweries and piano factories, dotted the region; heavier industries, such as slaughterhouses and gas/coal yards, were situated along the East River. The Civil War slowed growth in the region. Many of the poor were conscripted into the army, which led to the Draft Riots in 1863.

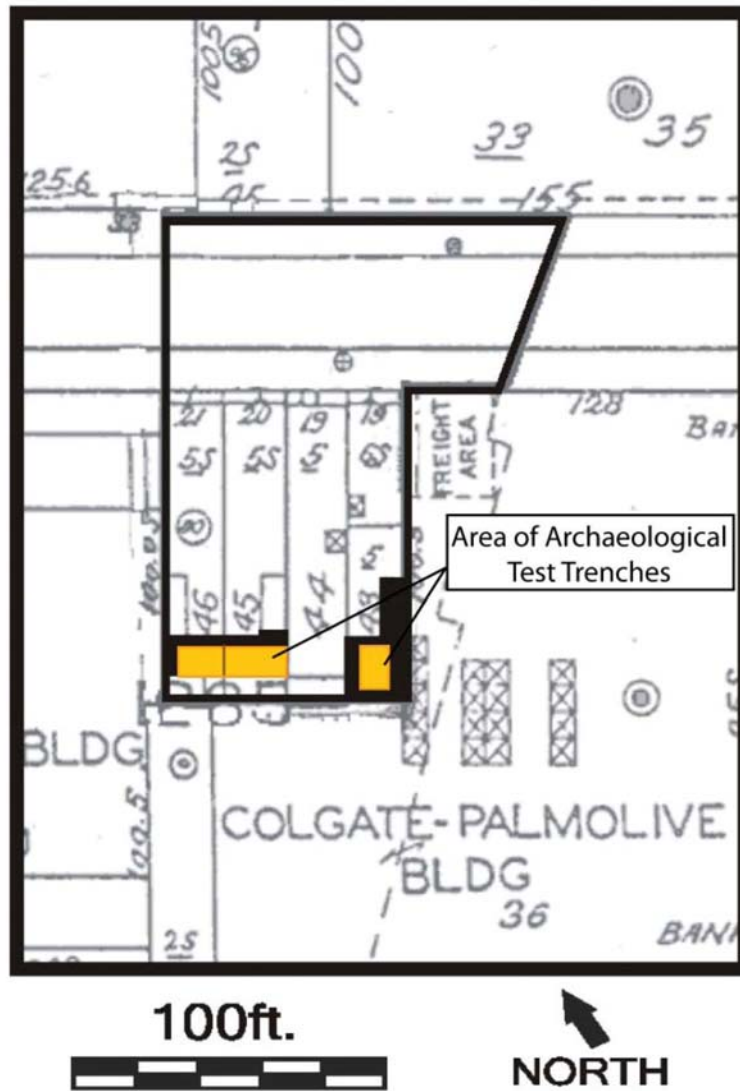
Until 1827, the project area was apparently undeveloped and rural. At this point, the Common Council allowed the lease of the project area as the new home of the New York Institute for the Instruction of the Deaf and Dumb. The building was finished by 1829. The institute occupied the grounds until 1853, when it sold the property to Columbia College and moved to Washington Heights. The grounds were occupied until 1879, when the college moved to Morningside Heights. The buildings were demolished by 1899. By 1910, the former location of Columbia College (Block 1825) was covered in residential structures. By the 1970s, only four row houses were extant in the project area; these were demolished to make room for the present-day L. T. T. Americas and Colgate-Palmolive buildings.

#### **ARCHAEOLOGICAL SENSITIVITY**

HPI's Stage IA study of the 50<sup>th</sup> Street Ventilation Plant site concluded that there was a potential for buried historical archaeological resources within the project area. These resources could consist of historic shaft features, such as wells, cisterns, and privies. These resources would have been associated with structures from the early to mid-nineteenth century New York Institute for the Instruction of the Deaf and Dumb. Potentially sensitive areas were identified in the back area of Lots 43 and 46, as well as under structures that—according to the IA report—lacked basement levels in Lots 45 and 46. The specific areas of potential historic archaeological sensitivity are as follows (Figure 3.1; HPI 2003):

- Lot 43, back of lot only. Possible subsurface shaft features of early- to mid-nineteenth-century structures associated with the Institute for the Deaf and Dumb located along the east side of the back of the lot (HPI 2003).
- Lot 45, back of lot only, beneath one-story addition with no basement. Possible early- to mid-nineteenth-century subsurface shaft features associated with the Institute for the Deaf and Dumb. Subsurface impacts by the east wing of the Institute for the Deaf and Dumb and Columbia College Library would have disturbed any potential resources in those portions of the rear of the lot. A possible pedestrian tunnel may have further impacted the back of the lot. Therefore, only a small section between the back of the former east wing of the institute and the former library remains sensitive (HPI 2003).
- Lot 46, toward back of lot, once open yard space but now occupied by a one-story addition with no basement. Possible early- to mid-nineteenth-century subsurface shaft features associated with the Institute for the Deaf and Dumb. Subsurface impacts by the Columbia College Library in the late nineteenth century would have disturbed the extreme back end of the lot (HPI 2003).

It should be noted that these assertions regarding deep shaft features seem to contradict the fact that natural bedrock lies approximately 8 to 10 feet below street level (Barr et al. 2010; HPI 2003).



Areas of potential historic archaeological sensitivity are located at the back of Lots 43, 45 and 46 and are shown in black.

Figure 3.1 Archaeological sensitivity map, East 50<sup>th</sup> Street Ventilation Plant.

## Results of Phase IB Investigations

Phase IB archaeological field testing occurred on December 6, 2010, and consisted of three mechanically excavated trenches. The Phase IB protocol called for excavation of five test trenches, each measuring approximately 8 x 20 feet, within two areas of the project site. Due to construction activity and areal constraints, it was decided to open three larger trenches to encompass the archaeologically sensitive areas (Figure 4.1).

### TRENCH 1

Trench 1 was located at the southern end of Lot 46 (see Figure 4.1). It was excavated across the 20-foot-long lot from east to west and measured approximately 10 feet in width. The excavation began upon the existing concrete basement floor surface, at approximately 10 feet below East 49<sup>th</sup> Street's current grade. Following the removal of this 10-inch-thick concrete floor, a reddish brown (5YR 5/3) medium-grained sandy fill horizon was exposed. This horizon was most likely a bedding layer for the concrete slab. The fill horizon measured 6 to 8 inches in depth and capped a layer of bedrock composed of glacial schist. No archaeological features (e.g., shaft features), artifacts, or intact historic deposits were encountered.

### TRENCH 2

Trench 2 spanned the southern extent of Lot 45, which was 20 feet long and measured approximately 10 feet in width (see Figure 4.1). Similar to Trench 1 and Lot 46, the excavation began upon the existing concrete basement floor surface, at approximately 10 feet below East 49<sup>th</sup> Street's current grade. Beneath this floor, the stratigraphy matched that of Trench 1. A 6-to-8-inch-deep fill horizon underlay the concrete and capped a layer of glacial schist (Figure 4.2). No archaeological features, artifacts, or intact historic deposits were encountered.

### TRENCH 3

The final trench was located within Lot 43 (see Figure 4.1). Due to the confined and close quarters in this portion of the proposed ventilation plant site (the corner) and ongoing drilling to the north, Trench 3 encompassed a smaller area than the previous excavations. It consisted of an east-west trench measuring approximately 5 x 10 feet. The remains of a cinder block wall were located between Lots 44 and 43; this represented the former basement of the building that once stood on Lot 43 (Figure 4.3). Directly to the east of, and abutting, this wall was a large slab of schist bedrock that lay upon coarse glacial sands (till). This slab lay at the same elevation as the bedrock encountered in Trenches 1 and 2, and was most likely the same formation. As the concrete basement floor that covered the surface of Lot 43 lay at approximately 13 feet below street grade—or around 3 feet lower than the upper surface of the bedrock—it seemed likely that bedrock had been removed from Lot 43. Testing beneath the concrete floor confirmed this, as a modern concrete-encased utility trench (duct bank), its associated fill sands, and natural glacial sands were encountered (Figure 4.4). The duct bank occupied the eastern extent of the trench; glacial sands occupied the western extent. The bedrock and a portion of the underlying natural sand had been removed in order to install the duct bank. No archaeological features, artifacts, or intact historic deposits were encountered.



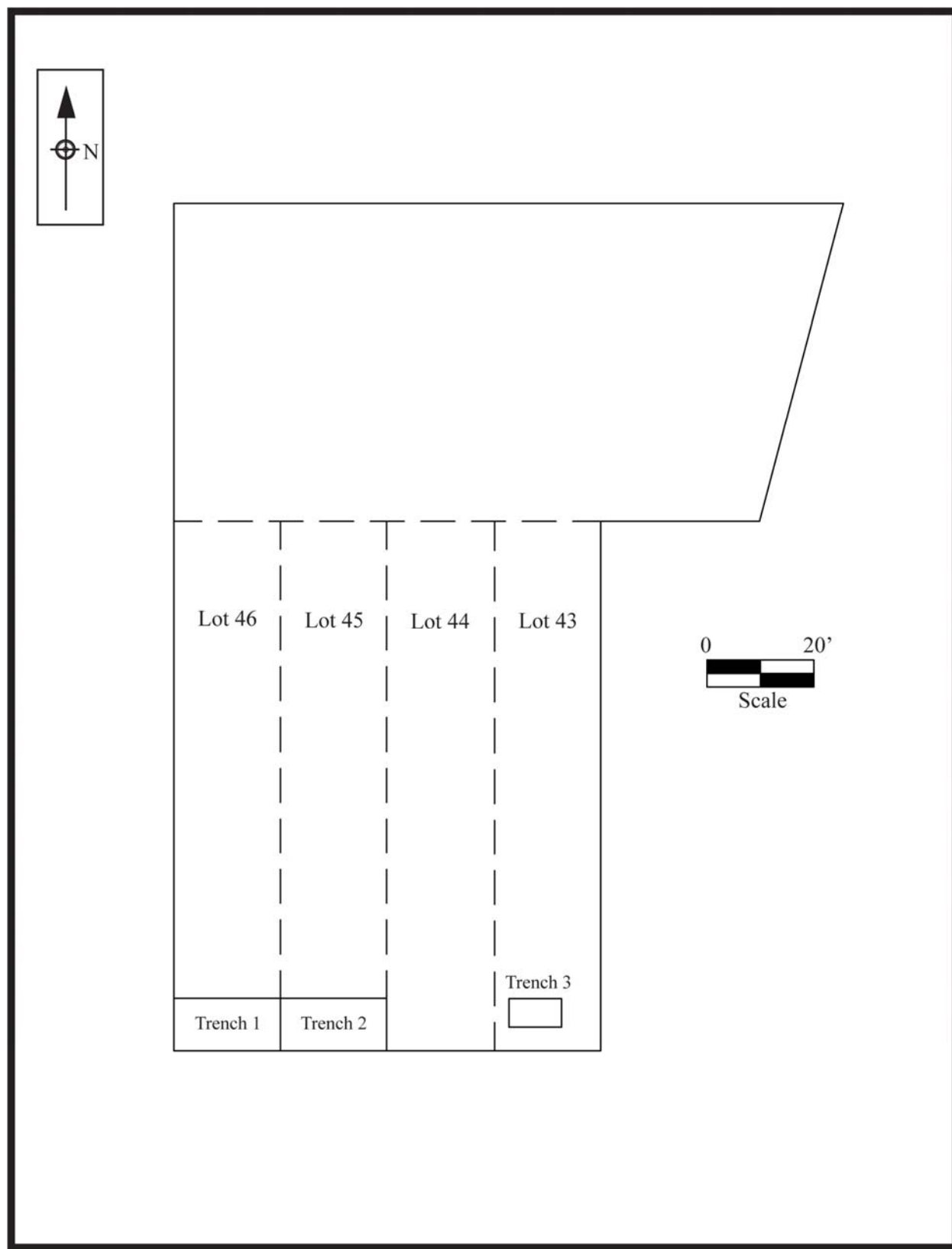


Figure 4.1 East 50<sup>th</sup> Street Vent Plant, locations of archaeological trenches.



Figure 4.2 Trench 2, view of bedrock, facing east.



Figure 4.3 Trench 3, view of remnant cinder block wall, facing west.





Figure 4.4 Trench 3, view of duct bank and glacial sands, facing south.



## Conclusions and Recommendations

### CONCLUSIONS

On December 6, 2010, URS conducted a Phase IB archaeological investigation for the proposed East 50<sup>th</sup> Street Ventilation Plant. The testing occurred within Block 1285, Lots 43, 45, and 46, and consisted of three archaeological test trenches that were monitored and documented. Contrary to the earlier addendum report (HPI 2003), URS' investigations did not encounter any buried archaeological resources of any kind. Bedrock or glacial sands (till) were encountered almost directly below the basement levels that potentially capped significant historic deposits. None of the three test areas showed any evidence of historic or prehistoric activity or occupation. All areas were characterized by the presence of bedrock, and associated glacial sands, within 6 inches of the concrete basement slab.

Furthermore, the bottom elevation of the existing structure interiors was significantly below street grade, approximately 10 feet below street grade along East 49<sup>th</sup> Street and over 20 feet below grade along East 50<sup>th</sup> Street. This led to the conclusion that, contrary to the Stage IA report (HPI 2003), some form of sub-street level structure existed within these lots. Such a structure would have impacted any potential nineteenth-century resources, as all materials down to the bedrock/till have been removed. Additionally, the Stage IA report (HPI 2003) and background geologic information (Barr et al. 2010) indicates a relatively shallow depth to bedrock. The likelihood of deep shaft features in such a setting seems problematic.

### RECOMMENDATIONS

Based on the lack of any archaeological materials or features, and the relatively shallow depth to bedrock within the project area, no further archaeological testing is recommended.

## References Cited

- Barr, Jason, and Jeffrey P. Cohen  
2010 *Why are Skyscrapers so Tall? Land Use and the Spatial Locations of Buildings in New York*. Work in Progress
- Baskerville, C. A.  
1994 *Bedrock and Geologic Maps of New York County and parts of King's and Queen's Counties New York, and parts Bergen and Hudson Counties, New Jersey*. United States Geological Survey: Miscellaneous Investigations Series, Map I-2306.
- Bennington, J. B., and Charles Merquerian  
2006 *Geology of New York and New Jersey*. Custom Publishing
- Cadwell, Donald H.  
1989 *Surficial Geologic Map of New York*. New York State Museum, Geological Survey.
- Cantwell, Anne-Marie, and Diana diZerega Wall  
2001 *Unearthing Gotham: The Archaeology of New York City*. Yale University Press, New Haven.
- Ensign, T. and E. H.  
1845 *City of New York*. J. Wells, Brooklyn, New York.
- Historical Perspectives Incorporated  
2003 *Stage IA Archaeological Assessment East 50th Street Vent Plant*. Prepared for AKR Incorporated.
- New York City Soil Survey Staff  
2005 *New York City Reconnaissance Soil Survey*. United States Department of Agriculture, National Resources Conservation Service, Staten Island, New York.
- Van der Donck, Adrienne  
1968 *Description of the New Netherlands*. Syracuse University Press, Syracuse, New York.

**Appendix A**  
**Resumes of Key Personnel**



## Alyssa Loorya, M.A., M.Phil., RPA

*Principal Investigator*

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### Areas of Expertise

Cultural Resource Management  
Studies

Research

Historic Preservation

Education

Public Outreach

### Years of Experience

With URS: 3 Years

With Other Firms: 8 Years

### Education

Ph.D. Candidate/ City University  
of New York, Graduate School  
and University Center/  
Anthropology and Historical  
Archaeology

M.A./1998/Hunter  
College/Anthropology

B.A./1995/Brooklyn College/  
Anthropology, History, and  
Education

### Registration/Certification

Register of Professional  
Archaeologists

### Overview

Ms. Alyssa Loorya has been with URS for 3 years. She has a total of 11 years of experience in the various aspects of archaeology and historic preservation, as well as a background in research and teaching within New York State and City.

### Project Experience

#### Employment—Archaeology

##### *URS Corporation*

***Phase II Investigations at Brooklyn Bridge Park Site.*** Principal Investigator. URS excavated the foundation remains associated with the nineteenth century Jewell Brothers flour mill complex. This area appeared to retain the highest degree of archaeological integrity, revealing significant foundation remains, artifacts, what appears to have been an intact surface, and a heretofore previously unseen (in New York City archaeology) intact piece of nineteenth-century infrastructure.

***Phase IB Investigations at Brooklyn Bridge Park Site.*** Principal Investigator. Conducted Phase IB archaeological testing on a portion of the Brooklyn Bridge Park Site located in the city of New York, borough of Brooklyn (Kings County), along Furman Street. The entire project entails the development of a 70-acre park along a 1.3-mile section of the East River waterfront. These resources included warehouse building foundations, a flourmill, wooden cribbing, as well as bulkheads and piers associated with landfilling activities. The report recommended a combination of archaeological testing and monitoring in order to determine the presence or absence, type, and extent of the resources.

***Phase IB Investigations of the Atlantic Yards Arena and Redevelopment Project, Brooklyn, New York,*** conducted for Forest City Ratner Companies. Principal Investigator for subsurface investigations that entailed the excavation of eight test trenches within two areas in Block 1119, Lot 1, and three test trenches in Block 1127, Lots 55 and 56. Since no evidence of either intact deposits or features was encountered, no further work is recommended for this area.

***Gas Service Installation Floyd Bennett Field, Jamaica Bay Unit Gateway National Recreation Area Marine Parkway Bridge Project Brooklyn, New York,*** conducted for the Metropolitan Transit Authority/Bridges and Tunnels. Principal Investigator for a Phase I field investigation that consisted of 1) excavating a series of five shovel tests along the center of the proposed gas pipeline and 2) monitoring the overall excavation for the pipeline.

***Archaeological Construction Monitoring for the Fulton Transit Center Project, New York, New York,*** conducted for the MTA/NYC Transit. Principal Investigator for archaeological construction monitoring.





***Brooklyn College, City University of New York Research Foundation***  
*Laboratory Director, September 2001 to present: City Hall Park Project*

***Brooklyn College, City University of New York Research Foundation***  
*Project Director and Graphic Artist, January 2004 to present: Revolutionary War Heritage Tourism Trail Project*

***Brooklyn College Archaeological Research Center***  
*Teacher Assistant, June 2001 to present: Hendrick I. Lott House, Brooklyn, NY; New Utrecht Church, Brooklyn, NY; Van Cortlandt Park, Bronx, NY; Marine Park, Brooklyn, NY; Erasmus High School, Brooklyn, NY*

***Philip Habib and Associates***  
*Principal Investigator, February 2005 to June 2005: 311 Broadway Project*

***Bay Properties, Incorporated***  
*Principal Investigator, December 2004 to present: Block 7792 Staten Island Project*

***UA Construction Corporation***  
*Principal Investigator, September 2004 to present: Martin's Field Project*

***Dell-Tech Enterprises***  
*Principal Investigator, May 2004 to December 2004: Pieter Claesen Wyckoff House Project*

***Dell-Tech Enterprises***  
*Principal Investigator, January 2005 to March 2005: Roger Morris Park Project*

***Gamla Enterprises, N.A. Incorporated***  
*Principal Investigator, October 2004 to February 2005: 63/65 Columbia Street Project*

***TRC Environmental Corporation***  
*Archaeologist, October 2004: Greenpoint Project, Brooklyn, NY*

***Mondol Construction Corporation***  
*Principal Investigator, July 2004 to December 2004: Queens County Farm Museum Project*

***Quigg Development Corporation***  
*Principal Investigator, August 2003: Wayanda Park Project*

***A.J. Contracting Incorporated***  
*Principal Investigator, January to March 2002: Gravesend Cemetery Project*

***Audubon Society of Connecticut***  
*Project Archaeologist and Educational Consultant, May 2001 to May 2002*

***Sayville Historical Society***  
*Co-Director, October 2000, May 2001: Edwards Homestead Archaeological Project*

***City University OF New York Graduate School and University Center***  
*Teacher Assistant, September 1998 to December 2001: John Bowne House Project, Queens, NY; Hendrick I. Lott House Project, Brooklyn, NY*

***New York City Landmarks Preservation Commission***  
*Assistant Site Supervisor, October 1998 to December 1998: Chambers Street Project, New York, NY*

**Employment —Archaeology-Education:**  
***City University of New York—Research Foundation/Gotham Center***  
*Educational Consultant—Archaeology and Historic Preservation, September 2003 to June*



*2004 and November 2004 to present*

***City Hall Academy—Brooklyn College and Department of Education, Star High School***

*Archaeological-Education Consultant, July 2004 to present: Teach special content classes and grant writing*

***Pieter Claesen Wyckoff House Museum***

*Archaeological-Educator—Curriculum Development Consultant, 2003 to present: Responsibilities include the creation and implementation of Teacher Workshops throughout the school year.*

***Dig Magazine***

*Archaeological-Education Consultant and Contributor, 2000 to present*

***South Street Seaport Museum***

*Archaeological Educator, September 1999 to June 2001*

***Institute for Archaeological Education at Manhattanville College***

*Curriculum Developer and Archaeological Educator, September 1997 to December 1998: PS 134, New York, NY; Scarsdale Elementary School, Scarsdale, NY; Congregation Emmanuel of Harrison, NY; Temple Israel of New Rochelle, NY*

**Employment—Education-Preservation-Consultation:**

***New Jersey Institute of Technology***

*Educational Consultant, March 2001 to December 2004: Developed special content curriculum for NYC Department of Education to meet national and state standards using primary resource historic preservation material. Teacher development and classroom teaching.*

***Hendrick I. Lott House Preservation Association, Inc.***

*Program Development, January 2005 to August 2005: Developed the Interpretive-Educational-Curriculum Plan for the Hendrick I. Lott House.*

**Computer Consultant**

*1999 to present: Independent consultant teaching private clients in all aspects of basic computer skills and software, including Microsoft Windows 95/98/Me/XP, Microsoft Office, Microsoft Internet Explorer and Outlook, Corel Word Perfect, Netscape, Adobe Suite of Products.*

**Professional Services**

Board of Trustees—The Hendrick I. Lott House Preservation Association  
Member—Historic House Trust Educators Alliance  
Advisory Board—Pieter Claesen Wyckoff House Museum  
Advisory Board—Brooklyn Heritage, Inc.  
Board of Trustees—Salt Marsh Alliance

**Professional Societies/Affiliations**

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## Daniel Eichinger

*Field Supervisor*

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### Areas of Expertise

Cultural Resource Management Studies  
Archaeological Surveys and Excavations  
Computerized Inventories and Database Management  
GPS Systems  
Historic Preservation  
Public Outreach

### Years of Experience

With URS: 16 Years  
With Other Firms: 4 Years

### Education

B.A./1993/University of Delaware/Anthropology and Philosophy (dual major)

### Continuing Education

8-Hour Annual HAZWOPER Refresher Course (URS Corporation, 2010)  
40-Hour HAZWOPER Training (Professional Safety Training Services, Inc. 2004)  
10-Hour OSHA Construction Safety Training (ClickSafety 2008)  
Basic Life Support for Healthcare Providers, CPR & AED (American Heart Association, March 2010)  
8-Hour Competent Person: Excavation, Trenching, and Shoring (Professional Safety Training Services, Inc. 2009)  
Project Administrator Certification (URS 2010)

### Overview

Mr. Eichinger has twenty years of experience in all phases of cultural resource management. Mr. Eichinger has directed the excavations of all phases of both prehistoric and historic sites in the Middle Atlantic States, New England, and the Southeast, and been responsible for their subsequent reporting. He has also participated in all aspects of laboratory analysis of prehistoric and historic artifacts, and has extensive experience with in-field computerized inventories, database management, and GPS systems.

### Project Specific Experience

***New York City Hall Park Archaeological Investigations.*** Conducted for Chrysalis Archaeology. Monitored and directed archaeological investigations on conjunction with major renovations for New York City's historic City Hall. Uncovered and documented structures and artifacts associated with the 1735 New York City Almshouse, the 1798 Horse Market, and the 1803 City Hall.

***Phase I Archaeological Survey for the Proposed Warren Brook Bypass Culvert under Route 123, Alstead, New Hampshire, Project #14540M.*** Conducted for New Hampshire Department of Transportation. Testing within three areas that would be impacted by the proposed bypass culvert, which was near historic Chase's Mill. A total of 16 shovel test pits (STPs) were excavated within these three areas. No significant archaeological resources were encountered.

***Cultural Research Investigation, Allied Textile Printing Site, Paterson, New Jersey.*** Conducted for Farewell Mills Gatsch Architects LLC. Investigated the remains of the 1836 Colt Gun Mill, Mallory Mill, Waverly Mill, Passaic Mill, and Todd Mill at the ATP site. The ATP site represents the core of the original mill structure of Paterson, NJ, which is America's first planned industrial community. Performed in conjunction with Hunter Research.

***Phase IA and IB Archaeological Investigations for the Proposed Rapp Run and Pine Run Flood Retarding Structures, Montgomery County, Pennsylvania.*** Conducted for Upper Dublin Township in support of flood control improvements.

***Archeological Testing, Mitigation and Monitoring of Three Sites in the Delaware Water Gap National Recreation Area.*** Conducted for HF3 Construction. Performed Phase III mitigations efforts at Site 36PI136 and monitored excavations at Smithfield Beach and Bushkill Access.



***Phase I Archeological Investigations in Support of the Demolish and Remove Hazardous Structures Park-Wide Project, Delaware Water Gap National Recreation Area, New Jersey and Pennsylvania.***

Conducted for the National Park Service. Surveyed various historic structures, and the terrain around modern structures, that are slated for removal. Identified two archaeological sites, the Woodland period Jankowski Site and the historic Langlieb Site.

***Archeological Investigations for Phase 2 of the Proposed Multi-Use Pathway at Fort Hancock, Sandy Hook Unit, Gateway National Recreation Area, Monmouth County, New Jersey.***

Conducted for the National Park Service. Surveyed sections of Historic Fort Hancock and the Sandy Hook Proving Grounds for upgrades to the hiker/biker trail. Focused on extensive efforts adjacent to the Mortar Battery, which was constructed in 1890 and utilized through World War II.

***Phase III Archaeological Investigations, Lancaster Intermodal Transport Center, Lancaster City, Pennsylvania.***

Conducted for Red Rose Transit Authority. Excavated Site 36LA1494, which was in historic downtown Lancaster City. Occupied since at least the mid 18th century, the site boasted a circa 1749 well, foundations and privies from the circa 1810 Bitner House, and the foundations of the flagship train station of the Pennsylvania Railroad constructed in 1860

***Archaeological Phase IB / II Investigations for the Brooklyn Bridge Project, conducted for Skanska USA.***

Conducted Phase IB and II archaeological testing on a portion of the Brooklyn Bridge Park site located in the city of New York, borough of Brooklyn. The resources investigated included Martin's Stores warehouse foundations, the Jewell flourmill remains, and elements of the Union Ferry Company's South Ferry Terminal.

***Phase III Cultural Resource Investigation, DuPont Salem River Public Access Boat Ramp, Salem County, New Jersey,***

conducted for E.I. DuPont de Nemours. Excavated Site 28SA176, a small resource procurement site that was occupied from the Late Archaic through the Late Woodland Period.

***Phase I Archaeological of Additional Corridors for the Elizabethton Northern Connector Project, Carter County, Tennessee,*** conducted for Tennessee Department of Transportation.

***Phase IB Archaeological Investigation for Sunnyside, Queens Rail Complex (Queens Area 12), MTA/LIRR East Side Access Project,***

conducted for MTA / LIRR. Surveyed an area in the historic Sunnyside area of Queens that was possibly occupied by Hessian and British Troops during the American Revolution.

***Phase I Archaeological Survey, Cold River Bridge Replacement Routes 123 and 12A, Alstead Village, Cheshire County, New***





***Hampshire***, conducted for New Hampshire Department of Transportation. Conducted a survey of site of the first paper mill in New Hampshire and a later 19th century businesses complex known as the Masonic Block.

***Phase IA Archaeological Investigation for the New London Park and Ride New London, Merrimack County, New Hampshire***, conducted for the New Hampshire Department of Transportation. Small survey for the expansion of an existing Park and Ride

***Phase 1A Cultural Resources Assessment, General Electric Housatonic Rest of River Project***, conducted for General Electric. A waterborne reconnaissance survey and research project for approximately 30 miles of the Housatonic River in the Berkshire region of Massachusetts.

***Terrestrial Stage I Archaeological Survey within Selected Phase 3 And 4 Construction Areas (included as part of Phase II Construction) New National Cemetery, Detroit Area, Michigan, Holly Township, Oakland County Michigan***, conducted for Department Of Veterans Affairs National Cemetery Administration. A survey of several areas within the Detroit Area New National Cemetery.

***Phase I Archeological Investigations for Improvements to the Intersection of Maryland Route 182 and Norwood Road Sandy Spring, Montgomery County, Maryland***, conducted for the Maryland State Highway Administration. A small survey for the above-named roadway improvements.

***Texarkoma Pipeline Phase I Archaeological Survey***, conducted for Texas Gas Incorporated. Supervised field crews for a 400+ mile natural gas pipeline across portions of Arkansas and Mississippi.

***Site Assessment, First and Second Pennsylvania Brigades Cantonment (1779 – 1780), Morristown National Historical Park***, conducted for the National Park Service. Directed excavations to locate remains of soldiers' huts from the Revolutionary War encampment near Morristown, New Jersey.

***Phase IB Archaeological Survey, DuPont Salem River Public Access Boat Ramp, Salem County, New Jersey***, conducted for E.I. DuPont de Nemours. Survey identified small Early through Late Woodland encampment (Site 28SA176).

***Phase II Survey Archaeological Investigation, Drainage Structure, Route 3, Whitefield, Coos County, New Hampshire***, conducted for the New Hampshire Department of Transportation. Excavations of the foundations of a tenement / milking station (27CO65) associated with the late 19<sup>th</sup> century dairy industry in New Hampshire.

***Phase I Terrestrial Archaeological Survey for the Proposed Cape Coral VA Clinic***, conducted for the U.S. Department of Veteran Affairs.



***Preliminary Cultural Resources Assessment, Corridor Analysis Report for County Road 540A***, conducted for the Polk County Board of Commissioners. Small survey amongst the citrus groves of Southern Florida. Survey documented a small Archaic through Woodland era encampment.

***Phase I Archaeological of Alternative Corridors for the Elizabethton Northern Connector Project, Carter County, Tennessee***, conducted for Tennessee Department of Transportation. Located seven archaeological sites, including a Late Archaic through Mississippian Village.

***Phase IB Archaeological Survey for Proposed Improvements to NH Route 4A Lebanon-Enfield 13185D Project, Enfield, Grafton County, New Hampshire***, conducted for New Hampshire Department of Transportation. Surveyed areas within Enfield's Lower Shaker Village, the ninth Shaker community established in the United States.

***Phase IB Archaeological Investigation of Site 27CO61 (Crawford Boarding House), Coos County, New Hampshire***, conducted for New Hampshire Department of Transportation. Investigations located the foundations of the Crawford Boarding House, which was active from circa 1870 to 1907.

***Phase IB Archaeological Survey for Drainage Structure, Whitefield, Coos County, New Hampshire***, conducted for New Hampshire Department of Transportation. Investigations around the former sites of the Maine Condensed Milk Company (27CO65) and the Whitefield Manufacturing Company Bobbin Mill.

***Phase II/III Archaeological Investigations at the Hick's Site Outlier (18ST1-22), Historic St. Mary's City, St. Mary's County, Maryland***, conducted for St. Mary's College. Excavations adjacent to a circa 1720-1745 plantation house within Historic St. Mary's City, Maryland's first settlement.

***Comprehensive Inventory of State-Owned Artifacts in Virginia City and Nevada City Montana*** conducted for the Montana Heritage Commission. Field Director for an inventory of the total contents of 36 buildings in two museum towns. Over 90,000 artifacts relating to the Westward Expansion and Gold Rush were inventoried using handheld computers and a laptop computer.

***Phase III Excavations at the Port Kennedy Industrial Village (36MG34)***, conducted for the Pennsylvania Department of Transportation. Archaeological data recovery within the workers' housing at a mid-19<sup>th</sup> century industrial village associated with both limestone mining/kiln and iron furnace operations. The site is located within the present-day Valley Forge National Historic Park.

***Phase I Archaeological Investigations at Great Falls National Park***, conducted for the National Park Service. Field Director for the investigations for a proposed bicycle / pedestrian walkway, parking lots improvements, and the construction of a protecting flood wall for the historic Great Falls Tavern.



***Phase I / II Terrestrial Archeological Survey, Maryland Route 210 Wetland Mitigation at the Parker Berry Farm, Prince George's County, Maryland,*** conducted for the Maryland State Highway Administration. Field Director for investigations that documented two separate prehistoric archaeological sites, one of which encompassed a Contact Period Native American hamlet.

***Phase II Archaeological Investigations for the Proposed Greenbrier Pipeline, Pulaski and Giles Counties, Virginia,*** conducted for the Greenbrier Pipeline Company, LLC. Field Director for a series of ten Phase II investigations associated with a proposed pipeline from Charleston, West Virginia to Raleigh, North Carolina.

***Archaeological Data Recovery Riversdale Manor Dependency, Prince George's Counties, Maryland,*** conducted for the Maryland-National Capital Park and Planning Commission. Field Director for Phase III archaeological excavations within and around the Riversdale Manor dependency (18PR390). The excavations resulted in the documentation of the remnants of an earlier structure located beneath the existing building.

***Germantown Avenue Bridge Replacement Site 36PH106, Archaeological Data Recovery, Philadelphia, Pennsylvania,*** conducted for the City of Philadelphia. Field Director for the Phase III archaeological investigations conducted to mitigate adverse effects to the Paul Site (36PH106), an 18<sup>th</sup> to 19<sup>th</sup> century occupation.

***Phase I/II Archaeological Investigations for the Proposed Norfolk Southern Railway Company's Saltsburg to Clarksburg Spur, Armstrong Township, Indiana County, Pennsylvania,*** conducted for the Norfolk Southern Railway Company. Field Director for a Phase I and Phase I/II archaeological investigation. As a result of these investigations, three previously recorded prehistoric sites were relocated, their boundaries revised, and five additional sites (one prehistoric, four historic) were documented.

***Data Recovery Investigations of the Wilson Tract Site (36CH687), S.R. 0202, Section 400, Tredyffrin Township, Chester County, Pennsylvania,*** conducted for the Pennsylvania Department of Transportation. Field Director for excavations at this Circa AD 1780-1820 farmstead.

## **Professional Societies/Affiliations**

Middle Atlantic Archaeological Conference

## **Chronology**

1994- present: URS Corporation

1990-1994: University of Delaware Center for Archaeological Research