

**DRAFT**

---

**PHASE IA ARCHAEOLOGICAL SURVEY  
FOR THE PROPOSED HOTEL  
At 27 East 4<sup>th</sup> Street  
New York, NY 10003**

*Prepared For:*

**Kalodop Park Corp  
250W 26th Street  
New York, N.Y., 10001**

*For Submittal To:*

**New York City  
Landmarks Preservation Commission  
1 Centre Street  
Ninth Floor  
New York, NY 10007**

*Prepared by:*

**Michael Audin, RPA and Maria Audin, M.A.  
Archaeology & Historic Resource Services, LLC  
605 Twin Arch Road  
Rock Tavern, NY 12575**

2 June 2016



## ABSTRACT

Archaeology & Historic Resource Services, LLC (AHRs) was retained by Kalodop Park Corp to prepare a Phase IA Archaeological Survey for project site located at 27 East 4<sup>th</sup> Street, New York, NY. This archaeological investigation was requested by the New York City Landmarks Preservation Commission (LPC) in order to determine the archaeological sensitivity for the project's Area of Potential Effect (archaeological-APE). Ariston Development Group is proposing to construct a new eight-story hotel, with a basement. The rear portion of the building will only be one-story high.

The AHRs cultural resource specialists that performed the investigations and prepared the report meet or exceed the criteria outlined in 36 CFR 66.3(b) (2) and 36 CFR 61. Résumés of the key personnel are presented in Appendix A. All work for this project was performed in accordance with the Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation 1983; the New York State Historic Preservation Act of 1980, Section 14.09; New York State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements (2005); New York City Landmarks Preservation Commission (LPC) Guidelines for Archaeological Work in New York City (2002) and the CEQR Technical Manual (2014).

The project site is a one-story building located at 27 East 4th Street in the Cooper Square area of Lower Manhattan. The building is currently used for storage and preparation for a food cart businesses. The building footprint consists of an area approximately 3,600 square feet in size and occupies the majority of Lot 72 on Block 544, according to the New York Tax Records (Figure 3). The project site measures approximately 127.5-feet in length and 26.5-feet in width.

AHRs conducted research for known archaeological sites, State and National Register of Historic Places properties, LPC buildings and districts and previous cultural resource surveys. Research was consisted of online research at the Cultural Resource Information System (CRIS), the NYC LPC online archaeology reports and included a review of historic maps, aerial photographs and the soil survey report for the archaeological-APE. A site visit was performed to photographically document the site.

The archaeological-APE was originally a level location between a rise to the west and a depression to the east. Wetlands and water are also located to the west of the rise. The combination of resources located to the west of the current archaeological-APE would have been a favorable location for prehistoric occupation with a good viewpoint, available fresh water and marine resources, not the current archaeological-APE. In addition, the excavation for the different episodes of occupation would have contributed to the ground disturbance in the archaeological-APE. Based on the above information and the lack of known prehistoric sites in the vicinity we conclude that the archaeological-APE has a low sensitivity for prehistoric archaeological materials.

The historic maps and atlases revealed that the archaeological-APE has been occupied since the early nineteenth-century including at least two different building prior to the construction of the garage. The archaeological-APE was originally on a level area between a rise and a depression, according to the 1865 E. Viele Map. The earliest buildings can be seen the 1857 Perris map (Figure 8) and continued to be present until the construction of the garage c. 1945. None of the buildings before the garage occupied more than approximately three fifths of the property, leaving some space in the rear of the property for small outbuildings, wells, cisterns

and privies. However, the broken concrete slab at approximately six and a half feet below surface seems to run the length and width of the property boundaries. The excavation needed to install this concrete slab, regardless of the function, would have most likely disturbed these discrete features, had they remained on the rear portion of the property. Based on this information we conclude that the property has a low to moderate sensitivity for historic archaeological materials in the archaeological-APE. Therefore, we do not recommend any additional archaeological work for the project as designed.

## TABLE OF CONTENTS

<b>ABSTRACT .....</b>	<b>ii</b>
<b>TABLE OF CONTENTS .....</b>	<b>iv</b>
<b>1.0 INTRODUCTION.....</b>	<b>1</b>
<b>1.1 Site Description.....</b>	<b>1</b>
<b>1.2 Area of Potential Effect.....</b>	<b>1</b>
<b>2.0 RESEARCH GOALS AND DESIGN .....</b>	<b>7</b>
<b>2.1 Archaeology .....</b>	<b>7</b>
<b>2.2 Historic Architecture .....</b>	<b>7</b>
<b>2.4 Criteria of Adverse Effect .....</b>	<b>9</b>
<b>3.0 ENVIRONMENTAL SETTINGS.....</b>	<b>11</b>
<b>3.1 Topography .....</b>	<b>11</b>
<b>3.2 Physiography and Geology.....</b>	<b>11</b>
<b>3.3 Soils.....</b>	<b>11</b>
<b>3.4 Climate.....</b>	<b>11</b>
<b>4.0 BACKGROUND RESEARCH .....</b>	<b>13</b>
<b>4.1 Archaeology .....</b>	<b>13</b>
<b>4.2 Historic Architecture .....</b>	<b>15</b>
<b>4.3 Prehistoric Context.....</b>	<b>16</b>
<b>4.4 Historic Context .....</b>	<b>17</b>
<b>4.5 Boring and Pit Locations.....</b>	<b>43</b>
<b>5.0 PHASE IA ARCHAEOLOGICAL SURVEY .....</b>	<b>45</b>
<b>5.1 Phase IA Methodology.....</b>	<b>45</b>
<b>5.2 Phase IA Site Visit.....</b>	<b>45</b>
<b>5.3 Phase IA Assessment of Archaeological Resource Sensitivity .....</b>	<b>49</b>
<b>6.0 CONCLUSION AND RECOMMENDATION .....</b>	<b>51</b>
<b>7.0 BIBLIOGRAPHY.....</b>	<b>52</b>

## TABLE OF CONTENTS (cont.)

### LIST OF TABLES

Table I	List of Archaeological Sites within one quarter and one half mile .....	13
Table II	Archaeological Survey Reports within one quarter mile.....	13
Table III	Listed buildings and districts within 400 feet of the archaeological-APE .....	15

### LIST OF FIGURES

Figure 1 - USGS Site Location Map .....	3
Figure 2 - Vicinity Map .....	4
Figure 3 - Tax Map.....	5
Figure 4 - 2012 Aerial Photo .....	6
Figure 5 - NRCS Soil Survey Map.....	12
Figure 6 - 1857 W. Peris Map .....	22
Figure 7 - 1867 Randall & Blackwell Map.....	23
Figure 8 - 1879 G.W. Bromley Map.....	24
Figure 9 - 1885 E. Robinson Map .....	26
Figure 10 - 1897 G.W. Bromley Map.....	27
Figure 11 - 1895 Sanborn Map .....	28
Figure 12 - 1898 G.W. Bromley Map.....	29
Figure 13 - 1904 Sanborn Map .....	31
Figure 14 - 1911 Bromley Map.....	32
Figure 15 - 1916 Bromley Map.....	33
Figure 16 - 1921 Sanborn Map .....	34
Figure 17 - 1930 Bromley Map.....	35
Figure 18 - 1950 Sanborn Map .....	36
Figure 19 - 1955 Bromley Map.....	38
Figure 20 - 1969 Sanborn Map .....	39
Figure 21 - 1980 Sanborn Map .....	40
Figure 22 - 1992 Sanborn Map .....	41
Figure 23 - 2005 Sanborn Map .....	42
Figure 24 - Photo Location Map .....	48

### PHOTOGRAPHS

Photograph 1 - View of the front building entrance on East 4th Street, facing northwest. ....	46
Photograph 2 – View of the rear exterior of the building facing north.....	46
Photograph 3 - View down alley behind APE, taken from the building back exterior looking east.....	47
Photograph 4 - View of the courtyard behind the APE, looking north .....	47

### APPENDICES

Appendix A	Qualifications of Preparer
Appendix B	Test Pit Profiles

## **1.0 INTRODUCTION**

Archaeology & Historic Resource Services, LLC (AHRs) was retained by Kalodop Park Corp to prepare a Phase IA Archaeological Survey for the proposed hotel development located at 27 East 4<sup>th</sup> Street, New York, NY. This archaeological investigation was requested by the New York City Landmarks Preservation Commission (LPC) in order to determine the archaeological sensitivity for the project's Area of Potential Effect (archaeological-APE). Ariston Development Group is proposing to construct a new eight-story hotel, with a basement. The rear portion of the building will only be one-story high. A site location map, vicinity map, tax map and recent aerial photograph are included as Figures 1 through 4 respectively.

The AHRs cultural resource specialists that performed the investigations and prepared the report meet or exceed the criteria outlined in 36 CFR 66.3(b) (2) and 36 CFR 61. Résumés of the key personnel are presented in Appendix A. All work for this project was performed in accordance with the Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation 1983; the New York State Historic Preservation Act of 1980, Section 14.09; New York State Historic Preservation Office (SHPO) Phase I Archaeological Report Format Requirements (2005); New York City Landmarks Preservation Commission (LPC) Guidelines for Archaeological Work in New York City (2002) and the CEQR Technical Manual (2014).

### **1.1 Site Description**

The project site is a 1-story building located at 27 E 4<sup>th</sup> street in the Cooper Square area of Lower Manhattan. The building is currently used for storage and preparation for a food cart businesses. The building footprint consists of an area approximately 3,600 square feet in size and occupies the majority of Lot 72 on Block 544, according to the New York Tax Records (Figure 3). The project site measures approximately 127.5-feet in length and 26.5-feet in width. The project site is bounded to the north by a private alley, to the east by the four-story Merchant House Museum, to the west by a right-story building, and to the south by East 4th Street. The current ground surface elevation is approximately 42 feet above mean sea level.

### **1.2 Area of Potential Effect**

The Area of Potential Effect (APE) is defined in 36 CFR 800.16(d) as: "the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking."

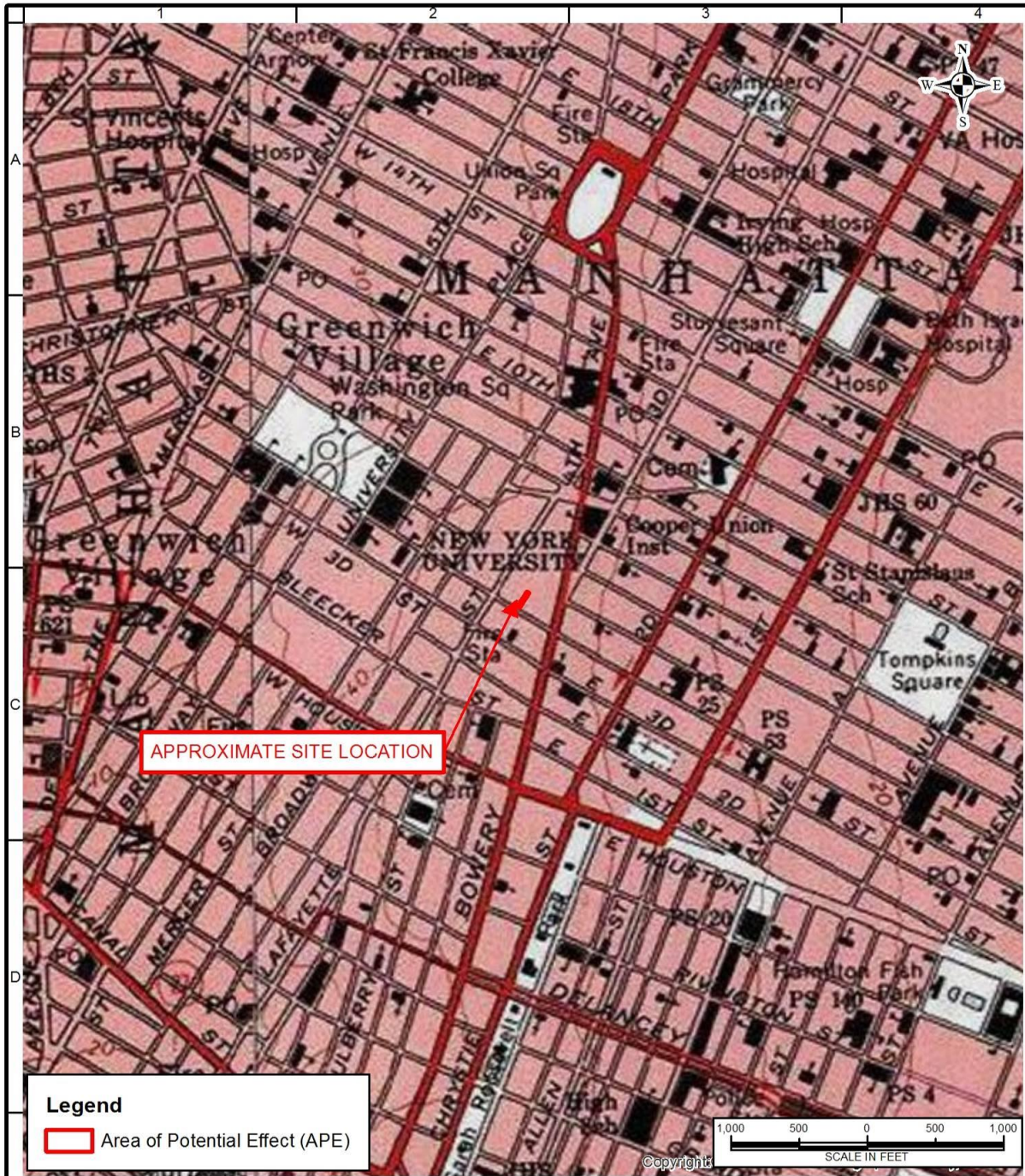
The archaeological-APE includes locations that may be potentially impacted by the construction or that may experience effects once construction is completed. Included in the archaeological-APE are all locations where the project may result in ground disturbance, areas that the elements of the project may be visible and where the activity may result in changes to traffic patterns, land use and public access, etc. Project effects on historic resources can include both physical effects and contextual effects. Physical effects could include physical destruction, demolition, damage or alteration of a historic resource. Contextual effects can include isolation of a property from its surrounding environment; the introduction of visual or audible elements that are out of character with the property or that alter its setting and context; or, elimination of publicly accessible views to the resource.

### Archaeological

The archaeological-APE encompasses any locations where project activities have the potential to disturb soils through activities such as excavation or grading. The archaeological-APE was defined where ground disturbing activities are proposed and any associated disturbances (Figure 3). The archaeological-APE consists of the entire tax lot and measures approximately 127.5 feet (38.62 meters) in length and approximately 26.5 feet (8.08 meters) in width.

### Architectural

No architectural-APE was delineated for the project. However, a 400-foot buffer was used around the archaeological-APE for the Phase 1A to identify locations of properties known to be listed on or eligible for the National Register of Historic Places (NRHP) or NYC Landmarks.



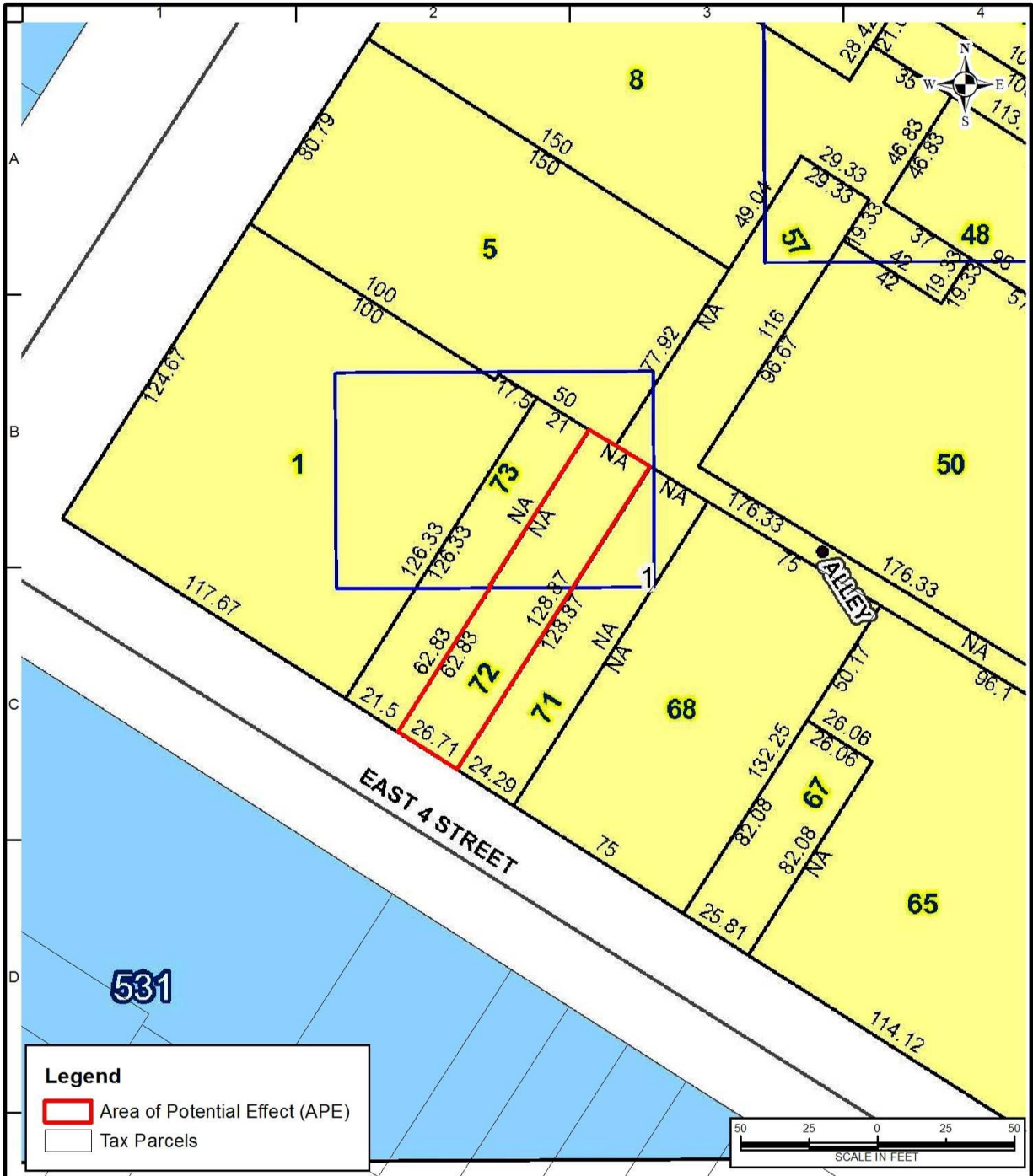
Map reference: USGS 1:24,000 Quadrangle Map provided by ArcGIS Online

 <p>ARCHAEOLOGY &amp; HISTORIC RESOURCE SERVICES</p> <p>605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>USGS TOPO MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 1,000'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p><b>1</b></p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------	---------------------------------------------------------------------------------------------------	-------------------------------

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\Map Documents\Fig 1 - USGS.mxd  
Figure 1 - USGS Site Location Map








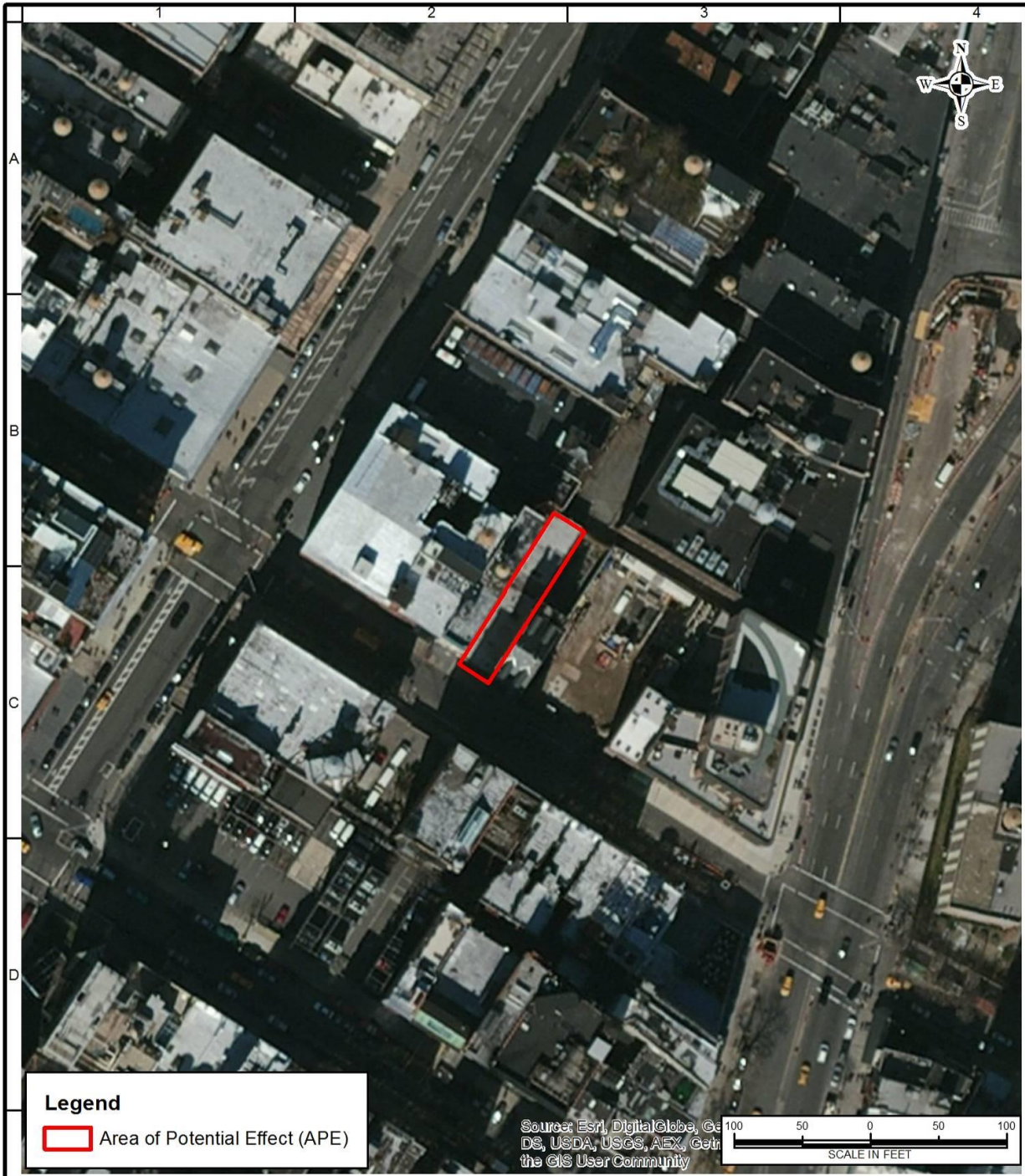
Map reference: NYC Digital Tax Map, Block 544, Effective Date 8/29/13.

**Legend**

- Area of Potential Effect (APE)
- Tax Parcels

 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES 605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrservices.com	<b>Project</b> <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK    NEW YORK	<b>Figure Title</b> <b>TAX MAP</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><b>Project No.</b></td> <td style="width: 50%;"><b>Figure</b></td> </tr> <tr> <td>Date 5/10/2016</td> <td rowspan="3" style="text-align: center; vertical-align: middle; font-size: 2em;"><b>3</b></td> </tr> <tr> <td>Scale 1" = 50'</td> </tr> <tr> <td>Drawn By MDA</td> </tr> </table>	<b>Project No.</b>	<b>Figure</b>	Date 5/10/2016	<b>3</b>	Scale 1" = 50'	Drawn By MDA
	<b>Project No.</b>	<b>Figure</b>							
Date 5/10/2016	<b>3</b>								
Scale 1" = 50'									
Drawn By MDA									

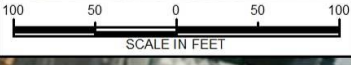
Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 3 - Tax Map.mxd




**Legend**

Area of Potential Effect (APE)

Source: Esri, DigitalGlobe, GeoEye, Earthstar (United States), USDA, USGS, AeroGRID, IGN, the GIS User Community



Map reference: ESRI US Imagery provided by ArcGISOnline.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>AERIAL PHOTO</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 100'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p><b>4</b></p>

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 4 - Aerial.mxd  
Figure 4 - 2015 Aerial Photo

## **2.0 RESEARCH GOALS AND DESIGN**

This chapter describes the general research goals and design for the assessment of the significance of archaeological and architectural resources to determine potential eligibility for nomination to the National Register of Historic Places.

### **2.1 Archaeology**

The preliminary Phase 1A archaeological survey begins with identifying the areas where project activities have the potential to affect archaeological sites through belowground disturbance, referred to as the archaeological-APE as described in Section 1.2. After defining the archaeological-APE, documentary research is conducted to determine which locations could have been used during prehistoric (Native American) or historic times. The research assists in identifying areas where intact archaeological evidence, foundations, structural remains, Native American artifacts or activity areas might be present. A site visit or reconnaissance is then conducted to observe the existing conditions and determine the extent to which the original topography is still present and the effects that landscape alterations may have had on potential archaeological resources. Archaeologically sensitive areas based on topographic features, vegetation and soils are noted as well as any disturbances that would compromise archaeological resources. The result of the site visit is to determine whether archaeological testing is necessary and, if so, to develop an appropriate testing strategy.

As appropriate, Phase IB subsurface archaeological testing (Phase I level) is then conducted in archaeologically sensitive locations and elsewhere in the archaeological-APE to identify whether potentially significant archaeological resources are present. The presence of a potentially significant Native American or historic period site requires a subsequent survey (Phase II level) to evaluate the significance or importance of the identified site, unless the site can be avoided. Usually, an archaeological site has to have the potential to yield important new information in history or prehistory to be considered significant (National Register of Historic Places Criterion D). Evaluations for significance are dependent upon the quality of archaeological data retrieved from the ground, the integrity or intactness of the deposits, prior research activities in the region and the development of historic or prehistoric contexts that identifies gaps in archaeological research that further work at the site might address.

### **2.2 Historic Architecture**

The architectural review usually begins with the definition of the architectural-APE, the area that will experience physical or contextual effects from the project as described in Section 1.2. However, no architectural-APE was delineated on the site since no architectural review was requested as a part of the phase IA survey.

## 2.3 National Register of Historic Places Criteria

Determinations of significance are based on the National Register of Historic Places Criteria. Properties listed on or determined eligible for listing on the National Register can be both architectural and archaeological resources. Significant historic properties include districts, structures, objects or sites that are at least 50 years in age and which meet at least one of the National Register criterion. Criteria used in the evaluation process are specified in 36 CFR Part 63. To be eligible for inclusion in the National Register of Historic Places, a historic property(s) must possess:

the quality of significance in American History, architecture, archeology, engineering, and culture [that] 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 persons significant in our 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 lack individual distinction, or
- (D) that has yielded, or may be likely to yield, information important in prehistory or history. (36 CFR 60.4).

There are several criteria considerations. Ordinarily, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- (A) a religious property deriving primary significance from architectural or artistic distinction or historical importance, or
- (B) a building or structure, removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event, or
- (C) a birthplace or grave of a historical figure of outstanding importance if there is no other appropriate site or building directly associated with his/her productive life, or
- (D) a cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events, or

- (E) a reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived, or
- (F) a property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own historic significance, or
- (G) a property achieving significance within the past 50 years if it is of exceptional importance. (36 CFR 60.4).

The physical characteristics and historic significance of the overall property are examined when conducting National Register evaluations. While a property in its entirety may be considered eligible based on Criteria A, B, C, and/or D, specific data is also required for individual components therein based on date, function, history, physical characteristics, and other information. Resources that do not relate in a significant way to the overall property may contribute if they independently meet the National Register criteria.

A contributing building, site, structure, or object adds to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was present during the period of significance, and possesses historic integrity reflecting its character at that time or is capable of yielding important information about the period, or b) it independently meets the National Register criteria. A noncontributing building, site, structure, or object does not add to the historic architectural qualities, historic associations, or archeological values for which a property is significant because a) it was not present during the period of significance, b) due to alterations, disturbances, additions, or other changes, it no longer possesses historic integrity reflecting its character at that time or is incapable of yielding important information about the period, or c) it does not independently meet the National Register criteria.

## **2.4 Criteria of Adverse Effect**

Whenever a historic property may be affected by a proposed undertaking, Federal agency officials must assess whether the project constitutes an adverse effect on the historic property by applying the criteria of adverse effect. According to the Advisory Council on Historic Preservation, the criteria of adverse effect (36 CFR 800.5), is as follows:

- (1) An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that would qualify it for inclusion in the National Register, in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation for the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative.
- (2) Adverse effects on historic properties include, but are not limited to (36 CFR 800.5(a)(2)):

- (i) Physical destruction of or damage to all or part of the property;
- (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines;
- (iii) Removal of the property from its historic location;
- (iv) Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features;
- (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization; and,
- (vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

A finding of adverse effect or no adverse effect could occur based on the extent of alteration to a historic property, and the proposed treatment measures to mitigate the effects of a proposed undertaking. According to 36 CFR 800.5(3)(b):

The agency official, in consultation with the SHPO/THPO, may propose a finding of no adverse effect when the undertaking's effects do not meet the criteria of § 800.5(a)(1) or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO to ensure consistency with the Secretary's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines, to avoid adverse effects.

### **3.0 ENVIRONMENTAL SETTINGS**

This chapter briefly describes the ecological characteristics of the archaeological-APE including physiography, geology, and soils of the area. The archaeological-APE is a standing building, oriented northeast – southwest. The archaeological-APE has had various uses within the last 200 years. The archaeological-APE measures approximately 127.5-feet (38.86 meters) in length and 26.5-feet (8.08 meters) in width and is situated on a relatively flat parcel located on the southwest side of Manhattan, New York.

#### **3.1 Topography**

The topography of Manhattan ranges widely from relatively flat areas to gently rolling slopes. Elevations range from sea level at the Hudson River to approximately 100 feet above sea level. The APE has an elevation of approximately 42 feet above mean sea level. While the dominate topographic feature of New Jersey and Southern New York is north-south inclining volcanic rifts, formed during the breakup of the super continent Pangea, 200 million years ago, most of Long Island and much of Staten Island was deposited as glacial detritus (Raymo and Raymo, 2001). The surrounding area is primarily flat.

#### **3.2 Physiography and Geology**

The archaeological-APE is located in the New England Upland Physiographic unit known as the Manhattan Prong. This unit is characterized by a less rugged landscape with rolling hills and valleys than its upstate counterparts (Isachen et al, 2000). Gneiss, schist and quartzite form the hills with the valleys consisting of marble due to its easier erosion. The rocks of the Manhattan Prong were deformed from tight folding and metamorphosed during the Taconian Orogeny approximately 450 million years ago. The folds are oriented north south and are long and narrow (Isachen et al, 2000). Minor faults produced earthquakes in the past and some are still active today.

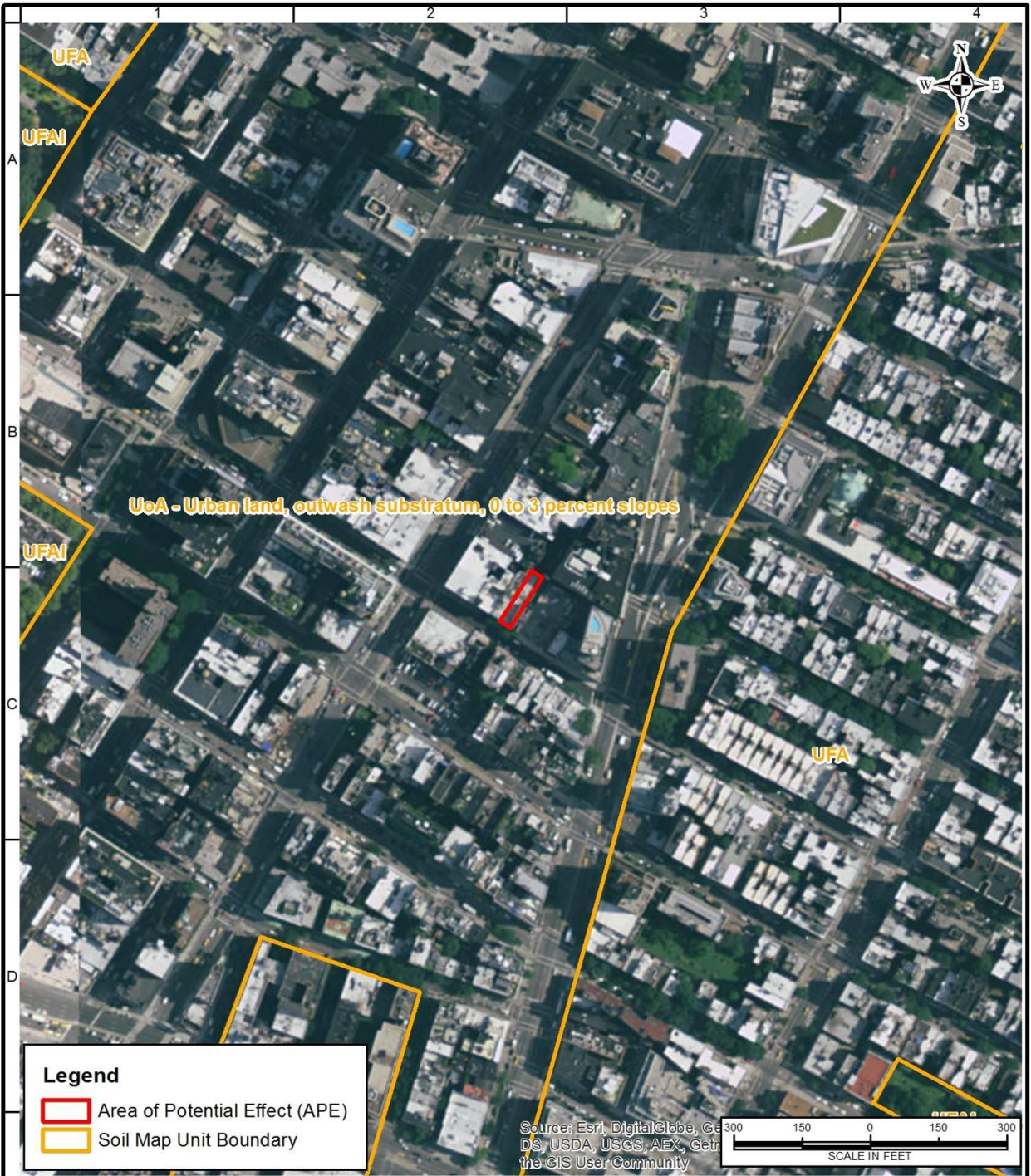
#### **3.3 Soils**

The Natural Resources Conservation Service (NRCS) Soil Survey online identified the soil complex for the archaeological-APE as the Urban land (UoA), outwash substratum, 0 to 3 percent slopes (Figure 5). This is a soil not classified as prime farmland. The parent material is identified as asphalt over human-transported material. The two dimensional landform positions are on the summit and the three-dimensional is talf. There is a very high runoff class the capacity of the most limiting layer to transmit water (Ksat) is very low.

#### **3.4 Climate**

New York County has a humid subtropical climate with partial shielding from the Appalachian Mountains and moderating influences from the Atlantic Ocean. Manhattan receives plentiful rainfall all year round with an average of 46.2 inches yearly. Temperature extremes range from 107 degrees to -3 degrees Fahrenheit, with an average of averages highs of 85 degrees in summer and lows of 26 degrees in winter. Winters are cold and snow is common, with blizzards occurring about once a decade. Springs are unpredictable and can be chilly to very warm. Summers are hot, humid and wet. Fall is very similar to spring and snowfall begins in November.





Map reference: ESRI US Imagery provided by ArcGISOnline; Soil data from NRCS SSURGO Database for New York County, 2015.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>SOILS MAP</b></p>	<p>Project No.</p>	<p>Figure</p> <p><b>5</b></p>
	<p>Date</p> <p>5/10/2016</p> <p>Scale</p> <p>1" = 300'</p> <p>Drawn By</p> <p>MDA</p>			

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 5 - Soils.mxd  
Figure 5 - MDC Soil Survey Map

#### 4.0 BACKGROUND RESEARCH

Background research was conducted to locate previously identified cultural resources and to evaluate previously unidentified cultural resources within an appropriate historic context. Research was conducted using the GIS-based New York State Cultural Resource Information System (CRIS) to identify known architectural and archaeological resources within or adjacent to the archeological-APE that are listed on or eligible for the State or National Register of Historic Places. In addition, a review of previously conducted cultural resources surveys and the location of known archaeological sites was performed. Primary and secondary research, including reviewing maps and local county histories, was conducted utilizing collections held at the New York Public Library in Manhattan, The New York Public Library Website, the New York City LPC archaeological report archive and Landmark Reports and the David Rumsey Online Cartography Collection.

#### 4.1 Archaeology

A search of the New York State CRIS and Cultural Resource Management reports online at the LPC identified a total of three two historic archaeological sites within one-third of a mile radius of the archaeological-APE (Table I). Two of these sites contain human remains. Furthermore, according to the CRIS the archaeological-APE is listed within an archaeological sensitive area.

**Table I:** List of archaeological sites within one-third of a mile of the archaeological-APE

<b>NYSOPRHP Site #</b>	<b>Name of Site</b>	<b>Distance:</b>	<b>Time Period:</b>	<b>Type:</b>	<b>NR Eligibility</b>
6101.016915	Washington Square Park Potters Field	2,000 Ft.	Late-18 <sup>th</sup> -/Early-19 <sup>th</sup> -century	Former Cemetery	Eligible
6101.018564	St. Philip's Cemetery Remnants	2,000 Ft.	Late-18 <sup>th</sup> -/Early-19 <sup>th</sup> -century	Former Cemetery	Undetermined
6101.001286	NYU Law Library Expansion	1,800 Ft.	19 <sup>th</sup> Century	Suburban site	Undetermined

Two of the historic archaeological sites contained human remains, Number 6101.016915 and 6101.016915. Both are former cemetery sites dating for the late-18<sup>th</sup>- to early-19<sup>th</sup>-centuries. The third historic archaeological site is characterized as a suburban site.

CRIS also identified four previous archaeological surveys that have been conducted within a quarter-mile radius of the archaeological-APE (Table II). There are several archaeological survey reports on file with LPC for surveys within a quarter-mile radius of the archaeological-APE. No archaeological sites were uncovered as a result of these investigations.

**Table II:** Archaeological Survey Reports within one-quarter mile of the archaeological-APE

<b>Number:</b>	<b>Survey Report Name:</b>	<b>Associated Arch. Site:</b>
08SR58533	Phase 1A Archaeological Assessment, Lower East Side Rezoning Borough of Manhattan, New York	N/A
11SR60815	Phase 1A Archaeological Documentary Study, New York University Core, Blocks 524 and 533 and the Street beds and Mercer Street Between Bleecker and West Third Streets and	N/A

	LaGuardia Place Between West Houston and West Third Streets, New York, New York	
07SR56958	Phase 1A Archaeological Survey, 250 Bowery, Borough of Manhattan, New York County, New York	N/A
05SR55943	Phase 1B Archaeological Investigation, Block 457, Lot 28 New York, New York	N/A

The *Phase 1A Archaeological Assessment, Lower East side Rezoning, Borough of Manhattan, New York*, written by Celia J. Bergoffen, in 2008. The report evaluates the rezoning area of the Lower East Side and East Village neighborhoods. The New York City Landmarks Preservations Commission flagged areas that have the potential for archaeological remains. The report recommended archaeological testing be conducted before any excavation were undertaken in the areas of archaeological sensitivity.

The *Phase 1A Archaeological Documentary Study, New York University Core, Blocks 534 and 533 and the Street beds and Mercer Street Between Bleecker and West Third Streets and LaGuardia Place Between West Houston and West Third Street, New York, New York*, was prepared for New York University by AKRF, Inc. in June 2011. New York University proposed expansion of their facilities at NYU's academic core near Washington Square. It has been determined that lots at 60 West Third Street, 232 Wooster Street, 220 Greene Street, 229 Mercer Street, 136 Bleecker Street, 138 Bleecker Street and 84 West Houston Street have moderate to high sensitivity for historic period archaeological resources. Block 536 is considered to have low sensitivity for precontact archaeological resources. A Phase 1B is recommended in those historic lots where impacts may occur.

The *Phase 1A Archaeological Survey, 250 Bowery, Borough of Manhattan* was prepared by The Louis Berger Group, Inc. for Peter Moore Associates in March 2007. A proposed construction of an eight-story hotel/restaurant building with basement was assessed for potential effect of the project area that encompassed 717.9 square meters along the west side of the Bowery between Prince and East Houston streets. Background research was conducted along with a pedestrian reconnaissance. The project area contained no potential for prehistoric or historic archaeological resources due to disturbance associated with its historic development.

The *Phase 1B Archaeological Investigation Block 457, Lot 28 (Former Methodist Episcopal Cemetery), New York*, was prepared for Avalon By Communities, Inc., by John Milner Associates, Inc. in August 2005. An archaeological investigation was conducted of Block 457, Lot 28 for a proposed development of a larger Cooper Square Urban Renewal Plan. Fieldwork was conducted which included excavation of a nearly continuous trench along the northern and eastern perimeter of the lot. The trench section ranged from 6 to 10 feet in width, 220 feet in length and a depth of 2 to 12 feet below the existing ground surface. The results of the Phase 1B investigation determined no additional archaeological work is recommend in association with Block 457, Lot 28.

## 4.2 Historic Architecture

Background research was conducted online using the New York State CRIS system as well as the LPC report repository to identify properties within 400 feet of the archaeological-APE that are listed on the State or National Registers of Historic Places, as LPC Landmarks or Districts or National Historic Landmarks (NHL). Table III lists the results.

**Table III:** Listed buildings and districts within 400 feet of the archaeological-APE.

Number	Name	SR/NR Status	LPC Status	NHL Status
6101.000054	Old Merchant's House Seabury – Tredwell – 29 East 4 <sup>th</sup> Street	SR 06/23/1980 NR 10/15/1965	Landmark LP-01244	06/23/1965
6101.000619	Residence – 37 East 4 <sup>th</sup> Street	SR 06/23/1980 NR 01/03/1980	Landmark LP-00646	
6101.000579	Firehouse Engine Co. 33 44 Great Jones St.	SR 06/23/1980 NR 03/16/1972	Landmark LP-00468	
6101.000107	Building at 376-380 Lafayette St	SR 06/23/1980 NR 12/28/1979	Landmark LP-00193	
6101.000060	De Vinne Press Building – 393-399 Lafayette Street, Manhattan	SR 06/23/1980 NR 09/14/1977	Landmark LP-02039	
6101.018889	The Bowery Historic District	SR 10/27/2011 NR 02/02/2013		
6101.013073	32 Cooper Sq. – Bowery HD	SR 10/27/2011 NR 02/02/2013	Landmark LP-02039	
6101.013072	28-30 Cooper Sq. – Bowery HD	SR 10/27/2011 NR 02/02/2013	Landmark LP-02039	
6101.013072	16-26 Cooper Sq. – Bowery HD	SR 10/27/2011 NR 02/02/2013	Landmark LP-02039	
6101.018210	Non-Contributing, 2009 – 2 Cooper Sq. Bowery HD	SR 10/27/2011 NR 02/20/2013		
6101.018299	Non-Contributing, 1985 - 1 Cooper Sq., Bowery HD	SR 10/27/2011 NR 02/20/2013		
6101.018209	358 Bowery - Bowery HD	SR 10/27/2011 NR 02/20/2013		
6101.018208	356 Bowery - Bowery HD	SR 10/27/2011 NR 02/20/2013	Landmark LP-02287	
6101.018207	354 Bowery - Bowery HD	SR 10/27/2011 NR 02/20/2013	Landmark LP-02287	
6101.018206	352 Bowery - Bowery HD	SR 10/27/2011 NR 02/20/2013		
6101.018205	350 Bowery - Bowery HD	SR 10/27/2011 NR 02/20/2013		
6101.018204	348 Bowery – Bowery HD	SR 10/27/2011 NR 02/20/2013		
LP-02287	NoHo Historic District Extension – 25 East 4 <sup>th</sup> Street, 27 East 4 <sup>th</sup> Street, 28 East 4 <sup>th</sup> Street, 383 Lafayette Street,		Landmark	
LP-02287	25 East 4 <sup>th</sup> Street		Landmark	
LP-02287	27 East 4 <sup>th</sup> Street		Landmark	

LP-02287	28 East 4th Street		Landmark	
LP-02287	32 East 4th Street		Landmark	
LP-02287	34 East 4th Street		Landmark	
LP-02287	36 East 4th Street		Landmark	
LP-02287	38 East 4th Street		Landmark	
LP-02287	54 Great Jones Street		Landmark	
LP-02287	48 Great Jones Street		Landmark	
LP-02287	46 Great Jones Street		Landmark	
LP-02287	40 Great Jones Street		Landmark	
LP-02287	30 Great Jones Street		Landmark	
LP-02287	383 Lafayette Street		Landmark	
LP-02287	43 Great Jones Street		Landmark	
LP-02287	41 Great Jones Street		Landmark	
LP-02287	39 Great Jones Street		Landmark	
LP-02287	37 Great Jones Street		Landmark	
LP-02287	33 Great Jones Street		Landmark	
LP-02287	31 Great Jones Street		Landmark	
LP-02287	27 Great Jones Street		Landmark	
LP-02287	25 Great Jones Street		Landmark	
LP-02039	NoHo Historic District – 393 Lafayette Street		Landmark	
LP-02039	381 Lafayette Street		Landmark	
LP-02039	382 Lafayette Street		Landmark	
LP-02039	403 Lafayette Street		Landmark	
LP-02039	409 Lafayette Street		Landmark	
LP-00006	Old Merchant’s House (Seabury Tredwell House) – 29 East 4 <sup>th</sup> Street (Interior Designation)		Landmark	

### 4.3 Prehistoric Context

Archaeological evidence of prehistoric (Native American) settlement and activity within today's New York City extends back to the Paleo-Indian period (c. 10,000 B.C. – 8,000 B.C.). However, few prehistoric archaeological sites have been excavated and/or recorded by modern archaeologists (Cantwell and Wall 2001). Native American occupation of the current New York City area is generally poorly researched, reported on and understood. In part, this is due to the changes in cultural occupation and landscape development since the turn of the seventeenth

century. Much of the potential artifacts from Native American history have been destroyed by development that has occurred since European contact and settlement.

Four factors have reduced the documented history and cultural material that would provide research potential with regard to Native Americans. First, it appears that permanent settlements by Native Americans in the form of villages did not occur until fairly late, post 1400. These villages were made of wood and were compromised due to modifications to the landscape by European settlers. Second, with the arrival of Europeans, Native American settlement and influence in the area rapidly diminished. Third, the early European settlers in the area did not establish or maintain amicable relations with the local Native American groups and therefore, did not portray them well in recorded history. Fourth, the majority of uncovered Native American sites within the area were either located on the highly disturbed fringes of the City or were excavated by amateurs and pot-hunters/looters at the turn of the twentieth century, when Native American artifacts were highly prized, thereby destroying potential Native American history without proper documentation (Cantwell and Wall 2001; Burrows and Wallace 1999; Lenik 1992; Bolton 1920, 1922, 1934).

The local Native American group that inhabited the project area was considered to be the Manhattas, whose name inspired the Europeans in naming Manhattan Island (Armbruster 1918). The Manhattas were a part of the Algonquian speaking Lenape (Delaware) tribe (Bolton 1922). The archaeological record shows that early Native American inhabitants of the area exploited the coastal resources of the area. Many of the Native American remains or sites found within the City of New York were shell middens (Kraft 1986).

Available evidence suggests that subsistence and occupation among Native American groups in the area was seasonal and that they practiced a hunting and gathering economy that utilized the abundance of water resources in the area (Ceci 1977, 1982). During the summer, months when resources were more abundant, groups would merge into large camps that would then split during the other seasons when resources were more scarce to occupy smaller hunting, fishing, or plant procurement locations. Agriculture became predominant during the Late Woodland period (1,000 A.D. – European Contact) (Ceci 1979-1980). By the time of European settlement in the early seventeenth century, Native Americans kept fields in which they grew corn, beans, and squash, along with some other domesticated plants (Truex 1982).

#### *Contact Period:*

At the time of European contact, it is estimated that as many as fifteen thousand Native Americans inhabited the New York City area (Burrows and Wallace 1999). A Native American campsite was reportedly located just north of the Fresh Water Pond (i.e. Collect Pond) along the north-south foot trail that lay to the northwest of the archaeological-APE (Burrows and Wallace 1999; Lenik 1992). This trail traversed the Island, extending from Battery Park to Inwood. The camp was known as Warpoes and the general area was described as having shell heaps during colonial times (Burrows and Wallace 1999; Parker 1922; Bolton 1920). Fairly soon after the arrival of the Europeans a majority of the Native American population was decimated by a combination of war and disease (Burrows and Wallace 1999; Ritchie 1958; Levin 1980).

## **4.4 Historic Context**

This historic context was generated through a review of local histories, historic maps, atlases and aerial photographs.

Manhattan is one of the five boroughs that make up New York City. Manhattan consists principally of the island of Manhattan, which extends approximately 13 miles from north to south and approximately two miles from east to west. The island is surrounded by the Harlem River to the northeast and north; the East River to the east, Upper New York Bay to the south, and the Hudson River to the West. As a part of New York County, the Borough of Manhattan includes several smaller islands including Governors Island, Randall's Island, Wards Island, Roosevelt Island, and U Thant Island along with the neighborhood of Marble Hill, which is geographically part of the Bronx (Jackson, 1995).

Manhattan was the first part of New York City to be settled by Europeans when the Dutch West India Company established a permanent outpost located on the southern tip of the island of Manhattan in 1624 and called it New Amsterdam. Willem Verhulst, who replaced Cornelis May the colony's first director in 1625, selected a site for Fort Amsterdam, which was approximately located between Pearl, Beaver, Whitehall, and Broad Streets (Kroessler, 2002).

The new community expanded northward as the population grew. With the northward expansion Broadway, Kryn Frederycks laid out Park Row, Fourth Avenue, and the Bowery (Kroessler, 2002). In 1626, the first governor of New Netherland, Peter Minuit, purchased Manhattan Island from local Indians for 60 guilders, \$24.00 worth, of goods.

In 1638 William Kieft became the director of New Netherlands with a population of roughly 400 people and eighty or ninety structures. In comparison, Boston had a population of several thousand during this time period (Burrows and Wallace, 1999). The residences of New Amsterdam were mostly made up of employees of the West India Company. The town had footpaths that lay east and south of the ramparts of Fort Amsterdam. There were also a string of buildings that followed the East River, which is now Pearl Street, to the creek known as Blommaert's Bly (Brad Street) (Burrows and Wallace, 1999).

Kieft aspired to increase the population and revenue. Therefore, he enforced ordinances upon the town and tried to create order for the residents; such as restricting liquor purchases only to the company store, preventing households from harboring fugitive servants, and forbidding sailors from vessels in the harbor from stay ashore overnight. He also made sure that all company craftsmen and laborers went to work on time and left when the appropriate bell rung (Burrows and Wallace, 1999). He ordered the construction of a two-story store and Inn, called the Stradts Herbergh (Strudthuys), which was built in 1641. The inn is indicative of the Dutch style architecture that was prevalent in New Amsterdam: high stoops, stepped-gable end to the street, roofs sheathed with red and black tiles that were used in on houses in Holland. The Strudthuys was later known as the City Tavern and held public auctions and postings of official notice (Whiffen and Keeper, 1982; Burrows and Wallace, 1999). Kieft purchased more land from the Lenape's, which are now Kings, Queens, and Bronx counties, as well as Jersey City on the western side of the Hudson (Burrows and Wallace, 1999).

In 1641, eight slaves confessed to murdering a ninth slave. Not wanting to murder all eight, the court chose one slave by lot for hanging. When the ropes broke the slave was given mercy and all eight were pardoned with a promise to of "good behavior and willing service" (Burrows and Wallace, 1999). In 1644, Kieft granted emancipation for slaves or "half-freedom", for the good and their continued service of the Company. Although the slaves had half-freedom, they had stipulations to follow or else they would forfeit their freedom such as paying an annual tribute of "thirty skepels of Maize or Wheat, Pease or Beans, and one fat hog" (Burrows and Wallace, 1999). They were also required to work for the company when called upon and their children remained in bondage. The farms that were allocated to the blacks where located on the

outskirts of town. They were placed there as an early alarm system of Indian raids since they would attack them first. Farms were located at the present sites at the following locations: north of City Hall; the area just above Houston Street between Lafayette Street and Bowery; Greenwich Village; Washington Square Park and between Minetta Lane and Thompson Street (Burrows and Wallace, 1999).

On May 11 1647, Peter Stuyvesant replaced Willem as governor (Kroessler, 2002). In 1651, Stuyvesant purchased farming land, which is known as the Bowery, a one-mile street located in present-day lower Manhattan that stretches from Chatham Square to Cooper Square. It followed the route of an Indian path that led from the New York's southern tip up to Harlem. It was the main route to Boston (Jackson, 1995).

In 1664, the British took control of New Netherlands and renamed the settlement of New Amsterdam to New York City (Jackson, 1995). In 1675, the Great Dock was built along the East River establishing the city as a base for commercial and capital activity. By 1680, New York City had roughly three thousand residents (Burrows and Wallace, 1999) with roughly 400 buildings, which were built in the Dutch style. Even though Dutch culture was still prevalent, actual Dutch immigration had decreased. English merchants were coming to Manhattan to pursue economic opportunities and increasing their settlement of New York City (Burrows and Wallace, 1999).

With the influx on settlements, the wealthiest of the population would reside in areas that were on higher ground, while the poorest would build in the low, marshy grounds. The area along Pearl and Chatham Streets close to Fresh Water Pond was mostly marshland (Stringer and Townsend, 1854). In 1741, New York City had reached a population of roughly 12,000 residents, of which approximately one sixth were slaves (Stinger and Townsend, 1854).

By 1775, New York had a population of approximately 25,000 residents, a college, numerous churches, a synagogue, a new city hall, a theater, and bustling public markets (Moss, 2005). The topography of the city was changing in order to meet the demands of building lots for a growing population. Municipal authorities ran new streets through orchards and pastures, drained swamps, buried streams and leveled hills (Moss, 2005).

At the end of the revolutionary war in 1783, the British occupation of New York City ended. Around this time, two catastrophic fires caused devastation to public and private properties. When the residents returned to survey the devastation, they were not sure how the city would bounce back. By 1790, the city became the most populated city in the United States. James Duane became the first mayor of New York City sometime after the British evacuated the city. Duane Street was named after him (Moscow, 1978).

The population of the New York City continued to grow and disputes over boundaries increased. This resulted in the State legislature passing an act to appoint three commissioners to lay out the leading streets and great avenues in 1807. The grid plan of 1811, also known as the Commissioner Plan, was developed as the result of the legislative act. This simplified surveying, minimized legal disputes about boundaries, and maximized the number of building lots (Burrows and Wallace, 1999).

During the 1820's, as the city's population grew so did the wealthy. They moved northward uptown while their old residence would become inhabited by the working class and made into tenement housing (Mohl, 1985). The wealthy would reside in Hudson Square, as well as Bleecker, Bond, Great Jones, and East 4<sup>th</sup> Street (Burrows and Wallace, 1999). The housing had sufficient size yards, gardens and stables.



Many of the white-collar and merchant class also moved further north. Those bankers and merchants who lived around the archaeological-APE would walk to Wall or Pearl Street (Burrows & Wallace, 1999). However, between 1835 and 1853, the city was undergoing a transformation with commercial development along the East River Waterfront. New York City became the principle terminus for transatlantic shipping and the destination for millions of European immigrants again increasing the population of the city (Moss, 2005). The increased shipping and population growth helped New York City's economic and physical development. In addition, innovations in transportation technology began and transformed New York City. One of these was the horse drawn omnibuses that carried 12 to 20 passengers and were operated by small independent businessmen (Mohl, 1985). These omnibuses made travel through the large city easier and eventual the wealthier business and professional classes began moving from the city center to the urban periphery of outlying suburbs.

Many churches were established in the city and would follow their parishioners to new locations. In 1835, an Episcopal Church was erected on Lafayette Place, located between Great-Jones Street and Fourth Street (Greenleaf, 1846). The Collegiate Dutch Reform Church located on the corner of Lafayette place and Fourth Street near Broadway, was built in 1830 to accommodate 1500 parishioners (Greenleaf, 1846). While the Associate Reformed church built in 1812, located on Murray Street, faced large debt and with the changes in their congregation they moved to a new location in 1842 on Eighth Street, which fronts Lafayette Place and part of Astor Place, which is north of the archaeological-APE.

To the north of the archaeological-APE is Astor Place. The Astor Library is located east side of Lafayette; the Astor Riding House is located on the west side of the Bower/Fourth Ave. Between the 1840s and 50s, the area was beginning to lose the wealthy class to a more professional group such as dentists, physicians, dressmakers, watchmakers, jewelry manufacturers, etc. Many dwellings were being subdivided and made into apartments and boarding houses, while others were converted for commercial use (NYC Landmarks Preservation Commission, 2008). Located to the south of the archaeological-APE is the Bowery section of New York City. It was the place for entertainment. There were several taverns, bars, and theatres.

During this time, Irish and German Immigrants were migrating into the area and integrating into the neighborhood creating a diverse neighborhood. In 1849, a riot broke outside the Astor Place Opera House, located along Astor Place. A group of Irish workers and nativist disrupted a performance of Macbeth that was given by an Englishman named William C. Macready. They first disrupted him on May 7<sup>th</sup> and then on May 10<sup>th</sup>, when they booed, hissed, and threw objects at him declaring "Workingmen! Shall Americans or Englishmen rule in this country?" (Kroessler, 2002). The militia was called in and they opened fired killing 22 and injuring 150 (Kroessler, 2002).

The area was slowly changing; however, there were still philanthropist and merchants still living in the area. In 1857, philanthropist Peter Cooper founded the Cooper Union Advancement of Science and Art, which was located northeast of the archaeological-APE nestled between Fourth Ave to its west, East Seventh Street to the south, Third Ave to the east and Astor place to the north (Lossing, 1884). This institution was a private free college for both working class men and women that wanted a degree in engineering, architecture and the arts (Jackson, 1995). The institutions sustainability was derived by renting the ground floor and apartments for business purposes, as well as receiving donations from Cooper (Jackson, 1995).

1857 W. Perris Map of the City of New York depicts that the archaeological-APE is a developed area (Figure 6). The Fourth Street numbers where the archaeological-APE is located begins

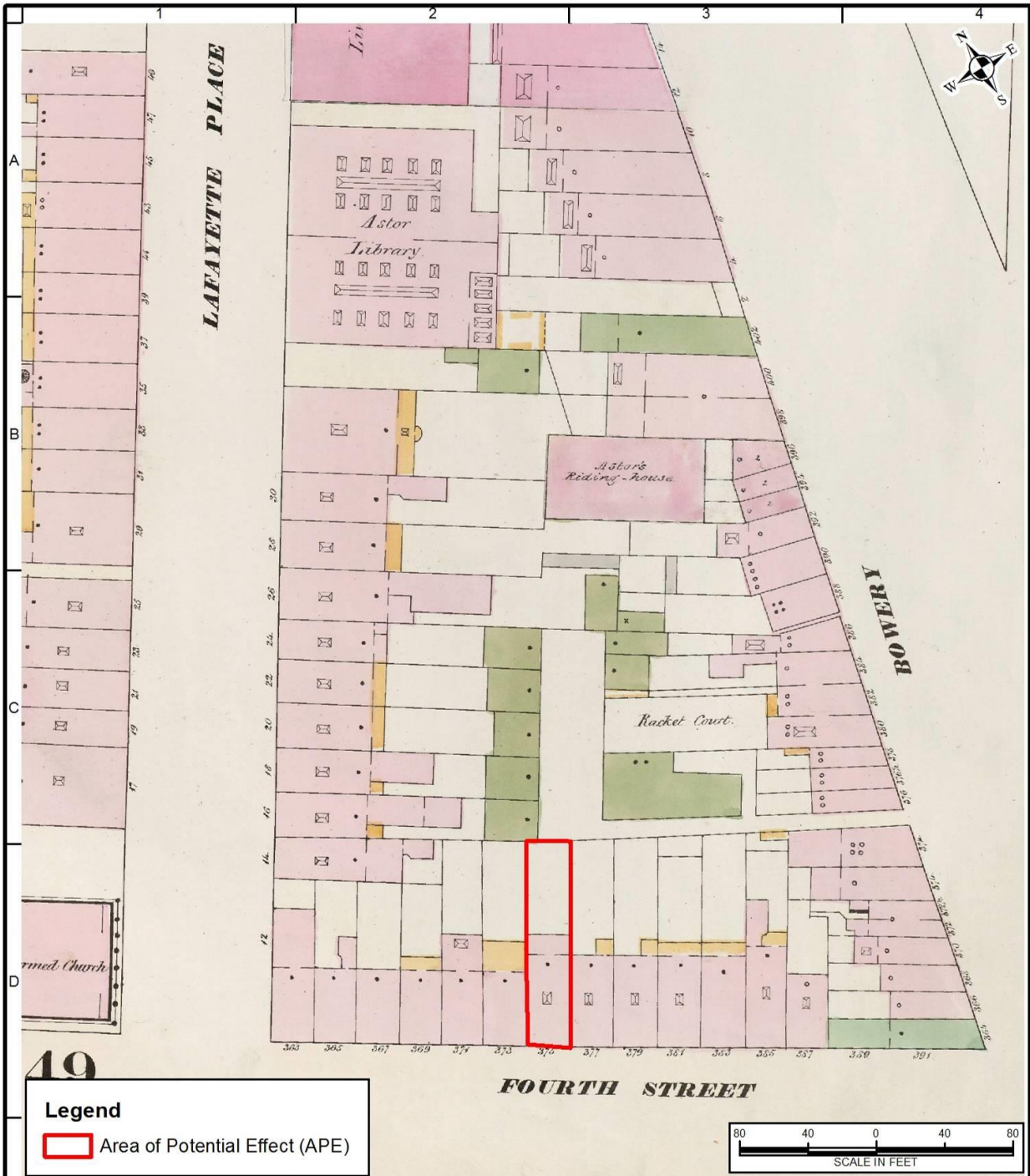
with no. 363 and proceeds higher. The archaeological-APE is located at 375 East 4<sup>th</sup> Street. The dwelling is depicted as a first class brick or stone building with an added brick extension. The coped roof is comprised of slate or metal with a skylight. The building does not take up the entire lot, so there is empty space that could be used as a yard or garden. The building adjacent west of the archaeological-APE at 373 Fourth Street is a first class brick or stone building with an attached frame structure. The coped roof is comprised of either slate or metal. To the east of the archaeological-APE is a first class brick or stone building with an added wooded frame extension or structure. The coped roof is comprised of slate or metal with a skylight. Both buildings do not take up the entire lot, leaving the rest of the lot open. The entire block is comprised of first class brick dwelling.

Between 1860 and 1920, the total population in the United States had tripled in size from 31 million to over 105 million, the urban population increased with the overall population growth (Mohl, 1985). New York City was still the largest city and grew to a population of 813,669 in 1860, 1,515,301 in 1890, to 5,620,048 by 1920. In addition, the area around the Bowery and Astor Place was in slow decline after the Civil War (Jackson, 1999). There was a growth of manufacturing facilities and warehouses developing in the area around Astor Place. The Bowery was competing with the theatres on Broadway began its decline to homelessness (Jackson, 1999). The middle class, white-collar workers, and artisans continued to move northward along with the wealthy and professions to the urban fringes (Burrows and Wallace, 1999).

Iron rails were being laid to facilitate urban travel throughout the city as well as the country. Steam-powered commuter rails inside and from the outlying area were constructed during the 1850 and 1860s. Most of these rails laid were set next to the original Omnibus rails, which were along fixed transit routes (Mohl, 1985). The 1867 Randall & Blackwell Map of the City of New York depicts several buildings located around the archaeological-APE; however, there is no description of the building (Figure 7). The map does label the location of the churches, hotels, markets and libraries. A trolley or rail line is depicted along Bowery.

With the neighborhood evolving and the population growing there was greater need for social services (NYC Landmarks Preservation Commission, 2008). Located a block southwest from the archaeological-APE at the corner of Lafayette Place and Great Jones Street is the Mission of the Immaculate Virgin. Incorporated in 1870, it was the home for destitute boys under the age of 16 (King, 2003). The mission provided free lodging, meals and educate the boys in secular and religious education, they were taught about industry and how to be self-reliant. Other youthful workers such as newsboys and bootblacks, were provided lodging and food for \$2.00 a week (King, 2003).

The 1879 GW Bromley Map of the City of New York depicts changes from the previous maps (Figure 8). The light grey shaded areas on the map indicate dwellings. The archaeological-APE depicts that there is a dwelling. The block address number have changed to somewhere between 77 -39. In addition, Geo. Warner seems to own part of Lafayette and Fourth Street, while Robt. Brown owns the properties directly north of the archaeological-APE. To the east two doors down of the archaeological-APE, is the Liederkrantz Society, located at 31-35 East Fourth Street (Appleton, 1904). It was a club for German singers until they moved uptown sometime before 1885. Further east along Bowery / Fourth Ave, not depicted in the figure, the map depicts a steam railroad and street railway path. To the north, directly behind the archaeological-APE is a Stable Court. To west, on the west side of Lafayette Place is the Collegiate Middle Church and on that block is the Globe Theatre, which runs along Broadway and a Printing House at the



**Legend**  
 Area of Potential Effect (APE)

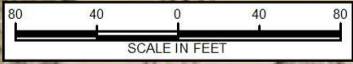
Map reference: 1857 W. Peris Map, Plate 53

 605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com	<b>Project</b> <b>27 EAST          4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	<b>Figure Title</b> <b>1857 W. PERIS          MAP</b>	<b>Project No.</b> Date 5/10/2016 Scale 1" = 80' Drawn By MDA	<b>Figure</b> <b>6</b>
	Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRS\27 East 4th Street\GIS\Map\Documents\Fig 6 - 1857 W Peris.mxd Figure 6 - 1857 W. Peris Map			



**Legend**

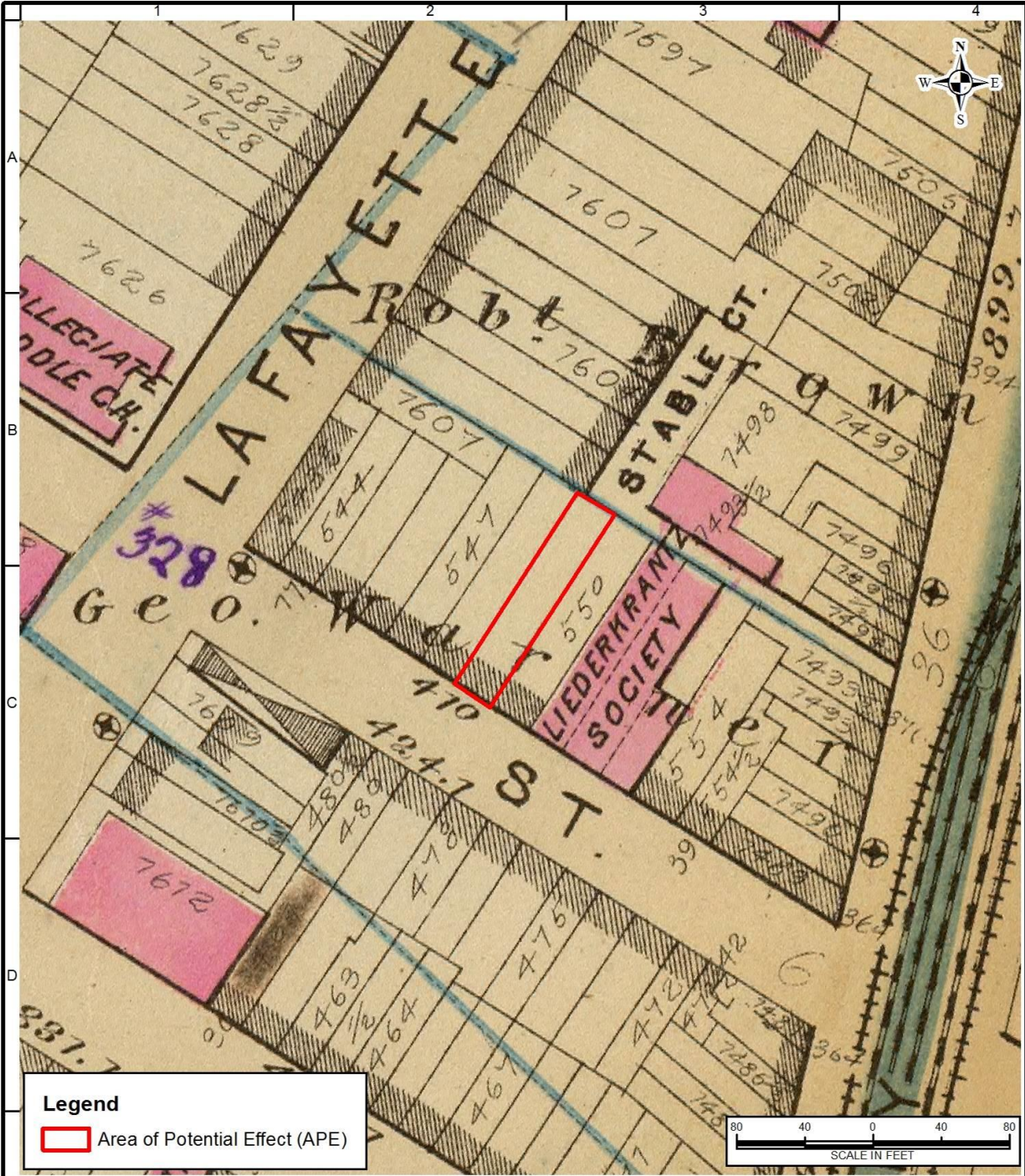
Area of Potential Effect (APE)



Map reference: 1867 Randall & Blackwell Map

 605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrservices.com	<b>Project</b> <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	<b>Figure Title</b> <b>1867 RANDALL &amp; BLACKWELL MAP</b>		<b>Project No.</b> Date 5/10/2016 Scale 1" = 80' Drawn By MDA	<b>Figure</b> 7

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 7 - 1867 Randall.mxd  
 Figure 7 - 1867 Randall & Blackwell Map



Map reference: 1879 Map of Ward 15 & Part of Ward 9, New York City, G.W. Bromley

 605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com	Project <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	Figure Title <b>1879 G.W. BROMLEY MAP</b>	Project No. Date Scale Drawn By	Figure <b>8</b>
			5/10/2016 1" = 80' MDA	

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 8 - 1879 GW Bromley.mxd

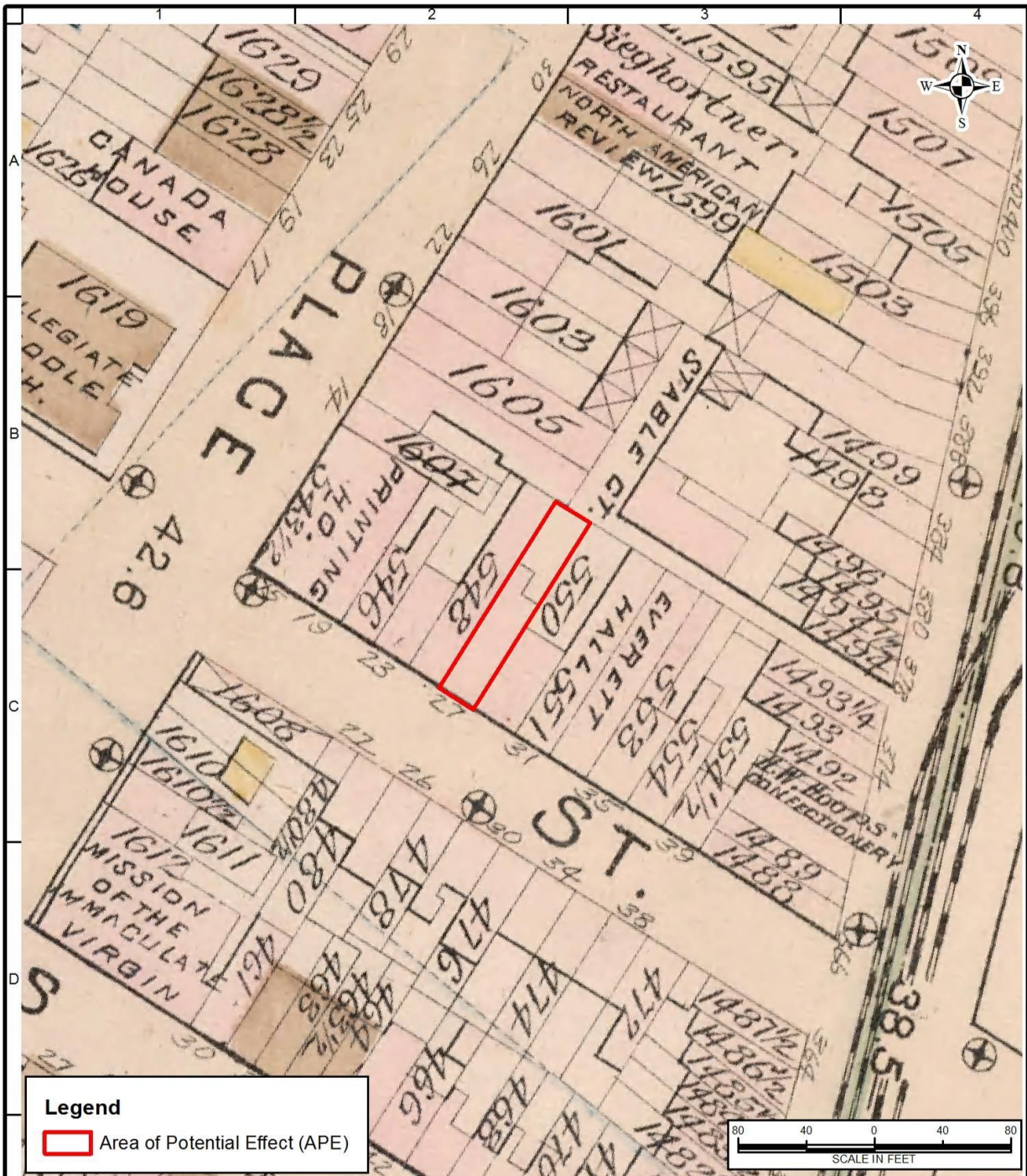
usa 1 - 1879 G.W. Bromley Map

corner of Lafayette Place and Astor Place. Directly across from the archaeological-APE on the south side of East Fourth Street is a dwelling and to its west on the corner of Lafayette Place and East Fourth Street a stable is depicted.

The 1885 E. Robinson Atlas of the City of New York is similar to the 1879 GW Bromley map with the following exceptions (Figure 9). The archaeological-APE is listed at number 27. A block number is not listed. To the east of the archaeological-APE, the adjacent property is listed as block 550. The Liederkrantz Society is now Everett Hall located at 31 – 35 East 4<sup>th</sup> Street, provided religious instruction to the poor Jewish children that lived in the lower section of the city (Rowell, 1888). The purpose was to elevate and improve the circumstances of these children. They received clothing and afternoon meals, as well as visitations to the children's families. The organization received support from donation and membership dues (Rowell, 1888).

At the corner of Fourth Street and Bowery, the stable is no longer listed and there are two brick buildings in its place. On the same block is a confectionary shop owned by H.W. Hoops. To the west of the archaeological-APE, the adjacent building #25 is listed as block 548. On the corner of Fourth Street and Lafayette Place the map depicts a printing house, which is owned by the DeVinne Press (Kroessler, 2002). Across the street from the printing house at 20 Fourth Street, there is a stable. Numbers 22- 38 East Fourth Street are listed as brick buildings. The Dutch Reform Church is now the Collegiate Middle Church located on the west side of the road on the corner of Lafayette Place and East Fourth Street. There are several manufacturing companies, printers, a library and hotel also depicted on the block. The map also depicts that there is a 42.6 above high tide.

The 1891 GW Bromley map of the city of Manhattan is similar to the 1885 Robinson Atlas with a few exceptions (Figure 10). The archaeological-APE is now listed as Block 548 with the dimensions of 21x127.4. The map depicts added water lines. There is a change in the high tide elevation to 38.6. The previous map indicated it was 42.6. To the north of the archaeological-APE The Stable Ct, is no longer directly behind the archaeological-APE. Even though DeVinne Printing is not labeled on the this map it is labeled on the 1895 Sanborn Map (Figure 11). The Sanborn Map is similar to the 1891 Bromley Map with a few exceptions. The archaeological-APE still depicts it as a building with an attached structure. The building has a skylight on the top floor and brick chimney. To the north of the archaeological-APE the Stable Court is depicted as being partially adjacent to the back of the property. To the north of the DeVinne Printing, a Russian Bath is located on 16 Lafayette Place, which was once a dwelling. However, on the 1898 GW Bromley Map of the City of Manhattan, the archaeological-APE is listed as a 4-Story brick dwelling with basement and extended brick structure (Figure 12). The building lot number is 72 and depicted as being 27 x 129.3. To building adjacent to the east of the archaeological-APE is a 3.5-story brick building with basement, lot number 71. The building adjacent to the west of the archaeological-APE is an 8-story brick building, lot number 73. The Russian Bath is now being depicted as the Lafayette PL. Hotel. To the northeast of the archaeological-APE along Bowery numbers 368 – 376 are a row of brick dwellings. The map also depicts Cooper Park and the Cooper Institute along Fourth Ave. Located on the south side of the archaeological-APE are a series of brick dwellings.



**AHRS**  
 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES

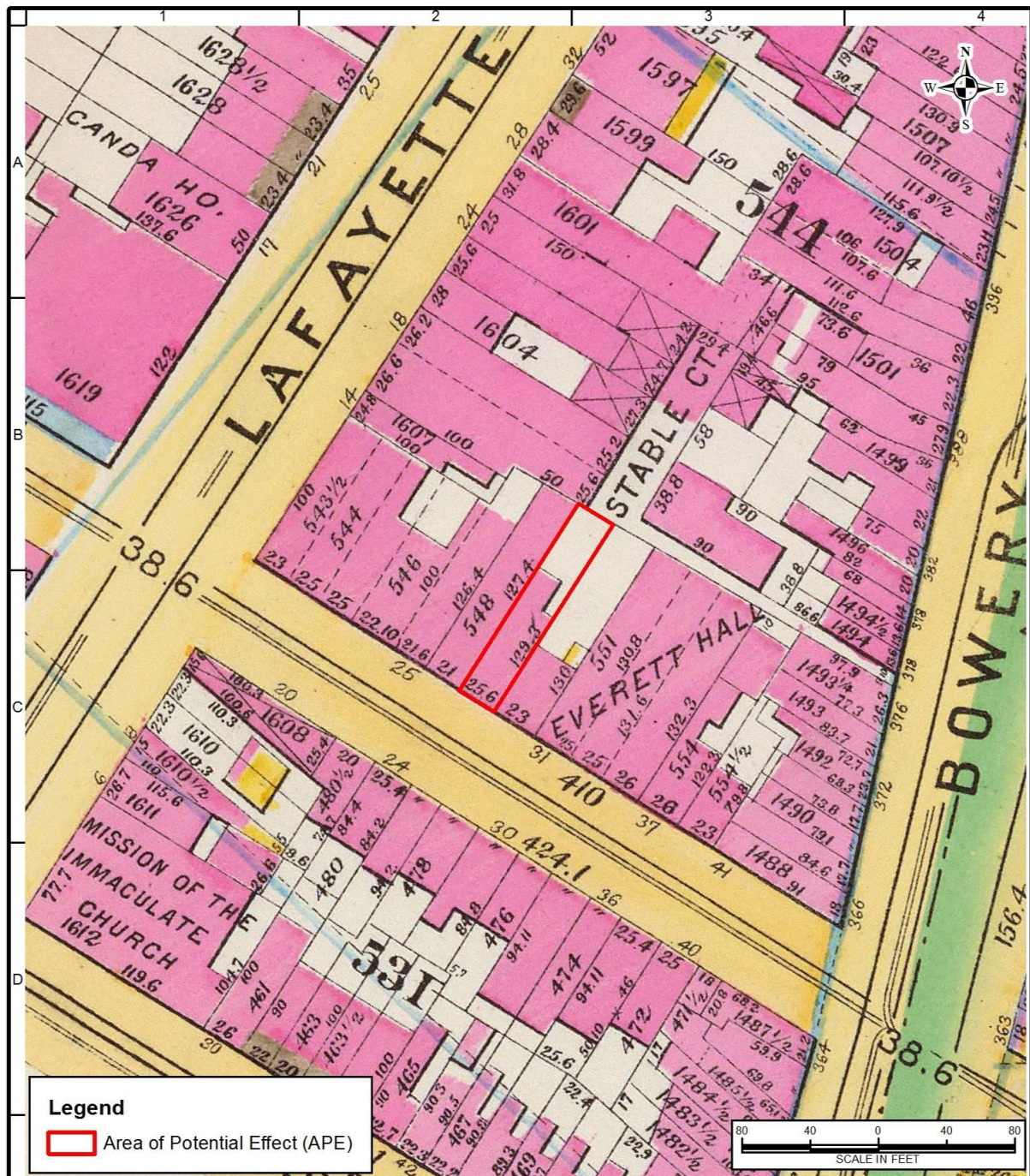
605 Twin Arch Road  
 Rock Tavern, New York 12575  
 T: 845-725-7694 www.ahrservices.com

Project  
**27 EAST  
 4TH STREET**  
 BLOCK NO. 544, LOT NO. 72  
 MANHATTAN  
 CITY OF NEW YORK NEW YORK

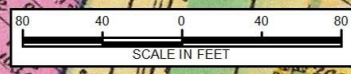
Figure Title  
**1885  
 E. ROBINSON  
 MAP**

Project No.	Figure
Date 5/10/2016	9
Scale 1" = 80'	
Drawn By MDA	

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRS\27 East 4th Street\GIS\MapDocuments\Fig 9 - 1885 E Robinson.mxd  
 Figure 9 - 1885 E. Robinson Map



**Legend**  
 Area of Potential Effect (APE)



Map reference: 1891 Parts of Wards 15 & 17 New York City, G.W. Bromley, Plate 11

 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES 605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com	<b>Project</b> <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	<b>Figure Title</b> <b>1891 G.W. BROMLEY MAP</b>	<b>Project No.</b> Date Scale Drawn By	<b>Figure</b>  10
			Project No. 1091 Date 5/10/2016 Scale 1" = 80' Drawn By MDA	

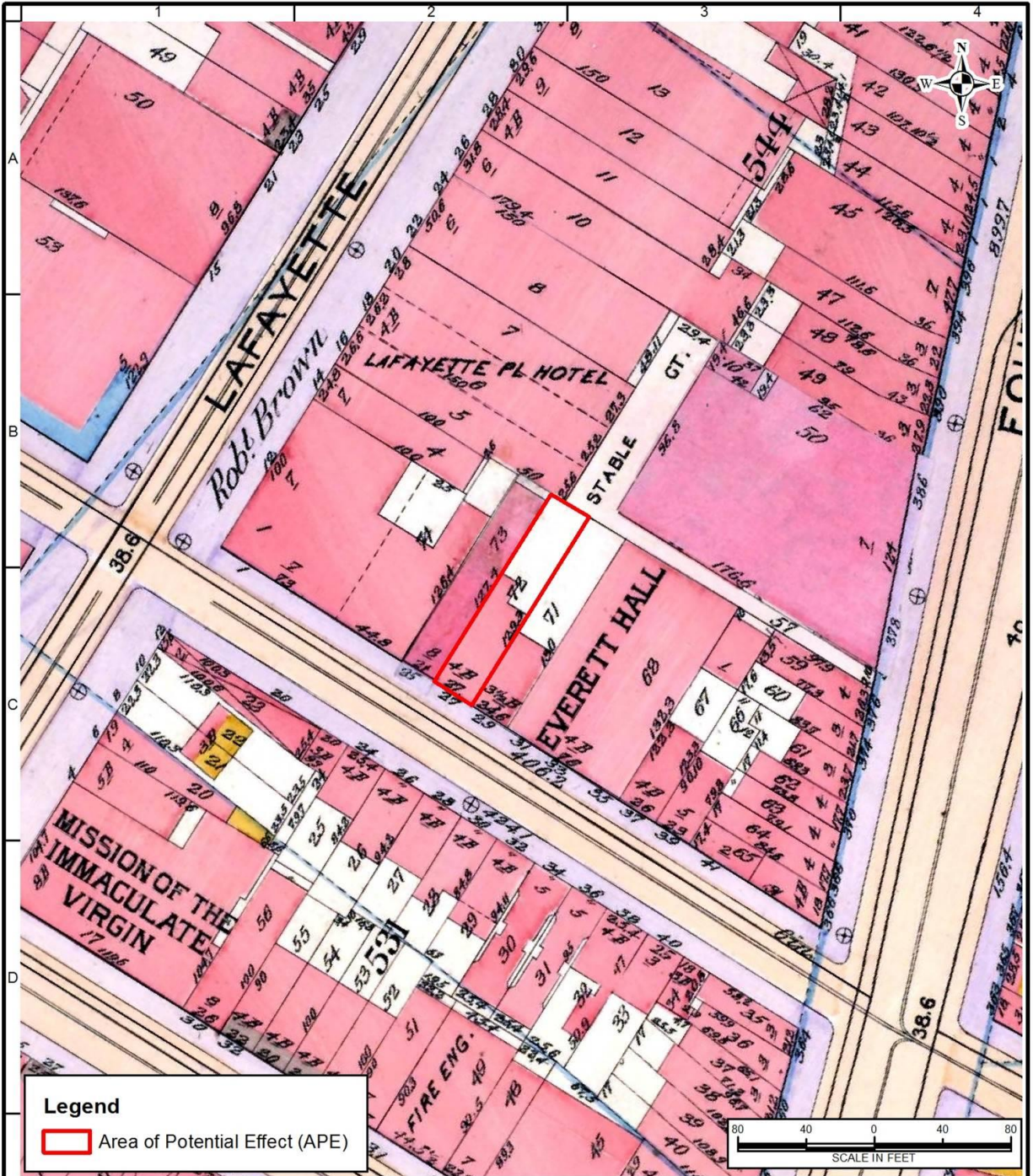
Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 10 - 1891 GW Bromley.mxd





Map reference: 1895 Sanborn Map from EDR Report, Copyright Sanborn Library, LLC.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrsservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1895 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p>11</p>
	<p>Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 11 - 1895 Sanborn.mxd</p>			



Map reference: 1898-99 G.W. Bromley Map, Plate 23, Part of Section 2

 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES 605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com	Project <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	Figure Title <b>1898-99 G.W. BROMLEY MAP</b>	Project No. Date 5/10/2016 Scale 1" = 80' Drawn By MDA	Figure <b>12</b>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------	---------------------------------------------------------	--------------------------------------------------------------------------	---------------------

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 12 - 1898-99 GW Bromley map .  
 page 12 - 1898 G.W. Bromley Map

The area was transforming into a manufacturing and commercial center (NYC Landmarks Preservation Commission, 2008). It was also in a state of decline. This is depicted in the 1904 Sanborn map (Figure 13). The archaeological-APE is depicted as being a 4-story brick dwelling with a storefront and a basement. To the east adjacent to the archaeological-APE, no. 29 remains a 3.5-story dwelling with an attached structure. No. 31, 32 and 35 is still listed as the Everett Hall, a 4 story Brick building with a storefront and dwelling with offices and sitting rooms. The building adjacent to the east of the archaeological-APE, no 25 is depicted as an 8-story brick storefront building with an elevator. The DeVinne & Co. Printing Establishment is still present and has taken up the building located at no. 23, which also houses the Century Com. (Stock of Books). Located to the northeast of the archaeological-APE is the Browning, King & Company Manufg. Cooper Square is located along bowery and Fourth Ave. Adjacent to the northwest is the Lafayette Place Baths and Hotel, which has not changed from the 1895 Sanborn map. However on the south side of East Fourth Street many of the building that were once dwellings have been converted to dwellings with storefronts, such as number 22, 24,26, 28, 30, and 32.

The 1911 Atlas of Manhattan is similar to the 1904 Sanborn map (Figure 14). It depicts the archaeological-APE as a 4-story brick building that has a storefront and basement. The map also indicated that Robt. Brown owns the property. To the west of the archaeological-APE along Lafayette Place, the church, and many of the dwellings and businesses have been replace by lofts. This indicates that manufacturing was moving out of the area to a suburban area as the population of the city continued to increase.

The 1916 Atlas of the city of Manhattan depicts the archaeological-APE as unchanged as for most of the area with a few exceptions (Figure 15). To the west the adjacent property at 25 East Fourth Street is no longer an 8-story dwelling with a storefront, instead it has been changed to an 8-story lofts with a storefront. On the south side of the archaeological-APE at 28 East Fourth Street, the building have been converted into lofts.

In 1919, according to a deportation case, the archaeological-APE was the headquarters of the Industrial Workers of the World (I.W.W.) (Blackwood, 1920). The I.W.W. is federation formed organizations that brought destitute workers in the United States, which included the textile industry located in the northeast (Jackson, 1999 & Textile World, 1919). They would use militant style tactics. The I.W.W. published their own newsletter called the "Rebel Worker" from their headquarters (Jackson, 1999 & Textile World, 1919). According to the Department of Justice, Bureau of Investigation, a person of interest was released from deportation to Poland since it was not possible at that time due to World War I, thus gave his residing address at 27 East Fourth Street.

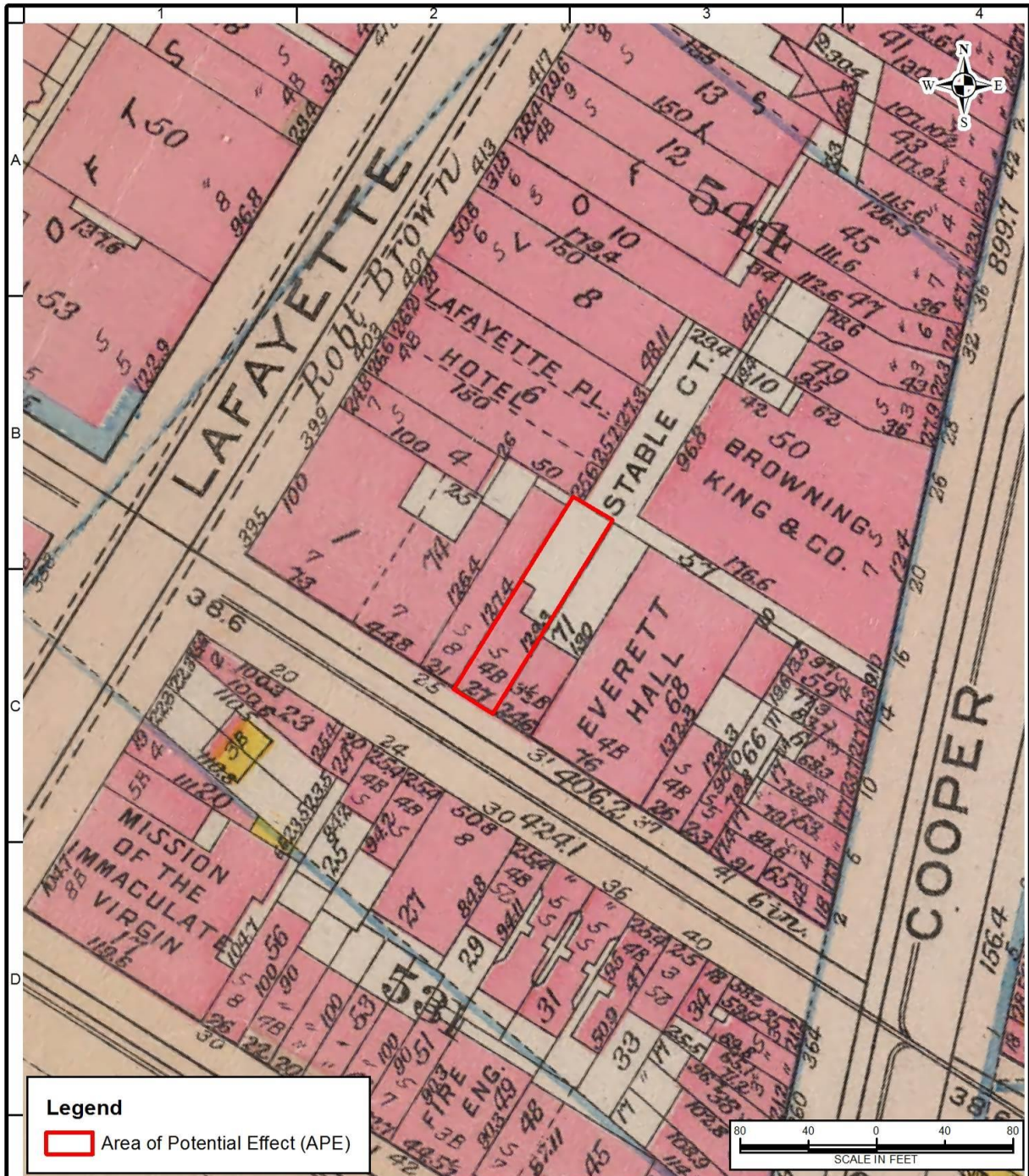
The 1921 Sanborn depicts the archaeological-APE as unchanged, however Everett Hall, located at 31, 33 & 35, has been razed and made into a garage (Figure 16). The 1930 Bromley Map of Manhattan depicts the archaeological-APE as unchanged (Figure 17). However, the DeVinne Printing building is now the Fairbanks Co. The Browning King and Co. is now the Schieffelin & Co. along Cooper Square.



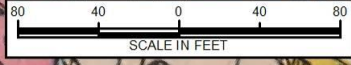
Map reference: 1904 Sanborn Map from EDR Report. Copyright Sanborn Library, LLC.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1904 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p><b>13</b></p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------------------------------------------	--------------------------------


Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 13 - 1904 Sanborn.mxd  
Figure 13 - 1904 Sanborn Map



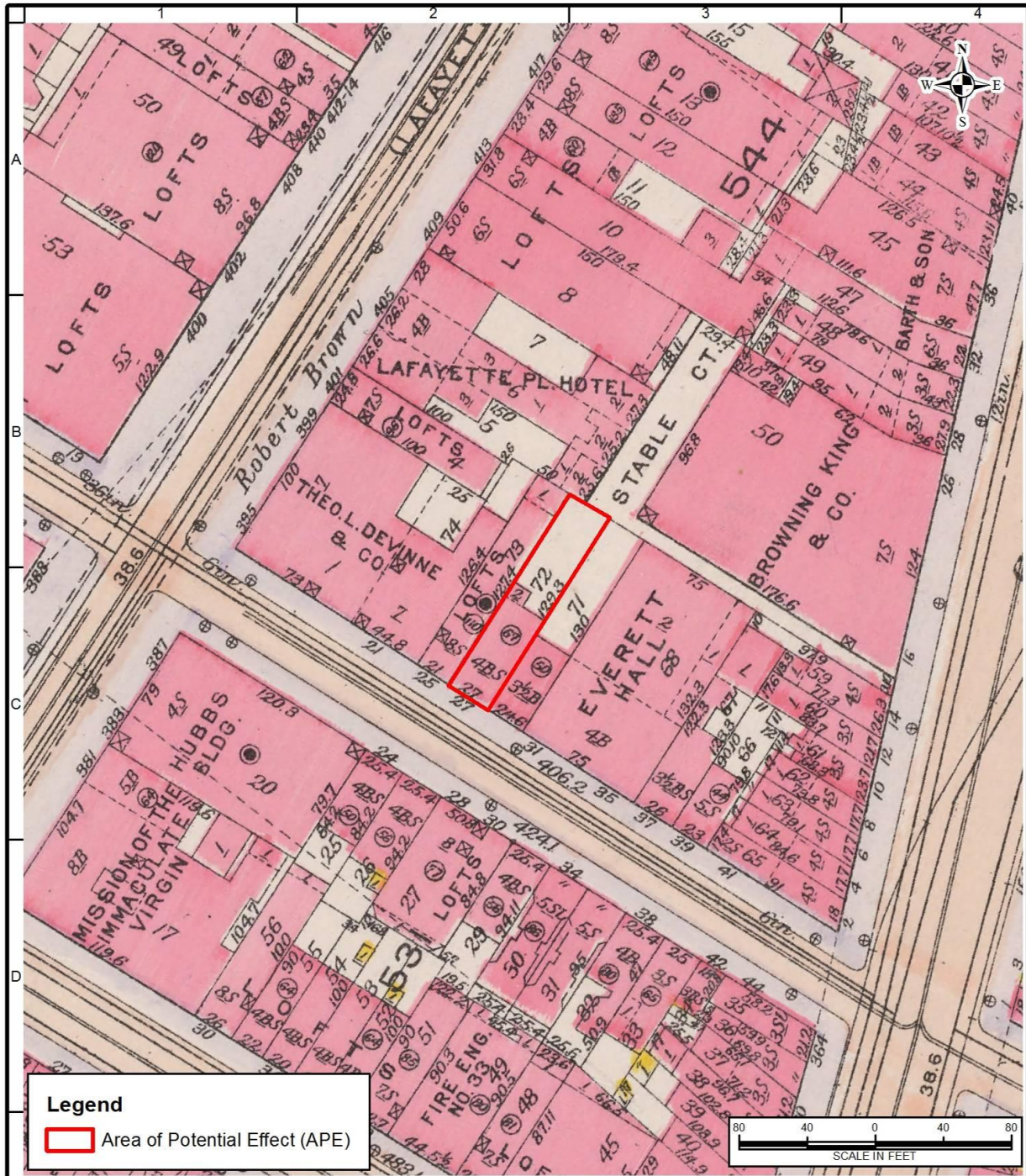
**Legend**  
 Area of Potential Effect (APE)



Map reference: 1911 Bromley Map, Plate 11, Part of Section 2

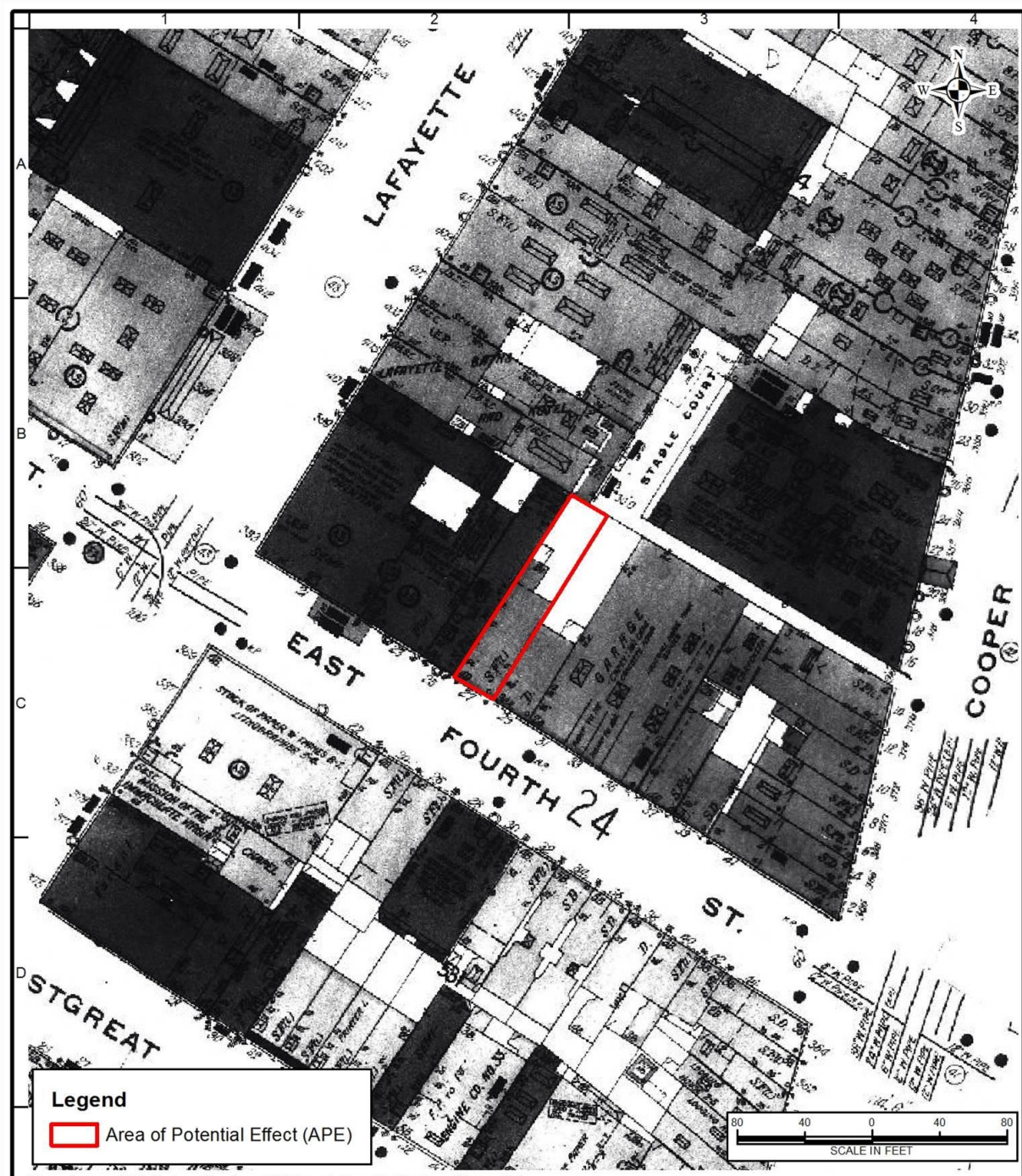
 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES 605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrsservices.com	Project <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	Figure Title <b>1911 BROMLEY MAP</b>	Project No. Date: 5/10/2016 Scale: 1" = 80' Drawn By: MDA	Figure <b>14</b>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------	-----------------------------------------	--------------------------------------------------------------------	---------------------

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 14 - 1911 Atlas.mxd  
 page 14 - 1911 Bromley Map



Map reference: 1916 Bromley Map, Plate 23, Part of Section 2

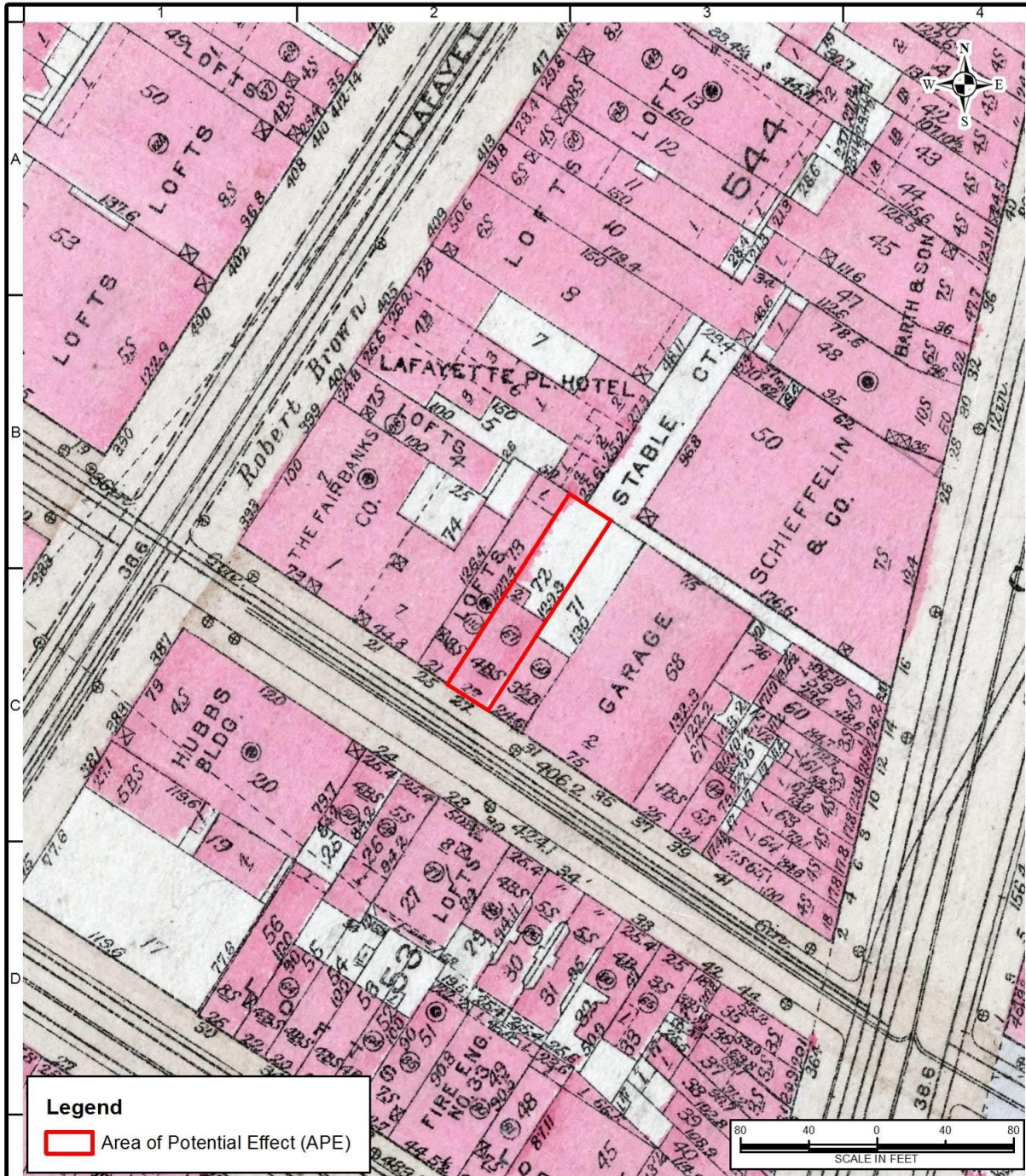
 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES 605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrservices.com	Project <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	Figure Title <b>1916 BROMLEY MAP</b>	Project No. Date 5/10/2016 Scale 1" = 80' Drawn By MDA	Figure <b>15</b>
	Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 15 - 1916 Atlas.mxd Figure 15 - 1916 Bromley Map			




Map reference: 1921 Sanborn Map from EDR Report, Copyright Sanborn Library, LLC.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1921 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p>16</p>

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 16 - 1921 Sanborn.mxd  
Figure 16 - 1921 Sanborn Map



Map reference: 1930 Bromley Map, Plate 23, Part of Section 2

 <p>ARCHAEOLOGY &amp; HISTORIC RESOURCE SERVICES</p> <p>605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrsservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1930 BROMLEY MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p>17</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------------------------------------------	-------------------------

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GISMapDocuments\Fig 17 - 1930 Bromley.mxd  
Figure 17 - 1930 Bromley Map



Between 1941 and 1945, World War II gave the New York City economy a boost and jobs to hundreds of thousands city workers. However, not everyone profited. Small businesses and the garment industry were not functioning at full capacity (Moss, 2005). During the post-war the commercial civic leadership encouraged “progressive” local governments to direct growth and allow business people to seize new opportunities, which lead to downtown revitalization projects (Abbott, 2007). This can be seen in the 1950 Sanborn Fire Insurance Map that depicts the archaeological-APE as an Auto Repair shop (Figure 18). Although the Sanborn map is illegible in some area, the area along Fourth Ave adjacent to the archaeological-APE has remained unchanged. The 1955 Bromley Map of the City of Manhattan depicts the area more clearly (Figure 19). The archaeological-APE is now a garage. Adjacent to the East of the archaeological-APE at 29 East Fourth Street, the dwelling is now a museum called the Old Merchant’s House.

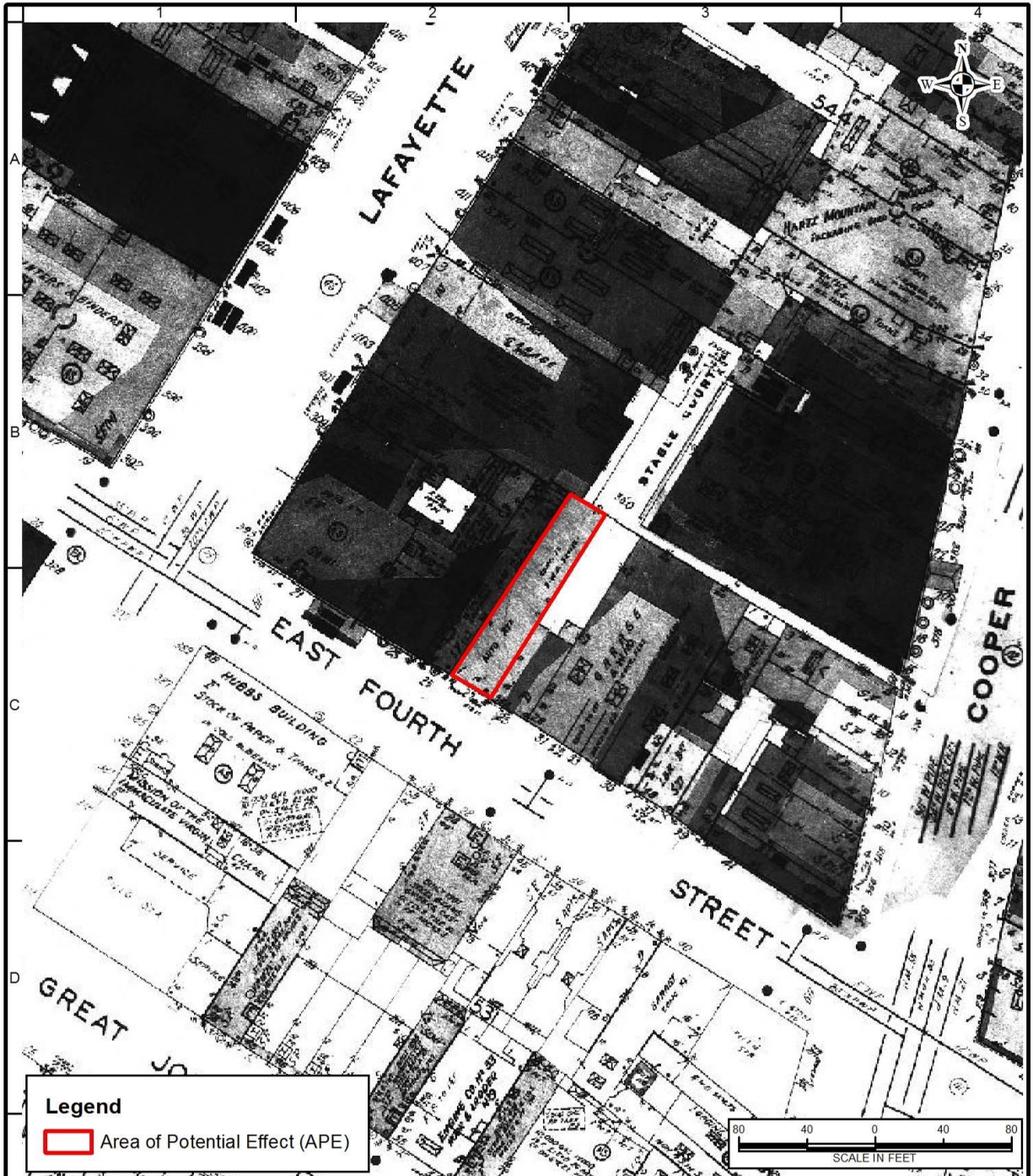
The 1960s and 70s, was a time for revitalization in the area, as a shopping district. I was once an area for the arts is slowly becoming an up and coming neighborhood. The proprietors were largely students who shopped between Broadway and 4<sup>th</sup> Street for clothes, records, books and novelties (Jackson, 1995). In 1969, Fourth Street was the place to be for clothing, theatres, and drama groups, such as the Off Broadway Fortunate Theatre at no. 62, and a dramatist group of playwrights located at the Café La Mama at No. 74 (New York Times, 1969). Eventually new restaurants would dominate the Bowery and artists along Astor Place. Fourth Street would remain a residential area (NYC Landmarks Preservation Commission, 2008).

The 1969 Sanborn Map depicts the archaeological-APE as parking garage (Figure 20). On the east side of the archaeological-APE at 41 East Fourth Street and 2 – 12 Cooper Square, the lofts that were once there have been razed and it is now a parking lot. The rest of the Sanborn map is difficult to read.

The 1975 Sanborn Map (Figure 21) depicts is the similar to the 1969 Sanborn map. The 1992 Sanborn Map depicts the archaeological-APE as a parking garage (Figure 22). To the south of the archaeological-APE across the street, there is a parking lot at 26 East Fourth Street, and an Auto Repair place at 40 East 4<sup>th</sup> Street. There are still commercial and manufacturing facilities at 28 – 26 East Fourth Street. The 2005 Sanborn map is the same as the 1992 Sanborn map (Figure 23).

In 1999, the NYC Landmarks Preservation Commission designated 125 buildings to the NOHO Historic District. The district is a representation of New York City’s commercial history from 1850 to 1910 (NYC Landmarks Preservation Commission, 1999). In 2008, the NYC Landmarks Preservation Commission extended the NOHO Historic District to an additional 56 buildings that represent, “two centuries of development from the early nineteenth century to the present day that is a distinctive part of the history and character of NoHo” (NYC Landmarks Preservation Commission, 2008). The archaeological-APE, located at 27 East Fourth Street is listed in the NoHo district.

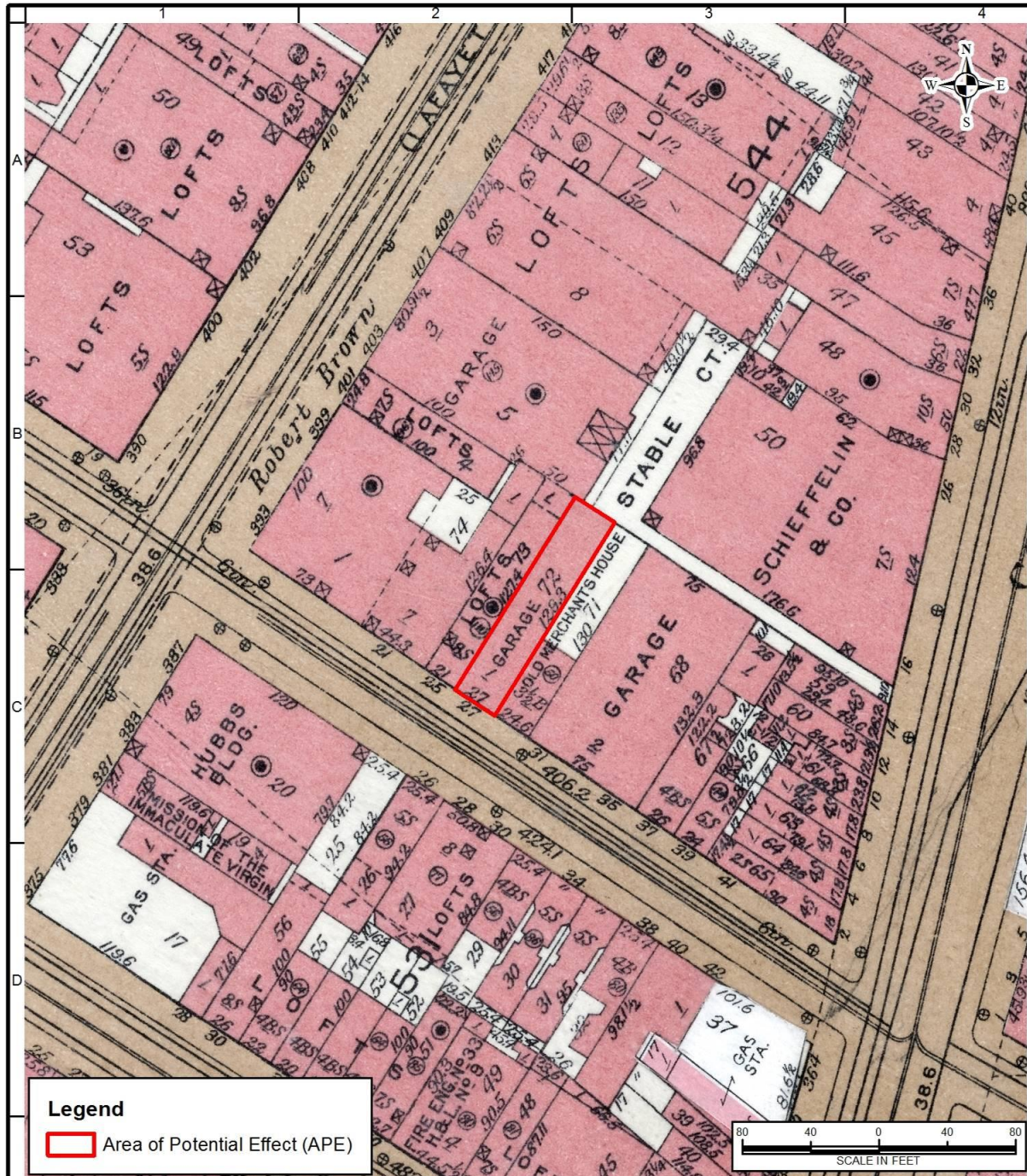
During the Twenty-First century, more people are moving towards a walking urban environment where it is “chic” to live in the city. The NoHo districts are becoming the place to live (New York Times, 2010). In 2015, the NoHo district is one of the priciest neighborhoods to live in, with its artists’ lofts, light industrial spaces and stylish communities and old charm (NY Post, 2015).




Map reference: 1950 Sanborn Map from EDR Report. Copyright Sanborn Library, LLC.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1950 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p><b>18</b></p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------------------------------------------	--------------------------------

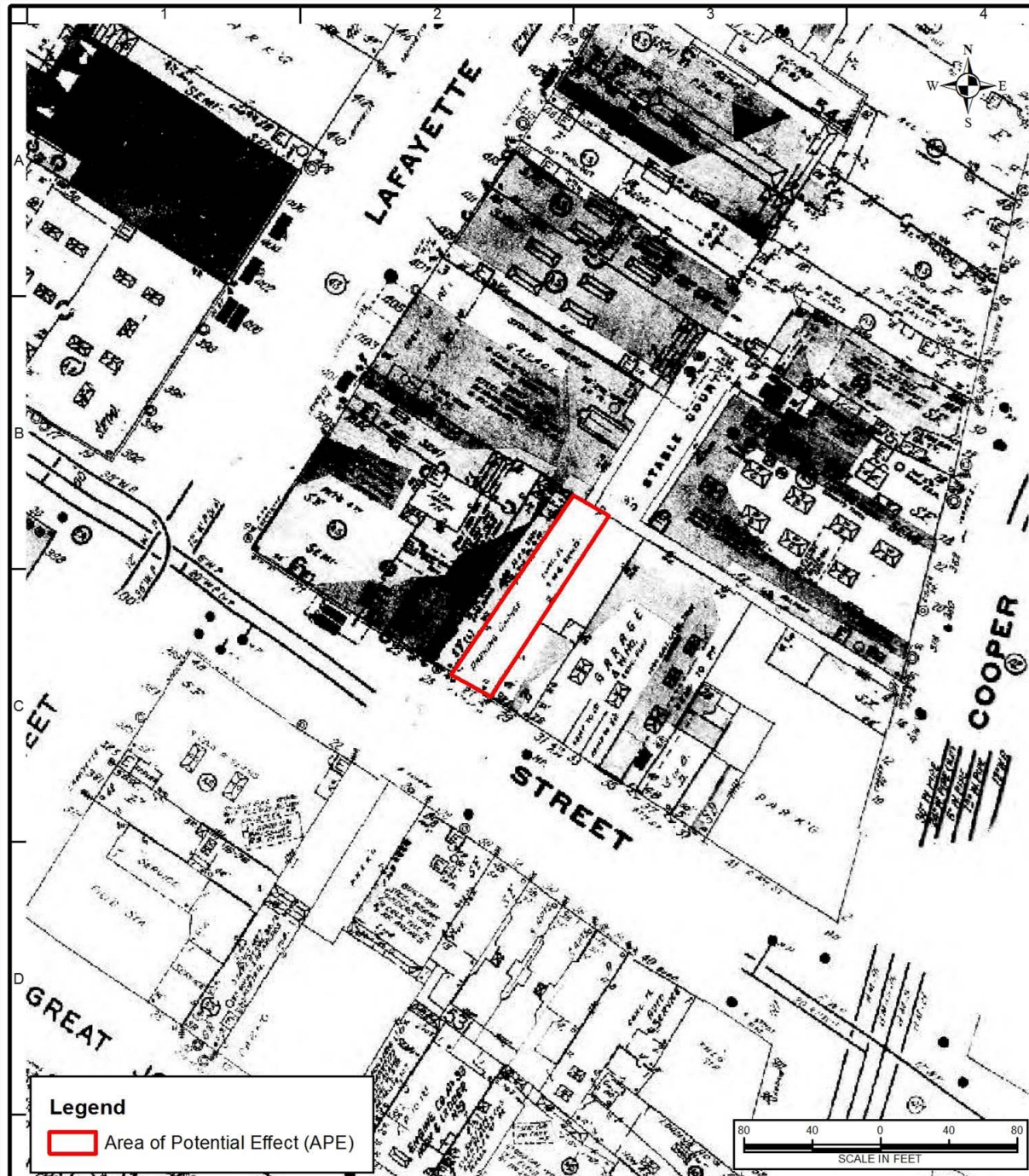
Path: \\AHRSServer\AHRSS-Data\NEW YORK\Projects\AHRSS\27 East 4th Street\GIS\MapDocuments\Fig 18 - 1950 Sanborn.mxd  
Figure 18 - 1950 Sanborn Map



Map reference: 1955 Bromley Map, Plate 23, Part of Section 2

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1955 BROMLEY MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p><b>19</b></p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------------------------------------------	--------------------------------

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\MapDocuments\Fig 19 - 1955 Bromley.mxd  
Figure 19 - 1955 Bromley Map



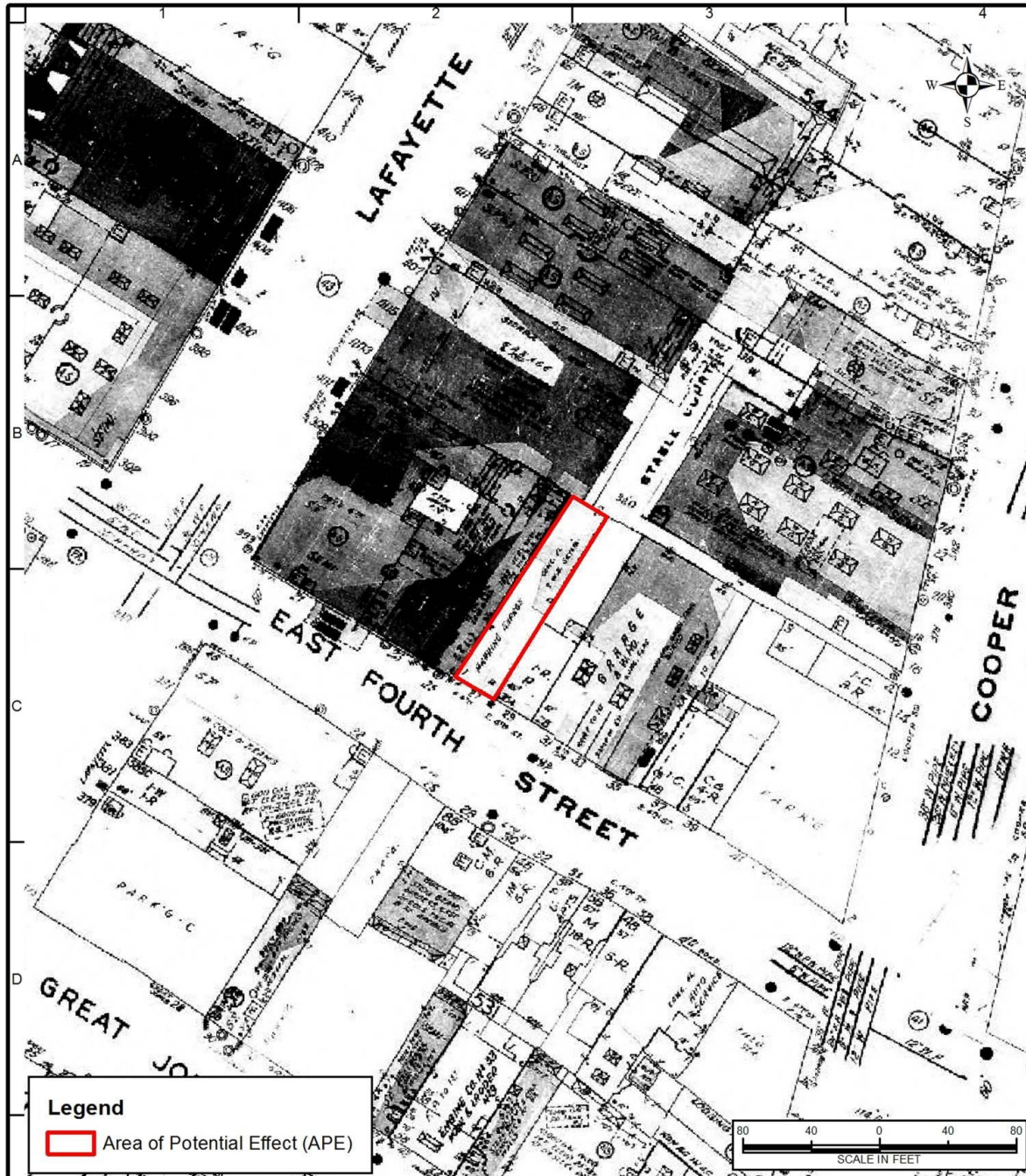
**Legend**

Area of Potential Effect (APE)

Map reference: 1969 Sanborn Map from EDR Report, Copyright Sanborn Library, LLC.

 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES 605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com	<b>Project</b> <b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK	<b>Figure Title</b> <b>1969 SANBORN MAP</b>	<b>Project No.</b> Date 5/10/2016 Scale 1" = 80' Drawn By MDA	<b>Figure</b> 20

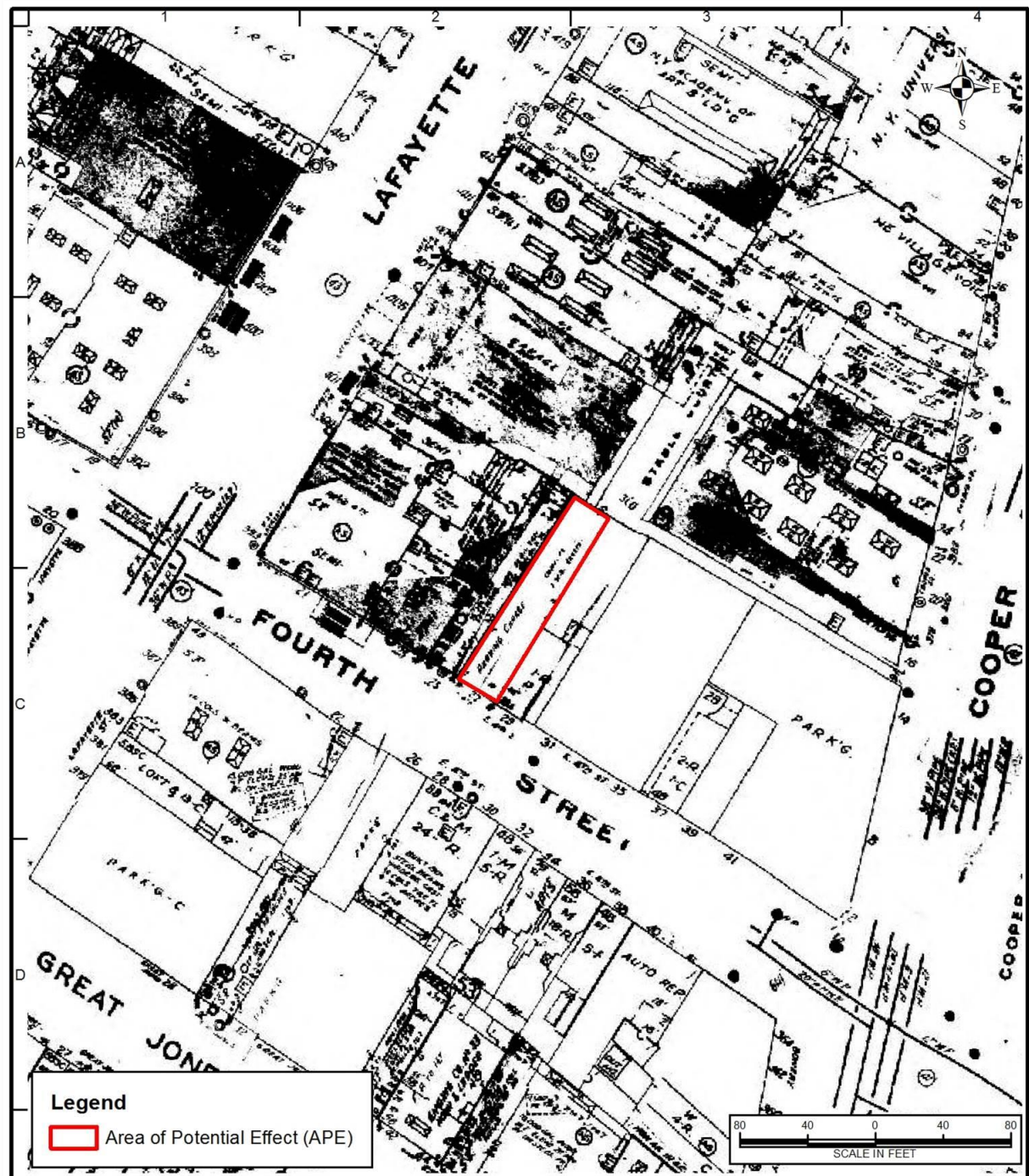
Path: \\AHR-Server\AHR-Data\NEW YORK\Projects\AHR\27 East 4th Street\GIS\MapDocuments\Fig 20 - 1969 Sanborn.mxd  
 Page 20 - 1969 Sanborn



Map reference: 1980 Sanborn Map from EDR Report, Copyright Sanborn Library, LLC.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b> BLOCK NO. 544, LOT NO. 72 MANHATTAN CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1980 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p>21</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------------------------------------------	-------------------------

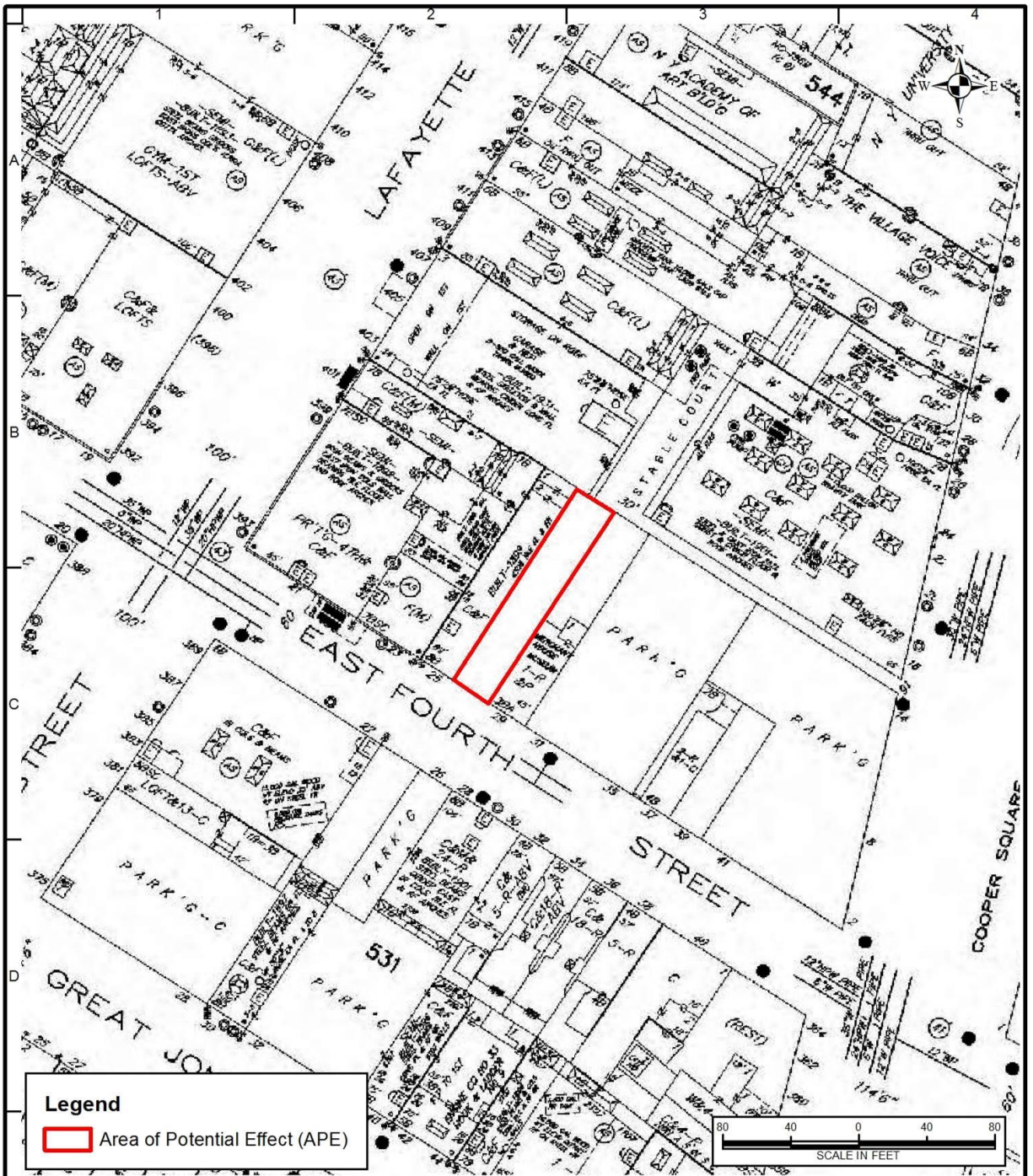
Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs\27 East 4th Street\GIS\Map Documents\Fig 21 - 1980 Sanborn.mxd  
Figure 21 - 1980 Sanborn Map



Map reference: 1992 Sanborn Map from EDR Report, Copyright Sanborn Library, LLC.

 <p>605 Twin Arch Road Rock Tavern, New York 12575 T. 845-725-7894 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>1992 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p>22</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------	------------------------------------------------------------------------------------------------	-------------------------

Path: \\AHRs-Server\AHRs-Data\NEW YORK\Projects\AHRs27 East 4th Street\GIS\MapDocuments\Fig 22 - 1992 Sanborn.mxd  
Figure 22 - 1992 Sanborn Map



Map reference: 2005 Sanborn Map from EDR Report. Copyright Sanborn Library, LLC.

<p>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</p>	<p>Project</p> <p><b>27 EAST 4TH STREET</b></p> <p>BLOCK NO. 544, LOT NO. 72</p> <p>MANHATTAN</p> <p>CITY OF NEW YORK NEW YORK</p>	<p>Figure Title</p> <p><b>2005 SANBORN MAP</b></p>	<p>Project No.</p> <p>Date 5/10/2016</p> <p>Scale 1" = 80'</p> <p>Drawn By MDA</p>	<p>Figure</p> <p><b>23</b></p>
	<p>Path: \\AHRSServer\AHRSSData\NEW YORK\Projects\AHRS\27 East 4th Street\GISMapDocuments\Fig 23 - 2005 Sanborn.mxd</p>			

#### 4.5 Boring and Pit Locations

In 2012, test pits were conducted on the site location to determine subsurface conditions. According to tax records, the original dwelling built circa 1800s was a four-story brick building with a basement. The four-story building was demolished c. 1940 and the current one-story brick garage was built in c. 1945.

To determine the subsurface conditions below the current building Geo Tech Consultants, LLC excavated three test pits by hand within the garage. A test pit location map and profiles can be found in Appendix B. Test pit #1 is located along the eastern wall near the front of the garage. The profile indicates that there is a current eight-inch concrete slab followed by approximately six feet of fill consisting of sand, silt, brick and concrete fragments. The brick and concrete fragments suggest that portions of the demolished building may have been broken up and used in the fill. Approximately six feet and eight inches below the top of the current concrete slab a second 2" to 6" thick older broken concrete slab was encountered. Below this older slab sand and silt was encountered until the bottom of the excavation, approximately two feet deeper.

Along the eastern side of the test pit was the profile of the foundation and walls of the garage. Starting at the top of the current concrete slab is plaster wall that goes up and what is described as a rubble foundation wall, most likely a stone foundation wall that extends approximately five feet and eight inches below the top of the concrete slab. Below the stone foundation wall is a one-foot deep concrete footing that also extends eight inches into the garage property. It is possible that this is an original party wall with the Merchants House Museum although it is doubtful that the concrete footing is original

Test pit #2 is located directly north of test pit #1, but beyond the extent of the Merchant House Museum, at the properties approximate half waypoint. The test pit was excavated at a depth of 11.5-feet below the top of the current concrete slab. There is a similar profile under the slab itself with six feet of fill consisting of sand, silt, brick and concrete fragments followed by a 2 to 6 inch thick old concrete slab. This is then followed by approximately five feet of sand and silt.

The difference is along the eastern property line (shared by the Merchant House Museum). Starting at the top of the eight-inch concrete slab a brick wall intersects the slab, for the garage, and extends both up and to approximately three feet below surface. At this point the brick wall sits on a concrete footing that jogs in four-inches toward the garage then extends down two feet, jogs in another four-inches and then extends down an additional one and one-half feet. This footing sits on what is described as a rubble foundation wall, again most likely a stone foundation wall from the original building, which extends an additional five feet down to the end of the excavation, although the stone wall continues.

Test pit #3 is located along the western garage wall near the rear of the building it was excavated at a depth of 12.5-feet. The same profile as the other test pits exists with sand, silt, brick and concrete fragments immediately below followed by a broken two to six-inch concrete slab and then only sand and silt below that slab. Again, the difference is the walls themselves. Starting at the top of the eight-inch concrete slab a brick wall intersects the slab, for the garage, and extends both up and to approximately two and one-half feet below surface. At this point, the brick wall sits on a concrete block footing that jogs in six-inches toward the garage then extends down six feet. This sits on a concrete footing that jogs in eight-inches toward the garage and then extends down an additional one-foot. The concrete footing then jogs out toward the adjacent building two feet to the adjacent buildings brick wall, which extends down another two feet and sits on a one-foot thick concrete footing.



Based on the results of the test pits it would seem that the slab floor encountered in all three test pits is not the slab floor of the original building on site. The map research indicates that the building that occupied the archaeological-APE prior to the garage did not extend as far back as test pit #3 and can therefore, not be the original building basement. The garage was original built to deal with automobiles so it may have had some deeper bays for mechanics to get under cars but the depth of the broken concrete slab seem too deep for that function. Therefore, the exact purpose of the broken slab floor is purely guess work at this time. Regardless it seems to have been filled in for the current use of the garage as a storage location for food carts. It is difficult to determine form this information if the soils below the original broken slab are fill used to construct the original slab or natural soils. The soil classification in the NRCS soil survey does not assist in making this determination.

## **5.0 PHASE IA ARCHAEOLOGICAL SURVEY**

This chapter discusses the methodology and results of the Phase IA archaeological survey of the archaeological-APE. The final section presents the findings of the prehistoric and historic archaeological sensitivity determination.

### **5.1 Phase IA Methodology**

The following information was gathered in order to determine archaeological sensitivity: known archaeological sites, prior historic and archaeological surveys, local/county histories, historic maps and aerial photographs (all discussed above in Section 4.0) and the observations from a site visit.

### **5.2 Phase IA Site Visit**

On April 28<sup>th</sup> and 29<sup>th</sup>, AHRS Archaeologist, Katherine French conducted a site visit and pedestrian survey of the archaeological-APE at 27 East Fourth Street. The site was photographed to document current conditions. The building has a front and rear garage entrance that connects 4<sup>th</sup> Street and the back alleyway on the east half of the building. The western half of the building has two long, narrow rooms and a large refrigeration system.

The floor surface of the structure was closely surveyed for evidence of potential deep ground disturbance. However, due to the current usage of the building for storage and staging, 100% coverage was not possible. The floor of the building is patched, poured concrete that is degrading in spots. There was no evidence of a basement, buried gas or storage tanks, manholes, access panels, or any other evidence of deep ground disturbance with the exception of standard drainage pipes.

Therefore, the site visit did not provide any additional evidence to suggest past ground disturbance within the Project Area that would have significantly impacted or destroyed buried archaeological resources. Photographs 1 through 4 depict the current conditions of the archaeological-APE. A Photograph Location Plan (Figure 22) is located after the photographs.



**Photograph 1** - View of the front building entrance on East 4th Street, facing northwest. The Merchant House Museum is the red brick structure located to the right of the image.



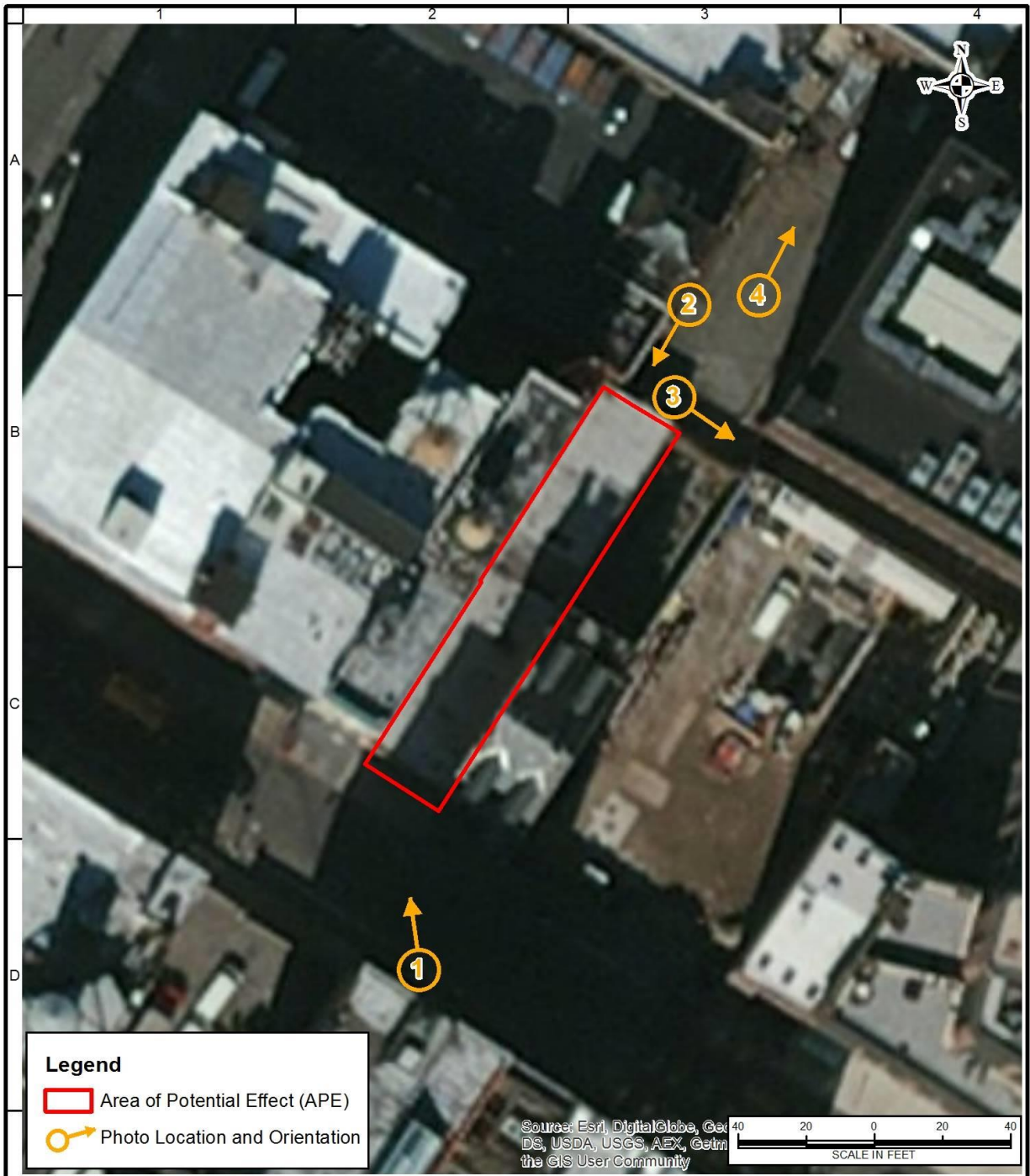
**Photograph 2** – View of the rear exterior of the building, taken from the asphalt courtyard behind the building and facing south.



**Photograph 3** - View down alley behind archaeological-APE, taken from the building back exterior looking east



**Photograph 4** - View of the courtyard behind the archaeological-APE, looking north



**AHRS**  
 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES

605 Twin Arch Road  
 Rock Tavern, New York 12575  
 T: 845-725-7694 www.ahrservices.com

Project  
**27 EAST  
 4TH STREET**  
 BLOCK NO. 544, LOT NO. 72  
 MANHATTAN  
 CITY OF NEW YORK NEW YORK

Figure Title  
**PHOTGRAPH  
 LOCATION MAP**

Project No.	Figure
Date 5/10/2016	
Scale 1" = 40'	
Drawn By MDA	

Path: I:\AHRS-Server\AHRS-Data\NEW YORK\Projects\AHRS\27 East 4th Street\GIS\MapDocuments\Fig X - Photo Location Map.mxd  
 Figure 24 - Photo Location Map

### 5.3 Phase IA Assessment of Archaeological Resource Sensitivity

The assessment of archaeological resource sensitivity is based on:

- The potential for archaeological sites to exist in a given area; and
- The sensitivity of that area to contain intact cultural resources.

In areas where no sites have been documented the potential presence of prehistoric resources is based primarily on environmental setting such as topography, proximity to water and other resources and soil quality. The potential for historic resources is usually determined through the analysis of historic sources especially cartographic materials. The presence of roads, canals or railroads documented on historic maps usually increases the potential for historic sites.

Previous subsurface disturbance from the basement construction for the original building seems to have occurred. The earlier building (s) that occupied the project site prior to the garage did not fully extend to the end of the property, therefore, remnants of small outbuildings, wells, cisterns and privies might still exist beneath the existing broken concrete slab in the rear portion of the property.

#### Prehistoric Archaeological Sensitivity

The prehistoric archaeological sensitivity for the archaeological-APE is generally evaluated by the presence of level areas or slight slopes, proximity to water courses, presence of well-drained soils, and proximity to previously identified prehistoric archaeological sites. The record search confirmed that little to no archaeological work has been conducted within a quarter-mile radius around the archaeological-APE and only three historic archaeological sites (two of them historic cemeteries) have been recorded in this radius. Outside of this radius is one known New York State Museum prehistoric site that has little data on it. Therefore, the proximity of other archaeological sites does not help us to establish prehistoric archaeological sensitivity even though the archaeological-APE is mapped by the State as being within an archaeologically sensitive area. The lack of known prehistoric archaeological sites in the vicinity of the archaeological-APE is most likely based on two factors. The first is that the area has been developed several times over the past 300 year; the second is that there is the lack of previous archaeological surveys in the area.

The archaeological-APE was originally a level location between a rise to the west and a depression to the east, according to the 1865 E. Viele Map (not included as a figure). Wetlands and water are also located to the west of the rise. The combination of resources located to the west of the current archaeological-APE would have been a favorable location for prehistoric occupation with a good view point, available fresh water and marine resources, not the current archaeological-APE. In addition, the excavation for the different episodes of occupation would have contributed to the ground disturbance in the archaeological-APE. Based on the above information and the lack of known prehistoric sites in the vicinity we conclude that the archaeological-APE has a low sensitivity for prehistoric archaeological materials.

#### Historic Archaeological Sensitivity

The potential presence of historic cultural resources within an archaeological-APE must also be weighed against ground moving activities that may destroy the contextual integrity of the site. As with prehistoric cultural resources, the sensitivity for historic period cultural resources is derived by ascertaining the probable location of a potentially significant historic site and

comparing that with documented ground disturbances. Overall sensitivity to historic sites is a measure of the potential for intact cultural resources to be present within the archaeological-APE.

The historic maps and atlases revealed that the archaeological-APE has been occupied since the early nineteenth-century including at least two different buildings prior to the construction of the garage. The archaeological-APE was originally on a level area between a rise and a depression, according to the 1865 E. Viele Map. The earliest buildings can be seen the 1857 Perris map (Figure 8) and continued to be present until the construction of the garage c. 1945. None of the buildings before the garage occupied more than approximately three fifths of the property, leaving some space in the rear of the property for small outbuildings, wells, cisterns and privies. However, the broken concrete slab at approximately six and a half feet below surface seems to run the length and width of the property boundaries. The excavation needed to install this concrete slab, regardless of the function, would have most likely disturbed these discrete features, had they remained on the rear portion of the property. Based on this information we conclude that the property has a low to moderate sensitivity for historic archaeological materials in the archaeological-APE.

## 6.0 CONCLUSION AND RECOMMENDATION

The project site is a one-story building located at 27 East 4th Street in the Cooper Square area of Lower Manhattan. The building is currently used for storage and preparation for a food cart businesses. The building footprint consists of an area approximately 3,600 square feet in size and occupies the majority of Lot 72 on Block 544, according to the New York Tax Records. The project site measures approximately 127.5-feet (38.86 meters) in length and 26.5-feet (8.08 meters) in width.

AHRS conducted research for known archaeological sites, State and National Register of Historic Places properties, LPC buildings and districts and previous cultural resource surveys. Research was consisted of online research at the Cultural Resource Information System (CRIS), the NYC LPC online archaeology reports and included a review of historic maps, aerial photographs and the soil survey report for the archaeological-APE. A site visit was performed to photographically document the site.

The archaeological-APE was originally a level location between a rise to the west and a depression to the east. Wetlands and water are also located to the west of the rise. The combination of resources located to the west of the current archaeological-APE would have been a favorable location for prehistoric occupation with a good view point, available fresh water and marine resources, not the current archaeological-APE. In addition, the excavation for the different episodes of occupation would have contributed to the ground disturbance in the archaeological-APE. Based on the above information and the lack of known prehistoric sites in the vicinity we conclude that the archaeological-APE has a low sensitivity for prehistoric archaeological materials.

The historic maps and atlases revealed that the archaeological-APE has been occupied since the early nineteenth-century including at least two different building prior to the construction of the garage. The archaeological-APE was originally on a level area between a rise and a depression, according to the 1865 E. Viele Map. The earliest buildings can be seen the 1857 Perris map (Figure 8) and continued to be present until the construction of the garage c. 1945. None of the buildings before the garage occupied more than approximately three fifths of the property, leaving some space in the rear of the property for small outbuildings, wells, cisterns and privies. However, the broken concrete slab at approximately six and a half feet below surface seems to run the length and width of the property boundaries. The excavation needed to install this concrete slab, regardless of the function, would have most likely disturbed these discrete features, had they remained on the rear portion of the property. Based on this information we conclude that the property has a low to moderate sensitivity for historic archaeological materials in the archaeological-APE. Therefore, we do not recommend any additional archaeological work for the project as designed.



## 7.0 BIBLIOGRAPHY

Abbott, C.

2007 *The American History Series: Urban America in the Modern Age of 1920 to the Present*. New York: Harlan Davidson Inc.

AKRF, Inc.

2008 *Lower East Side Rezoning, Phase 1A Archaeological Assessment Report*. Report on file at the NY Cultural Resource Information System

2011 *Phase 1A Archaeological Documentary Study, New York University Core, Blocks 524 and 533 and the Street beds of Mercer Street between Bleecker and West Third Streets and LaGuardia Place between West Houston and West Third Streets, New York, New York*, Report on file at the NY Cultural Resource Information System

Anonymous

1937 *Space in Midtown Attracts Lessees: Wearing Apparel Trade Takes Prominent Part in Deals*. The New York Times, November 24

Appleton

1904 *Appleton's' Dictionary of Greater New York and Its Neighborhoods*. D. Appleton and Company, New York

Armbruster, Eugene L.

1918 *The Indians Of New England And New Netherland*. Eugene L. Armbruster, Brooklyn, New York.

Bolton, Reginald Pelham.

1920 *New York City in Indian Possession*. Indian Notes and Monographs. Museum of the American Indian, New York, New York.

1922 *Indian Paths in the Great Metropolis*. Indian Notes and Monographs. Museum of the American Indian, New York, New York.

1934 *Indian Life of Long Ago In The City of New York*. Joseph Graham (Boltons Books), New York, New York

Booth, Mary Louis

1859 *History of the City of New York, From Its Earliest Settlement To The Present Time*. W.R.C. Clark & Meeker, New York

Brennan, Louis. (editor)

1978 *Readings in Long Island Archaeology and Ethnohistory: Volume II: The Coastal Archaeology Reader: Selections from the New York State Archaeological Association Bulletin, 1954-1977*. Suffolk County Archaeological Association. Stony Brook, Long Island.

Bridges, William

1811 *Map of the City and the Island of Manhattan*.

Bromley, George W.

- 1879 Map of the City of New York.
- 1891 Map of the City of Manhattan
- 1898 Map of the City of Manhattan
- 1930 Map of the City of Manhattan
- 1955 Map of the City of Manhattan

Burrows, Edwin G. and Mike Wallace.

- 1999 *Gotham: A History Of New York City To 1898*. Oxford University Press. New York, New York.

Cantwell, Anne-Marie and Diana DiZerega Wall.

- 2001 *Unearthing Gotham: the Archaeology of New York City*. Yale University Press

Ceci, Lynn.

- 1977 *The Effect Of European Contact And Trade On The Settlement Pattern Of Indians In Coastal New York, 1524-1665: The Archaeological And Documentary Evidence*. City University of New York - Graduate Center, New York, New York.

- 1979- Maize Cultivation In Coastal New York: The Archaeological, Agronomical, And
- 1980 Documentary Evidence - Part I. *North American Archaeologist* 1(1):45-74.32

- 1982 Method And Theory In Coastal New York Archaeology: Paradigms Of Settlement Pattern. *North American Archaeologist* 3(1):5-36.

- 1990 Maize Cultivation In Coastal New York: The Archaeological, Agronomical, And Documentary Evidence - Part II. *North American Archaeologist* 11(2):147-176.

Colton, J. H.

- 1836 Map of the City of New York.

Dripps, Matthew.

- 1867 Plan of the City of New York.

Environmental Data Research

- 1904 Sanborn Fire Insurance Map
- 1921 Sanborn Fire Insurance Map
- 1950 Sanborn Fire Insurance Map
- 1969 Sanborn Fire Insurance Map
- 1980 Sanborn Fire Insurance Map
- 1992 Sanborn Fire Insurance Map
- 2005 Sanborn Fire Insurance Map

Greenhouse Consultants, Inc.

- 1994 *62-62 Mulberry Street - Public Parking Garage Project - Borough of Manhattan, New York - CEQRA# 94DCP 011M*. Report on file with the New York City Landmarks Preservation Commission. New York, New York.

Greenleaf, J.

- 1846 *History of the Churches, of All Denominations in the City of New York, from the First Settlement to the year 1846*. New York: Hyde Lord & Dure.

- Goodfitch, A.T.  
1829 *Plan of the City of New York*
- Goddard, Ives  
1978 *Delaware*. In Handbook of North American Indians Volume 15 Northeast. Pp.213-239. General Editor- William C. Sturtevant; Volume Editor- Bruce G. Trigger. The Smithsonian Institution, Washington, D.C.
- Hughes, C.J.  
2010 *NoHo Living In*. *The New York Times: Real Estate Section*, July 9
- Isachsen, Y.W., E. Landing, J.M. Lauber, L.V. Rickard and W.B. Rogers (editors).  
2000 *Geology of New York: A Simplified Account*. The University of the State of New York. Albany, New York.
- Jackson, K.  
1995 *The Encyclopedia of New York City*. New York: Yale University Press.
- John Milner Associates, Inc.  
2005 *Phase 1B Archaeological Investigation Block 457, Lot 28 (Former Methodist Episcopal Cemetery) New York, New York*. Report on file at the NY Cultural Resource Information System
- Kaufman, David  
2015 *Design-rich NoHo among NYC's priciest neighborhoods*. *New York Post:Real Estate*, January 14
- King, M.  
2003 *King's Handbook of New York City*. MA: Acme Bookbinding.
- Kraft, Herbert C.  
1974 *A Delaware Indian Symposium*. Anthropological Series, Number 4 - The Pennsylvania Historical and Museum Commission, Harrisburg, Pennsylvania  
  
1984 *The Lenape Indian - A Symposium*. Archaeological Research Center, Publication No. 7, Seton Hall University, South Orange, New Jersey.  
  
1986 *The Lenape - Archaeology, History and Ethnography*. New Jersey Historical Society, Newark, New Jersey.
- Kroessler, J. A.  
2002 *New York by Year: A Chronology of the Great Metropolis*. New York: NY University Press.
- Lamb, Martha  
1896 *History of the City of New York, Its Origin, Rise and Progress*. Valentine's Manual, Inc., New York
- Lankevich, George J.  
2002 *New York City, A Short History*. New York University Press, NY

Lenik, Edward J.

1992 Native American Archaeological Resources In Urban America: A View From New York City. *The Bulletin Of The New York State Archaeological Association* (103):20-29. Levine, Gaynell Stone. (editor)

1977 *Readings in Long Island Archaeology and Ethno history: Volume I: Early Papers In Long Island Archaeology*. Suffolk County Archaeological Association. Stony Brook, Long Island.

Levine, Gaynell Stone and Nancy Bonvillain. (editors)

1980 *Readings in Long Island Archaeology and Ethnohistory: Volume IV: Language and Lore of the Long Island Indians*. Suffolk County Archaeological Association. Stony Brook, Long Island.

Loorya, Alyssa and Christopher Ricciardi

2005 *Columbus Park: New York, (New York County); New York – Phase IA and Partial Monitoring Report*. Prepared for the City of New York - Department of Parks and Recreation A.A.H. Construction Corporation Olmstead Center; Queens, New York by Chrysalis Archaeological Consultants, Incorporated

Louis Berger Group, Inc.

2007 *Phase 1A Archaeological Survey 250 Bowery, Borough of Manhattan*. Report on file at the NY Cultural Resource Information System

Lusk, Clayton R.

1920 *New York Legislative Document, Vol. XVII, No. 50 Part I*. J.B. Lyon Company, Albany

Mission, L. O.

1854 *The Old Brewery and the Mission House at the Five Points*. New York: Stringer & Townsend.

Mohl, R. A.

1985 *The American History Series: The New City Urban America in the Industrial Age, 1860-1920*. New York: Harlan Davidson, Inc.

Moscow, H.

1978 *The Street Book*. New York: Fordham University.

Moss, F.

1897 *The American Metropolis From Knickerbocker Days to the Present*. London: The Authors Syndicate.

Moss, L.-E.

2005 *The Encyclopedia of New York State*. New York: Syracuse University Press.

New York City Landmarks Preservation Commission

1999 *NoHo Historic District Designation Report*, June 28

2008 *NoHo Historic District Extension, Designation Report*, May 13

New York State Historic Trust Staff

1971 Seabury Treadwell ("Old Merchant's") House. Report on file at the NY Cultural Resource Information System

O'Callaghan, Edmund Bailey.

1846 *History of New Netherland; or New York Under the Dutch (Volumes 1 & 2)*. B. Appleton and Company, New York, New York.

1848- *The Documentary History of The State Of New York (Volumes 1-4)*. Weed, Parsons And Company, Printers, Albany, New York.

1861-1865 *Documents Relative To The Colonial History Of The State Of New York: 1657-1678 (Volumes 1-16)*. Weed, Parsons and Company, Printers, Albany, New York.

Parker, Arthur C.

1922(a) *The Archaeological History Of New York - Part I*. July-August, New York State Museum Bulletin 235-236. The New York State Museum, Albany, New York.

1922(b) *The Archaeological History Of New York - Part I*. Sept.-October ed. The New York State Museum Bulletin 237-238. The New York State Museum, Albany, New York.

Perris, William

1857 Map of the City of New York

Raymo, Chet and Maureen E. Raymo

2001 *Written In Stone: A Geological History of the Northeastern United States*. Black Dome Press Corp. Hensonville, New York.

Rieth, Christina B.

2004 *Cordage, Fabrics, and Their Use in the Manufacture of Early Late Prehistoric Ceramic Vessels in New York*. In *Perishable Material Culture in the Northeast*. Pp. 129-142. Edited by Penelope B. Drooker. New York State Museum Bulletin 500. University of the State of New York, the State Education Department, Albany, New York.

Ritchie, William A.

1958 *An Introduction to Hudson Valley Prehistory*. The Bulletin 367. New York State Museum and Science Center, Albany, New York

1980 *The Archaeology of New York State Revised Addition*. Harbor Hills Books, Harrison, NY

Ritchie, William A. and Robert E. Funk.

1973 *Aboriginal Settlement in the Northeast*. New York State Museum Memoir, 20, Albany, New York.

Robinson, E

1885 Atlas of the City of New York.

Rothschild, Nan A.

1990 *New York City Neighborhoods In The Eighteenth Century*. Academic Press, San Diego, California.

Salwen, Bert

1978 *Indians of Southern New England and Long Island: Early Period*. In Handbook of North American Indians Volume 15 Northeast. Pp.177-189. General Editor- William C. Sturtevant; Volume Editor- Bruce G. Trigger. The Smithsonian Institution, Washington, D.C.

Schubert, Christopher J.

1968 *The Geology of New York City and Environs*. Natural History Press. New York, New York.

Stevens, Shale

1971 *Instant Urban Renewal*. The New York Times, June 19

Stokes, I.N.P. (editor).

1915-1928 *Iconography of Manhattan Island, 1498-1909* - 6 Volumes.  
Robert H. Dodd, New York, New York.

Taylor, Angela

1969 *Want an Old Costume? A New Peasant Dress? Try East4th St*. New York Times, May 24

Textile World Journal

1919 Volume 55, Part 3. Bragdon, Lord & Nagle Company

Thieme, Donald M.

2003 *Archaeological Site Formation in Glaciated Settings, New Jersey and Southern New York*. In Geoarchaeology of Landscapes in the Glaciated Northeast. Pp. 163-179. Edited by David L. Cremeens and John P. Hart. New York State Museum Bulletin 497. University of the State of New York, The State Education Department, Albany, New York.

Truex, James E. (editor)

1982 *Readings in Long Island Archaeology and Ethnohistory: Volume V: The Second Coastal Archaeology Reader: 1900 To The Present*. Suffolk County Archaeological Association. Stony Brook, Long Island.

United States Department of Agriculture

2014 Natural Resources Conservation Service, at  
<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

United States Geological Survey (USGS)

Jersey City Quadrangle, New Jersey/New York. 7.5 Minute Series.  
Brooklyn Quadrangle, New York. 7.5 Minute Series.

Viele, Edgert

1865 *Sanitary and Topographic Map of the City and Island of New York*.

Whiffer, M., & F. Koeper

1982 *American Architecture 1607-1976*. MA: The MIT Press.

## **APPENDIX A**

### **Qualifications of Preparers**

**MICHAEL AUDIN, RPA**  
Archaeologist / Cultural Resource Specialist

**Field Crew Management**  
**Phase I, II and III Excavation**  
**Human Remains/Burial Excavation**  
**Site Preparation and Survey**  
**Historic Research**  
**Photographer**  
**Laboratory Analysis**  
**Field Illustration**  
**Report Writing and Editing**  
**Historic American Building Surveys**

---

**EDUCATION**

Hunter College: M.A. Anthropology  
William Paterson University: B.A. Anthropology  
Archaeological Field School: Lenape Meadows, Somerset  
County Parks Commission, New Jersey

**YEARS EXPERIENCE: 14**

**SUMMARY QUALIFICATIONS**

Mr. Audin is a Registered Professional Archaeologist (RPA) who meets the Secretary of the Interiors Professional standards as an archaeologist and has been reviewed by several State Historic Preservation Offices as a Principal Investigator. Mr. Audin has over 14 years of professional experience in cultural resource management. Skills include extensive problem solving, management, analytical, evaluating, and creative resolutions. Management experience includes extensive customer relations, employee development, training, scheduling and mentoring staffs up to 115 members in size.

Work experience includes coordination and implementation of environmental and cultural resource assessments include NEPA Documentation, Environmental Assessments, Environmental Impact Statements, Section 106 Assessments, Phase I, II and III Historic and Archaeological Assessments and Historic American Building Survey (HABS) photography and documentation. Created and implemented Archaeological Monitoring Plans, Scopes of Work, Research and Field Testing Plans, Programmatic Agreements, Memorandums of Agreement (MOA) and Memorandums of Understanding (MOU).

**RELEVANT EXPERIENCE**

**Pavilion at Locust Manor, Phase I Archaeological Survey, Jamaica, Queens, NY**

Principal Investigator for prehistoric/historic site investigation for city housing development. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, writing and preparation of report, edited and produced report for submission.

**Interstate Blvd. Development Project, Phase I Archaeological Survey, South Brunswick, NJ**

Principal Investigator for prehistoric/historic site investigation for NJDEP Freshwater Wetlands Permit for warehouse development. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, artifact analysis, writing and preparation of report, edited and produced report for submission.

**Princeton Pike Roadway Project, Phase I & II Archaeological Survey, Lawrence, NJ**

Principal Investigator for prehistoric/historic site investigation for NJDEP Freshwater Wetlands Permit. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, artifact analysis, writing and preparation of report, edited and produced report for submission.



**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

**Prasville Mills Restroom Project, Archaeological Monitoring, New Jersey**

Principal Investigator for historic site investigation for NJ State Park improvements. Conducted research, assessed prehistoric/historic archaeological potential, conducted field monitoring, artifact analysis, writing and preparation of report, edited and produced report for submission.

**St. Marks AME Church Cemetery Project, Queens, New York**

Principal Investigator for former African American cemetery on residential development site. Designed archaeological monitoring plan and scope of work, conducted archaeological monitoring and human remains excavation for mid-19th- to mid-20th-century cemetery in Queens.

**Gloucester Premium Outlets, Phase I Cultural Resource Survey, Gloucester Township, NJ**

Principal Investigator for prehistoric/historic site investigation for NJDEP Freshwater Wetlands Permit for 65 acre property (36 acres shovel tested). Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, directed artifact analysis, writing and preparation of report, edited and produced report for submission.

**Old St. Patrick's Cathedral Mausoleum Project, Archaeological Monitoring, New York**

Principal Investigator for and archeological monitor for human remains during excavation for new mausoleum in southern part of a historic cemetery in New York City. Designed Monitoring plan, conducted monitoring for human remains during backhoe excavation, supervision of two archaeological assistants, determined method of avoidance or removal of human remains encountered and eventual reburial of disinterred remains, report writing and preparation

**Washington Crossing Historic Park, Phase IB, Washington Crossing, Pennsylvania**

Principal Investigator for prehistoric/historic site investigation for PHMC historic site drainage improvements. Conducted research, subsurface field testing, artifact analysis, writing and preparation of report, edited and produced report for submission.

**Hallets Court Senior Housing Project, Phase I Archaeological Investigation, Queens, NY**

Principal Investigator for prehistoric/historic site investigation for city housing development. Conducted research, subsurface field testing, writing and preparation of report, edited and produced report for submission.

**Johnson Veterans Hospital Parking Garage Project, Phase IB Cultural Resource Investigation, Clarksburg, West Virginia**

Principal Investigator for prehistoric/historic site investigation for Section 106 Compliance and NEPA checklist. Conducted field testing of APE for prehistoric/historic archaeological sites, writing and preparation of report, edited and produced report for submission

**Gowanus Canal Historic Bulkhead Documentation, Brooklyn, NY**

Principal Investigator for documentation of a historic bulkhead at two sites on the Gowanus Canal. Conducted field testing, photographic documentation, measured drawing, writing and preparation of report for submission.

**Amtrak, High Speed Rail Improvements Project, Trenton to New Brunswick, NJ**

Principal Investigator produced an archaeological sensitivity assessment and monitoring for Section 106 review of rail improvements for 23 mile section of the Northeast Corridor. Conducted research, site visits, writing and preparation of report.

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

**Verizon Wireless Cell Tower Upgrades, Various Sites in NJ**

Researcher/site reviewer for Section 106 reviews to upgrade cell tower antennas. Conducted research, site reconnaissance, writing and preparation of report.

**Gowanus Canal Bulkhead Stabilization Project, Brooklyn, NY**

Principal Investigator for preliminary bulkhead documentation on the Gowanus Canal. Conducted research and monitored for archaeological materials and bulkhead features during a geotechnical investigation in order to design a thorough documentation plan and investigation.

**NJ Transit, Phase IA Investigation, Train Station Upgrades, Elizabeth, NJ**

Principal Investigator for Phase IA Investigation. Evaluation of handicap and other facility upgrades for NJ TRANIT train station. Conducted research, site reconnaissance, writing and preparation of report, edited and produced letter report for submission NJ SHPO.

**NJ Transit, Phase IA Investigation, Train Station Upgrades, Perth Amboy, NJ**

Principal Investigator for Phase IA Investigation. Evaluation of handicap and other facility upgrades for NJ TRANIT train station. Conducted research, site reconnaissance, writing and preparation of report, edited and produced letter report for submission NJ SHPO.

**St. Marks AME Church Cemetery Project, Queens, New York**

Field director for unanticipated discovery of human remains during construction activities in former African American cemetery. Conducted archaeological monitoring and human remains excavation for mid-19th- to mid-20th-century cemetery in Queens..

**Old St. Patrick's Cathedral Stabilization Project, Archaeological Monitoring, New York**

Principal Investigator for and archeological monitor for Landmarks Preservation Commission permit for brick wall stabilization around the north part of a historic cemetery in New York City. Conducted research, monitoring for human remains during backhoe excavation for new concrete supports, supervision of two archaeological assistants, determined method of avoidance or removal of human remains encountered and eventual reburial of disinterred remains, report writing and preparation.

**Johnson Veterans Hospital Parking Garage Project, Phase IA Cultural Resource Investigation, Clarksburg, West Virginia**

Principal Investigator for prehistoric/historic site investigation for Section 106 Compliance and NEPA checklist. Conducted research, assessed prehistoric/historic archaeological potential, conducted site visit, writing and preparation of report, edited and produced report for submission.

**Standard Chlorine Chemical Company, Archaeological Monitoring, Kearny, New Jersey**

Principal Investigator for archaeological monitoring during construction of a 7,000 foot slurry wall as part of the Interim Action Work Plan for NJDEP and USEPA Superfund site. Conducted monitoring during backhoe trenching and screened samples for prehistoric lithic materials, writing and preparation of report, edited and produced report for submission.

**Renaissance Plaza Project, Phase I, Egg Harbor City, New Jersey**

Principal Investigator for prehistoric/historic site investigation for NJ Pinelands Commission. Conducted research, conducted subsurface field testing for historic features, writing and preparation of report, edited and produced report for submission.

**Alpha Water Works Upgrades Project, Phase II, Alpha, New Jersey**

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, excavation of shovel test pits and units, laboratory analysis of artifacts, writing, preparation, editing and producing report for submission.

**State University of New York, Ulster Campus, Phase I, Marbletown, New York**

Principal Investigator for prehistoric/historic site investigation for NYS SEQR reviewed project. Conducted research, assessed prehistoric/historic archaeological potential, field testing, writing and preparation of report, edited and produced report for submission.

**NJ Transit, Unanticipated Discovery Investigation, Market Street Garage, Paterson, NJ**

Principal Investigator for unanticipated historic structure uncovered during excavation for a drainage pipe. Field work consisted of the excavation and documentation of a historic industrial feature partially exposed during excavation work. Recommended preservation in place with appropriate fill materials and submitted a technical memo to NJDEP SHPO.

**EZ Automotive Services, Phase IA & IB, Robbinsville, New Jersey**

Principal Investigator for prehistoric/historic site investigation for NJDEP. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, writing and preparation of reports, edited and produced report for submission.

**Old St. Patrick's Cathedral Stabilization Project, Archaeological Monitoring, New York**

Principal Investigator for and archeological monitor for Landmarks Preservation Commission permit for brick wall stabilization around the south part of a historic cemetery in New York City. Conducted limited research, monitoring for human remains during backhoe excavation for new concrete supports, supervision of one archaeological assistant, determined method of avoidance or removal of human remains encountered and eventual reburial, report writing and preparation.

**Former Koppers Superfund Site, Additional Phase IB, Newport, Delaware**

Co-Author of Memorandum of Agreement between all interested parties for the property.

**Pennsauken Country Club Water Reuse Project, Phase I, Pennsauken, New Jersey**

Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing, preparation, editing and producing report for submission.

**NYS Route 440 Pole Relocation Project, Phase IA, Staten Island, New York**

Principal Investigator for prehistoric/historic site investigation for Department of Transportation NEPA documentation and Section 106 reviewed project. Conducted research, assessed prehistoric/historic archaeological potential, writing and preparation of report, edited and produced report for submission.

**World Trade Center, Phase III, Potential Human Remains Recovery, Staten Island, New York**

Field crew for recovery of potential human remains for the New York City Office of the Chief Medical Examiner. Conducted materials screening for human remains and artifacts relating to the 2001 attacks on the World Trade Center.

**SCCC, Phase IB Cultural Resource Investigation, Kearny, New Jersey**

Principal Investigator for historic investigations for NJDEP and USEPA Superfund site. Conducted additional research to prove the Jersey City Water Works was located outside of the project area and conducted backhoe trenching for historic drainage features related to the Hackensack Meadowlands, writing and preparation of report, edited and produced report for submission.

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

**Lanning Square Elementary School, Level III HABS, Camden, New Jersey**

Complier/Photographer for EO215 compliance for NJ Schools Development Authority. Conducted level III Historic American Building Survey (HABS) including photographic documentation of the Broadway Episcopal Methodist Church Parsonage to mitigate the proposed demolition of this building. The HABS was requested by the NJ HPO to satisfy the EO215 review.

**Access to Regional Core (ARC), 3-D Laser Scanning, New York, New York**

Field crew for documentation of historic and non-historic buildings for Section 106. Conducted 3-D laser scanning of all buildings in the project area. Collected field data of varying resolutions for buildings in project area, historic buildings were recorded at higher resolution.

**Jersey City Walkway and DMAVA Park, Phase IA, Jersey City, New Jersey**

Principal Investigator for prehistoric/historic site investigation for NJDEP and Section 106. Conducted research, assessed prehistoric/historic archaeological potential, monitored geotechnical sub surface investigation for archaeological remains, writing and preparation of report, edited and produced report for submission.

**Route 33 Interchange Improvements, Phase I, Palmer Township, Pennsylvania**

Principal Investigator for prehistoric/historic site investigation for Pennsylvania Department of Transportation and Section 106 reviewed project. Conducted research, site excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, and editing report for submission.

**USDA, Health-Based Plant Genomics Facility, Phase IB, Cornell University, Ithaca, New York**

Co-Principal Investigator for prehistoric/historic site investigation as part of a Section 106 Assessment for the addition to the Plant Genomics Laboratory Building site. Conducted research, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

**SCCC, Phase IA Cultural Resource Investigation, Kearny, New Jersey**

Principal Investigator for prehistoric/historic site investigation for NJDEP and USEPA Superfund site. Conducted research, assessed prehistoric/historic archaeological potential, writing and preparation of report, edited and produced report for submission.

**GAC Adsorption Plant, Phase I, Pennsauken, New Jersey**

Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

**Penn Regional Business Center III, Phase I, Smithfield, Pennsylvania**

Principal Investigator for prehistoric/historic site investigation for Pennsylvania Funding Grant Application. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

**Montauk Theater, Level III HABS and Architectural Salvage Plan, Passaic, New Jersey**

Principal Investigator for EO215 compliance for NJ Schools Development Authority. Conducted level III Historic American Building Survey (HABS) including photographic documentation and an architectural Salvage Plan of the Montauk Theater to mitigate the proposed demolition of this building. The HABS and Salvage Plan were requested by the NJ HPO to satisfy the EO215 review.

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

**Former Koppers Superfund Site, Additional Phase IB, Newport, Delaware**

Crew chief and OSHA Site Safety Officer for prehistoric/historic site investigation for EPA compliance for superfund site during three month phase IB auger testing conducted by 13 archaeologists. Teamed with John Milner and Associates. Work included over 1,700 phase IB augers in a tidal marsh. Additional work included field tech training, and safety oversight.

**Dredge Stockpile Site, Phase I, Harmony, New Jersey**

Field director, research coordinator, lab director and photographer for prehistoric/historic site investigation for Section 106 review of stockpile site for dredge materials from FEMA. Field duties include preparation of site, excavation of 32 shovel test pits and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

**Lowes, Phase I, Mansfield, Pennsylvania**

Field director, research coordinator, lab director and photographer for prehistoric site investigation for review for big box retail store. Field duties include site preparation, excavation 60 shovel test pits of site and survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

**Former Jacobs Aircraft Engine Factory, HABS, Lower Pottsgrove, Pennsylvania**

Principal Investigator/photographer for NPDES permit compliance. Conducted low level Historic American Building Survey (HABS) including photographic documenting of the former Jacobs Aircraft Engine Factory and Administrative Building to mitigate the proposed demolition of these buildings. The photographic documentation was requested by PHMC to satisfy the NPDES permit review.

**Queensboro Plaza, Phase I, Long Island City, New York**

Field director, research coordinator, lab director and photographer for historic site investigation for cultural resources section 106 for a NEPA assessment and LPC review for bike path in the Queensboro Plaza. Includes an archaeological assessment, field testing and architectural evaluation of the current property. Field work included site preparation, the excavation of a two meter by two meter test pit and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

**Lowes, Phase IB, Montgomery, New York**

Field director, research coordinator, lab director and photographer for prehistoric/historic site investigation for SEQRA review for retail store. Field work included the preparation of site, excavation of 60 shovel test pits and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report, prepared, edited and produced report for submission.

**Green Brook Trail, Application for Project Authorization/Preliminary Assessment, Plainfield, Green Brook, and North Plainfield, New Jersey**

Principal Investigator for New Jersey Historic Preservation Act and Freshwater Wetland Permit compliance. Completed and submitted an Application for Project Authorization for Green Brook Park and Washington Park Historic District for a multi-use recreational trail. Additionally, completed a preliminary archaeological assessment for the proposed seven-mile trail, including research, analysis, and report writing.

**Public School #3, Archaeological Monitoring, West New York, New Jersey**

Archaeological Monitor/researcher for NJ Executive Order 215 Compliance for 1 day of archaeological monitoring for human remains and research on school site that found headstone during excavation. Post

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

field activities included report writing for submission to state.

**Former Koppers Superfund Site, Phase IB and II, Newport, Delaware**

Crew chief and OSHA Site Safety Officer for EPA compliance for superfund site during six month phase IB and II field excavations conducted by 20 archaeologists, teamed with John Milner and Associates. Work included setting of testing grid and field testing of over 3000 phase IB auguring and STP units and over 180 phase II units. Additional work included lab work, field tech training, and safety oversight.

**Bronx River Park, Phase IA, Bronx, New York**

Research coordinator, researcher and report production for New York City Landmarks Preservation Commission Compliance. Assessed park land for prehistoric and historic archaeological potential.

**USDA, Health-Based Plant Genomics Facility, Cornell University, Ithaca, NY.**

Research coordinator, researcher and report production for archaeological resources Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site.

**Weeksville Village, Phase IB testing, Brooklyn, New York**

Archaeological Monitor for SEQRA review for village cultural center. Performed 1 day of field duties, with Joan Geismar. Work included monitoring of back hoe trenching for foundations and artifact deposits associated with the Huntetfly Houses.

**Edgewater Colony, Phase II, Edgewater, New Jersey**

Field director and lab director for or EIT storm water improvements loan consisting of the preparation of a Phase II prehistoric/historic site investigation. Included the direction of two field technicians excavating a total of 8 standard test units, photographer and the coordination of lab work. Other post-field responsibilities include writing sections, preparation and production of the final report for submittal to New Jersey DEP Municipal Finance and Technical Services.

**Portion of the Northeast Business Park, Phase IA, Washington Township, New Jersey**

Research coordinator, researcher, and report production for New Jersey Wetlands Permit. Assessed site for prehistoric and historic archaeological sensitivity.

**Creighton Farm Bridge Crossing, Phase I, Willistown, Pennsylvania**

Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

**Camp Laughing Water, Phase I, New Hanover and Upper Fredrick, Pennsylvania**

Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

**Camp Hidden Falls, Phase I, Delaware and Lehman Townships, Pennsylvania**

Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

**Select Sires, Phase I, Eaton, Pennsylvania**

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

Field director, research coordinator, lab director, photographer and report preparation for Pennsylvania section 105 Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

**Tournament World, Phase IB, Montgomery, New York**

Field director, research coordinator, lab director, and photographer for SEQRA review. Field assessment for prehistoric and historic archaeological sites. Post-field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

**Former Old First Presbyterian Church Cemetery, Phase III Data Recovery, Newark, New Jersey**

Project Manager/Field Director

Responsibilities included:

- Over sight of all field activities for 2.2 acre cemetery excavation
- Preparation and implementation of a comprehensive field plan for the locating human remains and associated artifacts
- Hiring and managing a field staff of 35
- Directing and coordinating sub contractor with field staff of 30
- Directing and coordinating 4 backhoes on site to move overburden and back fill site
- Over sight of cataloging all burials and artifacts
- Laboratory analysis of artifacts
- Writing, coordinating and editing of final report

**Circulations Improvement Project, Phase IA and IB, Newark, New Jersey**

Field director, research coordinator, photographer and lab director for NJ Executive Order 215 Compliance. Phase I background investigation and Phase IB field testing. Work included coordinating conducting research, conducting photographic pedestrian survey site, and conducting field testing. Post field work included laboratory analysis of artifacts and preparation of the final reports. Report preparation included writing sections of the report, preparation and production of final report for submittal.

**Edgewater Colony, Phase IB, Edgewater, New Jersey**

Field director, research coordinator, and photographer for Environmental Infrastructure Trust Financing Program (EIT). Preparation of a Phase IB prehistoric/historic site investigation. Included the direction of three field technicians digging a total of 139 standard test pits, project coordination with the principal investigator, photographer and the coordination of lab work. Other post-field responsibilities include assisting with the writing, preparation and production of the final report.

**Former Central Railroad Terminal, Archaeological Monitoring, Newark, New Jersey**

Crew Chief/Project Coordinator Application for project authorization compliance of 6 week archaeological monitoring during demolition of former railroad terminal for SHPO resolution on application for project authorization. Monitor for human remains associated with the Old First Presbyterian Church cemetery, identifying, excavating, cataloging and turn over to mortician for reburial. Post field work included lab analysis of artifacts.

**Regional Biocontainment Laboratory – Newark Center, University of Medicine and Dentistry of New Jersey, Newark, New Jersey** – Researcher and report writer for cultural resources section of Environmental Assessment in accordance with the requirements of NEPA for the construction of a new Regional Biocontainment Laboratory under a grant from the National Institutes of Health.

**USDA, Health-Based Plant Genomics Facility, Phase IA, Cornell University, Ithaca, New York**

## MICHAEL AUDIN, RPA

### Archaeologist / Cultural Resource Specialist

---

Researcher and site inspector for cultural resources section of a Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site. Includes an archaeological assessment and architectural evaluation of the current facility and property.

#### **Newark Downtown Core Redevelopment and Circulations Improvement Plan, Newark, New Jersey**

Responsibilities included:

- Preparing a multi-phased strategy for investigating, testing and mitigating the project area
- Conducting preliminary research regarding various aspects of the project area, including possible intact remains within the former First Presbyterian Church cemetery
- Supervising research
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Contributing to the Application for Project Authorization regarding the proposed demolition of five historic structures located within the Four Corners Historic District

#### **NJSCC School Development Program, New Jersey**

Crew Chief, researcher, photographer and report writing and production for NJ Executive Order 215 Compliance and NJSCC Guidelines. Participated in the development and redevelopment of 20 new and existing school sites located throughout New Jersey. Responsibilities included:

- Conducting and overseeing background research at the New Jersey Historic Preservation Office, the New Jersey State Museum and local archives
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Preparation and assistance in writing of the Cultural and Historical Resource Assessment section of Environmental Assessment and Environmental Impact Statement Reports and Phase IA background investigations
- Overseeing report production and preparing maps and figures
- Producing for internal departments/clients memos, letters and other documentation outlining potential issues and possible recommendations.

#### **Pen Del Development, Phase IB and II, Pemberton, New Jersey**

Field/Laboratory Technician of a Phase I & II prehistoric site investigation/excavation. Field responsibilities also included photographer and mapping excavation locations using GPS equipment. Laboratory Technician responsibilities included; cleaning, cataloging and photographing all artifacts. Other post-field responsibilities included assisting with the preparation and production of the final cultural resource report for submittal to New Jersey HPO.

#### **Field School, Lenape Meadows, Phase II, Basking Ridge, New Jersey**

Field and Laboratory Technician for phase II prehistoric excavation. Field work included daily preparation of site, field excavations, documentation of artifact finds, field crew management and the closing up the site for the winter. Laboratory work included cleaning, identifying, cataloging and photographic documentation of all artifacts.

#### **Lithics Identification Project, William Paterson University, New Jersey**

Volunteer. Conducted laboratory analysis, identification and cataloging, of over 5,000 stone fragments from the Wallkill River basin in Northern New Jersey, submitted to Dr. Janet Pollak. Research included identifying



**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

and cataloging human produced stone flakes and tools vs. naturally altered stone.

**SELECTED PUBLICATIONS**

*Phase IA Cultural Resource Survey, Standard Chlorine Chemical Company Site, Interim Response Action Workplan, Town of Kearny, Hudson County, New Jersey.* Michael Audin, RPA, Principal Investigator, 2009. MS on file at NJSHPO, Trenton, NJ.

*Phase I Cultural Resource Investigation GAC Adsorption Plant, Pennsauken, Camden County, New Jersey.* Michael Audin, RPA, Principal Investigator, 2009. MS on file at NJSHPO, Trenton, NJ.

*Historic American Building Survey for the Montauk Theater, Passaic, Passaic County, New Jersey.* Michael Audin, RPA, Principal Investigator, 2009. Submitted to the NJ HPO, Trenton, NJ.

*Phase I Archaeological Investigation Montgomery Towne Square, Montgomery, Orange County, New York.* Ludomir Lozny Principal Investigator, Michael Audin, and Sarah Hlubik, 2007. MS on file at OPRHP, Pebbles Island, NY.

*Phase II Archaeological Investigation of the Edgewater Colony, Edgewater, Bergen County, New Jersey.* Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file at NJSHPO, Trenton, NJ.

*Phase IA Archaeological Investigation Bronx River Park, Bronx, Bronx County, New York.* Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file NYC LPC, New York, NY.

*Phase I Archaeological Survey Camp Hidden Falls, Lehman Township, Pike County, Pennsylvania.* Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

*Phase I Archaeological Investigation Eaton, Wyoming County, Pennsylvania.* Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

*Phase III Cemetery Excavation, Old First Presbyterian Church, Newark Downtown Core Redevelopment, Newark, Essex County, New Jersey.* Michael Audin, Erol Kavountzis, and Sarah Hlubik, 2005. Manuscript on file at NJSHPO, Trenton NJ.

**AWARDS**

NJ Historic Preservation Award, Innovative Techniques in Archaeology, May 2013

**PRESENTATIONS**

2011 "New Jersey's Iron Coffins" presented at the Archaeological Society of New Jersey Meeting.

2009 "The Montauk Theater: Last of the Seven Passaic Theaters" presented to a William Paterson University, Class on Material Culture.

2007 "Excavations at the Old First Presbyterian Cemetery in Newark, NJ" presented to William Paterson University's Anthropology Club.

**SUMMARY OF PROFESSIONAL ACTIVITIES**

Mr. Audin has conducted field work in New Jersey, New York, Pennsylvania, Connecticut, Delaware and West Virginia. He is the author or co-author of over one hundred ten (110) cultural resource reports in New Jersey,

**MICHAEL AUDIN, RPA**  
**Archaeologist / Cultural Resource Specialist**

---

New York, Pennsylvania and West Virginia. Also contributed to over 4 Environmental Impact Statements and 30 Environmental Assessments.

**PROFESSIONAL DEVELOPMENT**

Historic Preservation Research Course, Drew University, February 2005

OSHA 40 Hour Certified HAZWOPER Training (December, 2005) and refreshers

OSHA Site Supervisor Certified (June, 2007) and refreshers

OSHA 10-Hour Construction Certified for New York City, 2012

NJSHPO Cultural Resources Best Practices Workshop, October 2006

Preservation Planning in the Highlands, Drew University, March 2007

Section 106 Essentials Class with ACHP, July 2007

Pennsylvania Department of Transportation, Cultural Resource Handbook Class, April 2010

Federal Communications Training, Washington D.C. June 2011

Cultural Resource Essentials Series, Pennsylvania Historical & Museum Commission, July 2013

**PROFESSIONAL AFFILIATIONS**

Archaeological Society of New Jersey

Council for Northeast Historical Archaeology

Eastern States Archaeological Federation

Lambda Alpha National Collegiate Honors Society for Anthropology

Middle Atlantic Archaeological Conference

National Trust for Historic Preservation

New York State Archaeological Association (Lifetime Member)

Register of Professional Archaeologists

Society of American Archaeology

Society for Historical Archaeology

Society for Industrial Archaeology

The Society for Pennsylvania Archaeology

## SUMMARY QUALIFICATIONS

Mrs. Audin meets the Secretary of the Interiors Professional Standards for Historic Preservation. Mrs. Audin has a Master of Arts degree in Historic Preservation from Goucher College, a Bachelor of Arts degree in Communications and a Post-Baccalaureate certificate in Elementary Education from William Paterson University. Mrs. Audin is Microsoft Certified in Word, Excel, Outlook and PowerPoint 2007. Additionally, Mrs. Audin applies her talents at Orange County Community College in Middletown, NY, teaching classes through the Microsoft Office Adult Education department.

Mrs. Audin has 22 years of customer service, administration and logistic experience and has held positions in technology and education. Mrs. Audin's professional experience includes cultural resource management, education and project management. Skills include extensive problem solving, management, analytical, evaluating, and creative resolutions. Work experience includes coordination and implementation of cultural resource assessments includes Historic American Building Survey (HABS) photography, research, and documentation. Management experience includes extensive customer relations and employee training.

## EDUCATION

Goucher College: M.A. Historic Preservation, 2014

William Paterson University: Post Baccalaureate Certificate Elementary Education, 1995

William Paterson University: B.A. Communication, 1992

Archaeological Field School: Lenape Meadows, Somerset

## EXPERIENCE

2015-Present Orange County Community College – Adult Education, Middletown, NY

**Instructor**

- Conduct classroom instruction in Microsoft Office Word and Excel

2013-Present ARCHAEOLOGY & HISTORIC RESEARCH SERVICES, LLC, Rock Tavern, NY

**President**

- Conduct primary affairs of business, including bookkeeping, invoicing, marketing, and new client acquisition.
- Manage human resources aspects of the business, including interviewing, hiring, and payroll.
- Coordinate with banks, vendors, insurance companies, and contractors.
- Oversee and perform historical preservation services, including site assessment, mitigation planning, agency coordination, and public outreach.
- Manage projects, conduct research, and organize project documentation.
- Compose and submit project reports.

**MARIA AUDIN, M.A.**  
**Historic Preservation / Cultural Resource Specialist**

---

**PROFESSIONAL DEVELOPMENT**

OSHA 10-Hour Construction Certified for New York City, 2015  
Cultural Resource Essentials Series, Pennsylvania Historical & Museum Commission, July 2015

**PROFESSIONAL AFFILIATIONS**

American Cultural Resource Association  
Association for Preservation Technology International  
National Trust for Preservation  
Newburgh & the Highlands Historical Society

**SELECTED PUBLICATIONS**

"Exploring the Viability of Franchising in the CRM Services Industry" *ACRA Edition*, Volume 20-3 (Summer 2014): 11-15

**RELEVANT EXPERIENCE**

**Honeywell, Intensive Level Architectural Survey, Morris Township, NJ**

Conducted intensive level architectural survey for the former Honeywell complex. Fill NJ SHPO architectural survey forms for 10 buildings and evaluated additional 4 buildings that did not meet base criteria for evaluation. Conducted research, writing and preparation of architectural survey report.

**Educational Campus, Preliminary Cultural Resource Assessment, Jefferson Township, NJ**

Conducted preliminary architectural investigation of former educational campus used for the teaching of former priests. Conducted research, writing, and preparation of preliminary report.

**Hamilton Suncap, Phase IA Archaeological Survey and Reconnaissance Level Architectural Report, Hamilton, NJ**

Conducted architectural investigation of warehouse located on property for development. Conducted research, writing, and architectural report.

**SkyMark, Remediation and Development Project, Ridgefield Park, NJ**

Project coordinator for a waterfront development and fresh water wetlands permit. Conducted research, writing and preparation of report.

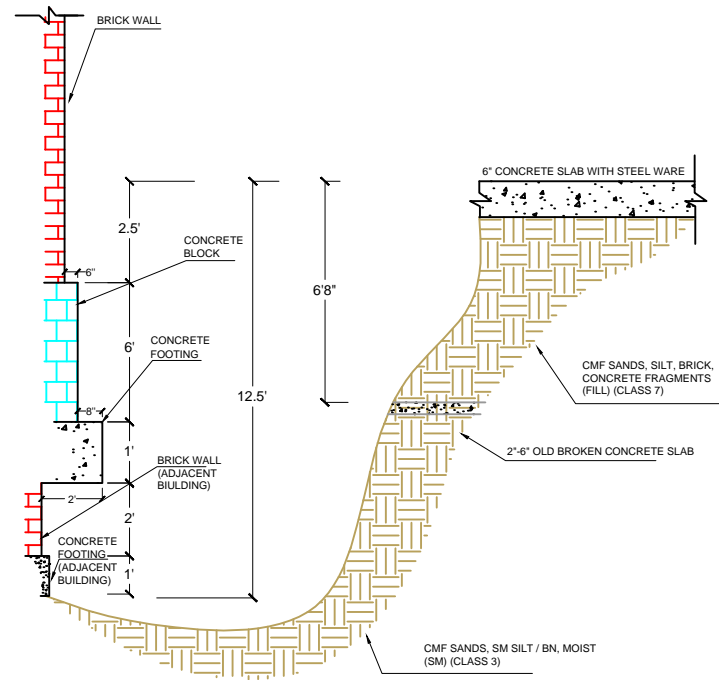
**FedEx Montgomery, Phase I Archaeological Survey, Montgomery, NY**

Project coordination for SEQR review. Conducted research, site visit, writing and preparation of report and edited report.

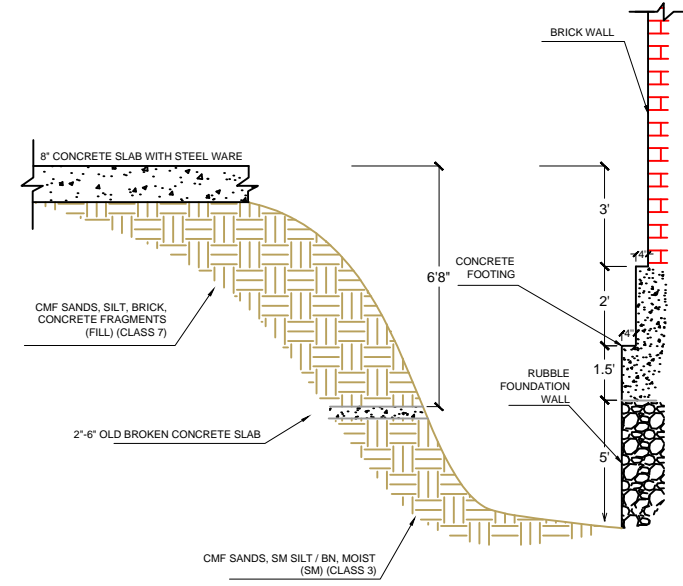
**Pavilion at Locust Manor, Phase I Archaeological Survey, Jamaica, Queens, NY**

Project coordinator for prehistoric/historic site investigation for city housing development. Conducted research, writing and preparation of report, edited report for submission.

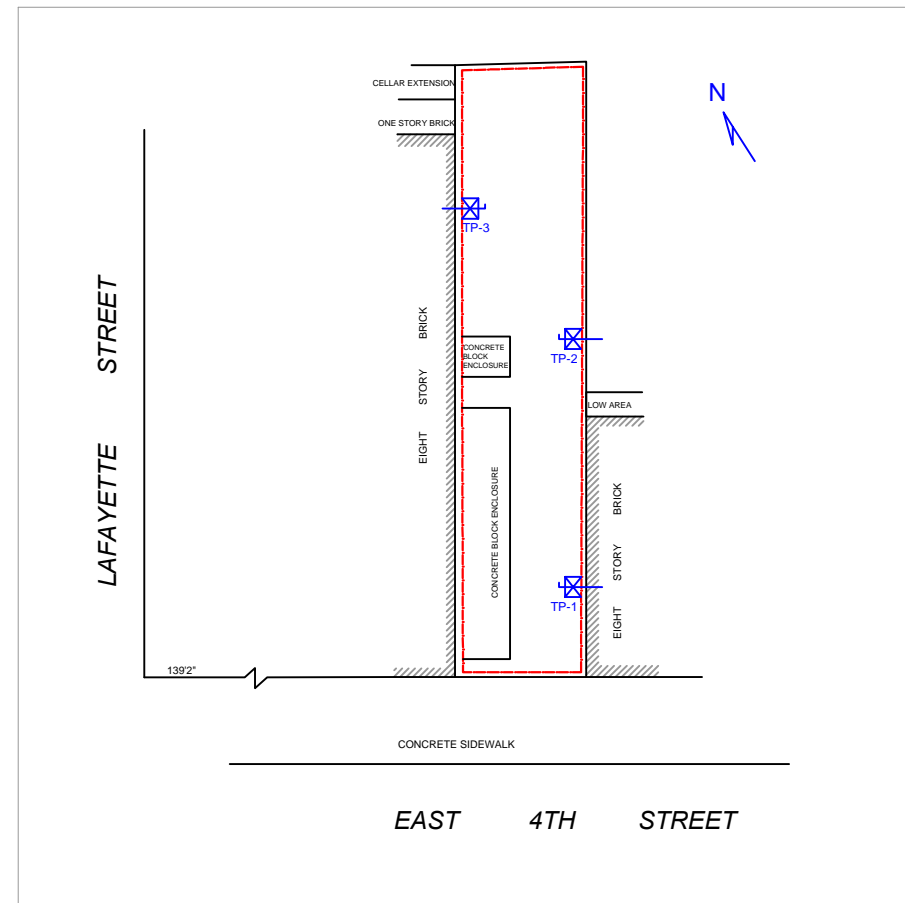
**APPENDIX B**  
**Test Pit Profiles**



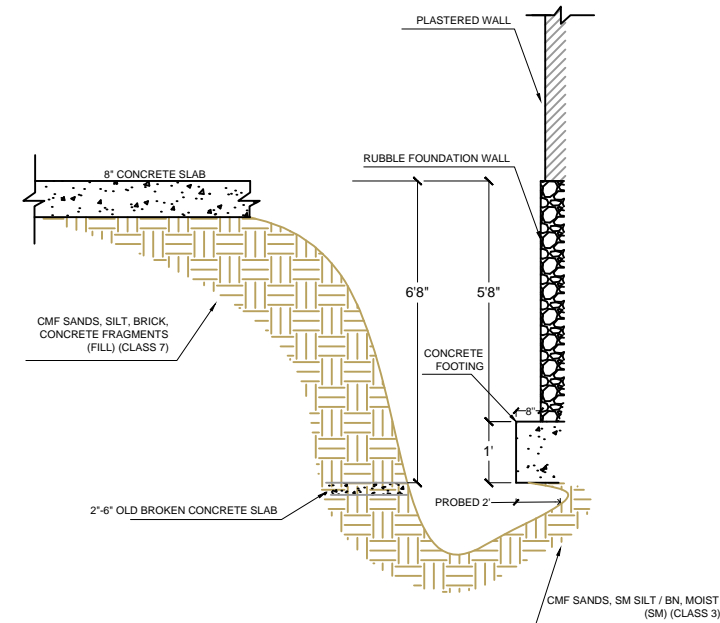
TP-3 (CROSS SECTION)



TP-2 (CROSS SECTION)



TEST PIT LOCATION PLAN ⊠ : TEST PIT



TP-1 (CROSS SECTION)

PROJECT:

27 E 4TH ST, NEW YORK, NY

CLIENT:

ARISTON DEVELOPMENT

Geo Tech Consultants, LLC  
 52 East 2nd Street, Mineola, NY 11501  
 Tel: 916-355-0766  
 Fax: 916-355-0217



DRAWING TITLE:

TEST PIT PROFILES

SEAL AND SIGNATURE :

REVISIONS:

DRAWN BY: W. Zeng

DATE: 06-12-2012

SCALE: N.T.S.

PROJECT NO.: ARTD212

DRAWING NO.:

G-001