
**Phase IB Archaeological Survey
4790 Broadway
Block 2233, Portion of Lot 20
Inwood, New York, New York**

Prepared For:

**Langan Engineering, Environmental, Surveying
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
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Submitted To:

**New York City Landmarks Preservation Commission
Municipal Building
1 Center Street, 9th Floor, North
New York City, NY 10007**

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ABSTRACT

Archaeology and Historic Resource Services, LLC (AHRS) was retained by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) to conduct a Phase IB Archaeological Survey to assist with the project New York City Environmental Quality Review Act (CEQR) compliance. The Project Site will be developed as part of the Inwood Affordable Housing and Library Development Project. The project site located at 4790 Broadway, Inwood, New York, NY. The New York City Landmarks Preservation Commission (LPC) in a letter dated February 16, 2018 determined that Lot 20 on Block 2233 possesses the potential for the recovery of remains of Native American and possibly Colonial and historic period occupations, and recommended the preparation of an archaeological documentary study for the property (Bergoffen 2018).

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 amended Procedures for the Protection of Historic and Cultural Properties, as set forth in 36 CFR 800; and New York State Historic Preservation Act of 1980, Section 14.09 and New York State Historic Preservation Office (SHPO) guidelines, SHPO Phase I Archaeological Report Format Requirements (2005) and requirements, 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 encompasses approximately half of Block 2233 and is approximately 106,378 sq. ft. and is an L-shaped property that extends over the majority of Vermilyea Avenue Frontage of Block 2233 (Bergoffen 2018). The Project Site for this Phase IB Archaeological Survey is the fenced in asphalt paved parking lot located at 4790 Broadway between Dyckman Street and Academy Street and encompasses a portion of lot 20.

The proposed project consists of the construction a new 14-story building with 175 affordable housing units. It will also include a 3-story extension of the existing library at the base of the residential building. This area is currently a paved parking lot.

Originally the area was investigated for the Inwood Rezoning Draft Environmental Impact Statement (DEIS). The DEIS did not originally considered Block 2233 Lot 20 to be archaeologically sensitive. However, subsequent to the issuance of the Inwood Rezoning Draft Environmental Impact Statement (DEIS) the LPC determined, in a letter dated February 16, 2018, that Lot 20 on Block 2233 possessed the potential for the recovery of remains of Native American and possibly Colonial and historic period occupations, and recommended the preparation of an archaeological documentary study for the property (Bergoffen 2018). The Archaeological Assessment Addendum for Block 2233, Lot 20 determined the site sensitive for prehistoric, possibly Colonial, and historic period archaeological remains and recommended archaeological testing be performed (Bergoffen 2018).

AHRS excavated a total 26 shovel tests for the Phase IB testing to determine if buried prehistoric possibly Colonial, and historic period archaeological remains or artifact concentrations existed within the archaeological-APE. The field testing included a combination of machine excavation to

remove the asphalt and fills soils and hand shovel testing in natural soils. AHRS monitored the machine excavation of the fill soils to ensure no artifact concentrations were present.

All shovel tests were negative for prehistoric resources. Three shovel tests contained historic artifacts in the upper most natural stratum and could have originated from the fill layers. Artifacts consisted of clear bottle fragments, clear vessel glass fragments (one of them 1 green), window glass fragment, whiteware and redware fragments. A total of nine were retained for analysis, however, little information was gained from these artifacts. All the artifacts are datable to the mid- to late-twentieth-century. None of these artifacts are significant in date, type or quantity and can be associated with activities anticipated for any similar property in the area. The machine excavation monitoring resulted in two stamped brick fragments and a corroded wrench. No evidence of buried artifact deposits, features, or structures were observed during the machine or shovel excavation.

Based on the absence of prehistoric, colonial and historic artifact concentrations or features encountered during the Phase 1B subsurface testing, AHRS concludes that there are no archaeological features or deposits in the archaeological-APE. Therefore, AHRS recommends no further archaeological testing within the archaeological-APE.

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1.0 INTRODUCTION

Archaeology and Historic Resource Services, LLC (AHRS) was retained by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) to conduct a Phase IB Archaeological Survey to assist with the project New York City Environmental Quality Review Act (CEQR) compliance. The Project Site will be developed as part of the *Inwood Affordable Housing and Library Development Project*. The project site located at 4790 Broadway, Inwood, New York, NY. The New York City Landmarks Preservation Commission (LPC) in a letter dated February 16, 2018 determined that Lot 20 on Block 2233 possesses the potential for the recovery of remains of Native American and possibly Colonial and historic period occupations, and recommended the preparation of an archaeological documentary study for the property (Bergoffen 2018). A site location map and aerial photograph are included as Figures 1 and 2 respectively.

The AHRS cultural resource specialist that perform the archaeological survey and prepared the report meet 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*, the *New York Archaeological Council's Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* (1994), the *LPC's Guidelines for Archaeological Work in New York City* and the *CEQR Technical Manual*. All work will be conducted by AHRS personnel who meet or exceed the National Park Service's Professional Qualifications Standards criteria outlined in 36 CFR 66.3(b) (2) and 36 CFR 61.

1.1 Site and Project Description

The Project site encompasses approximately half of Block 2233 and is approximately 106,378 sq. ft. and is an L-shaped property that extends over the majority of Vermilyea Avenue Frontage of Block 2233 (Bergoffen 2018). The Project Site for this Phase IB Archaeological Survey is the fenced in asphalt paved parking lot located at 4790 Broadway between Dyckman Street and Academy Street and encompasses a portion of lot 20.

The proposed project consists of the construction a new 14-story building with 175 affordable housing units. It will also include a 3-story extension of the existing library at the base of the residential building. This area is currently a paved parking lot.

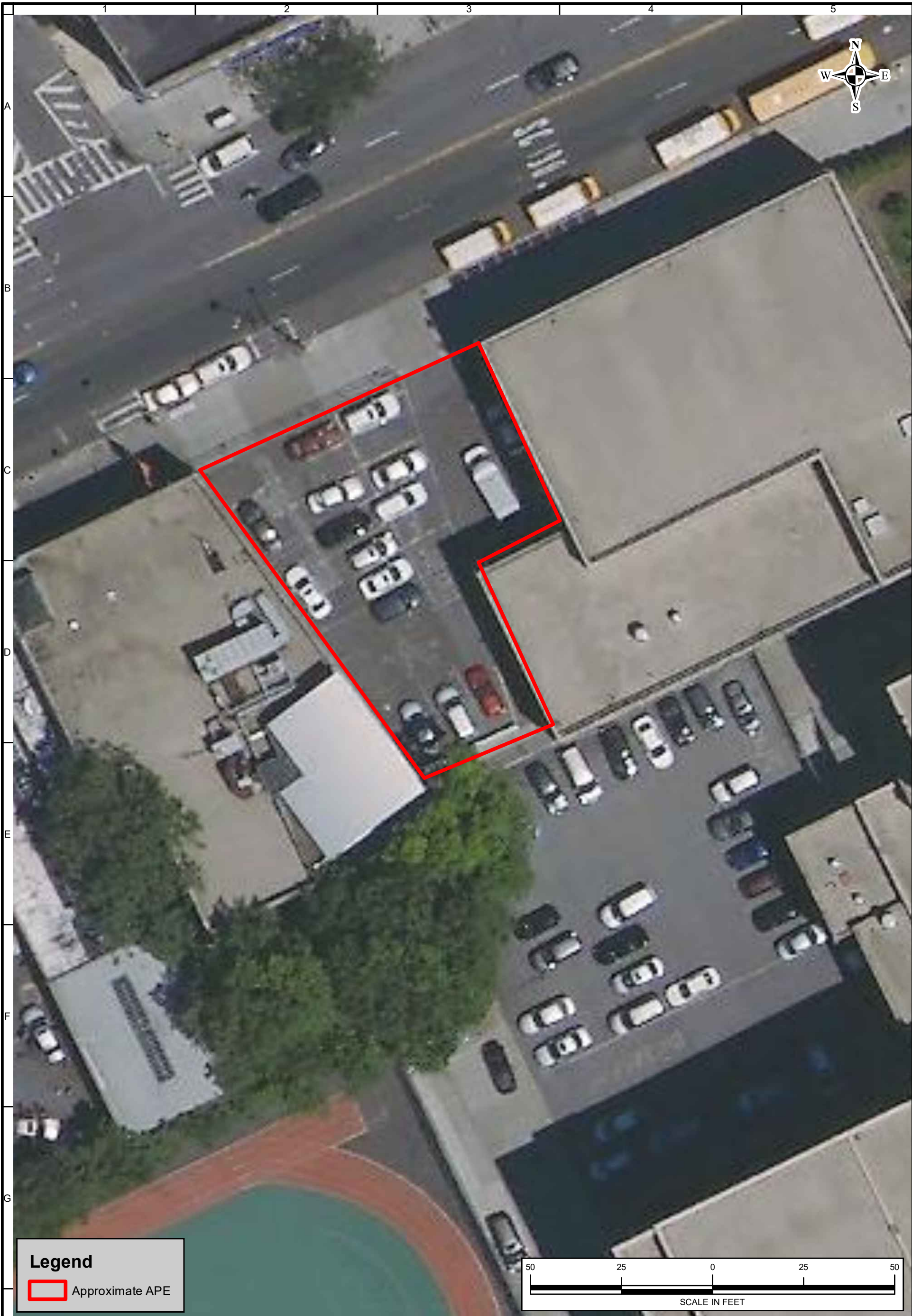
1.2 Area of Potential Effect

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 APE includes locations that may be potentially impacted by the construction or that may experience effects once construction is completed. Included in the 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 including any associated disturbances (Figure 2). The archaeological-APE measures approximately 7,000-square-feet (0.16- acres) and consists of the fenced in parking area on lot 20 fronting on Broadway, next to the New York Public Library.



Map Reference: Aerial Imagery Provided by NYSDOP (2016)

<div><p>ARCHAEOLOGY & HISTORIC RESOURCE SERVICES</p></div> <div>605 Twin Arch Road Rock Tavern, New York 12575 T: 845-725-7694 www.ahrservices.com</div>	Project		Drawing Title		Project No.		Figure	
	PROJECT 4790 BROADWAY		AERIAL PHOTOGRAPH		Date 10/1/2018			
	NEW YORK CITY				Scale See Above			
					Drawn By MDA			
	NEW YORK COUNTY		NEW YORK				2	

Path: \\AHRs-SERVER\AHRs-Data\NEW YORK\Projects\AHRs\Inwood\GIS\MXD Documents\Figure 2 - Aerial Photograph.mxd

2.0 BACKGROUND RESEARCH

This chapter briefly describes the previous investigations completed for the proposed project site. The archaeological-APE is a fenced in paved parking lot oriented east – west. The archaeological-APE is approximately 7,000-square-feet (0.16- acres) in size.

2.1 Previous Studies

Originally the area was investigated for the Inwood Rezoning Draft Environmental Impact Statement (DEIS). In the DEIS the current archaeological-APE was not originally considered to be archaeologically sensitive by the New York City Landmarks Preservations Commission (LPC) in the LPC's initial review of Project Development Sites and Potential Development Sites as communicated in a letter dated June 8, 2017 (Bergoffen 2018). However, subsequent to the issuance of the Inwood Rezoning Draft Environmental Impact Statement (DEIS) the LPC determined, in a letter dated February 16, 2018, that Lot 20 on Block 2233 possessed the potential for the recovery of remains of Native American and possibly Colonial and historic period occupations, and recommended the preparation of an archaeological documentary study for the property (Bergoffen 2018).

In May 2018, Celia J. Bergoffen conducted an Archaeological Assessment that includes the current archeological-APE titled *Addendum A, Archaeological Assessment of Manhattan Block 2233 Lot 20* (Appendix E). According to the Addendum, “The presence of known prehistoric sites and surface finds in the immediate vicinity of the Project Site; the former existence of a fresh water source on the Project Site; its proximity to rich sources of subsistence, and its location beside prehistoric pathways, make the Project Site highly sensitive for prehistoric remains” (Bergoffen 2018).

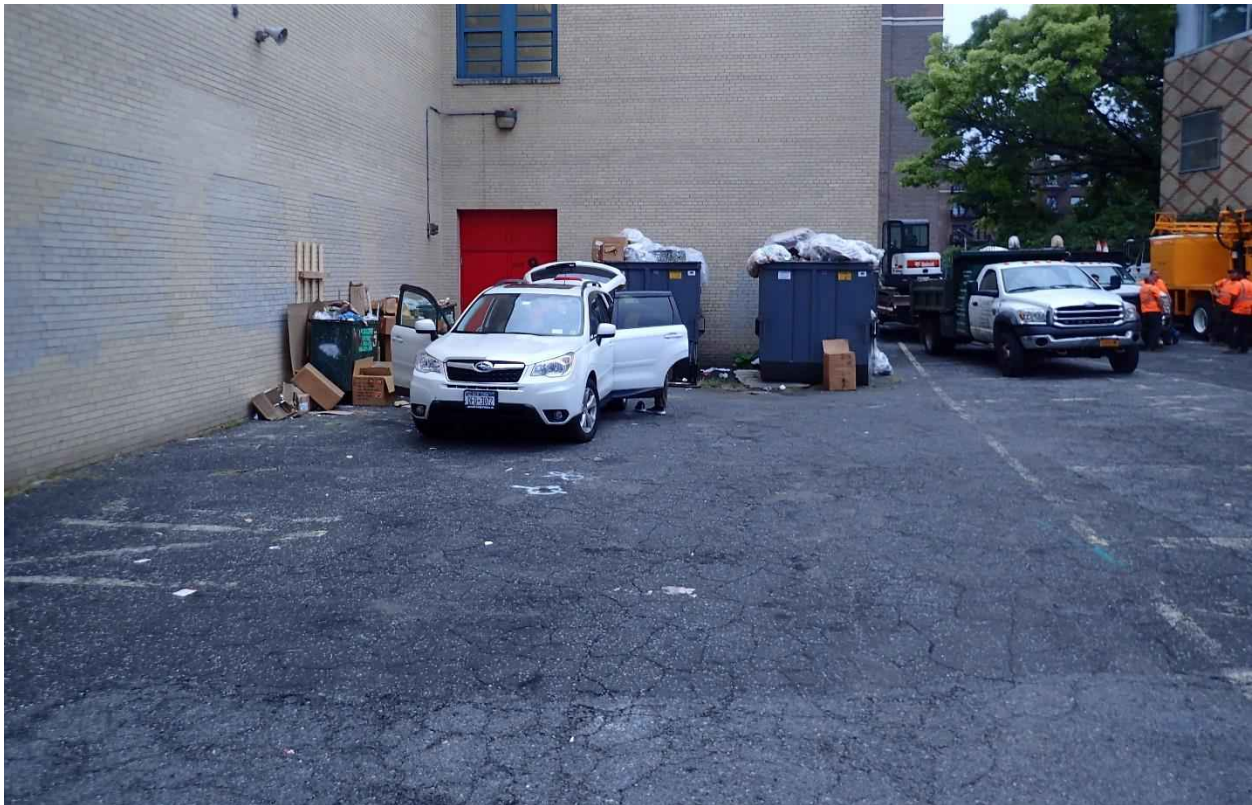
In addition, the report stated that “The Project Site's location next to Broadway, the main transport artery through the area, and its position midway between the Dyckman House and Fort Tryon, in the general area where the Battle of Fort Washington was fought, makes it highly likely that trace finds from the Revolutionary War era such as buttons, musket balls and the like may be found on the site” (Bergoffen 2018).

Combined with the fact that “Inwood was still relatively undeveloped in the early 20th-century, it is possible that the two five-story buildings fronting on Vermilyea Avenue, were equipped with cisterns and privies in their yards. Since this part of the Project Site, now part of a parking lot, has not be impacted by subsequent construction, it is sensitive for archaeological remains of such backyard features” (Bergoffen 2018).

Based on the above information the Addendum “concludes that the Project Site on Block 2233, Lot 20 is sensitive for prehistoric, possibly Colonial, and historic period archaeological remains and recommends that archaeological testing be performed prior to any work on the site involving in ground disturbance” (Bergoffen 2018).

3.0 PHASE 1B ARCHAEOLOGICAL SURVEY

This chapter discusses the methodology and results of the Phase IB survey of the archaeological-APE. The original Inwood Rezoning Phaser IA Archaeological Assessment the western part of Inwood is composed of a Precambrian era gneiss and schist ridge interlayered with marble (Bergoffen 2018). This forms sharp outcroppings like those exposed at the edges of Fort Tryon Park (Bergoffen 2018). Based on the Addendum the archaeological-APE was determined sensitive for prehistoric, possibly colonial and historic archaeological materials. Prior to field work the archaeological-APE was photographed (Photographs 1 and 2).



Photograph 1 – View of the eastern portion of the archaeological-APE prior to the Phase IB survey, looking southeast from entrance gate.



Photograph 2 – View of the eastern portion of the archaeological-APE prior to the Phase IB survey, looking southwest from entrance gate.

3.1 Phase IB Methodology

The Phase IB-level archaeological testing is proposed on a roughly 15-foot grid within the archaeological-APE and until culturally sterile soils are reached. The field testing was conducted on September 8th and 9th, 2018. Testing was conducted by AHRS Principal Investigator Michael Audin with the assistance of field technicians William Sandy and Roseanne Quinn. Prior to any excavation AHRS archaeologists laid out the STP locations (Figure 3), based on the approved archaeological testing plan (Audin 2018) and then marking them with white spray paint on the pavement (Photograph 3). Phase 1B subsurface testing occurred in two stages: 1) pavement saw cutting and machine, and 2) the hand excavation of shovel test pits (STP) in the natural soils.



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Project

**PROJECT 4790
BROADWAY**

NEW YORK CITY

NEW YORK COUNTY NEW YORK

Drawing Title

**STP TESTING
LOCATION
MAP**

Project No.	3
Date	
Scale	
Drawn By	

10/1/2018
See Above
MDA



Photograph 3 – View of STP layout with white marking paint prior to saw cutting and excavation.

Machine Excavation

Langan hired a small Kubota style track hoe and operator to assist with the mechanical stripping of pavement and fill soils to the depth of the natural soils. Because geotechnical borings were being advanced at the same time as the archaeological investigation the original plan to excavate six trenches from east to west across the archaeological-APE needed to be amended for safety reasons. Instead smaller approximately three-foot by five-foot excavations were conducted in the area of each STP location. Some of these trench alignments were oriented east-west and others north-south based on available space to allow the small machine to excavate (Photograph 4)

Prior to the removal of the pavement the three-foot by five-foot area for each STP were saw cut to expedite the pavement removal and limit the amount of disturbance (Photograph 5). Once the pavement was saw cut the machine removed the pavement and then excavated the fill soils in six-inch lifts until natural soils were observed. Machine excavation stopped at the interface between the fill level and the underlying natural soil. All machine excavation was observed by the archaeological Principal Investigator in the field.



Photograph 4 – View of STP locations that were saw cut before excavation, looking east.



Photograph 5 – View of the cut asphalt removal, looking west.

Shovel Testing

STPs were excavated to determine the existence of archaeological sites through spatial distribution of artifacts and/or evidence of subsurface deposits. The following procedures were followed during the excavation of STPs:

- STPs were approximately 40 cm (16-inches) in diameter.
- Hand excavation preceded in 10 cm (four-inch) increments within the natural stratum until the sterile soil was encountered and then after two successive 10 cm (4 inch) levels failed to produce artifacts. The 10cm (4-inch) levels allowed for better control of artifact distribution within the stratum. All soil matrix was screened through a ¼-inch hardware mesh. All STP levels were recorded on a standard shovel test forms and profiles sketched.
- Profile information was recorded from the depth of the top of natural soils on standardized forms and layers identified by texture and coloration using the Munsell scale.
- A sample soil profile of pavement and fill soils was created for reference.
- A field journal was kept to record all field activities.

The test pits were machine backfilled and restored to their original contours upon completion of hand excavations. The trench was machine backfilled and restored to their original contours upon completion of trenching. These were to be repaved on September 10th.

3.2 Phase IB Testing Results

Archaeological testing began in the southwestern corner of the archaeological-APE at STP 24 and moved to the east and then to the north. This allowed the geotechnical drillers to start in the northeast and central portion of the archaeological-APE. Once the drillers completed the northern section and the archaeological team finished the southern section the teams switched locations.

3.2.1 Soils

On average, the top 5-10 cm (2-4-inches) of each machine excavation at the STPs locations consisted of asphalt pavement underlain by fill soils varying from approximately 5 to 134 cm (2 to 53 inches) below ground surface with an average range of 35 to 71 cm (14 to 28 inches) below ground surface. A soil profile of the asphalt and fill soils was recorded in STP 21 as a sample for the STPs on the western portion of the archaeological-APE (Figure 4, Photograph 6).

A total of seven STPs, 5, 6, 16, 17, 20, 25 and 26 exhibited disturbance sometimes without any observable natural soil stratums with the exception of regolith or bedrock. STP 5 encountered a concrete impasse at 12 cm (5-inches) below surface in the entire trench excavation. STP 6 had one stratum of brown sand overlying a concrete obstruction, encountered at 50 cm (20-inches) below ground surface, followed by fill overlaying bedrock below it. STPs 16 and 17 were consisted

**STP 21
NORTH PROFILE
ABOVE NATURAL SOILS**

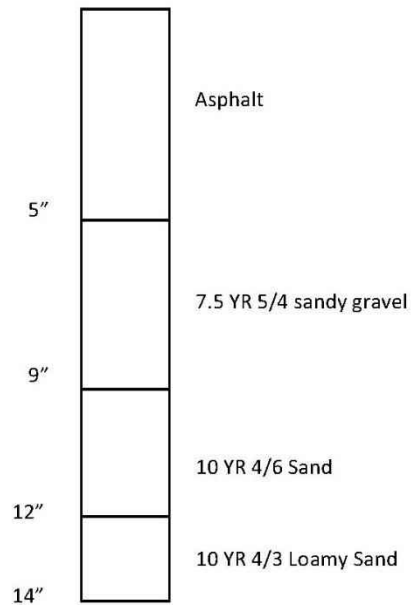


Figure 4 – Sample profile of soils between the asphalt and top of natural soils in STP 21.



Photograph 6 – View of STP 21 used as the sample profile for STPs in the western portion of the archaeological-APE, Looking north.

entirely of fill mixed with regolith (Photograph 7). STP 20 encountered reddish-yellow sand fill at approximately 35 cm (14-inches) below surface followed by regolith and bedrock at approximately 16-inches below surface. STP 25 was a disturbed B horizon overlying bedrock at 96 cm (38-inches) below ground surface. STP 26 was a mixed deposit of brown and gray (10YR 4/3 and 10YR 6/1) gravelly sandy silt overlying bedrock at 35 cm (14-inches) below ground surface.

The first natural stratum encountered by 14 of the STPs, 1, 2, 3, 4, 7-10, 13, 14, 15, 18, 19, 23 and 24, consisted of a yellowish-brown (10Y/R 5/6) sand (Photograph 8). In addition, STPs 2 and 12 were mottled with dark-gray (10YR 6/1) sand. STP 15 exhibited a mixed stratum with a low level of gravel. STPs 11 and 21 had an upper stratum of brown (10YR 4/3 sand and/or loamy sand). STP 22 exhibited a similar upper stratum by was mixed with yellowish-brown sand. A total of three of the STPs, 2, 7 and 12, encountered disturbance, but still exhibited some level of natural soils, some only regolith and bedrock.

STP 2 encountered a buried 2"-inch cast iron pipe at 104 cm (41-inches) below surface, however, the soils below the pipe seemed to be natural. STP 7 encountered construction debris in the eastern portion of the STP, mostly consisting of brick fragments. STP 12 encountered a builder's trench in the southeast corner (Photograph 9). The builders trench extended to 106 cm (42-inches) below the asphalt pavement it's the deepest. A brick fragment was observed in the builder's trench profile. The natural soils exhibited outside the builder's trench were regolith (decomposing bedrock).



Photograph 7 – View of STP 17 showing the regolith (decomposed Bedrock), looking east.



Photograph 8 – View of STP 3 depicting the upper sand layer found throughout the archaeological-APE, looking north.



Photograph 9 – View of the builder's trench in STP 12, next to the school building, looking south.

A total of 16 out of the total 26 STP locations demonstrated a second stratum of yellowish-brown, brown or gray sand. This second stratum was observed at depths ranging from 25 to 208 cm (10-82) inches below ground surface.

A total of 14 STPs ended in either regolith (decomposed bedrock) or bedrock. The remainder either ended in some form of disturbance or sterile soils. Regolith and bedrock were encountered at shallower depths in the eastern portion of the archaeological-APE. The depths of the regolith and bedrock increased as excavation moved to the west of the site and were not encountered in the western portion of the site.

Based on the soil results the archaeological-APE appears to have been an outcrop of bedrock on the eastern portion that sloped down to the west. This is consistent with the original Inwood Rezoning Phase IA Archaeological Assessment which stated that “the western part of Inwood is composed of a Precambrian era gneiss and schist ridge interlayered with marble” (Bergoffen 2018).

3.2.2 Artifacts

Fill sediments were not screened or tested for archaeological resources beyond visual inspection. In general, the fill contained deposits of sand mixed with construction debris (brick, mortar, bottle and window glass). STP 24 had marked bricks “SCHLEE...” (Photograph 9) and “HUT...” that were noted from the fill deposit during the machine excavation and discarded. A corroded wrench was encountered in the fill layer in STP 19 but not retained (Photograph 10). No information was gained from the corroded wrench beyond its obvious use.

A total of 23 artifacts were encountered and retained during the phase IB survey. Artifacts were retained from the first natural soil stratum in STP 21, 23, and 25. In total, 4 clear bottle glass fragments, 12 clear vessel glass fragments (one of them 1 green), 1 window glass fragment, 5 whiteware, and 1 redware fragment were retained. All of these artifacts were recovered in the upper portion of the first natural soil stratum and could have also originated from the fill layers. All the artifacts are datable to the mid- to late-twentieth-century. None of these artifacts are significant in date, type or quantity and can be associated with activities anticipated for any similar property in the area. A total of 14 of these artifacts were discarded in the lab, 4 whiteware fragments, 9 clear vessel glass fragments and the 1 window glass fragment resulting in a total of 9 artifacts retained as a sample. The bottle glass from STP 21 is embossed “14...” on the base. Photograph 12 is of all artifacts retained as a sample for the survey.



Photograph 10 – View of the stamped brick from fill layers of STP 24, not retained.



Photograph 11 – View of the corroded wrench found in the fill layers of STP 19, not retained.



Photograph 12 – View of all artifacts retained as a sample from the Phase IB Archaeological Survey.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The proposed project consists of the construction a new 14-story building with 175 affordable housing units. It will also include a 3-story extension of the existing library at the base of the residential building. This area is currently a paved parking lot. In a letter dated February 16, 2018, LPC determined that Lot 20 on Block 2233 possessed the potential for the recovery of remains of Native American and possibly Colonial and historic period occupations, and recommended the preparation of an archaeological documentary study for the property (Bergoffen 2018). The Archaeological Assessment Addendum for Block 2233, Lot 20 determined the site sensitive for prehistoric, possibly Colonial, and historic period archaeological remains and recommended archaeological testing be performed (Bergoffen 2018). Field work consisted of saw cutting the asphalt pavement and then a combination of machine and shovel testing in the archaeological-APE.

AHRS excavated a total 26 shovel tests for the Phase 1B testing to determine if buried prehistoric possibly Colonial, and historic period archaeological remains or artifact concentrations existed within the archaeological-APE. The field testing included a combination of machine excavation to remove the asphalt and fills soils and hand shovel testing in natural soils. AHRS monitored the machine excavation of the fill soils to ensure no artifact concentrations were present.

All shovel tests were negative for prehistoric resources. Three shovel tests contained historic artifacts in the upper most natural stratum and could have originated from the fill layers. Artifacts consisted of clear bottle fragments, clear vessel glass fragments (one of them 1 green), window glass fragment, whiteware and redware fragments. A total of nine were retained for analysis, however, little information was gained from these artifacts. All the artifacts are datable to the mid- to late-twentieth-century. None of these artifacts are significant in date, type or quantity and can be associated with activities anticipated for any similar property in the area. The machine excavation monitoring resulted in two stamped brick fragments and a corroded wrench. No evidence of buried artifact deposits, features, or structures were observed during the machine or shovel excavation.

Based on the absence of prehistoric, colonial and historic artifact concentrations or features encountered during the Phase 1B subsurface testing, AHRS concludes that there are no archaeological features or deposits in the archaeological-APE. Therefore, AHRS recommends no further archaeological testing within the archaeological-APE.

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New York City Soil Survey Staff

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United States Geological Survey (USGS)

Central Park Quadrangle, New York. 7.5 Minute Series.

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
Lithic Identification
Laboratory Analysis
Photographer/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: 16

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 16 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 staff.

Work experience includes coordination and implementation of archaeological/cultural resource assessments include NEPA Documentation, Environmental Assessments, Environmental Impact Statements, Section 106 Assessments, Phase I, II and III prehistoric and historic 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

Sailfish Warehouse Project, Phase IB Archaeological Survey, Montgomery, NY

Principal Investigator for prehistoric/historic site investigation for NY SEQR Review. Directed research, assessed prehistoric/historic archaeological potential, conducted supplemental field testing for previously untested areas, artifact analysis, writing and preparation of report, editing and produced report for submission. Identified the multiple area of potential prehistoric occupation. Phase II archaeological survey currently in process.

New Jersey Executive State House (NJESH) Renovation Project, Phase IA & Archaeological Monitoring, Trenton, NJ

Principal Investigator for Phase IA Archaeological Assessment for the NJESH, a part of the State House Historic District, listed on the State and National Register of Historic Places. Coordinated and edited Phase IA Archaeological Survey. Developed the archaeological monitoring plan for monitoring during the excavation of geotechnical test pits and utilities trenching. The research and monitoring was conducted in advance of planned renovations and restorations to the NJESH building. Identified multiple historic archaeological sites.

45 Broad Street, Phase IA Archaeological Survey & Archaeological Monitoring, New York, NY

Principal Investigator for Phase IA Archaeological Assessment and archaeological monitoring for potential

MICHAEL AUDIN, RPA

Archaeologist / Cultural Resource Specialist

17th-century features in advance of a proposed development site in Lower Manhattan. Coordinated and edited Phase IA Archaeological Survey and lead consultation for archaeology with the New York City Landmarks Preservation Commission to ensure project compliance. Developed archaeological monitoring plan and oversaw archaeological monitoring.

Gordon Road Phase IA & IB Archaeological Surveys, Robbinsville Township, NJ

Principal Investigator for Phase IA Archaeological Assessment and Phase IB field testing for archaeological resources in advance of warehouse development, including analysis of archaeological sensitivity, subsurface testing in areas of prehistoric sensitivity, post-excavation laboratory artifact processing and identification, and report writing and editing.

155 3rd Avenue Gowanus Canal Bulkhead and Cribbing Documentation, Brooklyn, NY

Principal Investigator for archaeological monitoring for test excavations conducted for the purpose of identifying the type of cribbing and bulkhead structure along the Gowanus Canal.

Gowanus Canal Remediation Project and Archaeological Monitoring, Brooklyn, NY

Principal Investigator for archaeological monitoring for debris removal and dredging in Turning Basin 4 of the National Register eligible nineteenth-century Gowanus Canal. Canal is currently a Superfund site and the remediation is coordinated by the US Environmental Protection Agency.

Southwest Park Block-12 Development, Phase IB Archaeological Survey and Archaeological Monitoring, Hoboken, NJ

Principal Investigator for Phase IB testing, archaeological monitoring in advance of stormwater retention park development in Hoboken, NJ. Recorded footings associated with an elevated railroad, nineteenth-century building foundations, and a Belgian Block cobblestone driveway. Wrote and implemented Memorandum of Agreement for project. Identified the North Hudson County Elevated Railway Footings historic archaeological site 28-Hd-54.

Green Brook Trail, Phase IB Archaeological Survey, Plainfield, New Jersey

Principal Investigator for New Jersey Historic Preservation Act and Freshwater Wetland Permit compliance. Conducted Phase IB archaeological survey in areas of prehistoric and historic archaeological sensitivity for the first section of a multi-use recreational trail. Completed field testing, artifact analysis, and report writing and editing.

Nissim Avenue Phase I & II Archaeological Survey, Bordentown, NJ

Principal Investigator for Phase I and Phase II survey of contributing prehistoric archaeological resources to the Abbot Farm Prehistoric Archaeological District in advance of residential development, including analysis of archaeological sensitivity, subsurface testing in areas of prehistoric sensitivity, and post-excavation laboratory artifact identification and cataloging. Project area is located within the Abbott Farm National Historic Landmark boundary. Identified the Nissiam Ave. prehistoric archaeological site 28-Bu-919.

Lincoln Industrial Park Phase IB Archaeological Survey, Piscataway, NJ

Principal Investigator for Phase IB survey on former Union Carbide/Dow Chemical property with team of HAZWOPER-qualified archaeologists to complete the testing. Testing consisted of over 1,000 shovel tests in areas of prehistoric sensitivity. Oversaw all aspects of fieldwork, artifact analysis, and report completion.

Riverside Buildings 4 & 5 Phase IB Archaeological Survey & Archaeological Monitoring, New York City

Principal Investigator for crew of eight (one supervisor and seven field technicians) responsible for archaeological monitoring, Phase IB shovel testing in areas of prehistoric sensitivity to determine absence or presence of prehistoric materials, and post-excavation laboratory work for a multimillion dollar development in Midtown Manhattan. Drafted memoranda and final reports for compliance with the New York City

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Landmark Preservation Commission's restrictive declaration.

Former Front Street Gas Works Site PSE&G Remediation Project, Archaeological Monitoring, City of Newark, NJ

Principal Investigator for historic site investigation for NJDEP Contaminated Site Remediation Project. Directed research, conducted field monitoring during excavation, writing and preparation of report, edited and produced report for submission. Discovered historic dock feature. Identified the Heddens Dock historic archaeological site 28-Ex-142.

FedEx Distribution Center Project, Phase I Archaeological Survey, Hamilton, NJ

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

FedEx Distribution Center Project, Phase I Archaeological Survey, Montgomery, NY

Principal Investigator for prehistoric/historic site investigation for NY SEQR Review. Directed research, assessed prehistoric/historic archaeological potential, conducted field testing, artifact analysis, writing and preparation of report, editing and produced report for submission. Identified the Neelytown Road Historic Farmstead historic archaeological site USN Number 07112.000317.

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

Principal Investigator for prehistoric/historic site investigation for city housing development. Directed 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. Directed research, assessed prehistoric/historic archaeological potential, conducted field testing, artifact analysis, writing and preparation of report, edited and produced report for submission. Identified the Interstate Blvd./J. Dehart Farmstead historic archaeological site 28-Mi-266.

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

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

Prasville Mills Restroom Project, Archaeological Monitoring, New Jersey

Principal Investigator for State and National Register listed Prallsville District archaeological investigation for NJ State Park improvements. Directed 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

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acre property. Directed research, assessed prehistoric/historic archaeological potential, conducted field testing, directed artifact analysis, writing and preparation of report, edited and produced report for submission.

St. Patrick's Old 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 Archaeological Survey, Washington Crossing, Pennsylvania

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

Johnson Veterans Hospital Parking Garage Project, Phase IA & Phase IB Cultural Resource Investigation, Clarksburg, WV

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

Gowanus Canal Historic Bulkhead Documentation, Brooklyn, NY

Principal Investigator for documentation of a historic bulkhead at four 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 prehistoric and historic 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.

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.

NJ Transit, Phase IA Archaeological Survey, Train Station Upgrades, Elizabeth & Perth Amboy, NJ

Principal Investigator for Phase IA Investigation. Evaluation of handicap and other facility upgrades for NJ TRANSIT 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

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American cemetery. Conducted archaeological monitoring and human remains excavation for mid-19th- to mid-20th-century cemetery in Queens.

St. Patrick's Old 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.

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. Identified the SCCC prehistoric archaeological site (28-Hd-44).

Renaissance Plaza Project, Phase I Archaeological Survey, 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 Archaeological Survey, Alpha, New Jersey

Principal Investigator for prehistoric/historic site investigation of prehistoric/historic archaeological site 28-Wa-673 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. The site was not recommended as eligible for National Register.

State University of New York, Ulster Campus, Phase I Archaeological Survey, 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 Archaeological Surveys, 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.

St. Patrick's Old 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.

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Former Koppers Superfund Site, MOA, Newport, Delaware

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

Pennsauken Country Club Water Reuse Project, Phase I Archaeological Survey, 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 I Archaeological Survey, 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, conducted field testing, 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.

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 Archaeological Survey, 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. Identified historic dock, cribbing and road features.

Route 33 Interchange Improvements, Phase I Archaeological Survey, 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.

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USDA, Health-Based Plant Genomics Facility, Phase IB Archaeological Survey, 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 Archaeological Survey, 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 Archaeological, 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.

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. Identified multiple prehistoric and historic sites on site.

Dredge Stockpile Site, Phase I Archaeological Survey, 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 Archaeological Survey, 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

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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 Archaeological Survey, 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. Identified historic trolley rail alignment during field work.

Lowes, Phase IB Supplemental Archaeological Survey, 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 field activities included report writing for submission to state.

Former Koppers Superfund Site, Phase IB and II Archaeological Survey, 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. Identified numerous prehistoric archaeological site.

Bronx River Park, Phase IA Archaeological Survey, Bronx, New York

Research coordinator, researcher and report production for New York City Parks Department 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 Archaeological Monitoring, Brooklyn, New York

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

Edgewater Colony, Phase II Archaeological Survey, 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 Archaeological Survey, 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 Archaeological Survey, 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 Archaeological Survey, 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 Archaeological Survey, 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 Archaeological Survey, Eaton, Pennsylvania

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 Archaeological Survey, 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. Identified prehistoric archaeological site.

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

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Circulations Improvement Project, Phase IA and IB Archaeological Survey, 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 Archaeological Survey, 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.

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

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- 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 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 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.

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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 150 archaeological/cultural resource reports in New Jersey, New York, Pennsylvania and West Virginia. In addition, have contributed to over 4 Environmental Impact Statements and 31 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

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

APPENDIX B

PLAN OF THE PROJECT SITE

4790 Broadway

Lot # 13/partial 20

Lot Area 18,760

Maximum Residential Zoning Floor Area Max. FAR 7.2 135,072

Maximum Comm Facility Zoning Floor Area Max. FAR 6.5 121,940

Available Floor Area 135,072

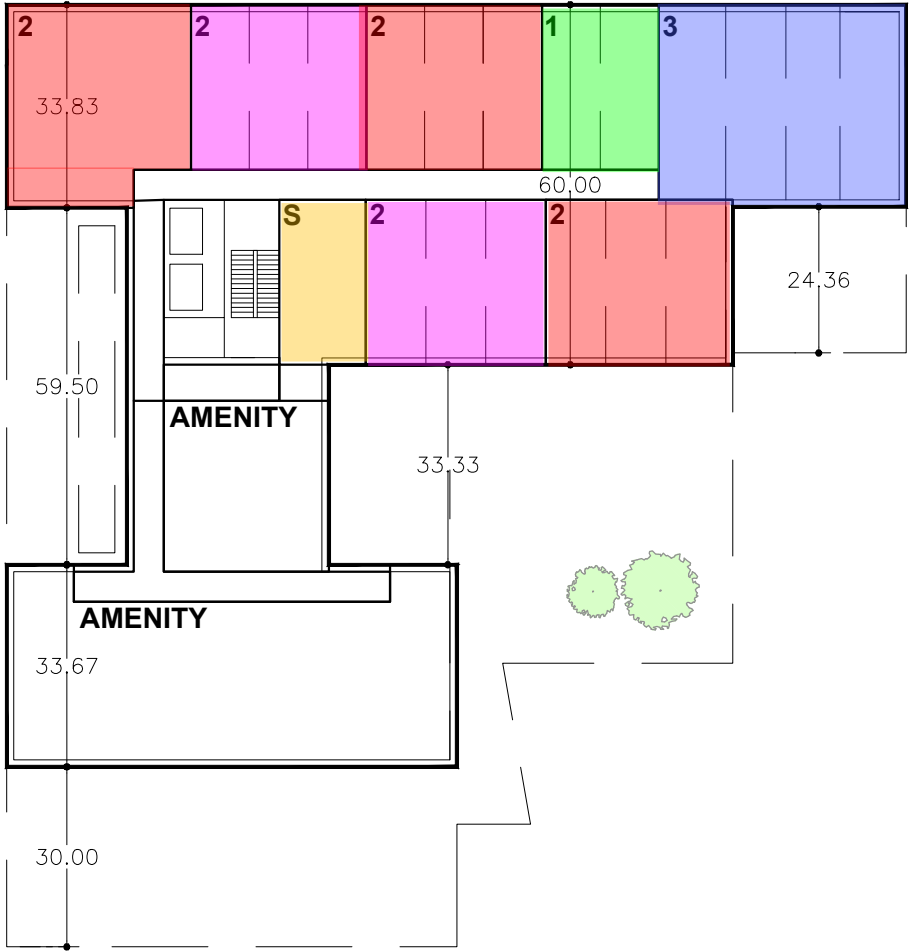
Floor	Use	Building Height	Gross Floor Area (SF)	Deductions (SF)	Zoning Floor Area (SF)	Net Resid. Floor Area (SF)
C	Library		9,520	9,520	0	0
	Pre K		2,340	2,340	0	0
	Residential		5,300	5,300	0	0
	Total	15.00	17,160	17,160	0	0
1	Library		10,365	823	9,542	0
	Pre K		2,295	115	2,180	0
	Residential lobby and egress		3,280	164	3,116	0
	Total	23.00	15,940	1,102	14,838	0
M	Library		3,735	187	3,548	0
2	Residential + amenity	33.00	11,500	5,602	5,898	6,560
3	Residential	42.00	11,500	1,602	9,898	8,147
4	Residential	51.00	11,500	1,602	9,898	9,860
5	Residential	60.00	11,500	1,602	9,898	9,860
6	Residential	69.00	11,500	1,602	9,898	9,860
7	Residential	78.00	11,500	1,602	9,898	9,860
8	Residential	87.00	11,500	1,602	9,898	9,860
9	Residential	96.00	11,500	1,602	9,898	9,860
10	Residential	105.00	11,500	1,602	9,898	9,860
11	Residential	114.00	9,975	2,091	7,884	8,335
12	Residential	123.00	9,975	2,091	7,884	8,335
13	Residential	132.00	9,975	2,091	7,884	8,335
14	Residential	141.00	9,975	2,091	7,884	8,335
TOTALS	Library		23,620	10,530	13,090	0
	Pre K		4,635	2,455	2,180	0
	Residential		151,980	32,245	119,735	117,067
	Total (incl. cellar)		197,395	62,390	135,005	117,067

STUDIO 1 BED 2BED 3 BED TOTAL

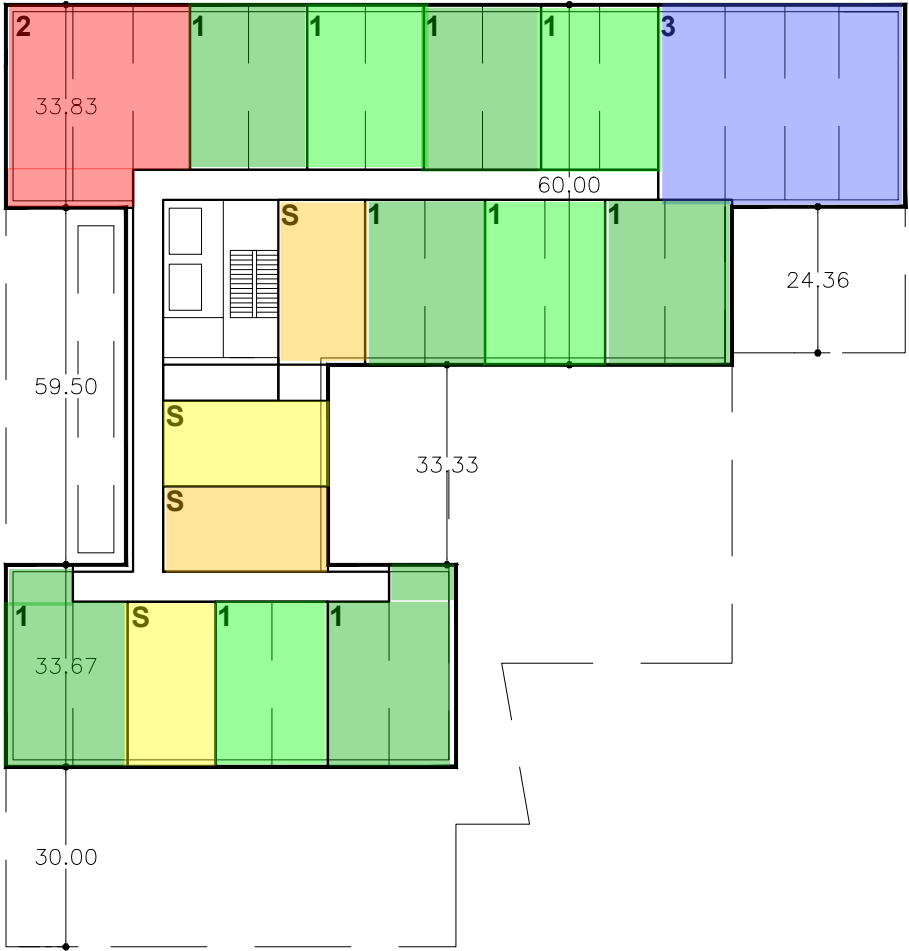
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4	10	1	1	16
4	10	1	1	16
4	10	1	1	16
2	0	7	1	10
2	0	7	1	10
2	0	7	1	10
2	0	7	1	10
41	81	41	13	176
23%	46%	23%	7%	

67 UNUSED ZFA

LEVEL 2



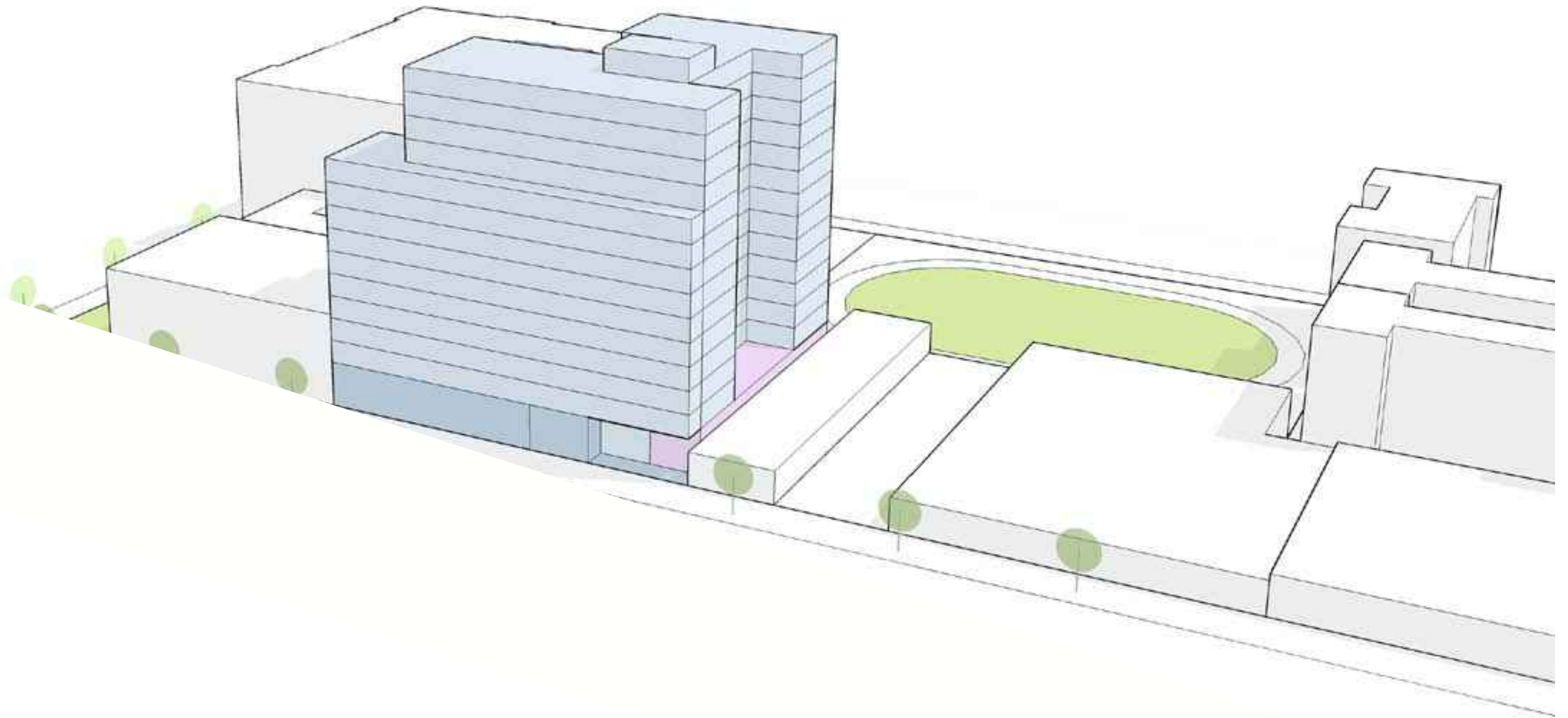
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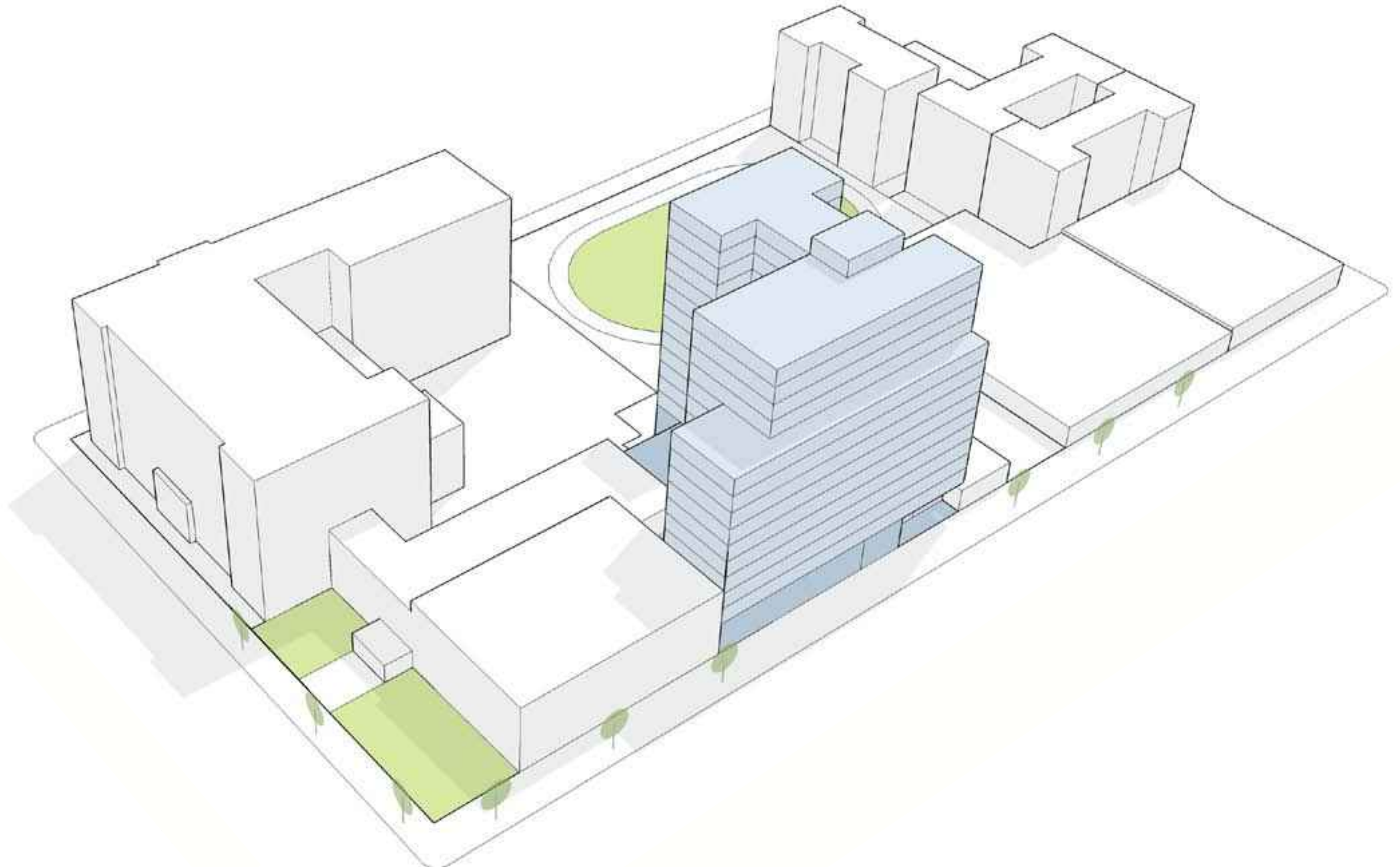


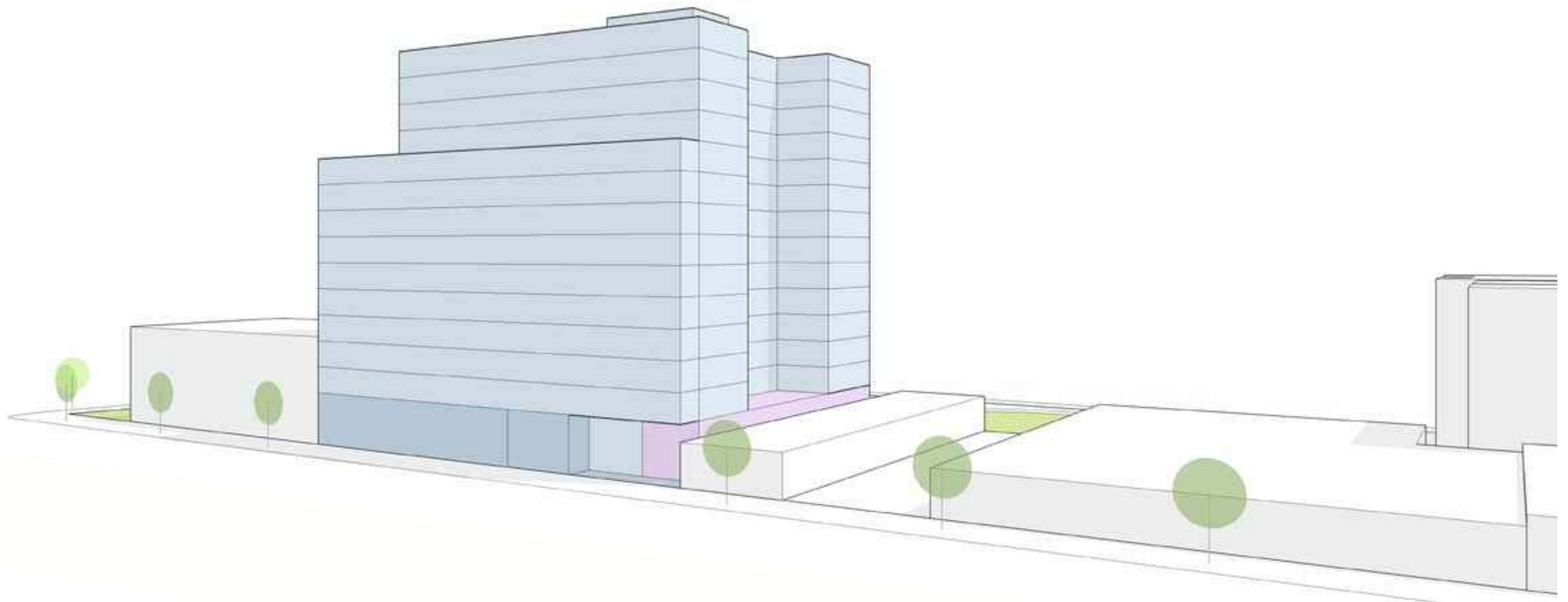
LEVEL 11-14



PLANS

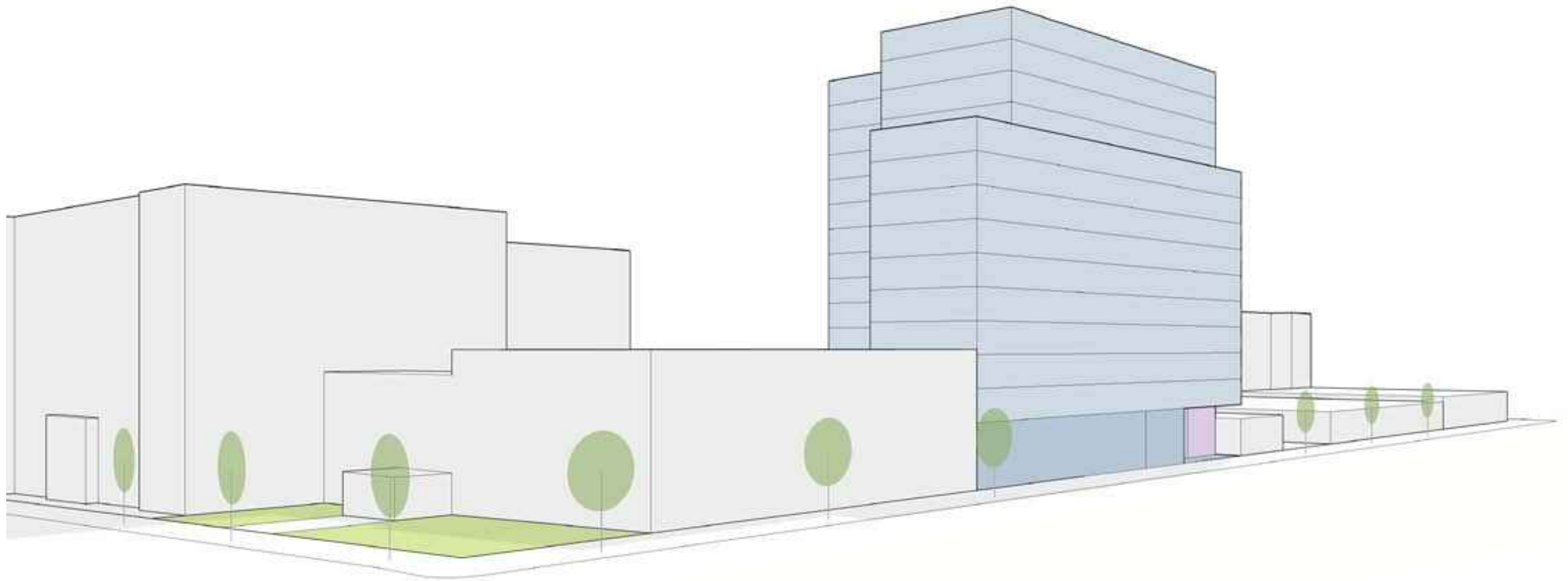






MASSING
INWOOD RFP, 4790 BROADWAY, NY

FOGARTY FINGER
architecture | interiors



MASSING
INWOOD RFP, 4790 BROADWAY, NY

APPENDIX C

STP SOIL PROFILE LOGS

Soil Profile Log

STP #	DEPTH (inch)	STRATUM	MUNSELL	MUNSELL COLOR	SOIL TYPE	ARTIFACTS	COMMENTS
All recorded depths start at top of first natural stratum beneath pavement unless otherwise indicated in the notes.							
1	39 to 45	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
2	36 to 51	1	10YR 5/6 mottled with 10YR 6/1	Yellowish Brown mottled with Dark Gray	Sand	NCM	Old 2" cast iron pipe, north/south orientation, top of pipe 41" below pavement
2	51 to 73	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
3	22 to 82	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
3	82 to 101	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
4	17 to 35	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
4	35 to 57	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
5	5 to 6	1	N/A	N/A	N/A	NCM	Concrete impasse covering entire base of trench

STP #	DEPTH (inch)	STRATUM	MUNSELL	MUNSELL COLOR	SOIL TYPE	ARTIFACTS	COMMENTS
6	9 to 20	1	N/A	N/A	N/A	NCM	Concrete
6	20 to 24	2	10YR 5/8	Yellowish Brown	Sand	NCM	Fill
6	24 to 40	3	N/A	N/A	N/A	NCM	Bedrock
7	28 to 50	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon; brick rubble disturbance in east part of trench
7	50 to 78	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
8	22 to 50	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
8	50 to 82	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
9	20 to 40	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
9	40 to 65	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon; Bedrock impasse
10	20 to 28	1	10YR 5/6	Yellowish Brown	Sand	NCM	
10	28 to 39	2	10YR 5/8	Yellowish Brown	Gravelly Sand	NCM	Bedrock impasse


STP #	DEPTH (inch)	STRATUM	MUNSELL	MUNSELL COLOR	SOIL TYPE	ARTIFACTS	COMMENTS
11	2 to 10	1	10YR 4/3	Brown	Loamy Sand	NCM	
11	10 to 20	2	10YR 6/1	Gray	Sand	NCM	Regolith
12	10 to 24	1	10YR 5/6 mixed with 10YR 6/1 and 10YR 4/3	Yellowish Brown mixed with Gray and Brown	Sand	NCM	Southeast profile
12	24 to 32	2	10YR 4/3 mixed with 10YR 4/4	Brown mixed with Dark Yellowish Brown	Loamy Sand mixed with Sand	NCM	
12	32 to 48	3	10YR 6/1	Gray	Sand	NCM	Builder's trench in southeast corner of trench extends to 42" below pavement; trench is 30" from existing wall
13	24 to 53	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
13	53 to 89	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
14	17 to 27	1	10YR 5/8	Yellowish Brown	Sand	NCM	B Horizon
14	27 to 50	2	10YR 5/6	Yellowish Brown	Sand	NCM	C Horizon
15	17 to 31	1	10YR 5/8	Yellowish Brown	Gravelly Sand	NCM	

STP #	DEPTH (inch)	STRATUM	MUNSELL	MUNSELL COLOR	SOIL TYPE	ARTIFACTS	COMMENTS
15	31 to 48	2	10YR 5/8	Yellowish Brown	Gravelly Sand	NCM	
16	4 to 35	1	N/A	N/A	N/A	NCM	Fill mixed with regolith
17	4 to 12	1	N/A	N/A	N/A	NCM	Fill mixed with regolith
18	18 to 42	1	10YR 5/6	Yellowish Brown	Sand	NCM	B Horizon
18	42 to 70	2	10YR 5/8	Yellowish Brown	Sand	NCM	C Horizon
19	19 to 29	1	10YR 5/6	Yellowish Brown	Sand	Corroded wrench found during machine excavation at 0 to 19" below pavement; not retained	B Horizon
20	14 to 16	1	7.5YR 7/6	Reddish Yellow	Sand	NCM	Fiil over Regolith over bedrock
21	16 to 17	1	10YR 4/3	Brown	Sandy Loam	ceramic, glass	
21	17 to 48	2	10YR 5/6	Yellowish Brown	Sand	NCM	Few pebbles in last 4" of stratum
22	21 to 22	1	10YR 4/3 mixed with 10YR 5/6	Brown mixed with Yellowish Brown	Sand	NCM	

STP #	DEPTH (inch)	STRATUM	MUNSELL	MUNSELL COLOR	SOIL TYPE	ARTIFACTS	COMMENTS
22	22 to 36	2	10YR 5/6	Yellowish Brown	Sand	NCM	Bedrock
23	18 to 28	1	10YR 5/6	Yellowish Brown	Sand	glass	Test located on west side of trench; east side is regolith
24	31 to 42	1	10YR 5/6	Yellowish Brown	Sand	NCM	Marked brick in fill "SCHLEE..." and "HUT..." noted during machine excavation 0 to 31" below pavement
24	42 to 57	2	10YR 5/8	Yellowish Brown	Sand	NCM	Micha Schist Bedrock
25	24 to 38	1	10YR 5/6 mixed with 10YR 4/3	Yellowish brown mixed with Brown	Sand	glass	B Horizon; disturbed; Micha Bedrock at base of excavation
26	4 to 14	1	10YR 4/3 mixed with 10YR 6/1	Brown mixed with Gray	Gravelly Sandy Silt	NCM	Bedrock impasse

APPENDIX D

ARTIFACT LOG

			Inwood		Phase: IB	
			New York		State: NY	
Test pit number	Soil level	Artifact description	Artifact additional traits	Quantity retained for analysis	Quantity unwashed, not analyzed in lab	Comments
21	1	ceramic	whiteware	5	4	
21	1	ceramic	redware	1		
21	1	bottle glass	clear; ribbed body; embossed base	2		Refit; embossed "14..."
21	1	vessel glass	clear	10	9	
21	1	window glass	clear	1	1	
21	1	vessel glass	green	1		
23	1	bottle glass	clear; neck	1		
23	1	vessel glass	clear	1		
25	1	bottle glass	clear; lip and neck	1		

APPENDIX E

ARCHAEOLOGICAL ASSESSMENT OF MANHATTAN BLOCK 2233 LOT 20

May 3, 2018

ADDENDUM A

ARCHAEOLOGICAL ASSESSMENT OF MANHATTAN BLOCK 2233 LOT 20

A. Introduction: Location and Present Conditions

This Addendum assesses the potential archaeological sensitivity of Lot 20 on Manhattan Block 2233 (the "Project Site"). Manhattan Block 2233 is located within the Inwood rezoning area and is bounded by Broadway on the north, Dyckman Street on the west, Vermilyea Avenue on the south, and Academy Street on the east (Fig. 1). The block is split lengthwise between two subdistricts of the proposed rezoning area. The block's northern frontage on Broadway is in the Commercial "U" sub-District, while the southern portion of the block along Vermilyea Avenue lies within the Upland Core sub-district. Three Projected Development Sites (PROJDS) have been identified on Block 2233, PROJDS 23, 24 and 25, and one Potential Development Site (POTDS) AD. These sites were not flagged by the New York City Landmarks Preservations Commission (LPC) for potential archaeological sensitivity in the LPC's initial review of PROJDS and POTDS communicated in a letter dated June 8, 2017. However, subsequent to the issuance of the Inwood Rezoning Draft Environmental Impact Statement (DEIS), in a letter dated February 16, 2018, the LPC determined that Lot 20 on Block 2233 possesses the potential for the recovery of remains of Native American and possibly Colonial and historic period occupations, and recommended the preparation of an archaeological documentary study for the property. A small portion of Lot 20 on Block 2233, comprising less than six percent of the overall lot, is included in PROJDS 25.

The Project Site comprises approximately 106,377.53 sq. ft., representing roughly half of Block 2233 (Fig. 1). It is an L-shaped property that extends over most of the Vermilyea Avenue frontage of Block 2233 and the entire Academy Street frontage of the block, as well as approximately 236 feet along the south side of Broadway.

At present, the Project Site is occupied by the buildings of Public School 52 (P.S. 52), which is now known as Junior High School 52 (J.H.S. 52). P.S. 52 consists of several adjoining buildings, including a complex of two five- and one two-story building at the corner of Vermilyea Avenue and Academy Street that is eligible for listing on the State/National Registers of Historic Places (S/NR), and a newer, three-story school building near the corner of Broadway and Academy Street. The remainder of the lot is occupied by at-grade accessory parking areas and, on the Vermilyea Avenue side of the lot, an oval playing field / sports track for J.H.S. 52. The Inwood branch of the New York Public library abuts the Project Site to the west and is located at 4790 Broadway.

The Project Site is situated near three New York City Landmarks (NYCL), all of which are also listed on the State and National Registers of Historic Places. The scenic landmark, Fort Tryon Park, located southwest of the Project Site, was designed by the Olmstead Brothers. Significant prehistoric and historic uses are associated with Fort Tryon Park, including a possible Native American campsite, identified near Dongan Place, and archaeological remains from the Revolutionary War, since Fort Tryon Park was the site of the Battle of Washington Heights. The Cloisters, an individual NYCL, owned by the Metropolitan Museum, incorporates fragments of medieval buildings and exhibits a portion of the Museum's Medieval art collection. Two blocks north of the Project Site, at the corner of Broadway and West 204th Street, is the Dyckman House, built in 1783 and the only surviving Dutch Colonial style farmhouse in Manhattan (Dolkart and Postal 2009, 214).

B. Environmental Setting

As noted in Section 3.A. of the Inwood Rezoning Phase IA Archaeological Assessment (the "Phase IA Report"), the western part of Inwood is composed of a Precambrian era gneiss and schist ridge interlayered with marble. This forms sharp outcroppings like those exposed at the edges of Fort Tryon Park.

The Project Site was formerly located on the top and eastern flank of a low hill (Figs. 3 and 4). The 1851 Dripps map indicates that the Kings Bridge Road (Broadway) ran through a valley between the hills. A stretch of low ground between the hills, corresponding to the line of present-day Dyckman Street, from Broadway, provided access from the Project Site to the Hudson River. Both the 1851 Dripps map and the 1782 British HQ plan, show that the Project Site lay between two streams, one emptying into Spuyten Duyvel Creek, the other into Sherman's Creek. The latter ran roughly along the line of later Dyckman Street, extending across the salt meadows between the one of the deep inlets of the creek and the small bay on the Hudson River, south of Tubby Hook. On the 1851 Dripps map, the Project Site is partly wooded, perhaps representing an orchard. On the 1776 Sauthier plan, it appears to have been a planted field.

Fort Tryon park to the southwest of the Project Site at the northern end of a long, high ridge of land extending along the Hudson River. The Dutch called this eminence *Lange Berghe*, "Long Hill" (Bolton 1924, 143; LPC 1983, 2). It was separated from Inwood Hill Park by a narrow valley that led to a small cove at the foot of Dyckman Street. The valley was bisected by several small, steep-sided bluffs, one of which was appropriately known as "The Knoll" (Bolton 1924, 56). To the south, the Project Site was bordered by marshes extending to the mouth of Sherman Creek. This nearby habitat teemed with marsh birds and game, while the Hudson River shore at the foot of Dyckman Street was a productive "Fishing Ground" -- as indicated on the 1851 Dripps map.

James Ruel Smith's survey of *Springs and Wells of Manhattan and the Bronx* (1938) includes several springs or wells in the immediate environs of the Project Site (see also Sections 3.C. and D of the Phase IA Report). These are:

- A spring approximately 300 feet north of Dyckman Street at the base of a steep rock outcropping;
- "The white stone spring", located about 300 feet northeast of the intersection of Dyckman Street and Payson Avenue, reputedly well known throughout the city for its pure water, and
- A spring on the line of Cooper Street at West 204th Street.

Additionally, according to Bolton (1924, 56), "At Dyckman Street there were springs from which two little brooks ran east and west, easily crossed by a few stones".

Not included in Smith's survey is a well that purportedly existed on the Project Site itself. This source, reported at an earlier date, possibly no longer existed in Smith's day (Board of Education 1858, 131).

The availability of fresh water on or in the immediate vicinity of the Project Site would have been one of the factors making the Project Site potentially attractive to prehistoric peoples.

C. Prehistoric Periods

Section 4 of the Phase IA Report provides an overview of Inwood during the Paleo-Indian to Contact Periods with reference to the proposed rezoning area's sub-districts. The prehistoric sites listed in Tables I and II on pages 21 and 22 of the Report include sites within a one-mile radius of the Project Site assessed in this Addendum.

Broadway, which borders the Project Site on the north, follows the line of the old native trail through Inwood. Another Indian trail ran from Broadway south of Dyckman across the low-lying area between Fort Tryon Park and Inwood Park to a settlement on the Hudson River. At the north corner of the Project Site, near the later intersection of Broadway and Academy Street, another Indian trail branched off to reach the village at the foot of Inwood Hill Park (see below).

The Prehistoric sites closest to the Project Site are (refer to Tables I and II in the Phase IA Report):

1. A site in Fort Tryon Park that Alanson Skinner identified as a camping ground, Site file # 061.01.000123, consisted of "traces of shell heaps, fireplaces, and pits" (A. Skinner quoted in LPC 1983, 12). Fifty-odd years later, Michael Cohn, a local history expert, tour guide and amateur archaeologist, recovered Native American pot shards, projectile points and clam and oyster shells in this location, on the slope opposite Dongan place (Ibid.)
2. "Numerous pits filled with oyster shells, burials and the extensive deposits of carbonized debris", were described by Bolton (1924, 12) as located along Seaman Avenue from Academy Street northward. Correspondingly, NYSM 4054 and Site file #061.01.119, lying between approximately 196th and 219th Street, west of Broadway, contained a cemetery and shell midden, and was thought to be part of the Village of Muscoota.

3. NYSM # 4051 was a shell midden at Tubby Hook, along the shore.

On one of the maps that Bolton created for *Indian Trails in the Great Metropolis*, he depicted a native village at the western end of the low-lying area between Broadway and the Hudson River, on the line of Dyckman Street, as well as a large village site in the area of later Cooper Street and Seaman Avenue between Academy Street and West 204th Street (Fig. 5, New York Public Library, Map Division). Another smaller cluster of teepees is shown south of later Dyckman Street between Vermilyea Avenue and Sherman Avenue. This last is recorded in more detail on Bolton (n.d.) as "Indian fireplaces" and, at the corner of the northwest corner of Dyckman Street and Sherman Avenue: "Graves opened by Chenoweth".

D. Historic Periods

The 1639 Manatus map and the 1664-1668 Nicolls plan show the old native trail through Inwood, today's Broadway, which was later incorporated into the Post Road to Albany. Gradually, the Europeans displaced the Native Americans, not without conflict, since the latter thought they were selling temporary hunting and land use rights whereas the European culture included the concept of absolute property transfer. The final expropriation of Native American land in Inwood occurred in 1688, although the last title transfers and payments were not completed until 1715 (Bolton 1924, 19 and 39; Rubinson and Winter 1988, 14). The Project Site remained farmland and the property of the Dyckman family into the 19th century.

Although there is no evidence of occupation during the Revolutionary War, the Project Site was in the midst of the action. In November 1776, the Maryland and Virginia regiments of the retreating Continental Army attempted to make a stand at Fort Tryon, an outlying battery of Fort Washington located southwest of the Project Site. But they were routed by the combined British and Hessian forces, leaving the latter in control of Manhattan Island. Both the Continental and British armies occupied the Dyckman Farm. The famous Hessian Hut Camp, consisting of some thirty-six rude wooden huts, was built behind the Dyckman House at West 204th Street (Rubinson and Winter 1988, 14-15; Stokes III, 1031-1036).

Before the erection of Grammar School No. 52, which opened on April 22, 1858, the Project Site was open meadow. But from 1805, on the opposite side of Broadway, near its later intersection with Dyckman Street and Riverside Drive, stood the Blackhorse Tavern, which served as a halfway station for travelers between New York and Yonkers (Bolton 1924, 74). This two-story brick and stone building, erected by Henry Norman, contained five rooms and a domed bake-oven (Ibid). Bolton suggested that the tavern did not get its name until the more famous and substantial Black Horse Tavern in today's Central Park closed (Bolton 1924, 74, and 174). Another suggestion is that the tavern may have gotten its name from the sign decorated with a black horse that "swung from a pole in front of the door, announcing 'entertainment for man and beast'" (Appleton's 1874).

Until 1864, Inwood was known as "Tubby Hook" (Thompson 2016). The derivation of the name is uncertain, but may refer to the small, rounded promontory where the Tubby Hook ferry landing

and later the Tubby Hook Station of the N.Y. Central Railroad were located. These could be reached from the tavern, via the Tubby-Hook landing road, now Dyckman Street, which traversed the gorge between the hills. The 1867 Dripps map (Sheet 20), shows that the property was part of Isaac Michael Dyckman's holdings.

Public School 52 began as a 41 by 78-foot red-brick building erected on land donated by Isaac Michael Dyckman near the present-day corner of Academy Street and Broadway (Fig. 6). Its official opening was April 22, 1858 (Board of Education 1858; Tieck 1971, 26, n. 44). At that time, Inwood was still sparsely populated farmland and the three-story school house with its impressive row of fourteen chimneys and small tower appeared something of a white elephant. Critics nicknamed it "Mackean's Folly" after the School Commissioner who promoted its construction (Tieck 1971, 27, n. 44). In 1865, there were one hundred and fifty children in five grammar and three primary classes (*NY Herald* 1865, 8). For several decades, only the first floor was used because there weren't enough students in the neighborhood to fill the classes on the upper two floors (The Sun 1911).

The floor plan and elevation drawings of Public School 52 were included in the *Sixteenth Annual Report of the Board of Education of the City and County of New York* (1857). The report notes a stair building at the rear of the school measuring 15 by 20 feet and a cellar, "under the whole building". Significantly, for the site's potential sensitivity for prehistoric remains, the report records the existence of "a well of excellent water" on the site, within the fenced area of the 100 feet wide by 200 feet deep lot (Board of Education 1857, 131). In 1903, the building was enlarged by 25 square feet (Tieck 1971, 26, n.44). The 1911 Bromley map depicts two rectangular frame buildings standing either side of the main building.

The school, labeled "Grammar School No. 52" is depicted near the northwest corner of the lot, facing Broadway, on the 1879 Bromley map, together with a small building, on the lot immediately to the west of the Project Site, which probably already served as the caretaker's house (Lot 16, on the 1916 Bromley, Pl. 184). In 1879, the rest of the Project Site had been divided up into house lots, but not yet developed. The 1885 Robinson map (Pl. 32) presents the same picture, providing the additional information that the small structure next door was a frame building.

In 1911, Public School No. 52 continued to be housed in the three-story brick building with basement on the northwest corner of Lot 20, while the rest of this lot was still vacant except for the adjacent frame building (Bromley 1911, Pl. 184). At that time, Lot 20 was subdivided into Lots 41, 36, 16, and 20, this last extending across the eastern end of the block and containing the school.

On the 1916 Bromley map, Lot 36 was subdivided into Lots 36 and 38 (Fig. 2). Both had five story buildings with basements on the front of the lots along Vermilyea Avenue and approximately 20foot deep back yards. Lot 16, on Broadway, and Lot 41, on Vermilyea Avenue, were still vacant. On Lot 20, two new, one-story frame structures are recorded standing either side of the old brick schoolhouse, but Public School No. 52 is shown in a new and the much larger edifice facing Academy Street at the corner of Vermilyea Avenue (Fig. 7).

The new school building, erected in 1914, was designed by C.B.J. Snyder, the prolific architect and administrator who was responsible for the construction of nearly 350 new schools during his tenure as the New York City Department of Education's Superintendent of Buildings from 1891 to 1922. Snyder's most outstanding contribution was the development of the H-shaped building, which improved light and ventilation in mid-block sites off the main avenues, as well as reducing street noise and providing protected school yard space (NYC DOE 2018). The five-story brick building with a three-story wing at the rear, both with basements, incorporates elements of the Collegiate Gothic style such as pointed arch and bay windows with stone trim and a crenellated parapet. As noted previously, the building is eligible for listing on the S/NR.

On the 1921 Bromley map, a third frame building was depicted on the north side of the old school building. The latter is labeled "Geo. Washington High School", but this was a temporary arrangement (Bromley 1921). Tieck notes that the "old bungalows" appearing in a 1927 photograph were used in 1920 when George Washington High School was started in the PS 52 building while its new building was being erected on Laurel Hill. The latter opened in 1925.

The other lots remained unchanged until ca. 1927, when additional one-story frame buildings were erected on old Lot 16, now subsumed by Lot 20 (Bromley 1927).

In 1955, most of Lot 20 was still vacant (Bromley 1955). A five-story brick wing with basement had however been built on the west side of the school, facing Vermilyea Avenue, partly over the site of the former two five-story buildings shown on old Lot 36, but not extending over the former rear yards. This is the current footprint of the building.

The old school survived until late 1956, when it was demolished to make way for a two-story addition on the western side of P.S. 52, erected at the corner of Broadway and Academy Street in 1958 (Tieck 1971, 26, n. 44).

E. Conclusions and Recommendations

The presence of known prehistoric sites and surface finds in the immediate vicinity of the Project Site; the former existence of a fresh water source on the Project Site; its proximity to rich sources of subsistence, and its location beside prehistoric pathways, make the Project Site highly sensitive for prehistoric remains (Fig. 8).

The Project Site's location next to Broadway, the main transport artery through the area, and its position midway between the Dyckman House and Fort Tryon, in the general area where the Battle of Fort Washington was fought, makes it highly likely that trace finds from the Revolutionary War era such as buttons, musket balls and the like may be found on the site.

Since Inwood was still relatively undeveloped in the early 20th century, it is possible that the two five-story buildings fronting on Vermilyea Avenue, shown on the 1916 Bromley map, were

equipped with cisterns and privies in their yards. Since this part of the Project Site, now part of a parking lot, has not be impacted by subsequent construction, it is sensitive for archaeological remains of such backyard features.

This study therefore concludes that the Project Site on Block 2233, Lot 20 is sensitive for prehistoric, possibly Colonial, and historic period archaeological remains and recommends that archaeological testing be performed prior to any work on the site involving in ground disturbance. Should any remains be located during the testing phase, a protocol for further archaeological investigation and mitigation be formulated in consultation with the LPC.

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G. List of Figures

Fig. 1. Tax map showing the location of the Project Site on Block 2233, Lot 20.

Fig. 2. 1916 Bromley map showing the location of the Project Site.

Fig. 3. 1782 British Headquarters plan showing the approximate location of the Project Site.

Fig. 4. 1851 Bolton map showing the approximate location of the Project Site.

Fig. 5. R.P. Bolton Indian Trails map showing the approximate location of the Project Site

Fig. 6. View of the Grammar School 52 from Broadway in 1902, from Tieck 1971, p. 17

Fig. 7. Looking southwest towards Grammar School 52 with the new school behind it, 1927, from Tieck 1971, p. 19.

Fig. 8. Areas of Potential Archaeological Sensitivity on Block 2233, Lot 20.

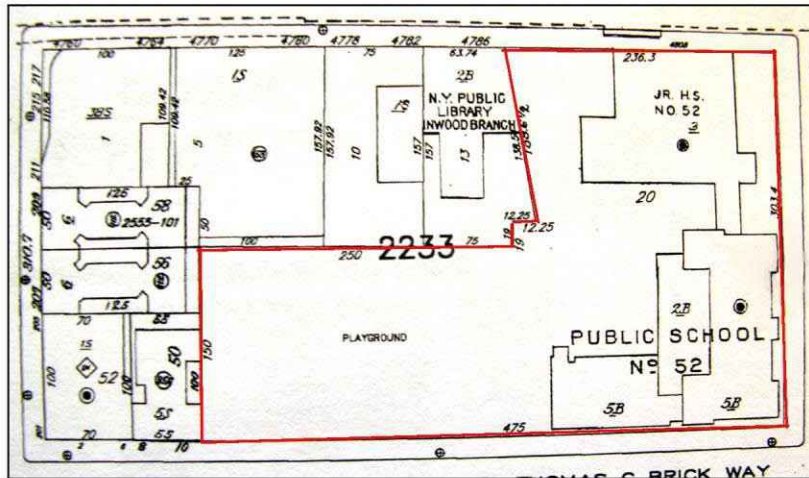


Fig. 1. Tax map showing the location of the Project Site on Block 2233, Lot 20.

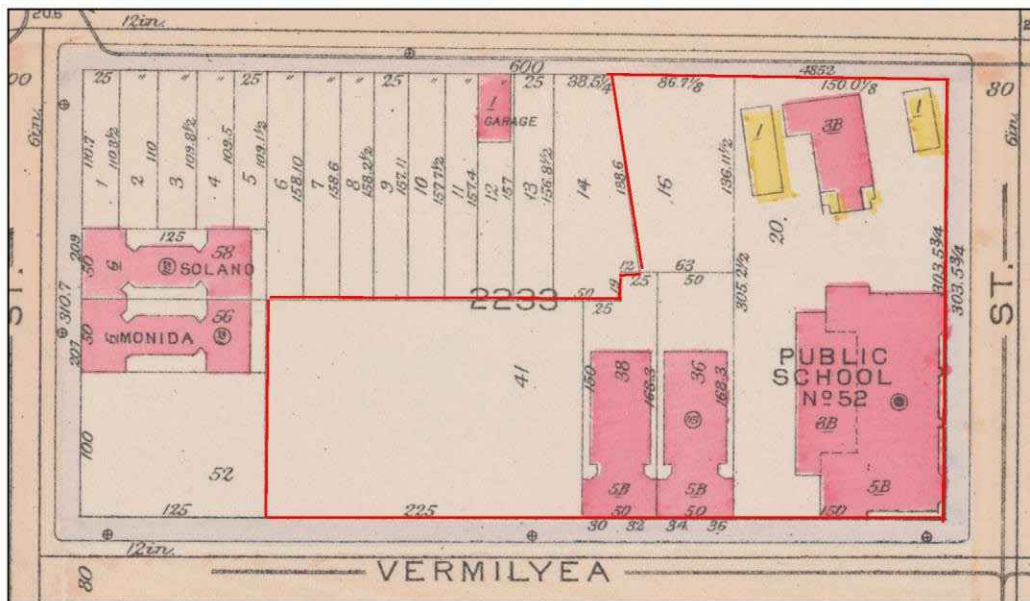


Fig. 2. 1916 Bromley map showing the location of the Project Site.

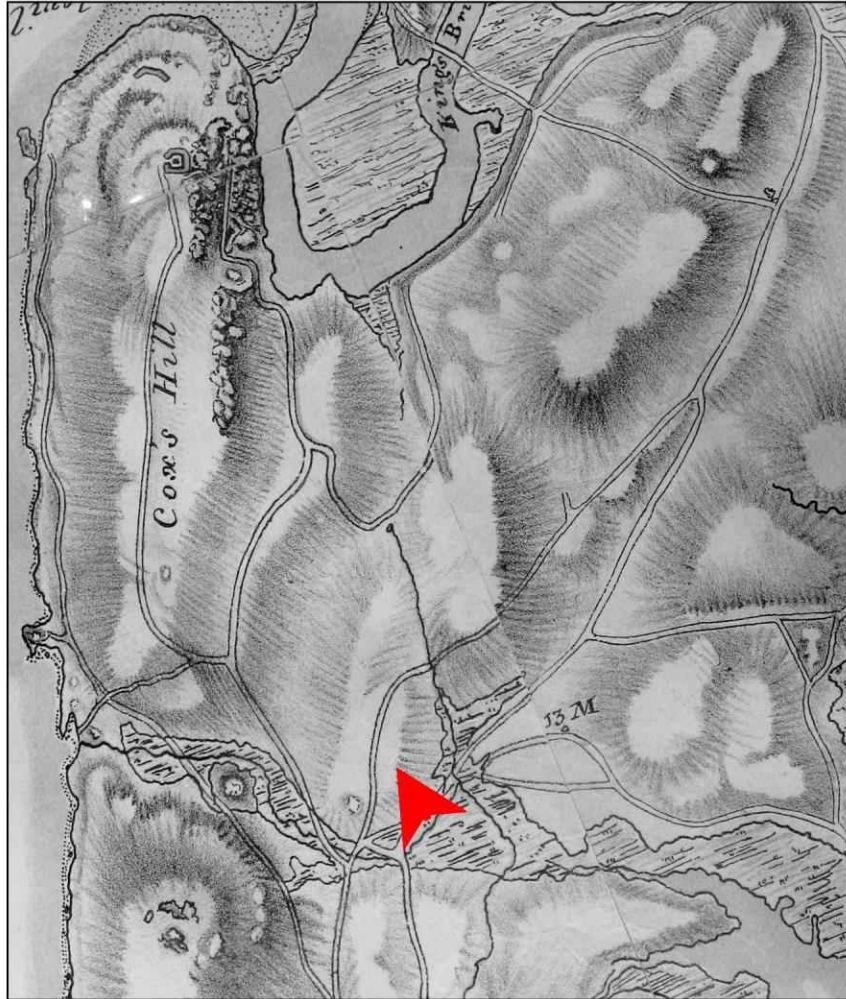


Fig. 3. 1782 British Headquarters plan showing the approximate location of the Project Site.

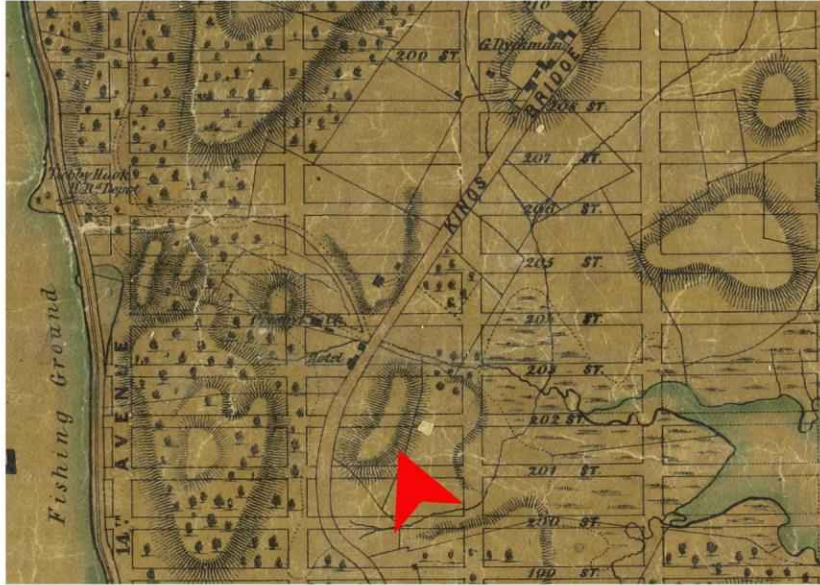


Fig. 4. 1851 Bolton map showing the approximate location of the Project Site.



Fig. 5. R.P. Bolton Indian Trails map showing the approximate location of the Project Site

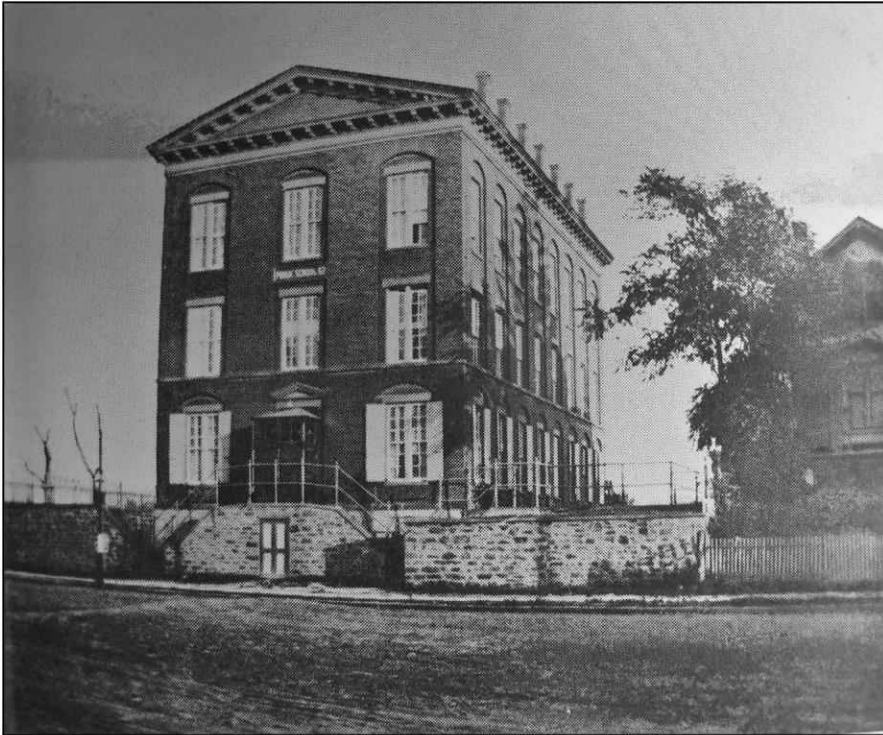
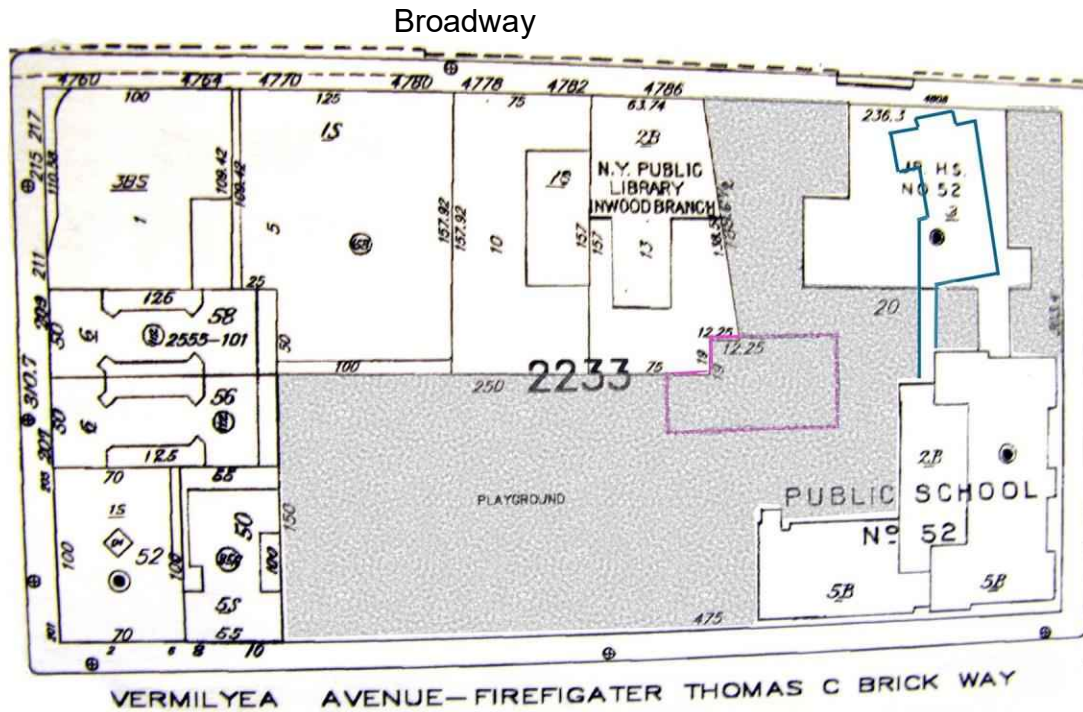


Fig. 6. View of the Grammar School 52 from Broadway in 1902, from Tieck 1971, p. 17.



Fig. 7. Looking southwest towards Grammar School 52 with the new school behind it, 1927, from Tieck 1971, p. 19.



- Areas of Potential Prehistoric and Colonial era sensitivity
- Footprint of old schoolhouse
- Area of Potential Historic sensitivity: former 19th century backyards

Fig. 8. Areas of Potential Archaeological Sensitivity on Block 2233, Lot 20

APPENDIX F

COMMUNICATION WITH LPC

ARCHAEOLOGY

Project number: DEPUTY MAYOR FINANCE/ECO DEV / 17DME007M
Project: INWOOD REZONING
Date received: 8/6/2018

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

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

Comments: The LPC is in receipt of the, "Scope of Work for Phase 1B Archaeological Testing for Block 2233, Portion of Lot 20, 4790 Broadway," prepared by AHRS and dated August 2018.

The LPC recommends that the plan be amended to increase the shovel test pit intervals to 15' from the now recommended 25.' Otherwise, the scope is appropriate.



8/14/2018

SIGNATURE
Amanda Sutphin, Director of Archaeology

DATE

File Name: 32476_FSO_ALS_08092018.doc

ARCHAEOLOGY

Project number: DEPUTY MAYOR FINANCE/ECO DEV / 17DME007M
Project: INWOOD REZONING; Inwood Library Site
Date received: 9/6/2018

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

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

Comments: The LPC is in receipt of the revised, "Scope of Work for Phase IB Archaeological Testing Block 2233, Portion of Lot 20, 4790 Broadway, New York, NY," prepared by Langan and dated September 2018. The LPC notes that the requested change was made. Therefore, the work may proceed.



9/7/2018

SIGNATURE
Amanda Sutphin, Director of Archaeology

DATE

File Name: 32476_FSO_ALS_09072018.doc