Made in New York (MiNY) – North Campus Project

CEQR Reference Number: 19SBS002K

Phase IA Archaeological Documentary Study

Prepared for:

The New York City Economic Development Corp

and

The New York City Department of Small Business Services

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Chapter 1: INTRODUCTION

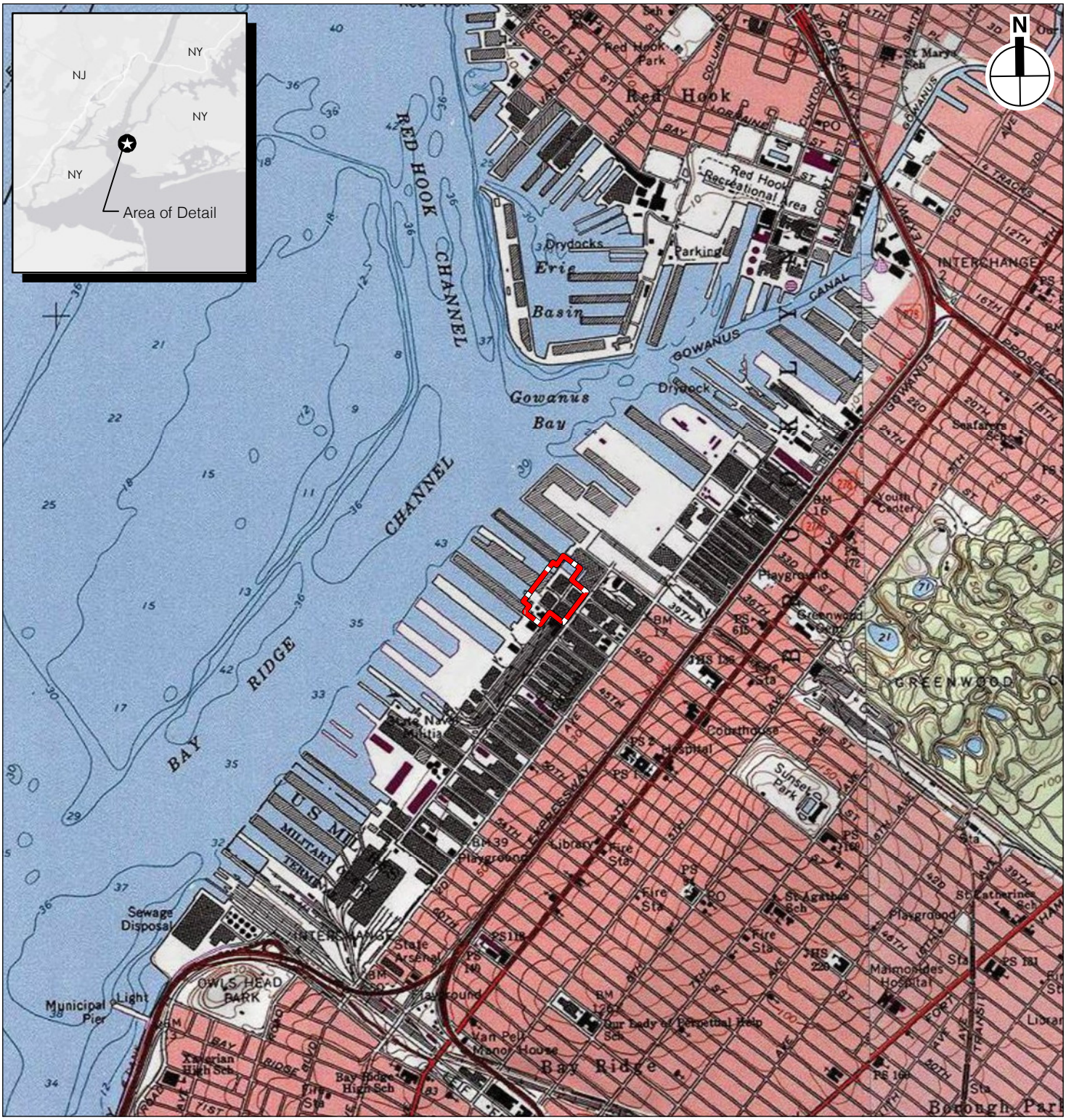
The New York City Economic Development Corporation (NYCEDC), in coordination with the New York City Department of Small Business Services (SBS), proposes to rehabilitate and repurpose a portion of the existing City-owned Bush Terminal Campus located in Sunset Park, Brooklyn, New York (Figure 1). This rehabilitation effort is being conducted to facilitate the creation of the Made in New York (MiNY) Campus, which aims to help synergize creative manufacturing uses and provide affordable industrial facilities for garment manufacturing, film and media production, and related services and industries (MiNY Project). The portion of the MiNY Project (MiNY North Campus) includes work at several buildings and facilities as well as site improvements to a portion of the Bush Terminal Campus from 40th/41st Street to 44th Street, and from First Avenue to the waterfront. The project would include work at Units A, B (and Unit B Annex), C, and D, Café Building, the Power House, and the bulkhead wall including an area of approximately 40 feet to its west, portions of which are in Gowanus Bay (Figure 2). The MiNY North Campus Project would receive City capital funding and is therefore subject to City Environmental Quality Review (CEQR). Dewberry Engineers, Inc. (Dewberry) was contracted by NYCEDC to conduct this Phase IA study as part of the CEQR review. In addition, the project requires a waterfront permit issued by the United States Army Corps of Engineers (USACE) and, therefore, would also comply with Section 106 of the National Historic Preservation Act (NHPA), as amended (36 CFR 800).

The project is located within the Bush Terminal Historic District, a historic property previously determined eligible for listing in the State and National Registers of Historic Places (S/NR). The boundaries of the Bush Terminal Historic District extend well beyond the MiNY North Campus Project and include all of the existing piers between 51st Street and 39nd Street and additional properties in Industry City from 51st Street to 32nd Street and from 2nd/3rd Avenue to the west.

The MiNY North Campus Project proposes to rehabilitate, repurpose, and, in some instances, remove existing structures within the project area for the creation of the MiNY Campus (see Figure 2). Specifically, current design plans for the project include:

- Unit A: The existing building would be preserved for use as the campus's new garment manufacturing hub with extensive interior work proposed to establish the building as a modern industrial facility. The existing roof and windows would be restored and new entrances are proposed for the building's south, east, and west elevations. The building would also receive design features to minimize impacts from future storm events by including a new structural slab as well as structural reinforcing along the perimeter of the building's first floor.
- Unit B: The building's north side annex would be demolished to allow traffic to proceed west through the campus from 41st Street at First Avenue. The newly exposed exterior wall's façade would be repaired and new doors and windows or modifications of existing doors and windows along the new 41st Street extension would be introduced. No major interior work would take place.
- Unit C: The building would be preserved with major interior renovation work limited to the building's first floor. The first floor's interior would be demolished and a new lobby and finishes would be constructed. New entry and egress doors and new storefront entrances would be introduced on the building's west and southeast-facing façades. Five of the seven existing loading docks for delivery trucks and equipment currently located on the west side of the building would be filled in and two new docks would be located on the west side of the building. Windows on all floors would be replaced; where required, façade repairs would be undertaken. The building would also receive design features or systems to minimize impacts from future storm events, including a new structural slab and structural reinforcing along the perimeter of the first floor.
- Unit D: The existing one-story building would be demolished and replaced with a new media/production facility.
- Café Building: The Café Building would be rehabilitated for use as a space for food vendors.
- Pier 6: Waterfront Improvements including approximately 40 feet of the eastern extent of Pier 6.

12/18/2018



Source: ESRI, U.S.G.S. Online Topographic Maps

LEGEND

Project Area

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

USGS Site Location
FIGURE 1

LEGEND

Project Area

Bush Terminal Historic District

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area
FIGURE 2

- Power House: The Power House would be demolished and replaced with a new facility that would include approximately 40,000 gross square feet of media/production space and have a maximum height of 45 feet.

The MiNY North Campus Project would also include streetscape improvements and utility upgrades. These additional improvements consist of: bike lane, lighting, landscaping, and surface treatment improvements to the 43rd Street Public Access Corridor; improvements to the pedestrian plaza in front of the Administration Building and between Units C and D; the extension of 41st Street between First Avenue and the interior lane between Units A/C and B/D; and utility upgrades. Waterfront improvements encompass an area approximately 40 feet to the west of the shoreline and would also consist of the creation of a waterfront esplanade, shoreline repair work between Piers 5 and 7, and the addition of a pedestrian/bike path outboard of loading zones. The MiNY North Campus Project will be phased – the design work for Units A/C. Unit B annex along with the site plan and utility work will be first (initial design currently underway), followed by proposals for the Unit D and Power House sites (initial designs expected early 2019) and ending with the rehabilitation of the Café Building beginning in late 2020. The MiNY North Campus Project proposes no alterations to the existing Administration Building, the Round House, the majority of Pier 6 beyond its bulkhead and 40 feet from the shoreline, and the Pump House.

For the Phase IA study, the Project Area is defined as the area of potential ground disturbance. As the exact location of potential utility upgrades and the extent of potential waterfront improvements are currently being developed, the entire project site is defined as the Project Area (see Figure 2). The archaeological investigation focused upon the Project Area. The permanent datum for the project would be NAD83 with a vertical datum of NAVD88. The Study Area for the project is defined as a 400-foot buffer around the Project Area (see Figure 2).

This Phase IA study has been conducted in compliance with the Landmarks Preservation Commission's (LPC) *Guidelines for Archaeological Work in New York City* (2018), with the New York State Office of Parks, Recreation, and Historic Preservation's (OPRHP) *State Historic Preservation Office Phase I Archaeological Report Format Requirements* (2005), and with the New York Archaeological Council's (NYAC) *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State* (1994). As the MiNY North Campus Project requires permits issued by the USACE, the cultural resource investigation must also comply with Section 106 of the NHPA. The NHPA requires that a project's potential effects to cultural resources be evaluated prior to the onset of project activities. This study has been performed in accordance with the *Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation* (48FR44716). This report has been prepared to satisfy both CEQR and Section 106; coordination between the two review processes would follow the procedure outlined in the CEQR Technical Manual, Ch9: Section 720. Early consultation with both LPC and OPRHP for the proposed project was conducted on September 14, 2018 and September 20, 2018, respectively.

On October 1, 2018, a consultation letter introducing the MiNY North Campus Project and defining the proposed Areas of Potential Effects (APEs) for archaeological and architectural resources was submitted to the OPRHP for review and approval (Appendix A). On December 21, 2018, a letter was submitted to the OPRHP proposing revised APEs for the Project including the addition of the Power House and a revised scope of work with respect to Pier 6. On January 8, 2019, OPRHP concurred with the project description. Consultation letters to Interested and Consulting Parties to the MiNY North Campus Project are being prepared and will be in January 2019. Correspondence associated with the MiNY Project is included as Appendix A to this report. An Architectural Eligibility Assessment is currently being prepared for the Project and will be submitted to the OPRHP under separate cover.

Chapter 2: RESEARCH GOALS AND METHODOLOGY

This study includes both a Phase IA Archaeological Documentary Study. The archaeological study was designed to document the development history of the Project Area and determine its sensitivity for intact archaeological deposits. The study's research goals include: delineating the environmental and topographic conditions of the Project Area from precontact times to the present; determining the potential for the Project Area to have experienced precontact and/or historic period occupation; determining the extent of past disturbance within the Project Area; and, assessing the potential for intact precontact and/or historic period archaeological deposits in light of environmental conditions, past land use, and history of disturbance.

Potential archaeological sensitivity was categorized in terms of low, moderate, and high rankings per the NYAC standards. For the purposes of this study, these rankings were defined as follows:

- Low: Areas of low archaeological sensitivity are those whose predevelopment environmental conditions, e.g., distance to potable water, incline, poor soil drainage, suggest that there was little likelihood for precontact occupation. Such locations would also lack evidence for historic occupation or development, i.e., no record or map of known occupation could be identified or was developed after the extension of municipal sewer and water lines. Also, areas of low sensitivity would include areas of extensive past subsurface disturbance such that there was little potential for intact deposits.
- Moderate: Areas with environmental features that suggest past Native American occupation and/or areas of documented past historic occupation that have experienced limited disturbance. Such disturbance would be insufficient to have entirely compromised or removed any preexisting archaeological deposits.
- High: Areas with environmental features suggestive of Native American occupation and/or areas of mapped historic activities which have experienced little to no past disturbance.

The archaeological survey consisted of background research and photodocumentation of the Project Area. The background research included a review of previously identified archaeological sites and past archaeological reports within the vicinity of the Project Area available through the OPRHP's Cultural Resource Information System (CRIS), and on file with the OPRHP and LPC; review of readily available historic maps and atlases; examination of local histories, primary and secondary resources including deeds, building permits, surveyor notes, and city directories; review of utility data for the Project Area; and, an examination of current and past topographic and environmental conditions. A site visit was also conducted on September 5, 2018 and on January 3, 2019. Photodocumentation was conducted to record present conditions within the Project Area and to document existing structures, visible features, and indications of past disturbance.

Chapter 3: ENVIRONMENTAL CONTEXT

3.1 Geology And Topography

The MiNY Project is located within the Atlantic Coastal Plain Physiographic Province. The Atlantic Coastal Plain is a very gently sloping land surface near the eastern edge of North America. It is part of a continuous surface which extends offshore; the underwater section is called the continental shelf. According to Reeds, the "Coastal Plain is that portion of the former submerged continental shelf which has been raised above the sea without deformation" (1922:1). In general, the Atlantic Coastal Plain is flat with rounded gentle landscapes (Isachsen et al. 2000:150). Deposits along Long Island are characterized as Quaternary Period glacial and alluvial deposits (Fisher et al. 1970). Deposition within the Atlantic Coastal Plain has been characterized as "the accumulation of sediment during times of high global sea level and exposure and erosion during times of low global sea level" (Bennington and Merguerian 2007:11-12).

There were at least four major glaciations which impacted New York City culminating with the Wisconsin Period approximately 12,000 years ago. Glacial till was deposited by the glaciers as they retreated. During the ice age, a glacial moraine bisected Brooklyn, running in a northeast-southwest direction and marking the location of the southernmost and most recent glacial event (Schuberth 1968). The movement of the continental glaciers modified drainage and the surface of the land resulting in the formation of sand hills, kames, across New York City (Reeds 1922:2).

Topographically, the Project Area consists of a relatively flat developed waterfront. The landform gradually slopes downhill towards the Gowanus Bay. Elevations within the Project Area are less than 20 feet above sea level (asl). The western portion of the Project Area abuts the Gowanus Bay; the far eastern extent of the Project Area is approximately 600 feet southeast of the bay. Georeferencing the Project Area to the 1782 map of Manhattan and the surrounding area produced during the British occupation of Manhattan finds that the Project Area falls at the extreme southern end of the mapped area, just south of the Red Hook area (Figure 3). The Project Area is located on the western shore of Brooklyn and a portion of the Project Area is placed within the Gowanus Bay.). The western portion of the Project Area would have been created by landfilling activities throughout the nineteenth century. The Brooklyn shoreline expanded westward throughout the nineteenth and early twentieth centuries. Historic maps suggest that the coastline in the vicinity of the Project Area, prior to landfilling actions, would have been located approximately 400 feet to 500 feet to the east of the current bulkhead line (Figure 4). The shoreline was relatively unchanged from 1844 through 1880. However, by 1903, the coastline expanded significantly through an approximate 65 feet to 500 feet wide westward expansion, with the length of the shift increasing from south to north along the coast. Also, by 1903, Piers 5 through 7 of the Bush Terminal had been constructed. By 1911, all of the Bush Terminal piers are present and the shoreline remained relatively unchanged for the remainder of the twentieth century.

3.2 Soils

The Natural Resources Conservation Service (NRCS) Websoil Survey indicates that the Project Area and its near vicinity are characterized as Urban Land (UsA), sandy substratum (Figure 5). This soil type is associated with slopes of zero to three percent and consists of asphalt over human-transported material. The typical profile associated with Urban Land, sandy substratum, consists of:

- M1: 0-6": Cemented Material
- M2: 6-20": Cemented Material
- 2^C: 20-72": Coarse Sand

1/10/2019

Source: Ratzer 1766 and 1767 Plan of the city of New York

0 1,500 FEET

LEGEND

Project Area

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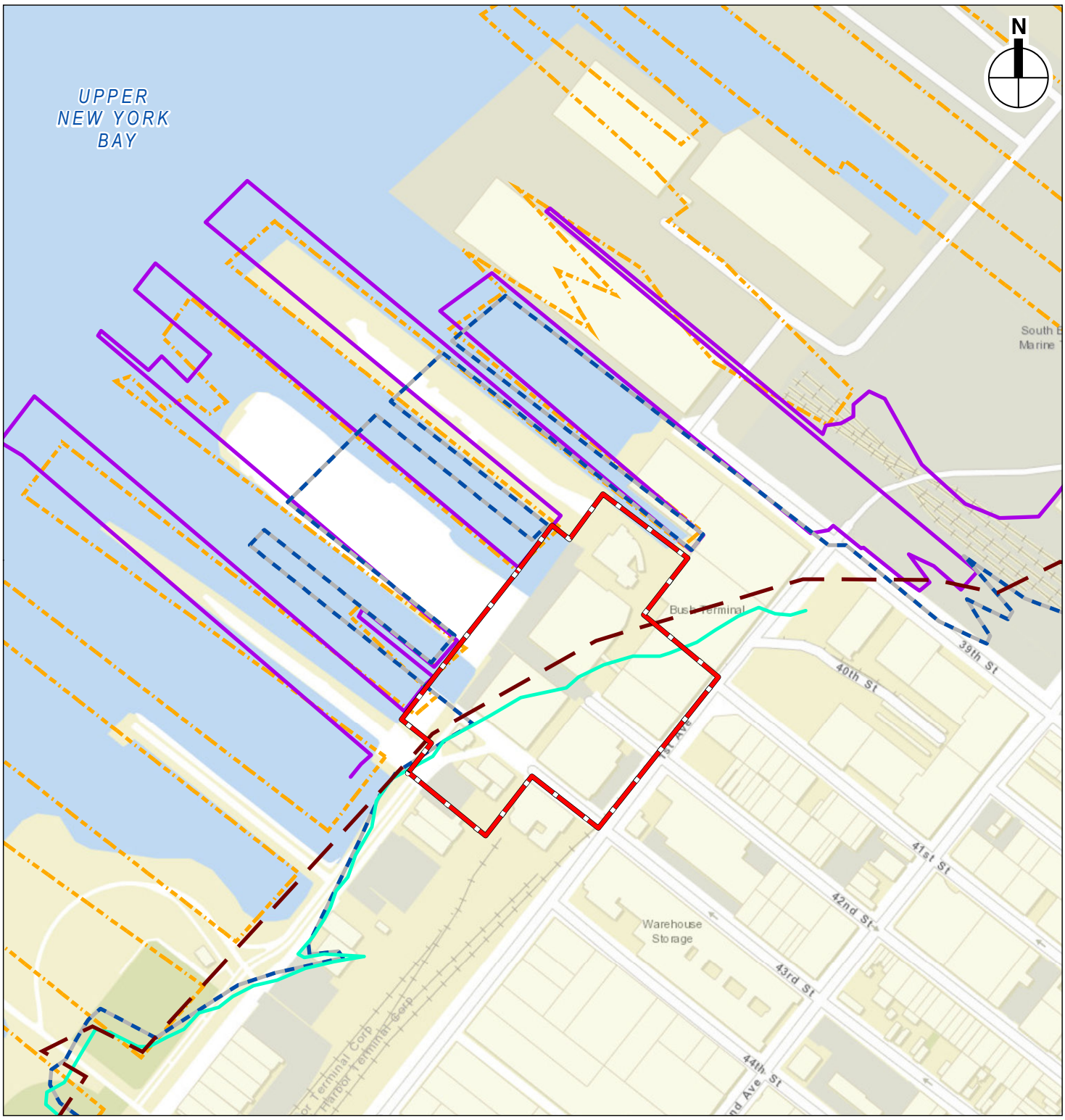
Project Area in 1782
FIGURE 3



0 400 FEET

LEGEND

- Project Area
- Shoreline 1844
- Shoreline 1880
- Shoreline 1886
- Shoreline 1903
- Shoreline 1911

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Brooklyn Shoreline Over Time
FIGURE 4

1/10/2019

Source: SSURGO Soil Survey, 2016.

0 300 FEET

LEGEND

Project Area

Soil Designation

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Project Area Soils
FIGURE 5

Chapter 4: PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES AND CONDUCTED STUDIES

Background research was conducted to identify known archaeological sites within a half-mile radius of the Project Area, known historic properties within and in the immediate vicinity of the Project Area, and previous cultural resource investigations conducted within the project vicinity. This research included a review of CRIS and a review of LPC's online report database.

4.1 New York State Cultural Resources Information System (CRIS) Review

A review of CRIS found no previously identified archaeological sites within one half-mile of the Project Area. Beauchamp and Parker both noted the presence of a Native American burial ground within South Brooklyn on Avenue U, and near Ryder's pond and Sheepshead Bay (Beauchamp 1900; Parker 1922). Oyster shells, precontact ceramics, and fragments of bone were also found in association with the skeletal remains. The Project Area is approximately 5.4 miles to the northeast of the reported burial ground. Beauchamp further noted that "few of the antiquities of this county have been reported except in a general way, nor were they ever conspicuous" (1900:79).

4.2 Previous Cultural Resources Surveys

A total of four past cultural resources surveys exist within one mile of the Project Area. These studies consist of Phase I-level and survey level documentation studies. The entirety of the Project Area is located within the study area of one of the four studies—Raber and colleagues *Final Report: Cultural Resources Investigations in Brooklyn Reach 2: New York Harbor Collection and Removal of Drift Project* (1985). This study was conducted in association with the USACE's proposed Harbor Collection and Removal of Drift Project (Drift Project); the project was intended to remove potential sources of debris and drift from the New York Harbor. The Reach 2 project area extended from the Henry Street Basin and Gowanus Canal on the north to the Bay Ridge Pier at 69th Street on the south. It encompassed approximately four miles of the Brooklyn waterfront including the current Project Area. Raber et al. inventoried the piers and bulkheads within Bush Terminal. Their inventory provided a description and development history for Piers 1 through 7 and the Short Pier between Piers 5 and 6. With respect to the current Project Area, Raber et al. recommended that neither Pier 6 nor the Short Pier were significant historic resources. For Pier 6, they noted that the solid fill pier was largely intact but in poor condition. A fire in the 1970s and another circa 1980 severely compromised the pier shed and the pier. They further concluded that Pier 6 lacked in integrity, as,

> The Pier 6(RM10/RP22-2) substructure is also largely intact, but what remains of the burned shed represents a substantial 1960s modification of the original two story structure.
> …It is also unlikely that original bulkhead and apron elements are intact, since their exposure to air and water probably required replacement or rebuilding…Rebuilding of these earlier bulkheads for the Bush piers apparently removed the original elements, except perhaps along the original west faces [Raber et al. 1985:57].

Raber et al. similarly found that the Short Pier, identified as a timber-pile construction with subsequent alterations in the 1920s and 1960s, was an example of a common and well-documented waterfront substructure, built and rebuilt throughout the twentieth century. Although the Short Pier was intact at the time of Raber et al.'s survey, given the commonality of the form along with its twentieth-century alterations, Raber et al. concluded that the pier was insignificant. They further found that the proposed Drift Project would pose no adverse impacts to historic properties with respect to Pier 6 or the Short Pier. Within the Bush Terminal, Raber et al. only identified one possibly significant waterfront structure—Pier 7, which, like Pier 6, is a solid fill pier. At the time of the Reach 2 survey, Pier 7's transit shed represented the most intact of the Bush Terminal pier sheds. Given the unusual design of the transit shed, the integrity of the structure, and its association with the Bush Terminal, Pier 7 was recommended as a significant resource and mitigation of the pier was recommended prior to any project actions (Raber et al. 1985:58).

Following the Brooklyn Reach 2 study, Thomas Flagg and Michael Raber prepared *Documentation for Determination of Eligibility (DOE) for Bush Terminal* and Historic American Engineering Record (HAER) documentation for the Bush Terminal (Company). The HAER documentation indicates that all components of Piers 5 and 7, except for the solid fill cores, would be removed as part of the Drift Project. The HAER was prepared to mitigate adverse effects to Piers 5 and 7 per a Memorandum of Agreement (MOA) between the Advisory Council on Historic Preservation (ACHP), the OPRHP, and the Army Corps, New York District (HAER NY-201). It should be noted that Raber et al.'s 1985 study recommended that Pier 5 was not a significant resource, while Pier 7 was significant and contributes to Bush Terminal. The existence of an MOA for both Piers 5 and 7 suggests that Pier 5 was also found to contribute to the S/NR-eligible Bush Terminal (contrary to Raber et al.'s 1985 recommendation) and, as such, required mitigation of adverse impacts for the Drift Project to proceed.

In 1985, Michael Raber also conducted survey level documentation of the 31st Street Pier in association with the Brooklyn Reach 2 project. In Raber et al.'s original Brooklyn Reach 2 study, they identified the 31st Street Pier as a potentially significant resource. The subsequent study examined the 31st Street Pier's eligibility for inclusion in the S/NR.

The 31st Street Pier was one of the first piers built by the Department of Docks and Ferries (Docks and Ferries) with a wooden substructure and an all-concrete deck. It was one of five piers built by Docks and Ferries between 1909 and 1916 as the South Brooklyn Freight Terminal or Gowanus Section. Raber (1985) noted that only two of these five piers, at 29th and at 31st streets, retained any integrity. He concluded that while the 31st Street Pier was significant in regional port history for both "engineering and municipal waterfront development innovations," the 31st Street Pier did not retain significant undocumented engineering elements, nor was it a "complete visual example of municipal facilities built at the South Brooklyn Terminal" (Raber 1985:8). With respect to design integrity, distinctive characteristics, and potential to yield important historic information, the 31st Street Pier was determined to be insignificant and, therefore, not eligible for the S/NR. Raber (1985) recommended no further cultural resource investigations or mitigatory measures for the site.

In 2008, John Milner Associates, Inc. (JMA) conducted a Phase IA survey for the South Pier Improvement Project northeast of the Project Area. The South Pier Improvement Project was located between 27th and 28th streets west of Second Avenue and consisted of approximately 2.75 acres located on the existing pier. The 28th Street Pier historically served as part of a larger ship repair and overhaul facility operated by the Shipbuilding Division of Bethlehem Steel. JMA found that components of the facility, including a plate shop and smaller buildings, were no longer extant. As these elements were missing and only remnants of structures, crane rails, and building slabs were present, JMA found that the pier lacked sufficient integrity to be S/NR-eligible. JMA also noted that the 29th Street Pier, which was previously identified as S/NR-eligible, was demolished during the 1990s. JMA concluded that there were no S/NR-eligible properties within or immediately adjacent to their study area. They also found that there was no possibility for significant archaeological resources. As a result, no further cultural resource investigations were recommended.

AKRF, Inc. (AKRF) conducted a Phase IA documentary study approximately one mile to the northeast of the Project Area in 2015. AKRF's study was undertaken in association with proposed repairs to an existing timber cribwork bulkhead at 280 Richards Street which was failing and required stabilization. The Richards Street bulkhead had been previously evaluated by Raber Associates in 1984. Raber Associates concluded that only those portions of the Richards Street bulkhead located below the waterline could be considered as potentially significant. AKRF documented that the existing bulkhead above the water line had significantly deteriorated and had been altered over time. As such, this portion of the bulkhead was not considered a significant historic resource. Furthermore, AKRF concluded that there was no precontact or historic archaeological sensitivity within the 280 Richards Street property. However, they did note that the portions of the bulkhead under the waterline were potentially significant. Nevertheless, given that the project designs did not propose alterations to the underwater portions of the bulkhead, AKRF recommended no additional cultural resource investigations.

Two Environmental Assessment Studies (EAS) have also been conducted within the immediate vicinity of the Project Area. In March of 2005, NYCEDC submitted a CEQR EAS for the Bush Terminal Piers Open Space Project which proposed the creation of a 23-acre park along the waterfront of Sunset Park. The proposed park would encompass the location of Piers 1 through 5 and the landfill between Piers 1 and 4. The EAS indicated that the Bush Terminal Complex is eligible for New York City Landmarks Designation and listing in the S/NR. The EAS further indicated that no structures associated with the S/NR-eligible Bush Terminal Complex were located within the Bush Terminal Piers Open Space Project. The EAS noted that the piersheds previously located upon the piers were removed in the 1970s and that the area between Piers 1 and 4 was subsequently filled to create an unconstructed container port. Visual inspection of the piers and bulkheads revealed the general poor condition of the waterfront structures. Given the lack of structures along the piers and the deteriorated state of both the piers and bulkheads, no project impacts to historic resources were expected. Furthermore, the project was not considered to pose an adverse effect to the Bush Terminal Complex. Correspondence with LPC and OPRHP for the project indicated that the project did not have archaeological significance and that the Bush Terminal Complex is eligible for Landmarks Designation and is S/NR-eligible (Parsons Brinckerhoff 2005).

In 2008, NYCEDC also conducted an EAS for Bush Terminal Units B and C. This EAS was conducted in association with the proposed disposition of Units B and C in Bush Terminal to a private entity. The study also indicated the Landmarks Designation-eligibility and S/NR-eligibility of the Bush Terminal. It further noted that the proposed disposition would result in no physical changes to Units B and C aside from repairs to the façade, brick repointing, and window replacement. As such, it was anticipated that the proposed action would not result in significant adverse impacts to Units B and C. Correspondence with LPC regarding the project was included as an appendix to the EAS. This correspondence indicated that Block 725, Lot 1, Block 715, Lot 1, and Block 710, Lot 16 (corresponding to parts of Units A, B, C, and D; the Power House; and large portions of the waterfront) were characterized as properties with no archaeological significance. LPC also found that Units B, C, and D, as well as the Power Plant within the Bush Terminal Complex, were eligible for LPC and S/NR listing (Urbitran Associates, Inc. 2008).

Chapter 5: HISTORIC OVERVIEW

5.1 Seventeenth And Eighteenth Century Prior To Revolutionary War

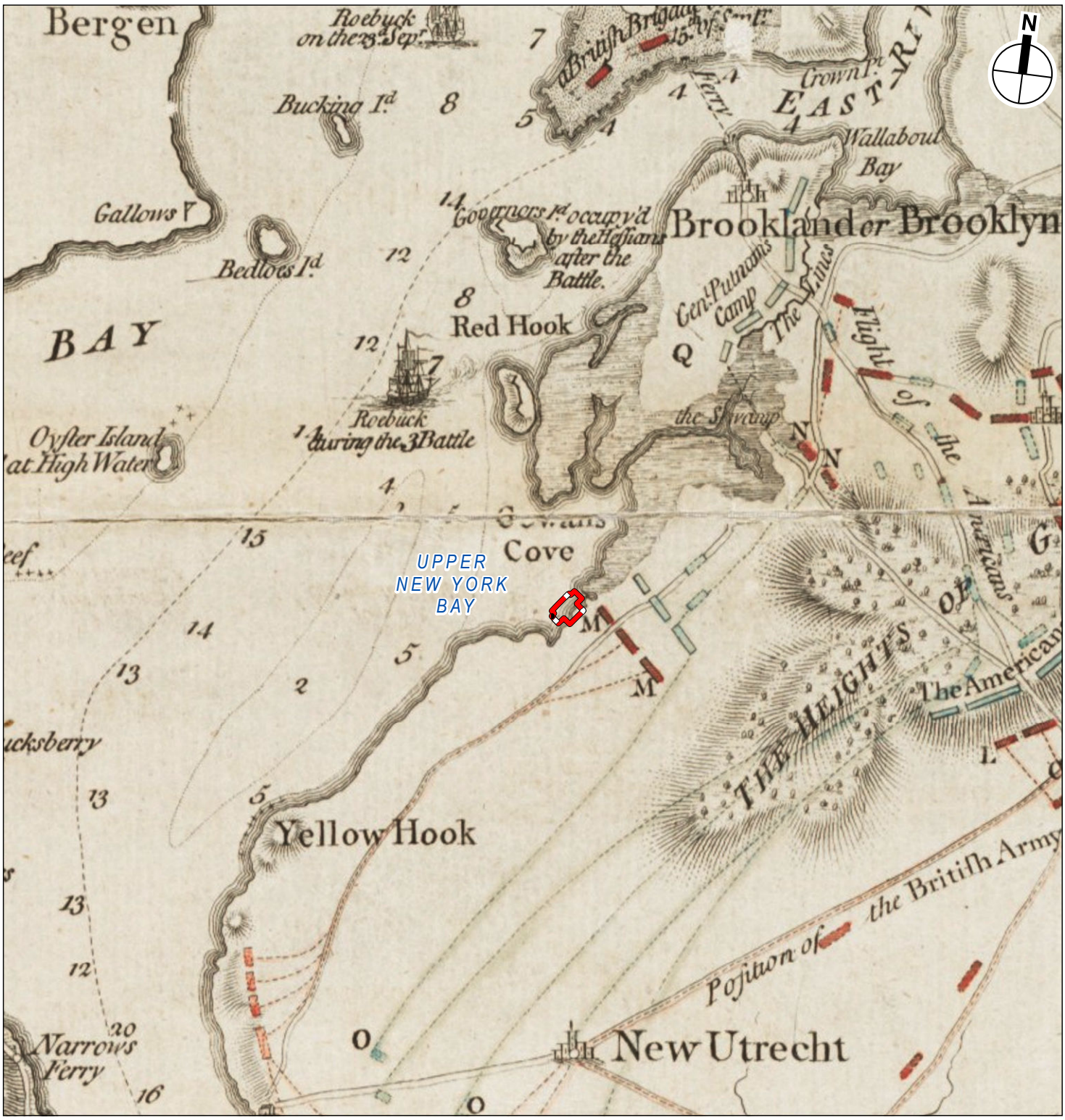
At the time of European contact, the majority of Kings County was occupied by the Canarsee. A subgroup of the Canarsee, the Marechkawiek, occupied much of Brooklyn (Grumet 1981:26-28). The Canarsee were documented fishing and oystering along the East River up to Blackwells and Wards islands. In 1670, the Canarsee sold New Utrecht and the Mareykawick territory to European settlers. The tribe then receded into a few village sites at Canarsee and at Ryder's Pond, an area which had been established as a reserve for the indigenous population in 1665 (Bolton 1920:46-51).

By 1621, the Project Area's portion of Brooklyn was part of a Dutch colony. The Dutch West India Company, which had been chartered by the Netherlands to oversee and consolidate Dutch activities in the North American colonies, began purchasing land in northwestern Brooklyn in the late 1630s. After purchasing land from the local Native Americans, the Dutch West India Company would then sell the land to European settlers (Armbruster 1918; AKRF 2017). In 1636, Adriaense Bennett and Jacques Bentyn purchased approximately 930 acres of land from the Native inhabitants. This property included those portions of Brooklyn extending from the vicinity of 28th Street along Gowanus Cove to the New Utrecht line and included the current Project Area. In 1638, the Dutch West India Company began making land grants to any individual who was willing to set up a farm. By 1646, nearly the entire waterfront from Newtown Creek to the southerly side of Gowanus Bay was owned by European farmers. Small hamlets arose in the original centers of settlement and included Gowanus, The Waal-boyt, and The Ferry (Stiles 1867:81). The larger territory was given the name Brooklyn (Breuckelen), whose spelling varied over time, after a Dutch word meaning "a free loan, given to a tenant or user for a certain consideration" (Armbruster 1914:20).

In 1664, the English acquired control of New Netherlands. Brooklyn, at this time, was an agricultural community. Under British rule, New Netherlands was renamed New York while Brooklyn retained its name. Governor Nicolls granted Brooklyn "a full and ample patent, confirming the people in their rights and privileges" in 1667 (Stiles 1867:89). This patent affirmed the landholdings which had been purchased by the European colonists from the Dutch West India Company. By 1738, Kings County had a population of 2,348. With respect to towns within Kings County, Brooklyn accounted for the largest population with 721 inhabitants (Stiles 1867:93).

5.2 During The Revolutionary War

The Battle of Long Island (Brooklyn), the first major battle within the Revolutionary War occurred within western Brooklyn near the Project Area (Figure 6). The Project Area was located northwest of the battle; much of the Project Area would have been underwater. In the summer of 1776, George Washington had divided his army of approximately 20,000 between defending New York City and Brooklyn. The main Continental line was located on Brooklyn Heights with a series of entrenchments and fortifications. An outer line of defenses under the command of Major General John Sullivan was located in the vicinity of present-day Prospect Park. Alexander Stirling commanded the right flank near the harbor and the Gowanus Swamp. The Continentals intended to slow any British advance by forcing them to fight through rough, wooded terrain, conditions for which the colonial militias were better suited. The British amassed a fleet with over 25,000 troops on Staten Island; they crossed into Gravesend Bay, Brooklyn in late August 1776. From there, they advanced to Flatbush and paused. The British launched several attacks, including an outside flank which unexpectedly fell upon the Continental troops from the Gowanus Heights. A western attack with General Grant advanced on Stirling's troops to the east of the Project Area. Seeing the hopelessness of the Continental's position, Stirling and his troops retreated through the Gowanus Swamp towards the main Continental line. A Maryland regiment



1/10/2019

Source: Faden 1776 Plan of New York Island

LEGEND

Project Area

0 4,000 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1776
FIGURE 6

under the command of Colonel Smallwood was sent to provide cover for the retreating troops. This regiment of 400 attempted to hold back the British advance near the Vechte Cortelyou House behind the Flatbush Pass.

The Marylanders could not contain the British, with over 250 soldiers being lost; however, the majority of Stirling's troops made it through the swamps and reunited with the main line. On August 29, 1776, under the cover of heavy rains and wind, General Washington and his remaining troops left Brooklyn and retreated across the East River to New York City (Kennedy 2009; Mount Vernon Ladies' Association 2017; Higgins 1916).

The British occupied Brooklyn for much of the Revolutionary War. Brooklyn and the City of New York were evacuated by the British troops and refugees in November of 1784. According to Stiles, at the time of the British evacuation,

> Brooklyn, which during the war, had been wholly military ground, presented a sadder scene of desolation than any other town in Kings County. In 1786, after its occupation by the British, free range had been given to the pillaging propensities of the soldiery. Farms had been laid waste, and those belonging to exiled Whigs given to the Tory favorites of Governor Tryon. Woodlands were ruthlessly cut down for fuel, buildings were injured, fences removed, and boundaries effaced…
> When, therefore, the inhabitants returned to their desolated and long-deserted homes, their first efforts were directed to the cultivation of their lands, the re-establishment of their farm boundaries, and the restoration of their private affairs [1867:100].

5.3 Nineteenth Century

Present-day Sunset Park was historically divided between the Town of Brooklyn and the Town of New Utrecht. The area was primarily agricultural in the early nineteenth century. Local farmers sold their produce in the Town of Brooklyn or used ferry lines to access markets in Manhattan. In 1825, the first coach line was introduced into the area. The establishment of the City of Brooklyn in 1834 lead to further development of the Sunset Park area. From 1855 to 1896, the City of Brooklyn grew eventually encompassing all five of the original Kings County towns—Bushwick, New Utrecht, Flatbush, Gravesend, and Flatlands (Sanchez 1989).

With the City of Brooklyn incorporation, plans were made to establish streets as far south as 60th Street. Various economic crises delayed the project; the street grid was not established until after the Civil War (Sunset Park Restoration Committee 1980). The Greenwood Cemetery was established in 1839 as one of the first rural cemeteries in the United States. Improvements in transportation, including horse car lines, spurred development south of 36th Street and contributed to industrial growth. Due to its centralized location, Sunset Park became an increasingly urbanized community with factories being built across the area (Jackson 2010:1266-1267; The Peopling of New York 2010).

Between 1830 and 1870, the northern part of Sunset Park, known as Ward 8 of the City of Brooklyn, transitioned quickly into an urban community. The population increased from 487 in 1835 to 9500 in 1870; by 1900, the area had a population of 52,000. Factors contributing to and spurring the development and population growth within the area included: the waterfront with its piers, warehouses, and factories; rapid improvements in transportation consisting of stage coaches, horse-drawn trolleys, elevated lines, and ferries; and the role of the churches (Sanchez 1989).

Immigration into the area first began with Irish immigrants in the 1840s. These populations worked on the docks, built warehouses and factories, and laid down trolley lines. After 1870, wooden houses were replaced by brick and brownstone row houses. Between 1880 and 1914, immigration into the area transitioned to individuals of Polish, Norwegian, and Finnish descent (Jackson 2010:1267; Sanchez 1989; The Peopling of New York 2010).

5.4 Development Of The Bush Terminal, 1890s-1920s

In the 1890s, Irving T. Bush began construction of the Bush Terminal, which he envisioned as a center of manufacturing and distribution, "an industrial city within a city," along the waterfront of Sunset Park (Jackson 2010:193). His enterprise initially began on property inherited from his father, Rufus Bush, co-owner of the former oil business, Bush & Denslow Manufacturing Company (Bush & Denslow). The inherited property consisted of two waterfront lots on which "a wide, incomplete peer [*sic*] stood, filled with ashes from the refinery and other debris" (HAER NY-201:4). Irving Bush purchased the refinery property, an adjacent block, from Standard Oil in the early twentieth century. The refinery had been located upon a solid-fill pier which was later rebuilt as Pier 7. After acquiring the property, Irving Bush began filling the incomplete bulkheads and operated a retail coal plant for revenue. The incomplete bulkhead was slowly filled with ballast from sailing vessels and city refuse. In addition to completing this first bulkhead, Bush also undertook the construction of six warehouses with a pier shed in front (Bush 1929:16-17). Bush also acquired an old railroad engine and a tow boat.

In 1902, with increased financing, Bush expanded his land holdings and buildings. To attract freight traffic to the Bush Terminal, he originally negotiated shipments of hay from Michigan. Bush also chartered two old steamships, labeling them the *Independent Steamship Line*, to advertise that the Bush Terminal was open for freight shipments. The first cargo to arrive at the terminal was bananas from Jamaica. After six months of running ships to Jamaica for bananas, Bush had sparked sufficient interest in freight shipping to Brooklyn that he was approached by other businesses and retired the *Independent Steamship Line* (Bush 1929). In 1904, Bush and others petitioned the House Committee on Rivers and Harbors to encourage the War Department to project the pier headline along the North River further into the stream. This extension would enable New York Harbor to accommodate long steamships and low dockage rates. In their testimony before the committee, Bush and others indicated that the government was currently deepening the channel along the shore between 13th and 65th streets in Brooklyn (New York Times 1904).

By 1915, the Bush Terminal was nearly complete with seven deepwater piers extending from the bulkhead in South Brooklyn, near the original shoreline, into the Upper New York Bay. The piers extended from a timber bulkhead whose construction required the removal of some upland to provide a uniform bulkhead line and more dockage. The piers extended to the federal pierhead line; the slips were dredged to approximately 32 feet. Piers 1 through 5 were 150 feet wide and ranged from 1330 feet to 1351 feet long. The piers were built on solid earth banks, retained by sheet piling and secured by riprap stone on their lateral margins (Figure 7). Piers 6 and 7 originated as solid fill, most likely crib-retained structures. Pier 6 was reconstructed in 1913 and contained two decks. Pier 7 was completed in 1905 using the construction method for Piers 1 through 5 with additional earth fill (Flagg and Raber 1986:5-7; American Railway Engineering Association [AREA] 1904: 185-188).

Behind the piers, Bush provided a working bulkhead for the handling of cargo going to and from the waterfront. Beyond the bulkhead, there were over one hundred warehouses for the temporary storage of goods awaiting distribution. A large railroad yard, the Bush Terminal Railroad, was located behind the warehouses. Rail lines extended from the railroad yard to the piers, carfloats, and tugs for interchange with the rest of the port (Figure 8). The railroad yard was also a contract terminal for trunk rail lines and enabled shippers from the terminal to send freight to any North American railroad through a local railroad company. The Bush Terminal Railroad provided links to other American rail lines via transfer bridges at 51st Street and 65th Street. There were 15 multi-storied loft buildings behind the rail yards which provided affordable space to industrial tenants (Flagg and Raber 1986:5-6; HAER NY-201:5-6; New York Herald 1910).

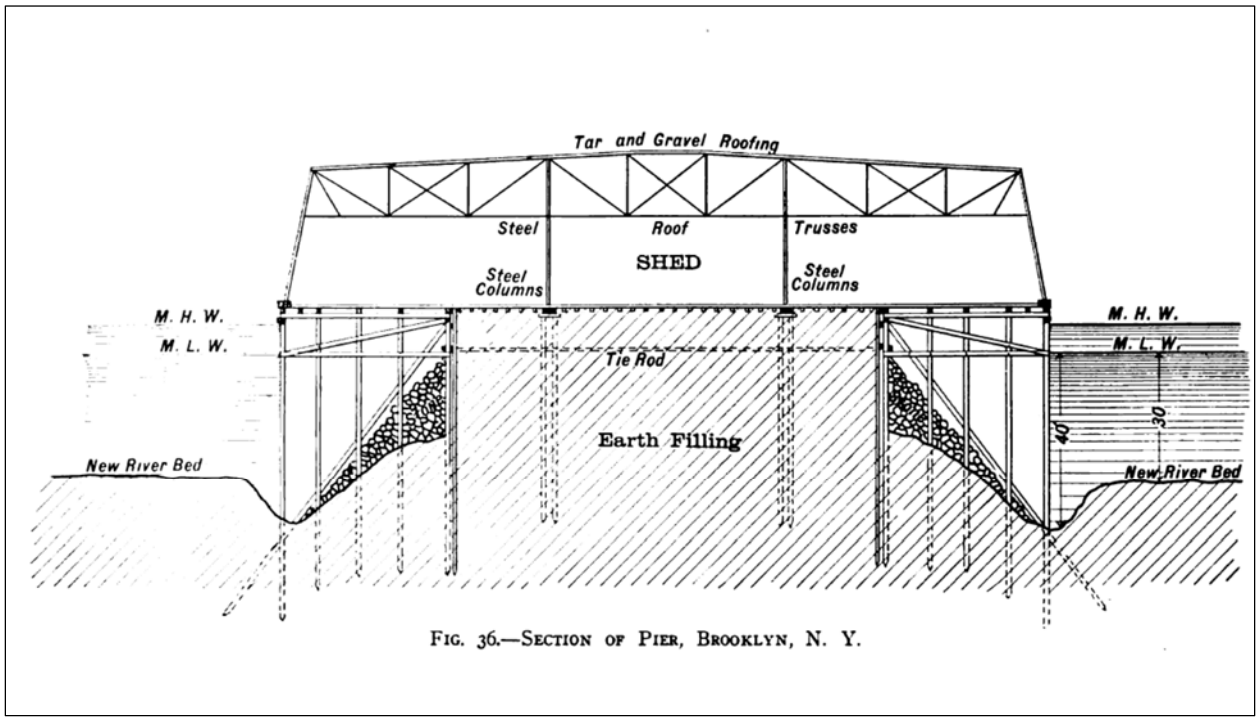
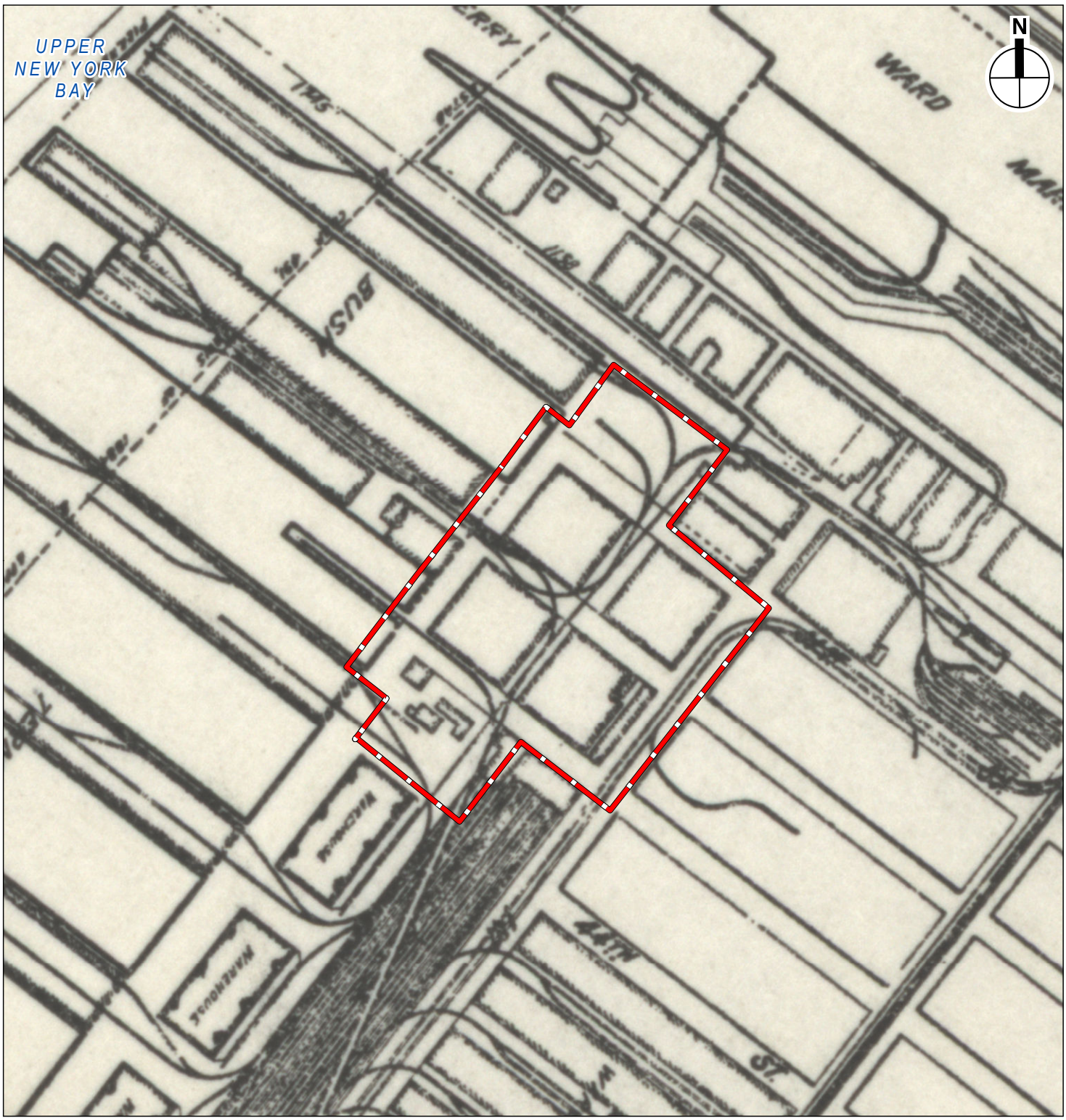


Figure 7: Cross-Section of Bush Terminal Pier, 1904. (Reproduced from AREA 1904:188).



1/10/2019

Source: Tompkins 1911 Department of Docks Map

0 300 FEET

LEGEND

Project Area

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Map of Bush Terminal in 1911
FIGURE 8

At its height, the Bush Terminal occupied approximately 200 acres between 27th and 50th streets, handled 50,000 railroad freight cars, and had 18 piers that were the port of call for 25 steamship lines (Figures 9 and 10) (Federal Writer's Project 1982:467-468; Jackson 2010:193-194). The terminal also

> Provided utilities to service the entire complex: two power plants for steam, heat, and light, an electrical distribution system, and all other necessary utilities. There was also space for a bank, restaurants and cafeterias, a medical center for the workers, a center for longshoremen, and, in earlier years a trolley running on the freight tracks to provide transportation for workers [Flagg and Raber 1986:6].

Historic photographs from the early twentieth century also illustrate bustling activity within the Bush Terminal (Figures 11 and 12). Figure 11 shows the labor and technology employed in the unloading and storage of material into the waterfront surface of a warehouse within Bush Terminal, Unit C. Figure 12 illustrates foot traffic at the 43rd Street entrance. The brick walkways and rail spurs lines within the campus are visible.

5.5 Twentieth Century

In 1891, public officials set aside 14 acres for the creation of a public park—Sunset Park. In 1903, Sunset Park was expanded to 24.5 acres (Sunset Park Restoration Commission 1980). The name "Sunset Park" was used to refer to the current neighborhood in the 1960s (The Peopling of New York 1910).

From 1900 to 1930, the Sunset Park area flourished. The Bush Terminal brought jobs and industries. From the Bush Terminal rail yards, goods and materials could travel by rail across Brooklyn to Queens and Long Island or over the Hellgate Bridge to the Bronx and New England. The warehouse and pier space of the Bush Terminal had many occupants over the years including the Lily-Tulip Paper Company, My-T-Fine, Beechnut Coffee, Manischewitz Wine, and Virginia Dare extracts (Sunset Park Restoration Committee 1980).

The Brooklyn Army Terminal was constructed in 1919 and contained millions of feet of piers, warehouses, and railroad connections. The terminal extended from 58th to 64th streets and was used for shipping supplies and soldiers to military bases overseas and throughout the United States. The Brooklyn Army Terminal had a storage capacity of half a million tons, two eight-story warehouses of reinforced concrete, and three two-story piers (Federal Writer's Project 1982:468; Jackson 2010:1267).

In the 1930s and 1940s, the local economy entered a declining period. The decline was precipitated by a number of factors including the Great Depression, the cessation of the Third Avenue elevated train line, and the construction of the Gowanus Expressway in 1941. The Gowanus Expressway, which was widened in 1964, was built over Third Avenue, a previously important shopping and entertainment strip within the community. Construction of the expressway resulted in the displacement of businesses and residents and separated the industrial and residential sections of the neighborhood (Sanchez 1989:9-10; Jackson 2010:1267). The local economy was also hurt by the invention of containerized shipping which allowed goods to be rolled off ships and directly on to trucks. This mechanization saved both money and time by reducing the necessary amount of labor and any diminishing opportunities for theft. While the New Jersey piers adapted to this change in technology, the Brooklyn and Manhattan piers, owned by the New York City Department of Ports and Terminals, were slow to react. This reluctance led to a loss in competitiveness and business (Sanchez 1989:9).

During World War I and World War II, the area experienced increased activity and a surge of employment as supplies and troops for the war shipped out of the Brooklyn Army Terminal. The Bush Terminal was also heavily trafficked and was commandeered by the War Department during World War I (New York Times 1918). Irving Bush died in 1948 at the age of 79 (New York Times 1948, 1976).

Figure 9: Advertisement for Bush Terminal, 1910 (New York Herald 1910).

Figure 10: Aerial View of Bush Terminal, Looking Southeast. (Reproduced from HAER NY-201: Originally from Fairchild Aerial Surveys, 1958).

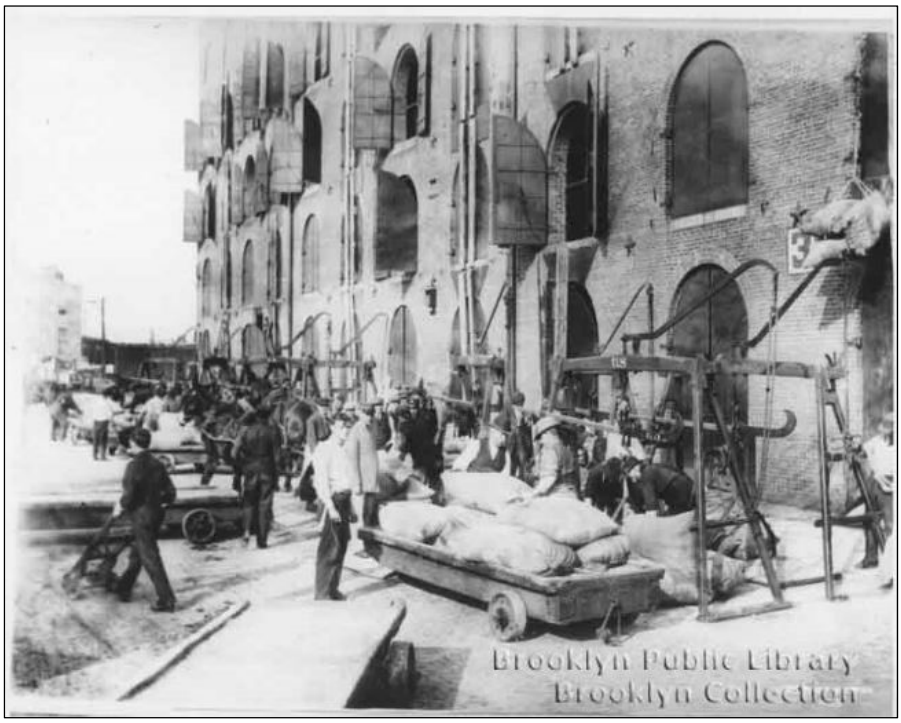


Figure 11: Unloading and Storage of Material at Bush Terminal, circa 1900. (Image Reproduced from Brooklyn Public Library, Brooklyn Collection.)

Figure 12: 43rd Street Entrance to Bush Terminal, circa 1900s. (Image Reproduced from Brooklyn Public Library, Brooklyn Collection.)

Starting in the late 1940s, a Puerto Rican population moved into the area and began occupying vacated housing between the Gowanus Expressway and the waterfront. From 1950 to 1980, the population of Puerto Rican descent expanded from 1,800 to 39,000. By the 1960s, the Bush Terminal was known as Industry City and contained 150 tenants employing 25,000 workers. Most of the workers lived within Sunset Park. In 1965, Industry City was purchased by Harry B. Helmsley. The active port was deemed unusable in the 1970s due to contamination. In 1971, railroad service in and out of the Bush Terminal ceased (Sunset Park Restoration Committee 1980). On May 3, 1974, Piers 1 through 4 were leased by the Northeast Marine Terminal Company. With this lease, New York City, who now owned Bush Terminal, agreed to demolish the piersheds and other pier components; the area between Piers 1 through 4 was to be filled to create upland for parking. By 1978, these piers were out of service; the sheds were removed; and the area between the piers had been partially filled. Piers 5 through 7 went out of service shortly thereafter and were primarily used to tie up floating equipment (Flagg and Raber 1986:7). The Brooklyn Army Terminal was also deactivated in the 1970s (Jackson 1910: 193, 1267).

In 1978, the Southwest Brooklyn Industrial Development Corporation was organized to protect businesses and bring investment to Sunset Park. Through their work, along with local, state, and federal aid, the economy of Sunset Park improved. An influx of Latin American, Chinese, and Asian immigrants came to the area in the 1980s. In 1987, the Brooklyn Army Terminal was reopened. On August 23, 1981, the majority of Piers 5 and 6 were burned in a fire. Since that time, there were frequent small fires on Piers 5 through 7, and a fire in July 1985 destroyed virtually all of the remaining Pier 6 superstructure (Figures 13 and 14) (Flagg and Raber 1986:7).

Figure 13: Bush Terminal Piers 5 through 7, circa 1988. (Reproduced from HAER NY-201).

Figure 14: Bush Terminal Piers 5 through 7, circa 1988. (Reproduced from HAER NY-201-B).

In the early 1990s, Bush Terminal possessed 6.5 million square feet of floor space in 16 buildings, ranging in height from six to 12 stories. Most of the terminal occupants consisted of manufacturers and distributors of garments, printed products, women's fashion accessories, processed food, plastic, electronics, and toys (Jackson 2010:193-194). In recent years, New York City and New York State invested 36 million dollars for the development of a new park on the 23 acres between 43rd and 51st streets (Jackson 2010:194). In 2014, the Bush Terminal Park was cleaned up and opened to the public. The Bush Terminal Park is located between 44th and 50th streets along the waterfront (New York City Parks 2018). Sunset Park currently has a population of approximately 129,473.

Chapter 6: BLOCK/LOT HISTORY

6.1 Block 725

Current Block 725 is bounded by 51st Street, 43rd Street, First Avenue, and pierhead lines on the west. Historic research indicates that the boundaries of the block varied over time as have the boundaries of the lots within the block. As the history of lots 1, 75, and 100 are intertwined, they will be discussed as one unit—Block 725.

The earliest land record associated with Block 725 dates to 1696 (Table 1). At this time, the block was sold by Adrian Bennett, Senior to Symon Aersen. The block was one of many which were acquired by Aersen in this sale. The property was interchanged among the Freeholders of Brooklyn and the Patentees of the Town of Brooklyn through 1770. Ratzer's 1766 *Plan of the City of New York* indicates that at least half of Block 725 was underwater (see Figure 3). The southeastern portion of the block consisted of undeveloped swampland and meadows. In 1770, Teunis Bergen purchased this block from Simon and Geeshe Bergen; in the same year, Teunis sold the block back to Simon Bergen. The Bergen family primarily held title to the block up until 1884.

A review of publicly available historic maps indicates that the eastern portion of the block, including portions of the project area, was filled by 1844 (Figure 15). A structure is located within the eastern extent of the block or to its immediate east. The majority of the block appears to be farmland; a narrow ledge of swampland borders the Gowanus Bay. An unidentified secondary road is located along the eastern border of the block or to its immediate east. Sidney's 1849 *Map of 12 Miles around New York City* indicates that the structure in the vicinity of this portion of the Project Area is associated with J.S. Bergen (Figure 16). Historic maps from 1852 through 1874 indicate that the majority of the eastern portion of Block 725 had been filled; these maps do not show development within or near the block; it is also unclear when 41st through 44th streets were created (Dripps 1852, 1868, 1872; Fulton 1874).

Table 1: Land Transaction History for Block 725

Date	Book/Page	Grantor	Grantee	Description
9/4/1973	656/1146	Bush Terminal Co., Inc.	City of New York	1,803,989; excepting rail tracks
5/19/1971	483/33	Bush Terminal Co., Inc.	City of New York	8,500,000
1/3/1914	3472/68	Bush Terminal Co.	City of New York	
1/25/1910	3199/212	Bush Terminal Co. 1st Avenue, 40th-46th Streets	Bush Terminal Railroad Co. (Consent)	RR Consent
1/25/1910	3199/211	Bush Terminal Co. 1st Avenue, 40th-46th Streets	Bush Terminal Railroad Co. (Consent)	RR Consent
2/21/1905	38/438	Bush Terminal Co.	Bush Terminal RR (consent)	Consent
4/4/1902	25/525	Bush, Irving T.	Bush Terminal Company	
8/30/1901	23/409	City of New York	Bush, Irving T.	
8/3/1901	23/296	Kuhn, John J.	Bush, Irving T.	
5/1/1884	1555/184	John Tunis Bergen	The City of Brooklyn	
10/30/1869	920/510	State of New York	John Tunis Bergen	
6/8/1865	668/205	William & Ellen Wisner	John Tunis Bergen	
11/1/1862	584/36	Robert & Phebe Bell	William Wisner	

Date	Book/Page	Grantor	Grantee	Description
10/11/1862	584/3	John S. Bergen (widow & Exec)	Robert Bell	
5/9/1860	527/43	John S. Bergen (widow & Exec)	John S. Bergen (deceased) (Exec of)	Release of Dower
10/30/1837	73/150	Simon & Jane Bergen	John Bergen	
11/12/1770	6/166	Teunis Bergen	Simon Bergen	
11/12/1770	6/165	Teunis Bergen	Simon Bergen	
11/12/1770	6/163	Simon and Geshe Bergen	Teunis Bergen	
11/12/1770	6/162	Simon and Geshe Bergen	Teunis Bergen	
5/8/1739	5/96	Brooklyn Town of Patentees	Freeholders of Brooklyn	
5/13/1702	2/226	Freeholders of Brooklyn	Minutes of Town Meeting	
5/13/1702	2/225a	Freeholders of Brooklyn	Minutes of Town Meeting	
5/13/1702	2/225	Freeholders of Brooklyn	Minutes of Town Meeting	
5/9/1699	2/191	Town of Brooklyn	Minutes of Town Meeting	
5/9/1699	2/191a	Town of Brooklyn	Minutes of Town Meeting	
2/17/1696	2/119	Adrian Bennett, Sr.	Symon Aersen	

1/10/2019

Source: 1844 U.S. Coastal Survey Map of New York Bay and Harbor

LEGEND

Project Area

0 1,000 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1844
FIGURE 15

1/10/2019

Source: Sidneys Map of 12 Miles around New York 1849

LEGEND

Project Area

0 1,000 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1849
FIGURE 16

Federal Census records from 1850 indicate the presence of a household associated with John Bergen in the Eighth Ward of Brooklyn. Table 2 presents the household entry for John Bergen in 1850.

Table 2: 1850 Federal Census Entry for John Bergen Household

Name	Sex	Race/Place of Birth	Age	Occupation
John Bergen	Male	White/New York	43	Farmer
Margaret Bergen	Female	White/New York	44	
Sarah Bergen	Female	White/New York	14	
Margaret Bergen	Female	White/New York	14	

The Brooklyn City Library maintains a digital collection of Brooklyn City Directory data from circa 1857 through the twentieth century. An examination of those records identified a member of the Bergen family with an address near 43rd Street from 1857 through 1865. Table 3 presents the results of directory research for Block 725.

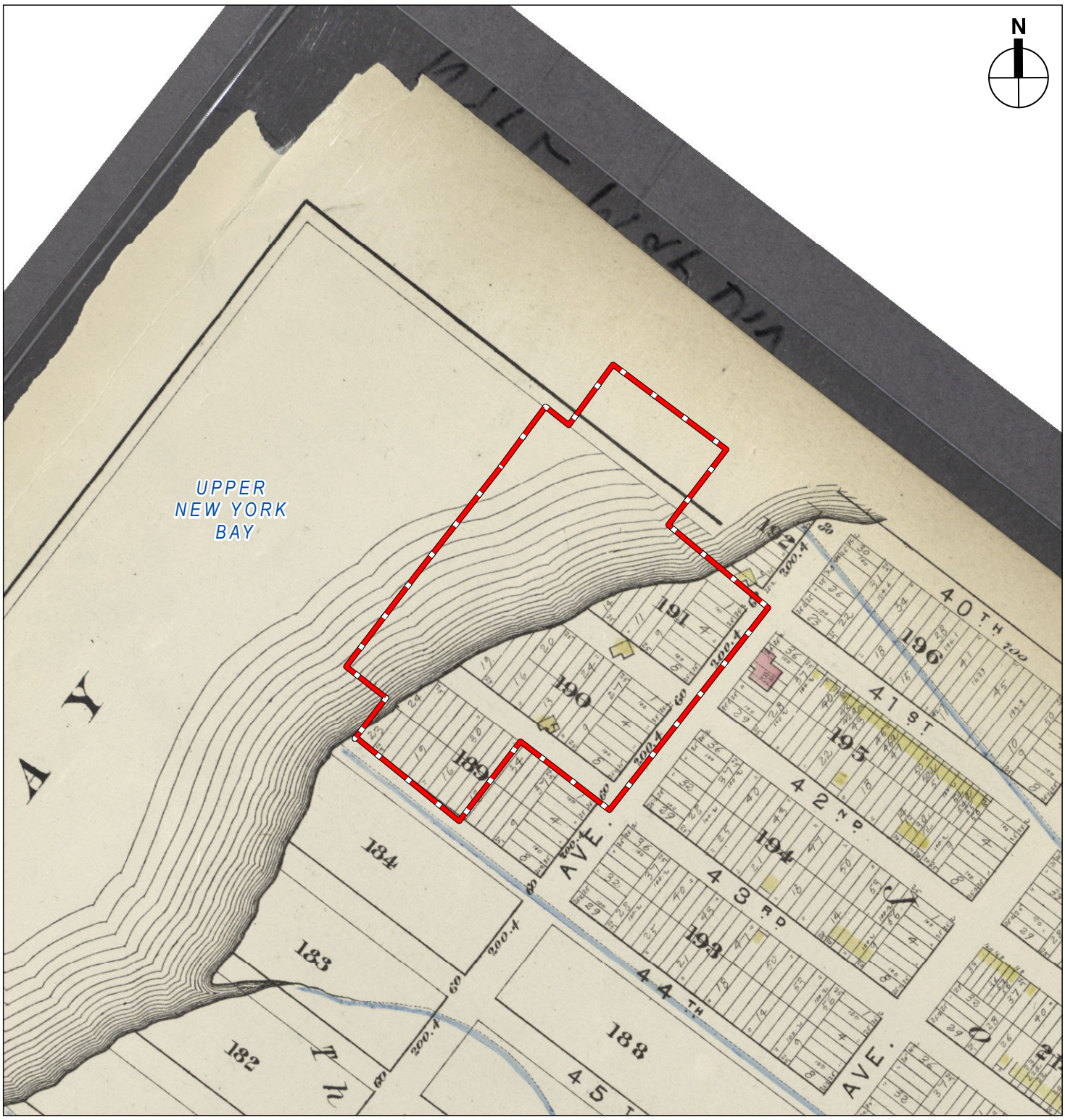
Table 3: City Directory Research for Block 725

Source	Name	Occupation	Address
1857	Tunis Bergen		43rd near 1st Avenue
	Dehart Bergen		43rd near 1st Avenue
	Mary Bergen	Widow of John S. Bergen	44th near 1st Avenue
1858	Mrs. J.B. Bergen	Widow	h. 43rd near 1st Avenue
	Mrs. J.S. Bergen	Widow	h. 43rd near 1st Avenue
1865	Dehart Bergen	Farmer	h. 43rd near 2nd Avenue
	Mary Bergen	Widow	h. 44th near 2nd Avenue

G.W. Bromley & Company's 1880 map indicates the presence of an L-shaped structure to the immediate northeast of 43rd Street (Figure 17). The structure was located within historic Block 190, potentially northeast of Block 725. The structure was not oriented in line with the lots within Block 190, nor with the orientation of 43rd Street, indicating that the structure predated the creation of the street and lot grid. Lots were proposed for both Blocks 189 and 190. By 1886, the structure was no longer extant (Figure 18). There were no lots within Block 189; Lot 190 was partially created and brick buildings were located on the western frontage of First Avenue, on the northern frontage of 43rd Street, and on the southern frontage of 42nd Street. Trolley lines were located along First Avenue from west of 43rd Street to an eastern turn at 43rd Street. The trolley lines extended to the southeast along 43rd Street. In 1884, John Tunis Bergen sold Lot 725 to the City of Brooklyn (see Table 1).

By 1898, Block 725 had been established, bound by 44th Street, 43rd Street, First Avenue, and the shoreline (Figure 19). Three frame buildings were located within the block. One building was an irregular U-shape within a longer northern arm; the other two buildings were rectangles, one being long and narrow and the other being wider and shorter. In 1901, Irving Bush acquired Block 725. The following year he transferred the property to the Bush Terminal Company. Hyde's 1903 map indicates the presence of rail spur lines extending through and terminating within Block 725 (Figure 20). Four buildings—three brick and one frame—were located within Block 725. These structures were unlike the 1898 frame buildings. Pier 5 had been constructed along the western extent of the block; a short pier with rail spurs was located on the western extent of 43rd Street. The map indicates that the buildings and rail lines were owned by the Bush Terminal Company. The piers extended from a timber bulkhead built near the original shoreline. The bulkhead required the removal of upland to provide a uniform bulkhead line and more dockage (HAER NY-201:7).

1/10/2019



Source: Bromley 1880 Atlas of Entire City of Brooklyn

LEGEND

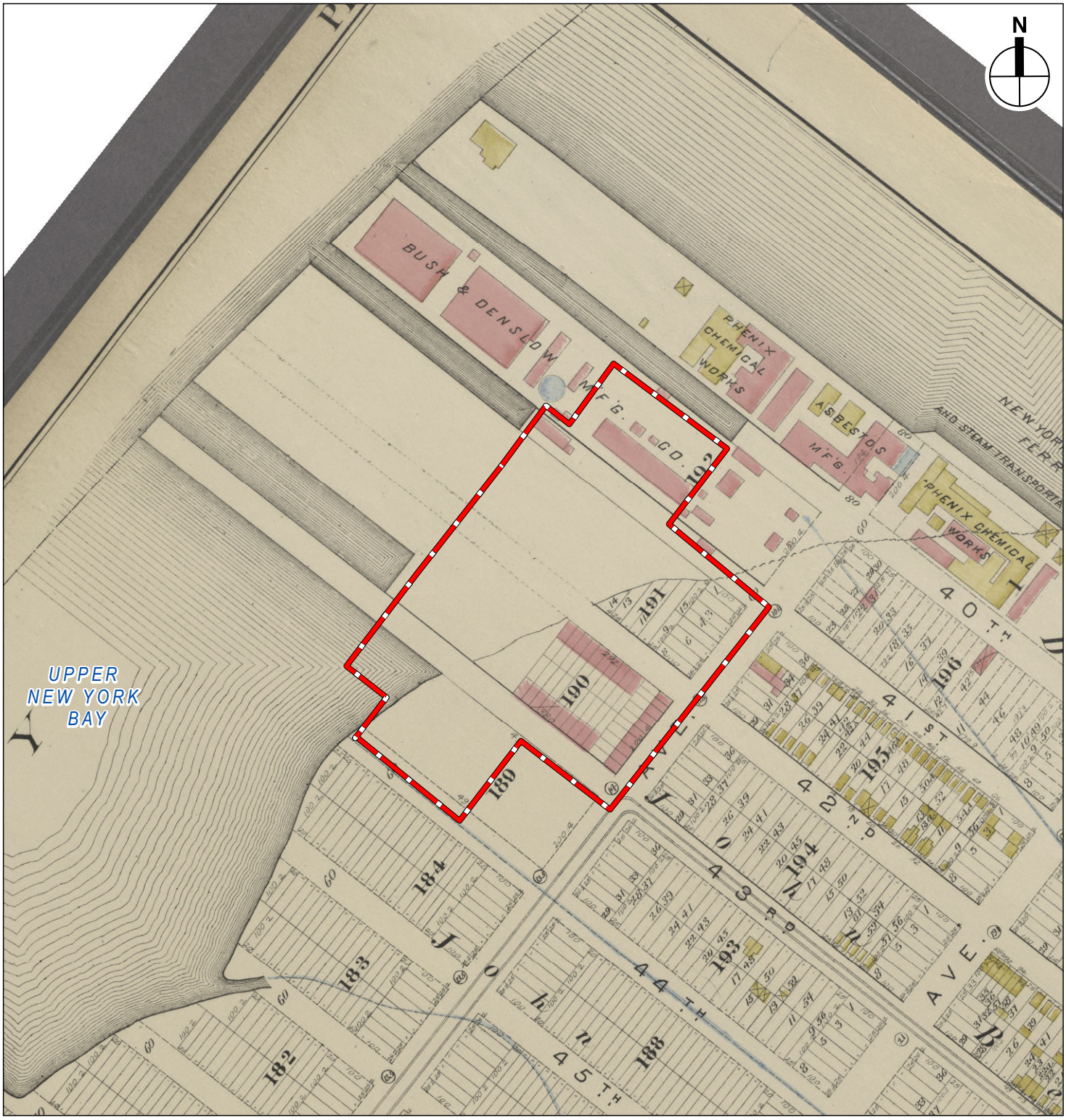
Project Area

0 300 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1880
FIGURE 17

1/10/2019



Source: Robinson 1886 Atlas of the City of Brooklyn

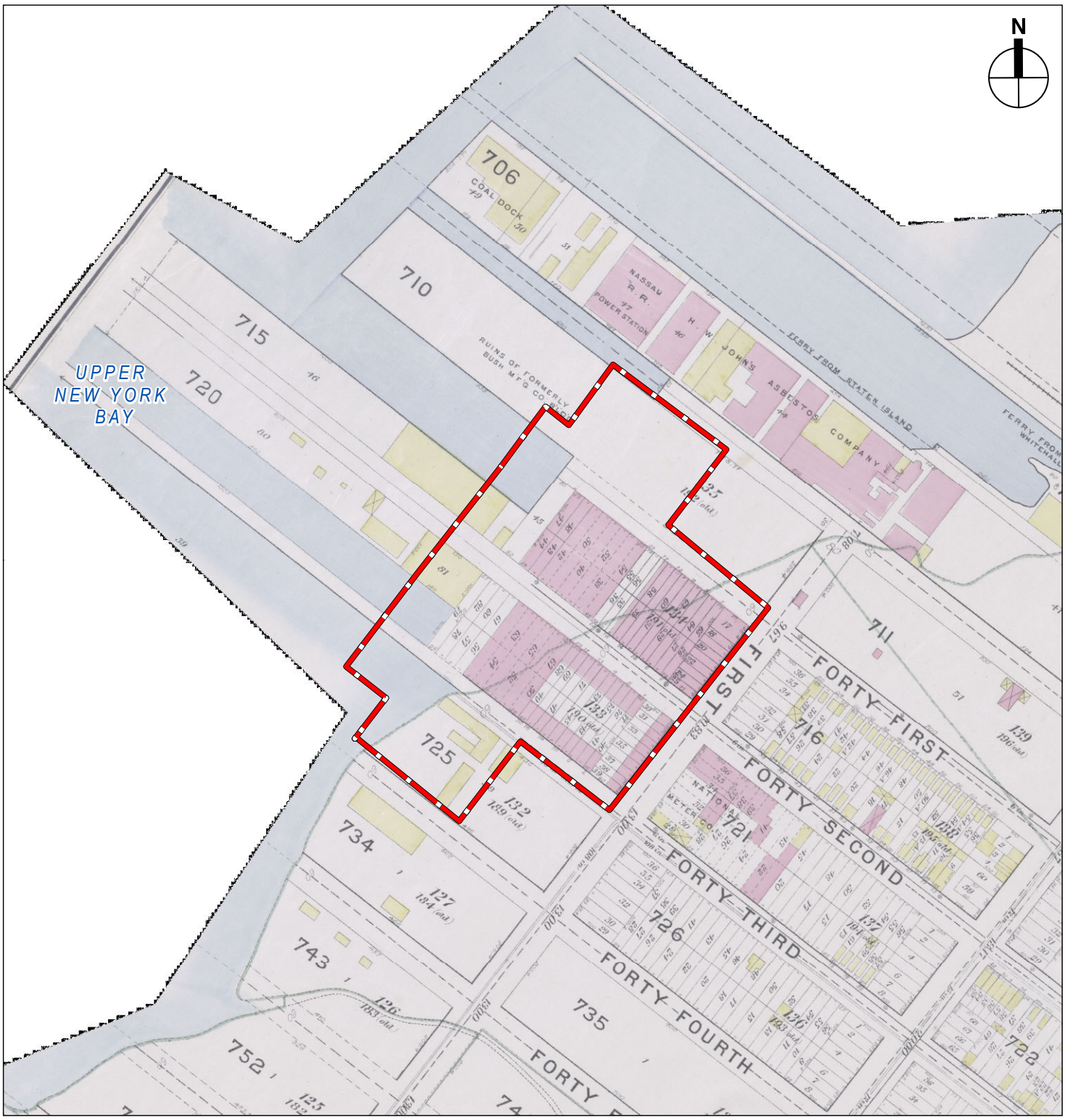
0 300 FEET

LEGEND

Project Area

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1886
FIGURE 18



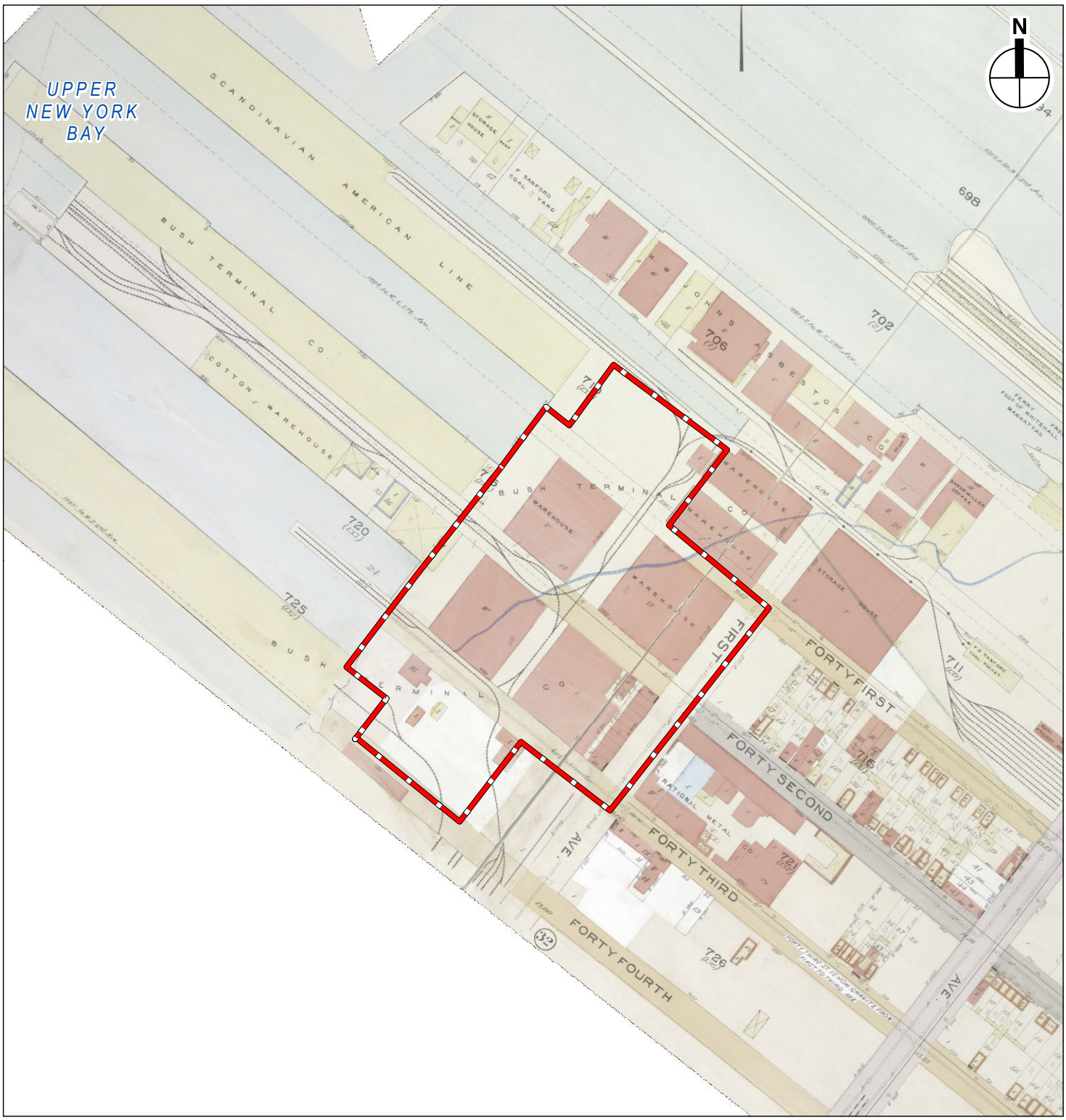
LEGEND

Project Area

0 300 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1898
FIGURE 19



LEGEND

Project Area

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1903
FIGURE 20

The 1906 Sanborn Fire Insurance Map indicates the presence of at least five structures and extensive railroad tracts within Block 725 (Figure 21). The southern corner of the block contained several rail lines along with an L-shaped Locomotive House. These structures were in the vicinity of the current Round House. A small one-story structure was located to the west of the Locomotive House and adjacent to rail spurs. An L-shaped building with electrical supplies and an office was located to the west of the rail lines and the Locomotive House. A rectangular structure with pumps was located to the south and adjacent to the L-shaped buildings. These structures were located in the vicinity of the current Café Building and Pump House. To the northwest of these buildings, an office building for the Bush Docks, Bush Stores, and Bush Terminal Company was located on the 43rd Street frontage of Block 725. This building resembles the current Administrative Building. Water lines were located along the eastern portion of the electrical supply building and to the south and west of the Pump House, extending from the Pump House to the west. Water lines were also located across the waterfront at the base of the piers. A short narrow pier extended from 43rd Street. Two rail spurs extended across the pier which was markedly smaller than Piers 5 and 6.

According to the DOE and HAER for the Bush Terminal, the Short Pier, between Piers 5 and 6, predated Bush Terminal. The Short Pier was originally a timber pile with a timber deck structure approximately 950 feet in length. The pier was shortened twice by Bush Terminal, circa 1920 and 1960 (Flagg and Raber 1986; HAER NY-201). The Short Pier provided facilities for direct cargo transfers between terminal warehouses and lighters (HAER NY-201:8).

Pier 5, which is located west of the Project Area, was one of five piers (including Piers 1 through 4) 150 feet wide and between 1330 feet and 1351 feet long (see Figure 7). The central concrete portion of the pier floor was

> On an earth fill 80 feet wide, with 35 foot wide strips of wood floor on timber and pile construction along the two sides and west end…Earth fill in the center strip was retained in place by cribbing, piling, and riprap stone fill under the timber construction. The original timber sheet piling and side system had to be extensively repaired, on account of decay, after 12 to 15 years service [Flagg and Raber 1986:6].

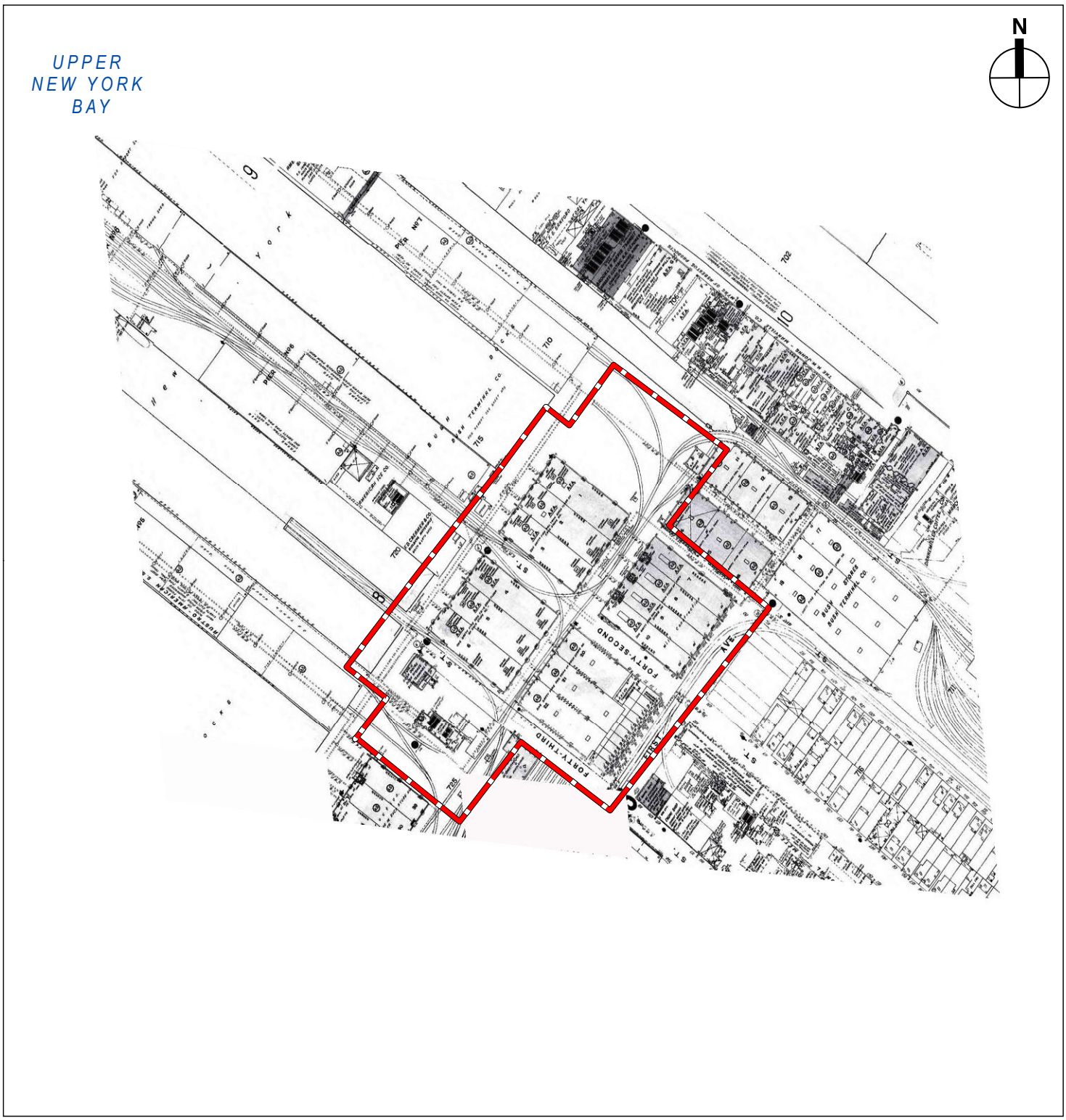
Hyde's 1916 map indicates the presence of two adjacent brick structures in the northeast corner of Block 725 (Figure 22). A complex of buildings, including the brick Administrative Building and three adjacent brick buildings and a frame structure, were located to the west of the main rail tracks. Pier 5 was now occupied by the Brazilian S.S. Line. The 1926 Sanborn Fire Insurance Map indicates that an assemblage of buildings including a Garage, a Machine Shop, and a Locomotive House were located within the current Round House location (Figure 23). To the west of the rail lines, a Longshoreman's Building Restaurant was depicted in the location of the Café Building and the Pump House was located to its southwest. Several smaller structures, including a Storage House, were located to the south of these buildings. The Administrative Building was in its current location.

A description of the Bush Terminal Company in 1920 describes how the company invested in the well-being, morale, and welfare of their employees. Specifically,

> About $60,000 a year is set aside for what might be called labour-culture, study of labour problems and use of knowledge gained by such study…The reason for giving up valuable space to cafeterias, club rooms, billiard rooms, and bowling alleys is not to throw a 'sop' to labour but to keep labour in 'good fighting trim,' to increase its own attraction to labour, and to reduce labour turn-over [Rush 1920:299].

The Longshoremen's Building Restaurant is an example of the recreational buildings designed to service the workers within the Bush Terminal.

1/10/2019



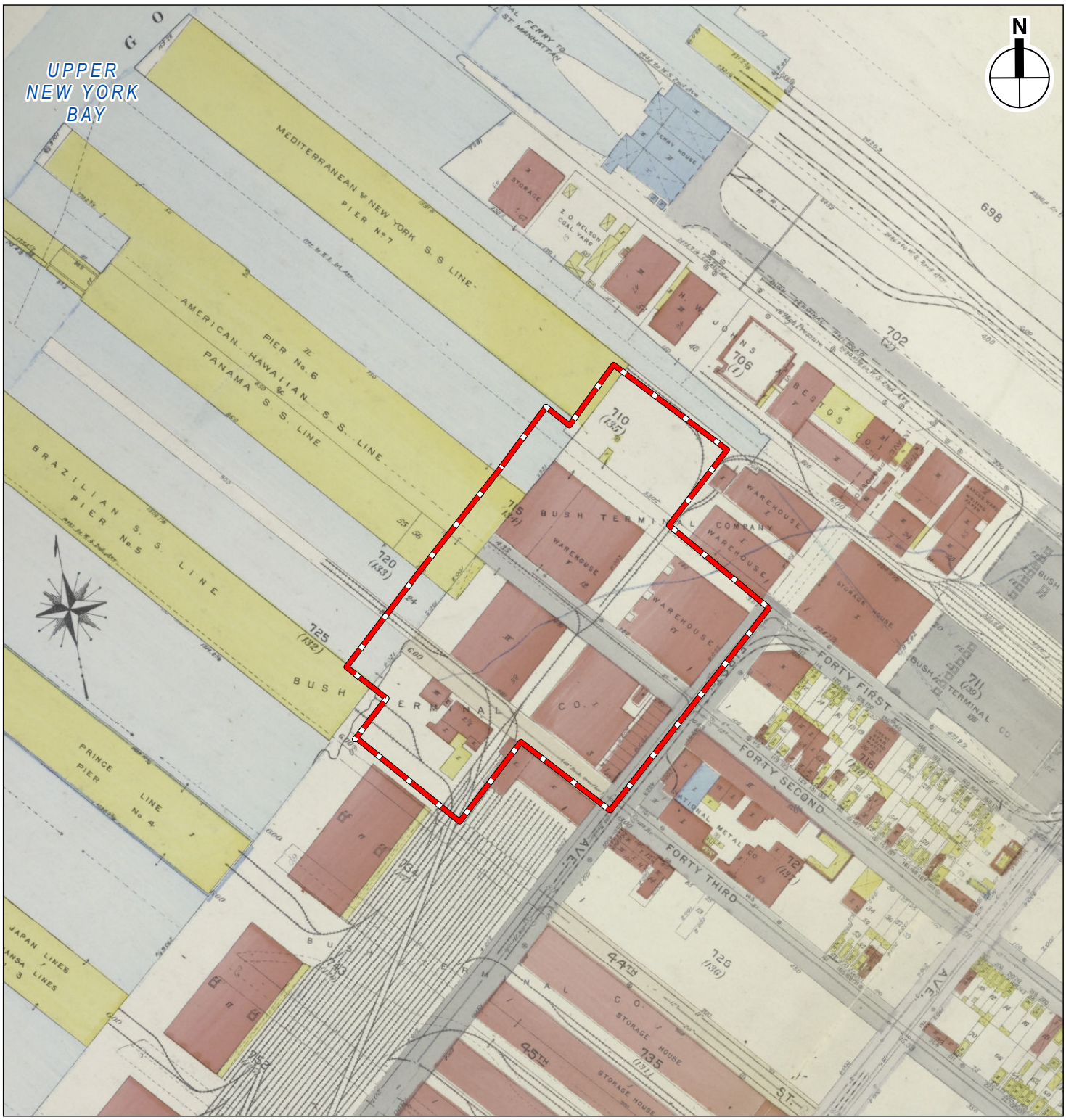
Source: 1903 Brooklyn

LEGEND

Project Area

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1906
FIGURE 21



1/10/2019

Source: Hyde 1916 Atlas of Brooklyn

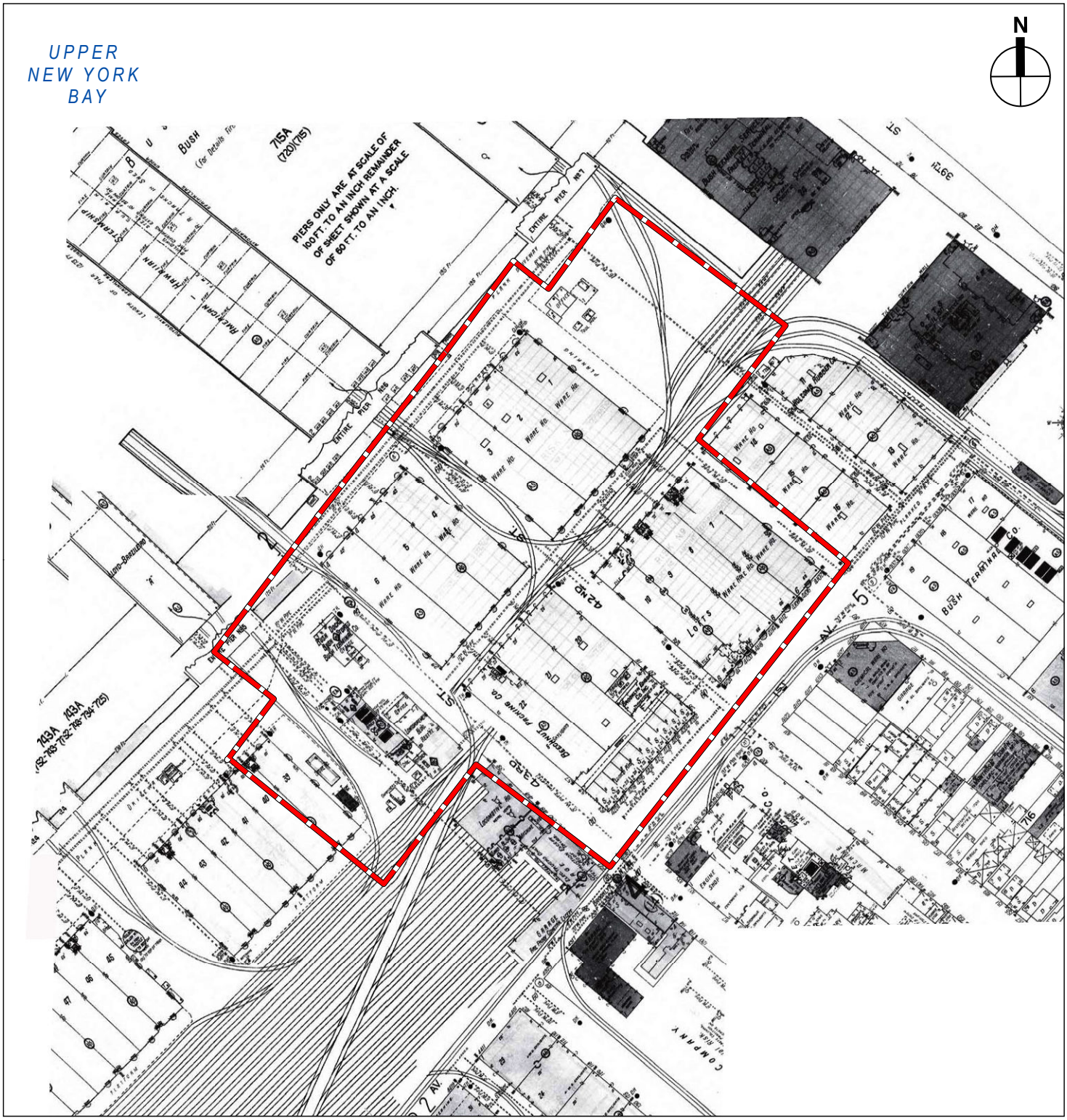
LEGEND

Project Area

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1916
FIGURE 22

1/10/2019



Source: 1903 Brooklyn

LEGEND

Project Area

0 200 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1926
FIGURE 23

By 1951, the complex of buildings in the location of the Round House had altered with the addition of a Locker Building and another small structure. By 1965, many of the ancillary buildings to the south of the current Café Building and Pump House were removed. The Short Pier also appears to have been truncated. Historic aerial imagery indicates that platforms were added to the east and west of the Short Pier between 1954 and 1961. By 1988, the Short Pier is gone; however, the platform to its west remained extant.

In 1971 and 1973, the Bush Terminal Company sold Block 725 to the City of New York as part of a large property transfer. New York City continues to own the parcel. The Round House, Café Building, and Pump House buildings are currently vacant. The Administrative Building continues to function and is occupied by several small businesses (Figure 24). In June of 2016, a portion of the Round House collapsed. Emergency demolition, remediation, and removal of the structure were undertaken given the hazards posed by the unstable building. The collapsed structural remains were removed by mid-July of 2016 (NYCEDC 2016).

Figure 24: Collapsed Portion of Round House. View Southwest. (NYCEDC 2016).

6.2 Block 715

Current Block 715 is bounded by 43rd Street, 41st Street, First Avenue, and the pierhead lines on the west. Historic research indicates that the boundaries of the block have altered over time as have the boundaries of the lots within the block. As the history of lots 1 and 20 are intertwined, they will be discussed as one unit—Block 715.

The earliest recorded land history for Block 715 is identical to that of Block 725 (Table 4). In fact, the two blocks were sold as part of larger land transactions through the late nineteenth century. In 1884, John Tunis Bergen sold Block 715 to Martin N. Day.

Despite the identical land transaction history of Block 725 and Block 715, historic maps indicate that the blocks experienced distinct developmental histories. Ratzer's 1766 map indicates that the eastern portion of Block 715 was extant (see Figure 3). However, the western portion of the block, including all of Pier 6, was not extant and was within

the waters of the Gowanus Bay. The eastern portion of the block consisted of swampland adjacent to the coast and meadows to the east. According to the 1844 Coastal Survey map, the majority of the block was not filled (see Figure 15). However, one structure appears to have been located within the eastern portion of the block. This structure was adjacent to a building and road to the west; another structure was located further to the east. Sidney's 1849 *Map of 12 Miles around New York City* indicates that the structure in the vicinity Block 715 was associated with J.E. Delaplaine (see Figure 16). The coastline appeared primarily unchanged from 1849 through 1874; therefore, the majority of Block 715 remained underwater (see Figure 4).

Federal Census records from 1850 indicate the presence of a household associated with John F. Delaplaine in the Eighth Ward of Brooklyn. The Delaplaine household entry is presented in Table 5. According to the census, Delaplaine's real estate valued 70,000 dollars.

Table 4: Land Transaction History for Block 715

Date	Book/Page	Grantor	Grantee	Description
5/19/1971	483/33	Bush Terminal Co., Inc.	City of New York	8,500,000
6/16/1948	80/54	Dadourian Express Corp.	American Express Field Warehouse Corp.	Lease—3 parcels
1/14/1946	6835/288	Bush Terminal Buildings Co.	Bush Terminal Co.	See Liber 2 Blocks
12/22/1932	5307/324	Bush Terminal Co.	Emerson Electric Manufacturing Co.	Lease—1st Avenue 50' from 41st
4/11/1923	4238/403	Frank Byron Co.	Bush Terminal Co.	Corner 42nd Street and Driveway
6/6/1913	3426/475	Bush Terminal Co.	American Hawaiian Steamship Co.	Lease
1/25/1910	3199/212	Bush Terminal Co. 1st Avenue, 40th-46th Streets	Bush Terminal Railroad Co. (Consent)	RR Consent
1/25/1910	3199/211	Bush Terminal Co. 1st Avenue, 40th-46th Streets	Bush Terminal Railroad Co. (Consent)	RR Consent
2/27/1905	38/4999	Bush Company	Bush Terminal Co.	
2/21/1905	38/438	Bush Terminal Co.	Bush Terminal RR (consent)	Consent
1/26/1900	20/544	Bush Co.	Board of Docks City of New York	Agreement
1/9/1891	2022/149	Rufus T. Bush (Heirs of)	The Bush Company, Ltd.	
4/30/1884	1556/289	Martin & Henrietta Day	Rufus T. Bush	
3/25/1854	1547/127	John Tunis Bergen	Martin N. Day	
5/20/1869	920/510	State of New York	John Tunis Bergen	
1/8/1865	668/205	William & Ellen Wisner	John Tunis Bergen	
10/31/1862	584/36	Robert & Phebe Bell	William H. Wisner	
10/11/1862	584/3	John S. Bergen (Widow & Executors)	Robert Bell	
5/9/1860	527/42	John S. Bergen (Widow)	John S. Bergen (deceased)	Release of Dower
4/4/1837	773/150	Simon and Jane Bergen	John Bergen	
11/12/1770	6/166	Teunis Bergen	Simon Bergen	
6/6/1770	6/165	Teunis Bergen	Simon Bergen	

Date	Book/Page	Grantor	Grantee	Description
6/5/1770	6/163	Simon and Geshe Bergen	Teunis Bergen	
6/4/1770	6/162	Simon and Geshe Bergen	Teunis Bergen	
5/8/1739	5/96	Brooklyn Town of Patentees	Freeholders of Brooklyn	
2/2/1702	2/226	Freeholders of Brooklyn	Minutes of Town Meeting	
5/13/1702	2/225	Freeholders of Brooklyn	Minutes of Town Meeting	
5/9/1699	2/191	Town of Brooklyn	Minutes of Town Meeting	
2/17/1696	2/119	Adrian Bennett, Sr.	Symon Aersen	

Table 5: 1850 Federal Census Entry for John Delaplane Household

Name	Sex	Race/Place of Birth	Age	Occupation
John F. Delaplane	Male	White/New York	63	None
Frederick Dixon	Male	White/New York	16	Laborer
James S. Jening (sp?)	Male	White/New York	20	Laborer
Joseph Leigerman	Male	White/Germany	16	Laborer
Bernard Vannierse	Male	White/Germany	30	Laborer

No entry for a Delaplane (Delaplaine) household in the Eighth Ward of Brooklyn was identified in 1840 or in any federal census after 1850.

Publicly available Brooklyn City Directory data contained no listing for a Delaplaine within the vicinity of the project area. However, by 1858, members of the Bergen family were associated with addresses within Block 715. Records of this occupancy were intermittent from 1857 through at least 1871. Table 6 presents the results of directory research for Block 715.

Table 6: City Directory Research for Block 715

Source	Name	Occupation	Address
1858	Dehart Bergen	Farmer	42nd near 1st Avenue
1862	Dehart Bergen	Farmer	h. 1st Avenue near 42nd
1865	Catherine Bergen		h. 42nd near 2nd Avenue
1871	Dehart Bergen	Farmer	h. 42nd near 1st Avenue
	John T. Bergen		h. 42nd near 1st Avenue

G.W. Bromley & Company's 1880 map indicates the presence of an L-shaped structure within the streetbed of 42nd Street (see Figure 17). The structure was located between historic Blocks 189 and 190. The structure is not oriented in line with the adjacent blocks and lots; furthermore, as it falls within 42nd Street, the structure predates the extension of paper blocks and lots and the creation of the street and lot grid. By 1886, the structure was no longer extant (see Figure 18). Modern Block 715 contained historic Block 190 and Block 191. Lots had been defined within the eastern portion of both blocks. Brick structures were located within Block 190; no structures were present within Block 191. The 1886 map indicates the coastline and undeveloped land to its west including the majority of Pier 6. It is unclear whether the area had been filled by this time or whether the land west of the coastline was proposed (see Figure 19). In 1884, Martin and Henrietta Day sold Block 715 to Rufus T. Bush (see Table 4).

The 1888 Sanborn Fire Insurance Map indicates that the eastern portion of Block 190 and Block 191 had been divided into lots and developed (Figure 25). A series of two-story dwellings were located along the western frontage of First Avenue between 43rd and 41st streets, along the northern frontage of 43rd Street, the northern and southern frontages of 42nd Street, and the southern frontage of 41st Street. Four of these dwellings had one-story buildings in their rear yard; these structures may represent water closets. Pier 6 appears to have been developed. A small complex of buildings was located at the southeastern extent of the pier associated with F.D. Creamer Building Material. These structures included an office and a storage building.

At this time, Rufus Bush was co-owner of Bush & Denslow Manufacturing, an oil company. Bush & Denslow occupied Pier 7 which was located to the immediate north of Block 715. According to Irving Bush, Rufus Bush, his father, had purchased two blocks of property adjoining his oil refinery. Block 715 may have been one of these blocks. Bush notes that his father purchased the adjoining property for two reasons:

> he believed in the property as an investment, and partly to provide a place where the ashes from the coal burned under the oil stills could be dumped in order to save the expense of towing them twenty miles to sea. At his [Rufus'] death, there was a half-completed bulkhead pier partly filled with ashes [Bush 1929:11-12].

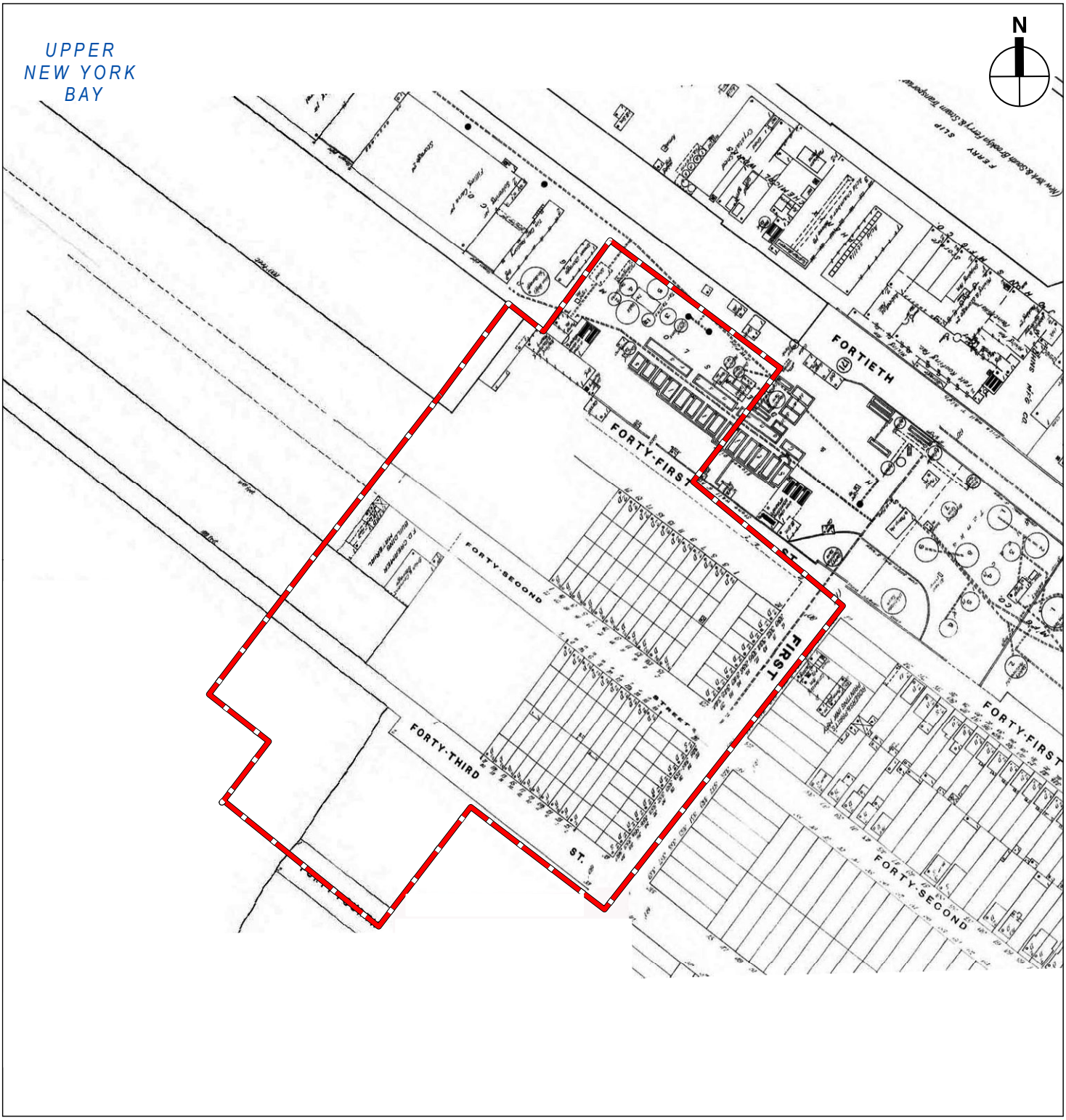
Bush's account suggests that portions of Pier 6 and/or the bulkhead in this vicinity may have been partially filled with coal ash from the Bush & Denslow oil refinery.

In 1891, the heirs of Rufus T. Bush sold Block 715 to the Bush Company, Ltd (see Table 4). The Bush Company, Ltd. was the first company formed by Irving Bush. It was a small family corporation whose stockholders consisted of Irving Bush, his mother, and his brother. According to Bush, with the incorporation of the company, the construction of six warehouses and a small section of the first pier shed in front of the warehouses was begun (Bush 1929:17). The 1898 map indicates lots are present within historic Block 133 and Block 134, both within Block 715 (see Figure 19). The row of brick two-story dwellings along the western frontage of First Avenue remained extant, as did the brick dwellings on the northern frontage of 43rd Street and the southern frontage of 42nd Street. It appears that two brick warehouses may have been constructed—one within Block 133 and one within Block 132. Pier 6 was extant and extended into the Gowanus Bay. The pier contained two blocks, Block 720 on the south and Block 715 on the north. Large frame structures were located in the eastern extent of both blocks.

Between 1895 and 1900, Irving Bush built six warehouses, an office, a short pier, rail tracks, and various sheds on two solid-fill piers, Piers 6 and 7. According to the HAER documentation, "Pier 6 originated as a solid fill, probably crib retained structure erected in the 1880s, with a series of sheds erected by Bush, beginning in 1895" (HAER NY-201:8). Bush acquired financial backing in 1902 and, as a result, purchased additional land along the waterfront and began expanding his industrial operation. The 1903 map indicates the presence of four brick warehouse buildings, Units A through D, within the eastern portion of Block 715 (see Figure 20). A row of brick dwellings continued to be located along the western frontage of First Avenue between 43rd and 42nd streets. Several frame structures were located on the southern portion of Pier 6 including a large Cotton Warehouse. Rail spur lines extended across the central portion of Pier 6 and terminated at the waterfront on the southern side of the pier. Rail spur lines also extended between the four warehouses.

The 1906 Sanborn Fire Insurance Map also indicates the presence of four warehouses within Block 715 along with the two-story dwellings on First Avenue between 43rd and 42nd streets (see Figure 21). A Transformer Station was located to the immediate west of the dwellings. A structure at the southeastern corner of Pier 6 was associated with F.D. Creamer & Co. and contained building materials. A Machine Shop, Office, Shed, and Loading Platform associated with the American Ice Company were located to the west of F.D. Creamer & Co. Frame sheds were located

1/10/2019



Source: 1903 Brooklyn

LEGEND

Project Area

0 200 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Area in 1888
FIGURE 25

on both the eastern and western sides of the pier; rail lines extended down the center of the pier to the waterfront. Water lines were also located down the length of the pier and automatic sprinklers were located under the eaves. Fireman's quarters were located on the northeastern extent of the pier and were associated with a fireboat. There was also a floating bridge and office on the far southwestern extent of Pier 6.

According to the HAER documentation, "Irving Bush rebuilt Pier 6 in 1913, making it 1,261 feet long by 276 feet wide, with a 'tuning fork' lighter berth about 100 by 25 feet at the outshore end" (HAER NY-201:8). A 1914 description of the "New Bush Terminal Pier" indicates that work on the new pier began in July 1913 and was completed in a short period of time for the American Hawaiian Steamship Company to operate its fleet of 28 vessels through the Panama Canal. "Every effort was made to complete the new terminal before the Panama Canal was opened for traffic" (International Marine Engineering 1914:332). The description further notes,

> A space of 270 feet separates the piers from each other, and it is possible for ships to load and unload on either side of these slips, leaving sufficient leeway for the unobstructed passage of smaller craft used in handling the freight.
> Pier 6 is modern in every aspect. The foundation piles were driven 30 feet below the low water mark, capped with concrete, floored with steel and cement, on top of which is a paving of chemically treated asphalt block. The supporting columns are of steel and the girders of the same material. The upper floor is of 4-inch lumber, covered with five layers of the heaviest tar paper, with an inch of yellow pine and another inch of maple on top. Melted tar is worked into the seams to make the floor absolutely air and watertight.
> A double-track railroad runs along the entire length of the main deck. This is connected with the Bush Terminal Railroad, which in turn connects with all the big trunk lines. Electric and steam locomotives draw long lines of freight cars to and from the pier.
> A 70-foot slip is cut in the head of the pier to permit lighters to berth without interfering with the big liners at the sides. The slips are dredged to a depth of 40 feet or more. Thus everything has been done to facilitate the movement of freight carried by water. Nearly 200 warehouses are backed up against the bulkheads, so that cargoes to be held in storage can be disposed of without costly and damaging cartage [International Marine Engineering 1914:332].

Historic photographs of the newly constructed Pier 6 are reproduced as Figures 26 and 27.

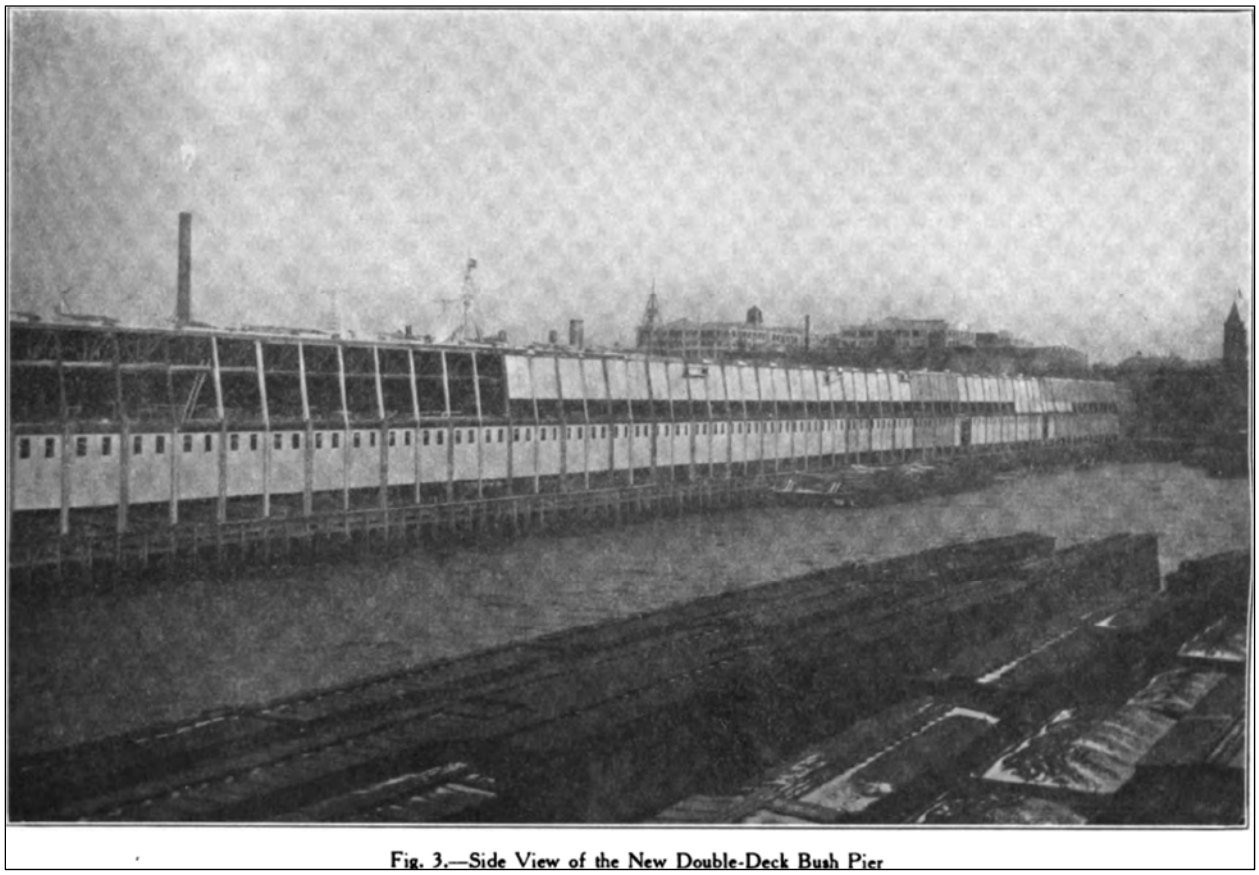


Fig. 3.—Side View of the New Double-Deck Bush Pier

Figure 26: Side View of Pier 6, circa. 1914. (Reproduced from International Marine Engineering 1914:331).

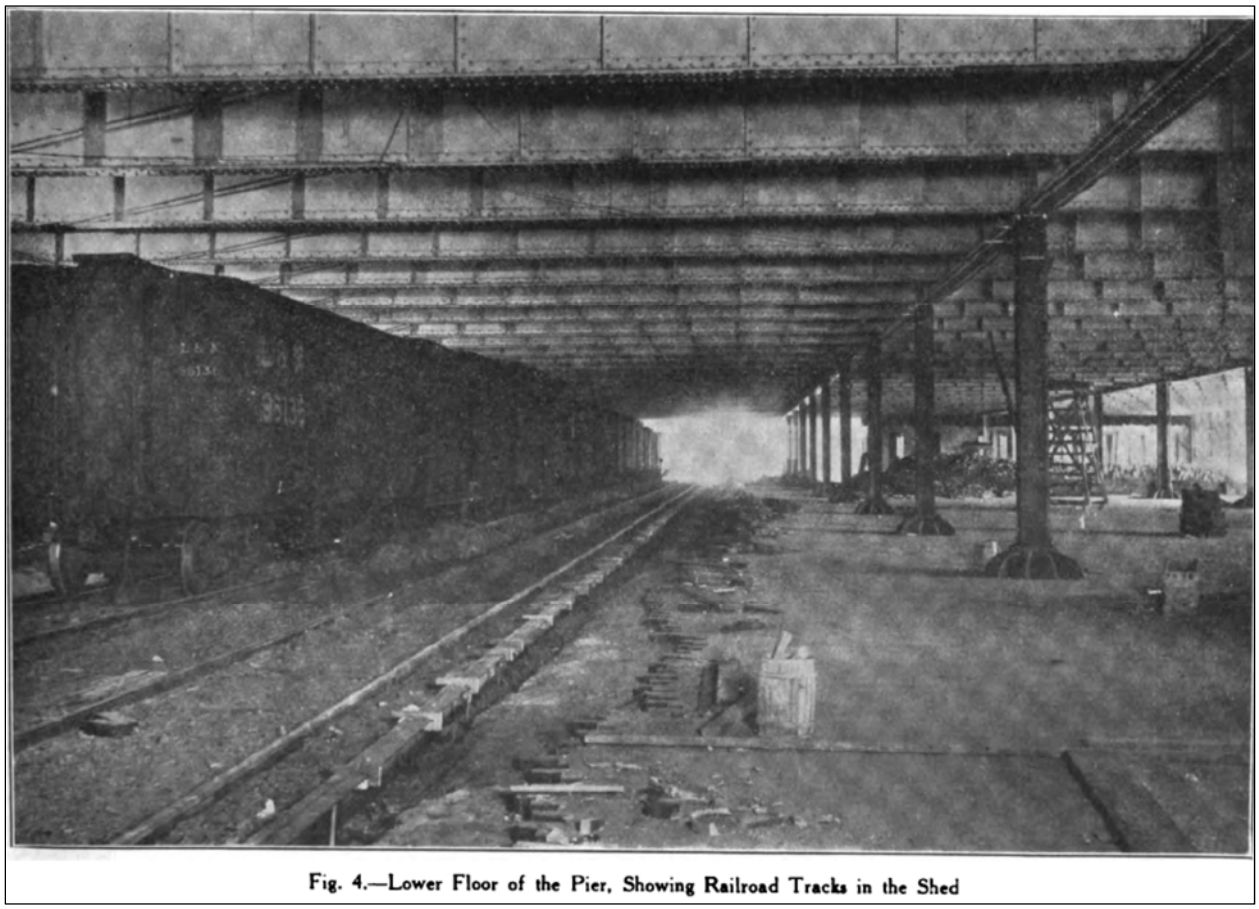


Fig. 4.—Lower Floor of the Pier, Showing Railroad Tracks in the Shed

Figure 27: Lower Floor of Pier 6, Showing Railroad Tracks. (Reproduced from International Marine Engineering 1914:331).

The American Hawaiian Steamship Company was started by George S. Dearborn in the early twentieth century. The American-Hawaiian Steamship Line ran around Cape Horn to Honolulu and American West Coast ports. This company was the first to lease space at the Bush Terminal. The line brought cargoes of California products and Hawaiian sugar to Brooklyn and carried cargoes of machinery and supplies from the Eastern states to the West Coast (Bush 1929:43). Hyde's 1916 map indicates that Pier 6 was now occupied by the American-Hawaiian S.S. Line and the Panama S.S. Line (see Figure 22).

By 1951, Pier 6 was occupied by the Watchman's Line. The buildings along the western frontage of First Avenue between 43rd and 42nd streets were intact but vacant. Sometime between 1959 and 1965, Pier 6 was extensively modified (Flagg and Raber 1986:7; HAER NY-201:8). By 1978, the dwellings which had been located to the east of Unit D were removed; the area was now vacant. In the early 1970s, the waterfront and rail operations at Bush Terminal were no longer economically viable (HAER NY-201:14). In 1971, the Bush Terminal Company sold Block 715 to the City of New York as part of a large property transfer. Bush Terminal Company continued to rent and occupy Piers 5 through 7 until circa 1978 to 1980. At this time, the piers were primarily out of service. On August 23, 1981, the majority of Piers 5 and 6 were burned in a fire; a fire in July 1985 also destroyed any remnants of the Pier 6 superstructure (HAER NY-201:14).

6.3 Block 710

Current Block 710 is bounded by 41st Street, 40th Street, First Avenue, and the pierhead lines on the west. Historic research indicates that the boundaries of the block have altered over time as have the boundaries of the lots within the block. Only one lot within Block 710 is within the project area, Lot 16; however, it appears that much of the history of the lot is intertwined with the larger block.

The earliest recorded land history for Block 710 mimics the history of Block 725 and Block 715 (Table 7). The three blocks appear to have been a part of the 930-acre purchase made by Adrian Bennett in the seventeenth century. Unlike Block 715 and Block 725, the ownership history for Block 710 diverges in 1770 with its sale from Simon and Geeshe Bergen to Teunis Bergen. Ratzer's 1766 map indicates that the portion of the Project Area within Block 710 was located within meadows to the immediate southeast of the coastline (see Figure 3). There was no indication of any development with the area.

Table 7: Land Transaction History for Block 710

Date	Book/Page	Grantor	Grantee	Description
5/19/1971	483/33	Bush Terminal Co., Inc.	City of New York	8,500,000
12/23/1968	299/79	Bush Terminal, Inc.	Bush Terminal Co., Inc.	1.00
1/14/1946	6835/288	Bush Terminal Buildings Co.	Bush Terminal Co.	See Liber 2 Blocks
3/25/1926	4658/321	Bush Terminal Co.	Bush Terminal Buildings Co.	
6/6/1913	3426/475	Bush Terminal Co.	American Hawaiian Steamship Co.	Lease
2/28/1910	3206/185	Bush Terminal Co.	American Hawaiian Steamship Co.	Lease
2/27/1905	38/499	Bush Company	Bush Terminal Co.	
3/16/1898	10/498	Standard Oil of NY	Bush Company Ltd.	
1/12/1893	2156/371	Bush & Denslow	Standard Oil Company	
3/15/1880	1382/472	Edward Harvey (Executors)	Standard Oil Company	
3/15/1880	1382/470	Edward Harvey (Executors)	Standard Oil Company	Quit Claim
2/18/1868	802/334	State of New York	Edward Harvey	
2/23/1867	743/165	John & Katherine Isabella Mackay	Edward Harvey	
6/12/1865	668/336	William H. & Esner Wisner	John Mackay	
8/31/1863	608/54	Isaac & Matilda Delaplaine	John F. Delaplaine	
11/1/1863	584/36	Robert C. & Phebe Bell	William H. Wisner	
10/31/1862	584/3	John S. Bergen (Widow & Exec)	Robert C. Bell	
5/9/1860	527/43	John S. Bergen	John S. Bergen (deceased)	Release of Dower
4/4/1855	391/1	John M. Smith	Isaac Walter	
11/24/1840	92/373	David Codwise, Master of Chancery	William Post	

Date	Book/Page	Grantor	Grantee	Description
11/24/1840	92/349	William & Catherine Post	John F. Delaplaine	Homestead Farm of Late Simon Bergen
3/11/1838	74/89	Daniel Caulkins	John A. Davenport	
10/30/1837	73/150	Simon and Jane Bergen	John Bergen	
7/31/1837	72/73	Robert M. Smyth	Ira Goodman	
5/6/1837	70/190	John Sim (?)	Jane McMammus (?)	Homestead Farm of Late Simon Bergen
5/5/1837	70/185	Jane McManus	Lyman Hunton	Homestead Farm of Late Simon Bergen
5/5/1837	70/182	Olivers Gross	John Sim	Homestead Farm of Late Simon Bergen
3/10/1837	68/525	Jane McManus	Lyman Hunton	
3/1/1837	68/47	Oliver S. Foss	J McManus	
1/16/1837	67/405	Philip Ketchum	Oliver S. Foss	Homestead Farm of Late Simon Bergen
9/7/1836	64/142	William & Sarah Hardwick	Ira Goodman	
8/16/1836	63/228	Henry & Sarah Payson	Phillip Ketchum	
8/5/1836	62/517	Henry & Sarah Payson	Daniel O. Caulkins	
8/1/1836	62/409	Ira Goodman	Robert M. Smith and Jonas P. Lee	
7/29/1836	62/385	Richard & Rachel Reed	William Hardwick	
7/29/1836	62/382	Henry & Sarah Payson	Richard Reed	
7/27/1836	62/322	William & Jane Raymond	Henry Payson	
7/12/1836	62/85	Albert & Jane Demeritt	Ira Goodman	
5/23/1836	60/414	Henry & Sarah Payson	Josia E. Challis	
5/23/1836	60/409	Henry & Sarah Payson	Albert Demeritt	Undivided ⅛ part
5/17/1836	60/290	Albert & Jane Demeritt	Josiah E. Challis	
5/17/1836	60/288	Henry & Sarah Payson	Albert Demeritt	
2/26/1836	57/324	Richard & Rachel Reed	Otis Loomer	
11/12/1836	56/427	Richard & Rachel Reed	Charles & George Belder	
1/16/1836	56/379	William & Jane Raymond	Richard & Rachel Reed	
5/20/1835	50/14	Simon Bergen	Johannes & Gashe H. Lott	
3/20/1835	49/84	Johannes & Gashe Lott	William Raymond	
11/12/1770	6/166	Teunis Bergen	Simon Bergen	
11/12/1770	6/165	Teunis Bergen	Simon Bergen	
11/12/1770	6/163	Simon and Geshe Bergen	Teunis Bergen	
11/12/1770	6/162	Simon and Geshe Bergen	Teunis Bergen	
5/8/1739	5/96	Brooklyn Town of Patentees	Freeholders of Brooklyn	
5/13/1702	2/226	Freeholders of Brooklyn	Minutes of Town Meeting	
5/13/1702	2/225a	Freeholders of Brooklyn	Minutes of Town Meeting	

Date	Book/Page	Grantor	Grantee	Description
5/13/1702	2/225	Freeholders of Brooklyn	Minutes of Town Meeting	
5/9/1699	2/191	Town of Brooklyn	Minutes of Town Meeting	
2/17/1696	2/119	Adrian Bennett, Sr.	Symon Aersent	

Ownership of the property changed multiple times from 1836 through 1838; in 1840, John F. Delaplaine purchased the parcel from William and Catherine Post. Several of these land transactions, including Delaplaine's purchase, describe the property as having been part of the "Homestead Farm of the Late Simon Bergen." The 1844 Coastal Survey indicates that portions of Block 710 were under water. The northeast corner of the Project Area is underwater and to the west of a structure located on the eastern shore of Gowanus Bay to the immediate northeast of the Project Area (see Figure 15). Sidney's 1849 map depicts a structure associated with J. Delaplaine in the vicinity of Block 715; a further inland structure associated with J. Morris is located to the southeast of the Project Area and northeast of the building associated with Delaplaine (see Figure 16). Historic maps from 1855 through 1874 continue to depict the northeastern corner of the Project Area as underwater (Dripps 1855, 1868, 1872; Fulton 1874). There is no indication of any development to its southeast.

As previously noted, the 1850 Federal Census contained a listing for J. Delaplaine. This census also had a listing for Jacob Morris in the Eighth Ward of Brooklyn. Table 8 presents the household entry for Jacob Morris in 1850.

Table 8: 1850 Federal Census Entry for Jacob Morris Household

Name	Sex	Race/Place of Birth	Age	Occupation
Jacob Morris	Male	White/New York	57	Farmer
Leah Morris	Female	White/New York	50	
Simon B. Morris	Male	White/New York	23	Farmer
Mary J. Morris	Female	White/New York	20	
Sylvester Morris	Male	White/New York	17	Farmer
John P. Morris	Male	White/New York	15	
Catherine L. Morris	Female	White/New York	9	
Emma H. Morris	Female	White/New York	6	
James Mitchell	Male	White/Ireland	56	Laborer
Patrick McGilly	Male	White/Ireland	14	
Ann Boles	Female	White/Ireland	19	
Mary Raney	Female	White/Ireland	14	
Sarah Adams	Female	White/New York	56	

A review of available Brooklyn City Directory data found no entry for a Jacob Morris within the project area. The land transaction history indicates that several individuals owned Block 710 from 1855 through 1867 (see Table 7). The landowners included: John S. Bergen, William H. Wisner, and John McKay. In 1867, Edward Harvey acquired the property. He and his family controlled the parcel until 1880. A search of the Brooklyn City Directories and the Federal Census records did not identify any of these property owners within the Eighth Ward of Brooklyn or with a street address that matched Block 710.

G.W. Bromley & Co's 1880 map indicates the presence of an L-shaped structure within 41st Street to the immediate east of the Project Area (see Figure 17). The northeastern portion of the Project Area continued to be underwater. Lots were proposed for Block 192, in the current location of the eastern portion of Block 710. The structure within the 41st

Street streetbed is not oriented in line with the lots within Block 192 and falls within the line of the street indicating that it was built prior to the creation of the street and lot grid.

The land transaction history indicates that Bush & Denslow purchased Block 710 (see Table 7) in 1880. By 1883, Bush & Denslow, oil manufacturers, are listed in the Brooklyn City Directory with an address at the foot of 40th Street and at 130 Pearl, New York. The directory entry indicates that the owners of the oil company were Rufus T. Bush and Walter T. Denslow. The company is listed at these two addresses through 1889. Beers 1886 map indicates that Block 192 had been extended to the northwest and into the Gowanus Bay (see Figure 18). Pier 7 had been installed and contained several brick buildings associated with the Bush & Denslow Company. One large rectangular building and two smaller buildings were located within the northeast corner of the Project Area. The historic building previously located with the streetbed of 41st Street was no longer extant. The 1888 Sanborn Fire Insurance Map indicates the presence of multiple structures associated with the Bush & Denslow refinery within the northeast corner of the Project Area (see Figure 25). These structures include a cooling tank, several tar tanks, sheds, storage buildings, a machinery building, and a pump house.

In 1893, Standard Oil Company purchased Block 710 from Bush & Denslow. Five years later, the Bush Company, Ltd., acquired this same parcel from the Standard Oil Company. The 1898 Hyde Map indicates that Pier 7 contained the *Ruins of Formerly Bush Manufacturing Company* (see Figure 19). The map does not depict any structures within Block 192; the block is vacant and lacks any defined lots. By 1903, rail spur lines were located within the northeastern corner of the Project Area (see Figure 20). The spur lines extended from the Bush Terminal to the south and connected to a small brick building and two larger brick warehouse buildings within Block 710. Pier 7 was occupied by the Scandinavian American Line. In 1905, the Bush Company sold Block 710 to the Bush Terminal Company (see Table 7).

The 1899 Brooklyn City Directory lists Irving Bush as President with a business at the foot of 42nd Street. In 1906, his business is located at the foot of 43rd Street and at 117 Pearl Street in Manhattan. By 1909, there are several entries for the Bush Terminal Company which is listed with an office at 100 Broad Street, but with warehouse and freight space at the foot of 43rd Street. The 1906 Sanborn Fire Insurance Map indicates that Pier 7 was occupied by the American-Hawaiian Steamship Company (see Figure 21). Rail spur lines leading to Pier 7 occupied the northeastern corner of the Project Area. There were no other structures within this portion of Block 710.

By 1916, a single small frame building was located within the Block 710 portion of the Project Area (see Figure 19). At this time, the Mediterranean & New York S.B. Line was associated with Pier 7. The 1926 Sanborn map indicates that an office building with two attached single-story structures and two associated small structures, including a Tool House, were located within the northeastern corner of the Project Area (see Figure 23). A plank driveway was located in front of the buildings; water lines were located to the west and north of the structures. By 1928, the current Power House had been constructed within the Block 710, Lot 16. The 1951 Sanborn Map indicates that the structure was two-and-a-half stories with coal pockets and an ash pocket on its northern extent. An Incinerator was located in the eastern wing of the building; rail spur lines extended to the east and immediately north of the Power House with one spur line running to and through the ash pocket. A review of subsequent Sanborn maps and historic aerial imagery indicates that the Power House has remained virtually unchanged. In 1971, the Bush Terminal Company sold Block 710 to the City of New York as part of a large property transfer. In 2013, the smokestack of the Power House collapsed leading to condemnation of the structure. It has since been fenced off for safety purposes.

Chapter 7: PEDESTRIAN RECONNAISSANCE

A pedestrian reconnaissance of the Project Area was conducted by Dewberry on September 5, 2018 and January 3, 2019. The purpose of this reconnaissance was to visually inspect the Project Area for surface-visible evidence of past subsurface ground disturbance, including existing utilities, and/or archaeological resources, as well as to photograph current conditions. The buildings on site were photographed and will be briefly described. Further description of the buildings will be provided in a subsequent Architectural Eligibility Assessment report. A photograph key for the photographs discussed in this section is provided as Figure 28.

The Project Area can be accessed via 43rd Street and 42nd Street from First Avenue. Rail spur lines are located within the pavement at the 43rd Street entrance (Photographs 1 and 2). Chain link fence lines are located along the First Avenue frontage. The paved surface of 43rd Street extends into the Bush Terminal and serves as a two-lane driveway towards the waterfront and parking areas within the complex. Utilities, including manholes, fire hydrants, and markouts were observed within the streetbed and in front of the buildings on either side of the driveway (Photograph 3). An unmanned guard booth is located between the Round House and Unit D near the 43rd Street entrance. Bollards are located on either side of 43rd Street (Photograph 4).

Unit D consists of a wide brick warehouse with industrial storefronts along its eastern façade. A paved parking surface is located to the immediate east of the building.. A paved parking area with concrete barriers is located to the immediate southeast of the Round House (Photograph 5). A one-story brick building abuts the parking area to the south and a two-story brick structure abuts the parking area to the west; a structure previously stood in the parking area and was removed in 2016 (NYCEDC 2016). The rear yard of the Round House was enclosed with a chain link fence. Several utility boxes and poles were observed within the rear yard along with broken pavement, sporadic grass, and shrub growth (Photograph 6).

The Café Building consists of a one-and-a-half-story brick structure with blank painted bollards at its northern frontage (Photograph 7). The Pump House is a one-story building located to the immediate south of the Café Building. The alley between the Café Building and the Round House consists of a paved surface with subsurface utilities (Photograph 8). Unit C, a multi-storied brick warehouse, is located to the north of the Café Building. The paved road surface, a continuation of 43rd Street, separates the buildings. The alley between Units C and D consists of discontinuous surfaces. A cobblestone and asphalt surface is located on the western frontage of Unit D (Photograph 9). Utilities including fire hydrants and pipes are located on this frontage. Rail tracks are located within the cobblestone surface. This area is bordered by a cement retaining wall. To the west of the retaining wall, the elevation drops down to a paved asphalt surface (Photograph 10). That surface terminates with a cement wall; the surface then rises to the north towards a chain link fence. A concrete surface sits adjacent to the eastern frontage of Unit C and is at a higher elevation than the sunken asphalt.

The multi-storied brick Administrative Building is located to the immediate west of the Café Building; these buildings are separated by a paved driveway leading to a parking area and the Bush Terminal Park to the south. A statue of Irving Bush is located above the front door of the Administrative Building (Photograph 11). Black painted bollards are also located in front of the Administrative Building. A paved surface is located to the immediate west of the Administrative Building; this surface and a chain link fence separate the building from the waterfront and bulkhead. The bulkhead in this area consists of layers of trap rock adjacent to metal-reinforced cement (Photograph 12). A concrete platform is located to the immediate west of the riprap bulkhead in the vicinity of the historic Short Pier (Photograph 13). The platform consists of concrete panels resting on top of a wooden post pier. Lager metal posts are located along the eastern frontage of the platform and may help to support the structure. The remnants of Pier 5 are located to the west of the platform. The deteriorated remnants of Pier 5 include cement and wooden support posts, riprap, and concrete panels (Photograph 14).

LEGEND

Project Area

Photograph Location

0 300 FEET

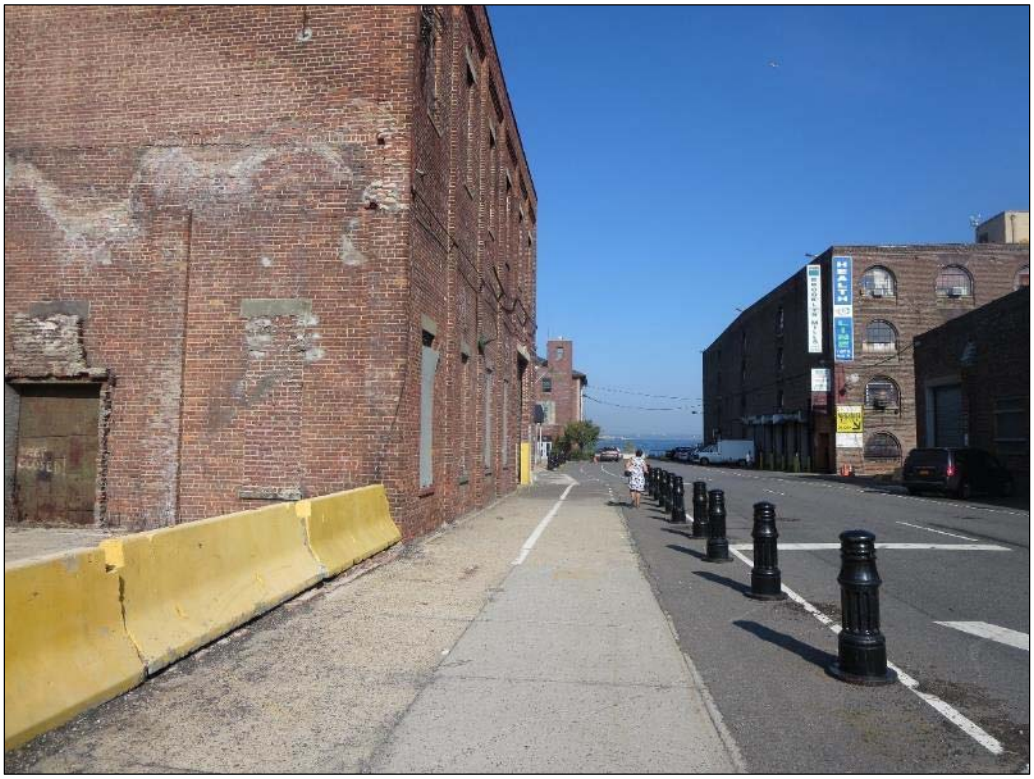
MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Photograph Key
(Photographs 1-23)
FIGURE 28

Photograph 1: Rail Tracks in First Avenue. View Northeast. (TF 9/5/2018).

Photograph 2: Rail Tracks in Sidewalk of First Avenue, South of 43rd Street. View Southwest. (TF 9/5/2018).

Photograph 3: Driveway into Bush Terminal on 43rd Street. View Northwest. (TF 9/5/2018).



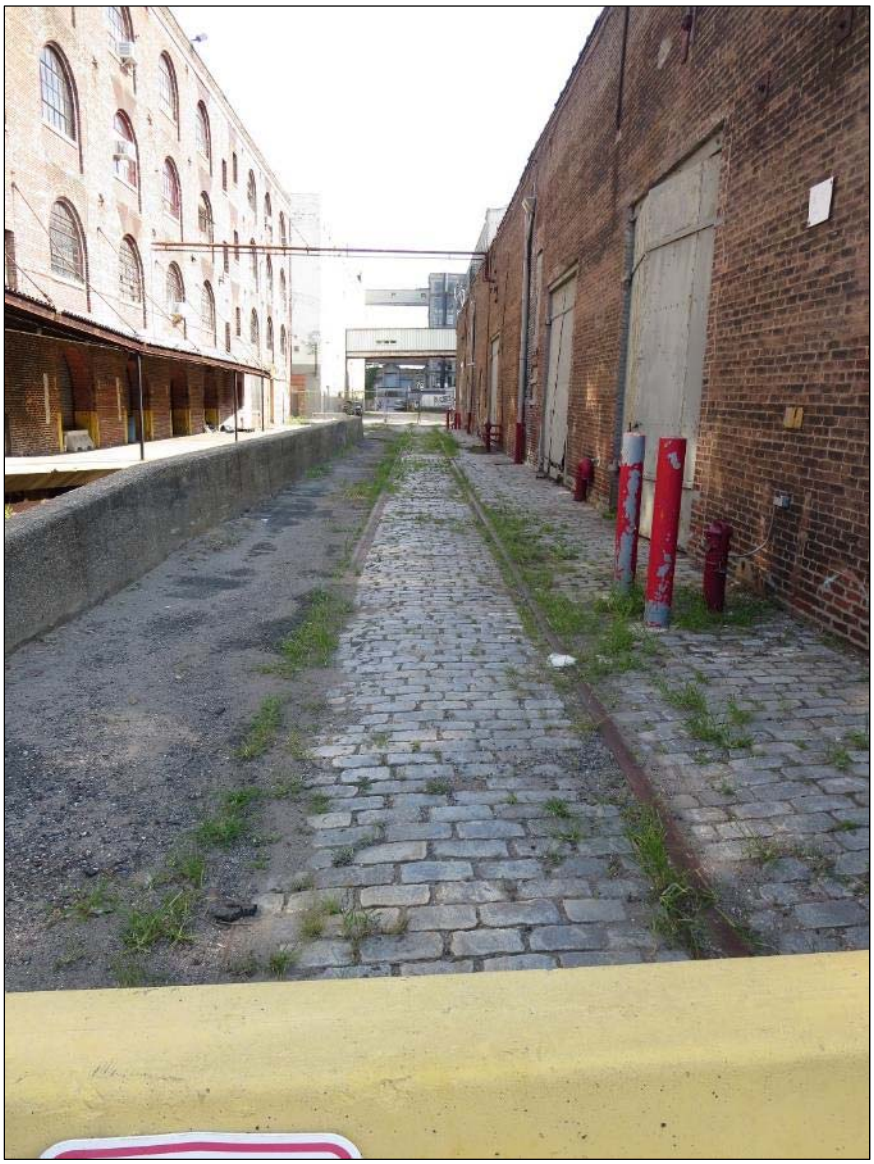
Photograph 4: Bollards on 43rd Street Driveway into Bush Terminal. View Northwest. (TF 9/5/2018).

Photograph 5: Round House and Adjacent Paved Area. View Northwest. (TF 9/5/2018).

Photograph 6: Rear Yard of Round House. View South Southwest. (TF 9/5/2018).

Photograph 7: View West of the Café Building, As Seen from 43rd Street. (AB 9/5/2018).

Photograph 8: Alley between Round House and Café. View Northeast. (TF 9/5/2018).



Photograph 9: Cobblestone and Paved Surface to South of Unit D. View Northeast. (TF 9/5/2018).

Photograph 10: Paved Portion of Alley between Units C and D. View Northeast. (TF 9/5/2018).

Photograph 11: Administrative Building and Roads in Southwestern Portion of Project Area. View Northwest. (TF9/5/2018).

Photograph 12: Bulkhead West of Administrative Building. View Southwest. (TF9/5/2018).

Photograph 13: Platform to West of Bulkhead. View West Northwest. (TF 9/5/2018).

Photograph 14: Pier 5. View Northeast. (TF 9/5/2018).

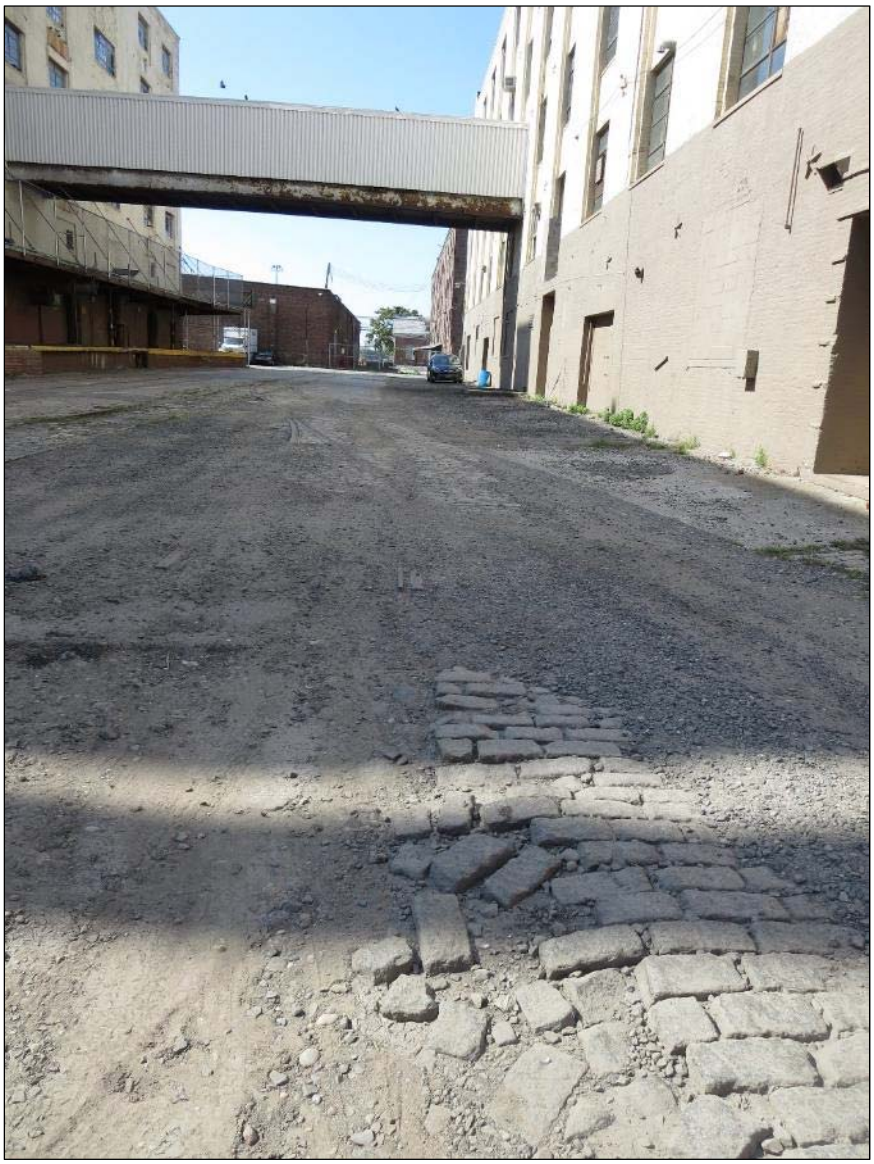
The 42nd Street entrance to the Project Area at First Avenue consists of discontinuous paved surfaces with two manholes. A chain-link fence marks the entry to the Bush Terminal (Photograph 15). The paved surface transitions to a partial cobblestone and partial paved surface at First Avenue. The cobblestone and paved surface continue to the west between Units B and D and Units C and A; the surface is more cobblestone near the buildings and between Units B and D. Drainage grates, manholes, and utility markouts were observed within the cobblestone/paved surface. A chain link fence runs across the width of the road near the eastern frontage of Units C and A.

Unit B is a multi-storied warehouse. Fire hydrants are located along the sidewalk to the south of the structure. The alley between Units B and A consists of a primarily cobblestone surface with multiple rail tracks (Photograph 16). Areas of asphalt and cement surfaces were located adjacent to the buildings and connected to the cobblestone. Towards the western extent of the buildings, the pavement became increasingly paved with areas of exposed gravel, dirt, and broken cobblestone (Photograph 17). Manholes and other utilities were observed within the paved surface. Utilities are also located within cut-outs in the western frontage of Unit B.

A rail spur line extends across the cobblestone and paved surface between Units D and B and Units A and C (Photograph 18). Two manholes were observed within this surface. A rail spur line also extends across this area and towards Unit A. Semi-subsurface pipes are located in the western portion of the road; additional rail spur lines are also located in the western extent and tend towards the waterfront. Unit A consists of a multi-storied warehouse building similar in style to Unit B. A utility feature was located adjacent to the southern frontage of the building. A discontinuous paved and cobblestone surface was also located to the west of Unit A (Photograph 19). The cobblestone surface is generally closer to the structure; the pavement is closer to the waterfront and is bordered by a concrete barrier and chain link fence to the west. Drainage and manhole features were observed within this surface. Unit A has a two-story brick Annex on its northern frontage. A chain link fence and concrete barriers are also located along the northern frontage of Unit B. Chain link fence lines also border the paved surface between Unit A and the Power House.

Photograph 15: 42nd Street Entrance to Bush Terminal. View Northwest. (TF 9/5/2018).

Photograph 16: Alley between Units A and B. View Northeast. (TF 9/5/2018).



Photograph 17: Broken Cobblestone and Gravel in Alley between Units A and B. View Southwest. (TF 9/5/2018).

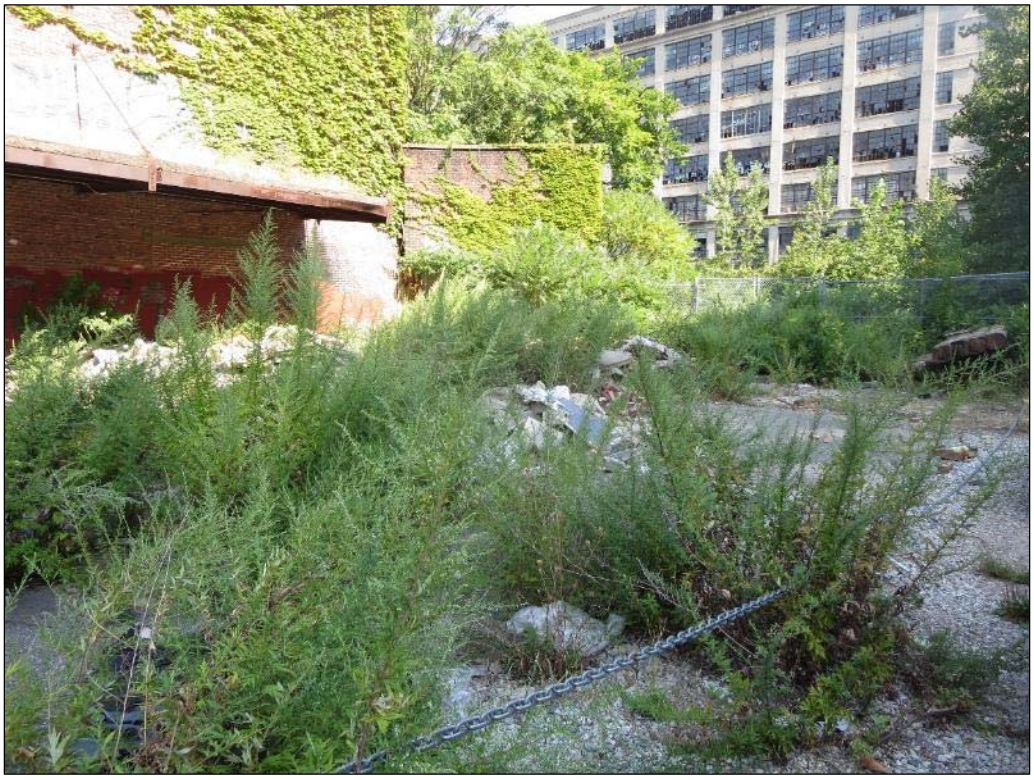
Photograph 18: Cobblestone Road and Rail Tracks East of Units C and A. View Northwest. (TF 9/5/2018).

Photograph 19: Paved and Cobblestone Road Surface West of Unit A. View Southwest. (TF 9/5/2018).

The Power House consists of a multi-storied brick structure (Photograph 20). An alley separates the Annex of Unit A from the Power House. The eastern portion of this alley contains a broken cobblestone and paved surface with exposed dirt and grass. To the immediate east of the Power House, there is an area of dense brush growth with a broken paved surface and dumped building debris (Photograph 21). The construction debris includes cement panels, bricks, and wood. Warehouse buildings and parking areas are located to the north and east of the Power House, outside of the Project Area.

Pier 6 is located to the west of Units C and A (Photograph 22). The bulkhead to the west of Unit C and adjacent to Pier 6 consists of surface Belgian Blocks on top of asphalt and large riprap (Photograph 23). A chain link fence is located on the eastern extent of Pier 6. The surface of Pier 6 consists primarily of concrete panels; there are also areas of cinderblock and asphalt pavement. Vegetation growth, including grass and bushes, was noted along the eastern, northern, and southern extents of Pier 6; dense vegetation growth was noted along the western portions of the pier. A rail track was observed down the central length of Pier 6. A second chain link fence extended across the width of the central portion of the pier. The northern and southern frontages of the pier exhibit extensive deterioration. The northern frontage reflects multiple support technologies including wooden posts and members, riprap, and metal sheets and panels. Sedimentation was observed along the wooden posts and riprap (Photograph 24). The southern frontage also contains deteriorated wooden posts, angled and disassociated cement panels, and sedimentation (Photograph 25). Pier 7 is located to the west of the Power House. The pier is substantially deteriorated with disassociated concrete panels, riprap, cement supports, and wooden posts.

Photograph 20: Power House. View Northwest. (NC 1/3/2019).



Photograph 21: Area East of the Power House showing Broken Paved Surface with Building Debris and Vegetation. View Northwest. (TF 9/5/2018).

Photograph 22: Pier 6. View Northwest. (CN 9/6/2018).

Photograph 23: Bulkhead to West of Unit C. View Southwest. (TF 9/5/2018).

Photograph 24: Northern Exposure of Pier 6. View Northwest. (TF 9/5/2018).

Photograph 25: Southern Exposure of Pier 6. View Northwest. (TF 9/5/2018).

Chapter 8: ARCHAEOLOGICAL SENSITIVITY ASSESSMENT

In order to assess the potential that the Project Area contains intact archaeological resources, Dewberry has analyzed the results of the background research, environmental context, and pedestrian reconnaissance. Assessing the cultural resource sensitivity also requires an assessment of the potential past disturbance to the Project Area and the potential for such disturbance to have compromised or destroyed any preexisting cultural deposits. The sensitivity assessment will be provided for the entire Project Area; however, recommendations will only be provided for those areas within which direct impacts are currently proposed.

8.1 Disturbance Assessment

At least half of the Project Area was within the Gowanus Bay prior to the late nineteenth century. Filling of the coastline, which included the introduction of ship ballast, dredged materials, refuse, and coal ash, began between 1880 and 1886. By 1903, the Project Area had been filled to its current extent. From 1844 to 1880, there was limited development with the Project Area consisting of two to three structures (likely residential structures), a roadway, and possibly associated driveways. By 1886, portions of the Project Area had been lotted and the historic structures were no longer extant. Clearing of the historic structures would have resulted in at least minimal ground disturbance. There is a likelihood that foundation deposits or subsurface features associated with the structures were left in place or truncated when the buildings were demolished.

Two-story historic buildings (likely residential structures) were constructed along the southeastern portion of Block 715, along 1st Avenue between 43rd and 41st streets; along the northern frontage of 43rd Street, the northern and southern frontage of 42nd Street, and the southern frontage of 41st Street by 1886. It is unclear whether these buildings contained basements. The majority of these structures were removed by 1903; the current Units A through D were installed by this time. Units A through D themselves lack formal basements.

Between the 1890s and 1920, the Bush Terminal was developed. In addition to the construction of Units A through D, the buildings which comprise the contemporary Round House, Café Building, Pump House, and Administrative Building were installed. The Power House was constructed circa 1928; it also appears to lack a formal basement. Additional ancillary structures were also built along with extensive rail lines and spurs. Water lines were installed along the line of 43rd Street and portions of 42nd and 41st streets. Rail tracks were located to the west of the Round House, between the warehouse buildings, along the line of 43rd and 42nd streets, and across the length of the Short Pier and Pier 6. The installation of buildings, which may have included crawl spaces, the rail lines, and the utilities would have resulted in at least limited ground disturbance. With respect to the water lines, the ground may have been disturbed up to a depth of four feet below the surface. The Sanborn maps indicate the presence of a vault near the entryway to the Administrative Building. Such a feature would have also resulted in a minimum of four feet of ground disturbance.

In 1985, Raber et al. documented the deteriorated state of Pier 6. At the time of their survey, much of the Pier 6 superstructure was intact; however, it had been modified in the 1960s and was subsequently badly damaged by fire. They further noted that detailed documentation of the construction of Pier 6 had been recorded and that it was "unlikely that original bulkhead and apron elements are intact since their exposure to air and water probably required replacement or rebuilding" (Raber et al. 1986:57). In addition, Raber et al. contended that rebuilding of the bulkhead and pier, which preceded the Bush Terminal and were then completed and updated for use as Bush Terminal piers, most likely "removed the original elements, except perhaps along the original west faces" (1986:57).

Available utility data for the Project Area, indicates the presence of water, sewer, sprinkler, electrical, and gas lines (Appendix B). The majority of the utility lines are located within First Avenue and along the line of 43rd and 42nd

streets. Several utilities are also located in the alleys between Units D and C and between Units B and A. Water lines and other utilities are also located to the immediate north of Unit C, Unit A, and the Power House; pipes also extend between the Unit A Annex and the Power House. It is assumed that the utilities, except for the sewer lines, resulted in a maximum of four feet of disturbance; sewer lines may have extended to a depth of at least six feet to eight feet below the ground surface. Within the footprints of the existing buildings, the utilities primarily consist of water lines and sprinkler systems.

The disturbance assessment indicates that at least minimal ground disturbance, grading, and clearing was associated with the removal of the nineteenth-century structures. Development of the Bush Terminal most likely also resulted in at least limited disturbance with the installation of structures, without basements, and rail tracks. Such disturbance most likely extended to approximately two feet below the surface. The installation of utilities within the project area has resulted in the most extensive disturbance to a general depth of four feet. The utility lines are primarily located within the streets and alleys between buildings. Raber et al. (1986) also suggested extensive disturbance and deterioration to the superstructure of Pier 6 as a result of fires, alterations, and weathering. They also speculated that the substructure of the pier had deteriorated as a result of exposure and was most likely rebuilt and replaced over time suggesting that little to no of the original bulkhead or pier are extant.

8.2 Precontact Sensitivity Assessment

Precontact archaeological sensitivity models are developed from regional precontact overviews and previous studies of known precontact settlement within the Northeastern United States (Dincauze 1990). By identifying environmental correlates between known precontact period site locations, archaeologists have identified a series of common variables which appear to correspond with identified precontact sites. These variables include slope, distance to potable water, and soil drainage (Mulholland 1988; Hasenstab 1991). The models also factor in the location of previously identified precontact archaeological sites and environmental conditions within those sites. Generally speaking, sites located within relatively flat, well-drained upland landforms within 150 meters of potable water sources are considered sensitive for precontact archaeological resources. In addition, sites located within 152.4 meters of a known precontact archaeological site are also considered sensitive for precontact archaeological resources.

There are no known precontact archaeological sites with a half-mile radius of the Project Area. Early European accounts of the area indicate that Canarsee settlements were located to the east and south. In addition, much of the Project Area was within the Gowanus Bay prior to the late nineteenth century; currently, the Project Area is low-lying being situated at elevations less than 20 feet asl. Furthermore, the 1844 Coastal Survey map suggests that the Project Area consisted of submerged and low-lying swamp and marshland, unattractive areas for settlement or occupation (see Figure 13). Soils within the Project Area are categorized as Urban Land, asphalt over human-transported material. Given that the Project Area is not located within the vicinity of a known precontact archaeological site, that it is low-lying, is in an area of disturbed soils, and that much of the area was previously submerged, the Project Area is considered to possess low to no precontact archaeological sensitivity.

8.3 Historic Sensitivity Assessment

Background research indicated that two structures were located within and a third structure to the immediate east of the Project Area from at least 1844 to 1880. In 1849, the structure near 43rd Street in Block 725 or 715 was associated with J. Bergen, the structure near 42nd Street in Block 715 was associated with J. Delaplaine, and the structure to the east of 41st Street was associated within J. Morris. Historic census records confirm the existence of these three households in the Eighth Ward of Brooklyn in 1850. Historic directory research indicates the presence of members of the Bergen family at a structure at the foot of 43rd and 42nd streets through much of the period from 1856 through 1880. These structures were extant prior to the extension of water or sewer lines suggesting that these households

would have relied upon wells, cisterns, and/or privies in their rear yard areas for water and latrine services. The residential structures appear to have been removed sometime between 1880 and 1886. By 1886, two-story dwellings had developed along the southern frontage of 43rd Street west of First Avenue. It is unclear whether these structures contained basements. The eastern portion of the 1849 J. Bergen structure may have been impacted by this development on the southern frontage of 43rd Street. The J. Delaplaine structure would have been located within 42nd Street west of First Avenue; it is unclear whether the streetbed was extended to the west by 1886.

By 1903, Units A through D had been installed and a road surface, most likely a cobblestone road, had developed in line with 42nd Street west of First Avenue. The late nineteenth- and early twentieth-century development certainly resulted in the removal of the earlier buildings. However, it is unclear how much disturbance was associated with this development; it is possible, given the lack of basements to the warehouses, that limited disturbance occurred such that truncated historic deposits may remain intact. However, the establishment of Units A through D would have required some degree of grading of the early twentieth-century surface to level out and allow for the placement of the large warehouses constructed on slab foundations. If the degree of site preparation in advance of construction of Units A through D was limited to a few feet, then the potential exists for backyard deposits associated with house cleaning and other periodic activities in addition to shaft features in the rear vicinity of the historic occupations. On the other hand, backyard archaeological shaft features may have been thoroughly removed during site preparation in advance of construction of Units A through D. Furthermore, utilities are located in line with 42nd Street and in the street between Units A/B and C/D, further compromising or removing areas with some potential to contain archaeological resources. Lastly, the aforementioned alley exhibits a lower elevation compared to 41st, 42nd, and 43rd streets (see Photographs 8 and 9), suggesting an additional degree of disturbance to the twentieth-century landscape and further reducing the potential for nineteenth-century archaeological shaft features. However, it is possible that proposed utilities and street modifications may intersect with the historic location of the J. Delaplaine structure, thereby impacting an area with potential to contain historic deposits associated with the Delaplaine structure.

Figure 29 indicates the location of the mid-nineteenth-century structures in light of the current structures within the Project Area. The J. Bergen structure is located within the southern extent of Unit D; the J. Delaplaine building is located with the line of 42nd Street and within a portion of Unit B. Given the location of the Bergen and Delaplaine buildings and the lack of evidence for extensive deep subsurface disturbance in the vicinity of these buildings, these buildings and an area approximately 20 feet to 30 feet to the northwest is considered to possess moderate historic archaeological sensitivity.

Initial development of Block 710 began in the 1880s with the Bush & Denslow Manufacturing Company. By 1886, the coastline had been extended to the west, Block 710 had been filled, and Pier 7 had been constructed. Several warehouses and tanks associated with the Bush & Denslow Manufacturing Company occupied the block and Pier 7 until the 1890s. These structures were replaced by rail spur lines until the circa 1928 installation of the Power House. As the structures associated with the Bush & Denslow occupation and the spur rail lines were surficial features without formal basements or deep shaft features, the construction of the Power House most likely removed or severely compromised any deposits associated with these occupations. However, given the lack of formal basement within the Power House, the fill upon which the historic development occurred, which was installed by Rufus Bush as he initially developed the property, may remain intact. The portion of Block 710 within the APE is, therefore, considered to possess moderate historic archaeological sensitivity for late nineteenth-century landfill associated with development predating the Bush Terminal. The identification and analysis of deposits predating Bush Terminal may provide further insights into the history of land use and the activities of both Rufus and Irving Bush in the late nineteenth century along the Brooklyn waterfront.

Pier 5 and Pier 7 have been extensively documented in the past including HAER documentation in the 1980s (HAER NY-201; HAER NY-201-A; HAER NY-201-B). Therefore, the portions of the bulkhead within the Project Area immediately to the east of these piers were not considered sensitive for historic deposits.

LEGEND

0 300 FEET

Project Area

Moderate Historic Archaeological Sensitivity

Shoreline 1880

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Areas of Archaeological Sensitivity
FIGURE 29

With respect to the remaining bulkhead and the eastern portion of Pier 6, Raber et al. (1986) found that this portion of the Bush Terminal was not significant as the area generally lacked in integrity due to twentieth-century fires, exposure to air and water which most likely required replacement or rebuilding, and alterations made to the earlier bulkheads and pier, which preexisted the Bush Terminal and were adapted for use as part of the Bush Terminal. The pedestrian reconnaissance documented that the bulkhead wall within the Project Area exhibits multiple technologies including riprap and metal-reinforced cement. The pedestrian reconnaissance also observed that Pier 6 was overgrown and lacking any of its historic superstructure. The northern and southern frontages of the pier also reflect multiple construction technologies including concrete panels, wood posts and members, and riprap. Furthermore, the Short Pier, which would've been located between Piers 5 and 6 to the immediate west of the Project Area, is no longer extant; rather, a concrete platform appears to occupy its former location.

The observable conditions of the bulkhead, Pier 6, and the concrete platform in the vicinity of the Project Area align with Raber et al.'s (1986) conclusions that the visible elements of these features lack in integrity and would not offer significant insights into the development of the S/NR-eligible Bush Terminal. However, it is unclear whether the submerged portions of the eastern portion of Pier 6, the bulkhead, and the coast in the vicinity of the Short Pier have been similarly compromised. Both the bulkhead and Pier 6, as their initial construction predated Bush Terminal, may contain deposits which reflect the early occupation and development of the property by Rufus Bush. The bulkhead and pier may contain coal ash from the Bush & Denslow Manufacturing Company along with vessel ballast and city refuse that was deposited by Irving Bush as he completed the bulkhead. Submerged portions of the bulkhead may reflect the early timber construction and could be compared to the documented bulkhead construction in other sections of the Gowanus Bay. As this bulkhead was built by private developers and not by the New York Department of Docks, its construction may have varied from what is typically seen in the time period and area. In addition, the substructure of Pier 6 may present a stratigraphic profile of the development and reuse of the pier from its initial development to its redevelopment with a two-story pier shed and rail tracks. It is also possible that intact deposits associated with the timber structure of the Short Pier may remain extant along the shoreline. As any intact deposits along the bulkhead or within Pier 6 could inform upon the history and development of Bush Terminal, the subsurface portion of the bulkhead and the eastern portion of Pier 6, the western extent of the Project Area, are considered to possess moderate historic archaeological sensitivity (see Figure 29).

Given the relative lack of historic development prior to the creation of the Bush Terminal and the existing documentation regarding the structures and rail lines within the terminal, the remaining portions of the Project Area are considered to possess low historic archaeological sensitivity.

8.4 Summary and Analysis

The Proposed Project designs, particularly with respect to the location of utilities and the boardwalk improvements, are ongoing. With respect to the buildings on site, current designs propose changes to Units A through C; rehabilitation of the Café Building; and removal of the Power House, Unit D, and the annex to Unit B. The Administrative Building and Round House would remain as-is. The bulkhead, including portions along Pier 6, would be improved.

The sensitivity assessment has identified four locations within the Project Area with moderate historic archaeological sensitivity—the location of two mid-nineteenth-century structures, the Bergen house near 43rd Street and the Delaplaine house in 42nd Street; the bulkhead, including the former location of the Short Pier; and the Power House (see Figure 29). Current designs propose the removal and replacement of Unit D with a new structure. If the removal of Unit D and the replacement structure would result in ground disturbance, i.e., the installation of a basement, below ground utilities, and/or grading, this activity could have the potential to impact historic archaeological deposits associated with the Bergen house. With respect to the Delaplaine structure, the historic residence appears to have been primarily located within the line of 42nd Street. The rear yard of the building would have been located within this modern limits of 42nd Street and within the southwestern corner of Unit B. The Proposed Project will not impact the

footprint of Unit B. However, utility upgrades may occur within the footprint of 42nd Street. If utility installations occur within the vicinity of the historic structure, these ground disturbing activities have the potential to impact historic archaeological resources associated with the nineteenth-century Delaplaine residential structure. As with Unit D, current design plans propose the removal and replacement of the Power House. If these activities would result in ground disturbance, they could potentially impact intact historic archaeological deposits associated with the late nineteenth-century landfill and development of the Bush & Denslow Manufacturing Company. It is recommended that construction activities in the location of the Power House be restricted to shallow ground surface impacts such that there will be no impacts to any existing archaeological deposits.

With respect to the bulkhead and eastern portion of Pier 6, it is unclear from current designs whether the MiNY North Campus Project would impact the submerged portions of these features. If Project activities would result in disturbance to the substructure of the bulkhead and/or Pier 6, these activities could potentially impact intact deposits associated with the development of the S/NR-eligible Bush Terminal or the history of the waterfront prior to Bush Terminal. Construction activities along the western shoreline could also potentially impact submerged deposits associated with the Short Pier.

Given the potential for project activities to impact areas of historic archaeological sensitivity within the Project Area, further consultation with LPC and OPRHP is recommended to delineate the extent of the Proposed Project's potential to affect archaeological resources

Chapter 9: CONCLUSIONS AND RECOMMENDATIONS

Dewberry has completed a Phase IA archaeological documentary study for the proposed NYCEDC-lead MiNY North Campus Project. This study consisted of a review of past cultural resource surveys, historical map and atlas background research, primary and secondary source historic research, and a pedestrian reconnaissance of the proposed Project Area.

9.1 Archaeological Resources

Based upon the available information, the majority of the Project Area is characterized as having low potential for precontact and historic archaeological resources. A few locations within the Project Area are assessed as possessing moderate historic period archaeological sensitivity. Specifically, two mid- to late-nineteenth-century historic structures were located within the Project Area—one to the immediate north of the line 43rd Street within Unit D, and one within 42nd Street. As both of these structures predate the extension of municipal water and sewer lines, each has the potential for backyard deposits including shaft features associated with nineteenth-century residential occupation. The Power House is also located in an area which was filled and developed in association with the late nineteenth-century development that immediately preceded Bush Terminal. Thus, this area is also considered to possess moderate historic archaeological sensitivity for late nineteenth-century landfill deposits. In addition, while the surface of the bulkhead and superstructure of Pier 6 are compromised and reflect multiple periods of repair and the use of differing construction technologies and materials, the integrity of the submerged bulkhead and pier are uncertain. There is the possibility that intact deposits associated with the bulkhead of the Bush Terminal, the original construction of Pier 6, and the usage of the property prior to the development of Bush Terminal, may remain extant. Therefore, the submerged portions of the bulkhead, the western coastline and area approximately 40 feet to its west, and Pier 6 possess moderate historic period archaeological sensitivity.

As Project designs remain in development, there exists the potential for MiNY Project-related activities to impact the areas of historic archaeological sensitivity, particularly with the removal and replacement of Unit D and the Power House, and with waterfront improvements to the bulkhead, an area extending approximately 40 feet to the west of the shoreline (including open water locations), and the eastern portion of Pier 6. In light of this potential, further consultation with LPC and OPRHP is recommended to establish areas of archaeological concern within the Project Area.

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Appendix A: Correspondence

Dewberry

Dewberry Engineers Inc.
31 Penn Plaza
132 West 31st Street, Suite 301
New York, NY 10001

212.685.0900
212.685.2340 fax
www.dewberry.com

October 1, 2018

Attn: Ms. Olivia Brazee
Historic Site Restoration Coordinator
Division for Historic Preservation
New York State Parks, Recreation & Historic Preservation
Peebles Island State Park
PO Box 189
Waterford, NY 12188-0189

RE: Initiation of Section 106 Consultation
MiNY Bush Terminal North Campus
41st Street to First Avenue to 44th Street to Pier 6
Brooklyn, Kings County, New York
CEQR Number 19SBS002k

Dear Ms. Brazee,

The New York City Economic Development Corporation (NYCEDC), in coordination with the New York City Department of Small Business Services (SBS), proposes to rehabilitate and repurpose a portion of the existing New York City-owned Bush Terminal Campus located in Sunset Park, Brooklyn, New York (Figure 1). This rehabilitation effort is being conducted to facilitate the creation of the Made in New York (MiNY) Campus to encourage the introduction of garment manufacturing, film and media production, and related services and industries to the campus. The MiNY Bush Terminal North Campus Project (MiNY North Campus Project or proposed project) includes preservation and repurposing of existing buildings and structures within the campus, the demolition and replacement of structurally unstable structures, as well as site improvements to the northern portion of the Bush Terminal Campus from approximately 40th Street and 41st Street in the north, First Avenue to the east, 44th Street to the south and the Brooklyn waterfront, including Pier 6, on the west.

The proposed project would include work at several buildings, including Units A, B (and Unit B Annex), C, and D, the Round House, Café Building and Pier 6, as well as streetscape improvements and a new waterfront walkway/esplanade (see Figure 1). The MiNY North Campus Project will receive City capital funding and is therefore subject to City Environmental Quality Review (CEQR). Additionally, the proposed project requires issuance of a Section 10/404 Permit from the United States Army Corps of Engineers (USACE), as well as Tidal Wetlands/Excavation and Fill in Navigable Waters/401 Water Quality Certification Permits from the New York State Department of Environmental Conservation (NYSDEC). Given that the project requires the approval of a federally issued permit, the project will be subject to Section 106 of the National Historic Preservation Act (36 CFR 800). Dewberry Engineers Inc. is working with NYCEDC to complete the proposed project's compliance with CEQR, as well as Section 106. Coordination between the two review processes will follow the procedure outlined in the CEQR Technical Manual, Chapter 9: Section 720.

Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic

Preservation a reasonable opportunity to comment on such undertakings. Historic properties are defined as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. The goal of consultation under 36 CFR 800 is to identify historic properties potentially affected by the federal undertaking, in this case the USACE permit issued for the in-water work on the Brooklyn waterfront, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. Consultation under Section 106 will need to be completed before the issuance of the USACE permit.

Participants in the Section 106 Process (36 CFR 800.2)

The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the federal agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. Section 106 identifies the following participants in the process: the federal agency official, the Advisory Council on Historic Preservation and consulting parties, which will include the state historic preservation officer (SHPO), Native American Tribes, representatives of local governments and interested parties, including public participation. The following are identified as consulting parties for the MiNY North Campus Project:

Federal Agency
Colonel Thomas D. Asbery
Commander and District Engineer
United States Army Corps of Engineers, New York District
26 Federal Plaza
New York, NY 10278

State Historic Preservation Officer
Michael Lynch, Division Director
Division for Historic Preservation
New York State Office of Parks, Recreation & Historic Preservation (OPRHP)
Peebles Island State Park
PO Box 189
Waterford, NY 12188-0189

Native American Tribes
Clint Halftown, Nation Representative
Cayuga Nation
P.O. Box 803
Seneca Falls, NY 13148

Kimberly Penrod
Director, Cultural Resources/Section 106
Delaware Nation
31064 US Hwy 281, Blg. 100
Anadarko, OK 73005

Susan Bachor
Delaware Tribe Historic Preservation Representative
Delaware Tribe of Indians
P.O. Box 64
Pocono Lake, PA 18347

Mr. Jesse Bergevin, Historic Resources Specialist
Oneida Indian Nation
2037 Dream Catcher Plaza
Oneida, NY 13421-0662

Anthony Gonyea, Faithkeeper
Onondaga Nation
4040 State Route 11
Nedrow, New York 13120

Paul Barton
Tribal Historic Preservation Officer
Seneca-Cayuga Tribe of Oklahoma
23701 S 655 Road
Grove, OK 74344

Morri Abrams
Tribal Historic Preservation Officer
Seneca Nation of Indians
90 Ohi:yo Way
Salamanca, NY 14779

Charles Smith, Chairperson
Shinnecock Indian Nation Tribal Office
Shinnecock Nation
PO Box 5006
Southampton, NY 11969

Arnold Printup, Jr.
Tribal Historic Preservation Officer
St. Regis Mohawk Tribe
412 State Route 37
Akwesasne, NY 13655

Bonney Hartley
Tribal Historic Preservation Officer
Stockbridge-Munsee Mohican Tribal Historic Preservation
New York Office
Stockbridge-Munsee Community
65 1st Street
Troy, NY 12180

Chief Roger Hill
Tonawanda Seneca Nation
7027 Meadville Road
Basom, NY 14013

Bryan Printup
Tuscarora Nation
5226 Walmore Road
Lewiston, NY 14092

Local Government
James Patchett
President & CEO
New York City Economic Development Corporation
110 William Street
New York, NY 10038

Sarah Carroll, Chair
New York City Landmarks Preservation Commission
1 Centre Street, 9th Floor North
New York, NY 10007

The following are identified as interested parties for historic properties under Section 106:

Elizabeth Goldstein
President
Municipal Arts Society
488 Madison Ave, Suite 1900
New York, NY 10022

Peg Breen
President
The New York Landmarks Conservancy
One Whitehall Street
New York, NY 10004

Christopher Marston
President
Society for Industrial Archeology
Department of Social Sciences
Michigan Technological University
1400 Townsend Drive
Houghton, MI 49931-1295

Daniel J. Allen
President
Historic Districts Council
232 East 11th Street
New York, NY 10003

Initiation of the Section 106 process (36 CFR 800.3)

The proposed project's need to apply for an USACE permit meets the definition of an undertaking following 36 CFR 800.16(y) and therefore, the proposed project will be reviewed under Section 106. The consulting and interested parties that will participate in the Section 106 process for the MiNY North Campus Project have been outlined above.

Identification of historic properties (36 CFR 800.4)

The first step in the identification of historic properties that may be affected by an undertaking is to, in consultation with the SHPO, establish the area of potential effect (APE) for the project (Figure 2). The APE means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist (36 CFR 800.16(d)). The APE for the proposed project includes those areas containing potential National Register-listed or eligible historic properties whose character and/or setting could be directly, secondarily or cumulatively affected by the proposed undertaking (Figure 3).

The proposed project would include the preservation and repurposing of existing buildings in the Bush Terminal North Campus, as well as the demolition and replacement of structurally unstable structures with new construction within the Bush Terminal North Campus. The following activities will comprise the proposed project elements.

Unit A: The existing building would be preserved for use as the campus's new garment manufacturing hub with extensive interior work proposed to establish the building as a competitive, modern industrial facility. The existing roof and windows on all floors would be replaced. The façade would be restored and new entrances are proposed for the building's south, east and west elevations. The building would also receive design features to minimize impacts from future storm events by including a new structural slab as well as structural reinforcing along the perimeter of the building's first floor.

Unit B: The building's north side annex would be demolished to allow traffic to proceed west through the campus from 41st Street at First Avenue. The newly exposed exterior façade would be repaired and new doors and windows or modifications of existing doors and windows along the new 41st Street extension would be introduced. As required, masonry wall infills would be placed along the building's façade. No major interior work would take place.

Unit C: The building would be preserved with major interior renovation work limited to the building's first floor. The first floor interior would be demolished and a new lobby and finishes would be constructed. New entry and egress doors and new storefront entrances would be introduced on the building's west- and southeast-facing façades. Five of the seven existing loading docks for delivery trucks and equipment currently located on the west side of the building would be filled-in, and two new docks would be located on the west side of the building. Windows on all floors would be replaced; where required, façade repairs would be undertaken. The building would also receive design features or systems to minimize impacts from future storm events, including a new structural slab and structural reinforcing along the perimeter of the building's first floor.

Unit D: The existing building would be demolished and replaced with a new one-story media/production facility with a maximum height of 45 feet.

Café Building: The Café Building would be rehabilitated for use as space for food vendors.

Round House: The currently vacant building would be demolished and replaced with a new, one-story media/production facility with a maximum height of 45 feet.

Pier 6: The Pier structure would be fully restored and used to provide approximately 200 parking spaces for campus employees. In addition, a portion of the pier would be used for backlot/storage space for the proposed project's new production facilities.

Administration Building, Power House and the Pump House: These three buildings will remain unchanged with the implementation of the proposed project.

Site Improvements: The proposed project would also include streetscape improvements as well as utility infrastructure upgrades, including:

- The 43rd Street Public Access Corridor would receive a bike lane, updated lighting landscaping, signage and surface treatments.
- The pedestrian plaza space in front of Administration Building and between Units C and D would receive new paving, landscaping and lighting.
- 41st Street would be extended from First Avenue westward to the interior lane (to be called MiNY Lane) between Units A/C and B/D.

Waterfront improvements: Additionally, the proposed project would include the following improvements along the waterfront.

- A new waterfront esplanade would be built within the project area requiring new support platforms as well as the repair of existing platforms.
- Shoreline repair work would be implemented within the area between Pier 7 to Pier 5;
- A pedestrian/bike path along the waterfront would be created to separate pedestrian traffic from loading zones.

The proposed project as described above establishes specific areas of ground disturbance and building renovations that will represent the project's APE for direct effects (to both archaeological and architectural resources), as shown on Figure 2. The APE for indirect effects incorporates the proposed project's potential to create permanent or temporary visible, audible, economic and/or social impacts to the Bush Terminal Historic District or nearby individually designated historic properties through the renovation or demolition of structures within the Bust Terminal North Campus (Figure 3). The indirect APE incorporates the lots within the direct APE as well as the lots that are adjacent to the proposed Bush Terminal North Campus, and lots from which the proposed project's work can be viewed. Block and Lots for the indirect APE are included in Table 1 on the following page.

We submit this information to initiate the Section 106 process with OPRHP and to request your review and concurrence with the identified consulting and interested parties, the project's proposed APEs and to solicit your assistance as we advance the project's identification of historic properties present within the APEs. We look forward to continued coordination with OPRHP to advance the proposed project through the Section 106 process and coordinate the project's CEQR review.

Sincerely,

Zachary J. Davis, RPA
Senior Archaeologist

cc: Gina Santucci, LPC
Aileen Gorsuch, EDC
Jhaelen Hernandez, EDC
Krystin Hence, EDC
Tina Fortugno, Dewberry
Larry Smith, Dewberry

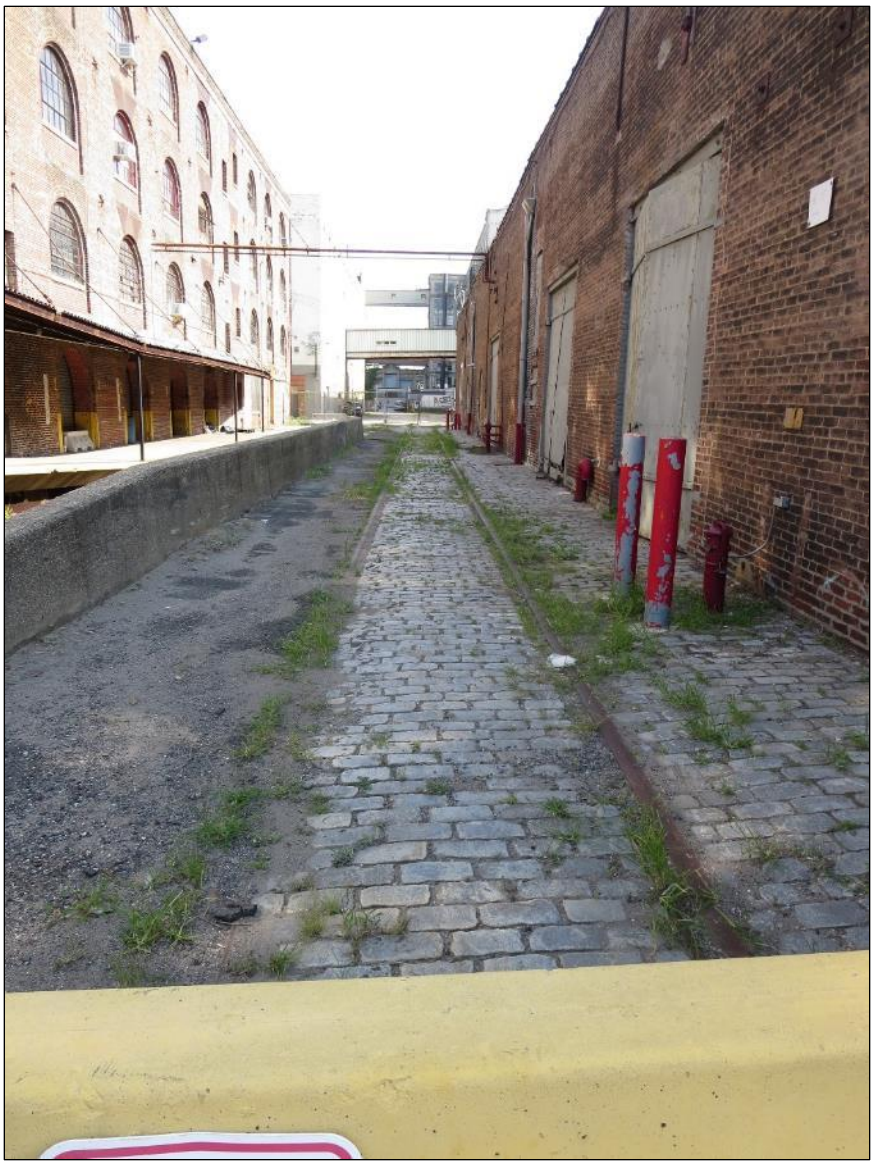
Table 1 – Block and Lots for the Proposed Indirect APE

Block	Lot
706	24
706	101
710	1
710	16
715	1
715	20
716	1
716	9
716	12
716	14
716	64
716	65
716	66
716	67
721	1
725	1
725	75
725	100
725	200
726	1
735	30
735	35
735	40
735	50
735	60

Photograph 1: Rail Tracks in First Avenue. Unit B on the left background, View Northeast. *(TF 9/5/2018).*

Photograph 2: Rail Tracks in Sidewalk of First Avenue, South of 43rd Street. View Southwest. *(TF 9/5/2018).*

Photograph 3: Driveway into Bush Terminal on 43rd Street. Roundhouse on the left, Administration Building on the left behind the Roundhouse, Unit D on the right foreground, Unit C behind Unit D on the right, View Northwest. *(TF 9/5/2018)*.



Photograph 4: Cobblestone and Paved Surface between Units D (right) and C (left). View Northeast. *(TF 9/5/2018).*

Photograph 5: Administrative Building (center) and portion of Café (left). View Northwest. *(TF9/5/2018)*.

Photograph 6: Bulkhead West of Administrative Building. View Southwest. *(TF9/5/2018)*.

Photograph 7: 42nd Street Entrance to Bush Terminal. Unit B (right) and Unit D (left). View Northwest. *(TF 9/5/2018).*

Photograph 8: Alley between Units A (left) and B (right). View Northeast. *(TF 9/5/2018).*

Photograph 9: Broken Cobblestone and Gravel in Alley between Buildings A (right) and B (left). View Southwest. *(TF 9/5/2018).*

Photograph 10: Cobblestone Road and Rail Tracks East of Units C (left) and A (right). View Northwest. *(TF 9/5/2018).*

Photograph 11: Paved and Cobblestone Road Surface West of Unit A (foreground) and C (background). View Southwest. *(TF 9/5/2018).*

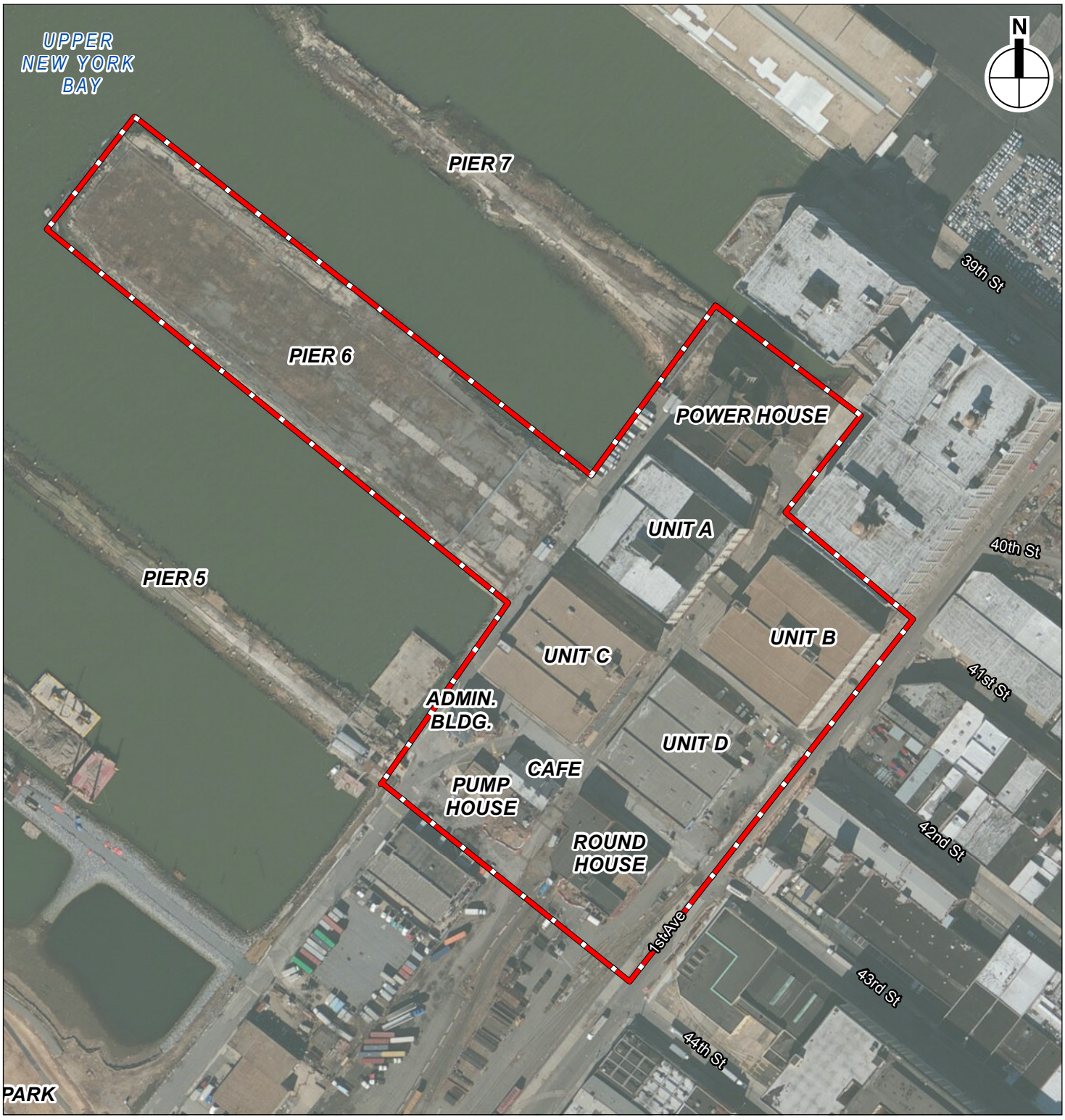
Photograph 12: Pier 6. View Northwest. *(CN 9/6/2018).*

Photograph 13: Southern Exposure of Pier 6. View Northwest. *(TF 9/5/2018).*

Photograph 14: View North of Loft Building 24 and Powerhouse on the Left. (AB 9/5/2018).

Photograph 15: View Northeast of the Power House, As Seen from the Waterfront. (*AB 9/5/2018*).

Photograph 16: View Southeast of the Pump House (Maintenance Building is attached to the Right). The Café Building is to the Left. (*AB 9/5/2018*).



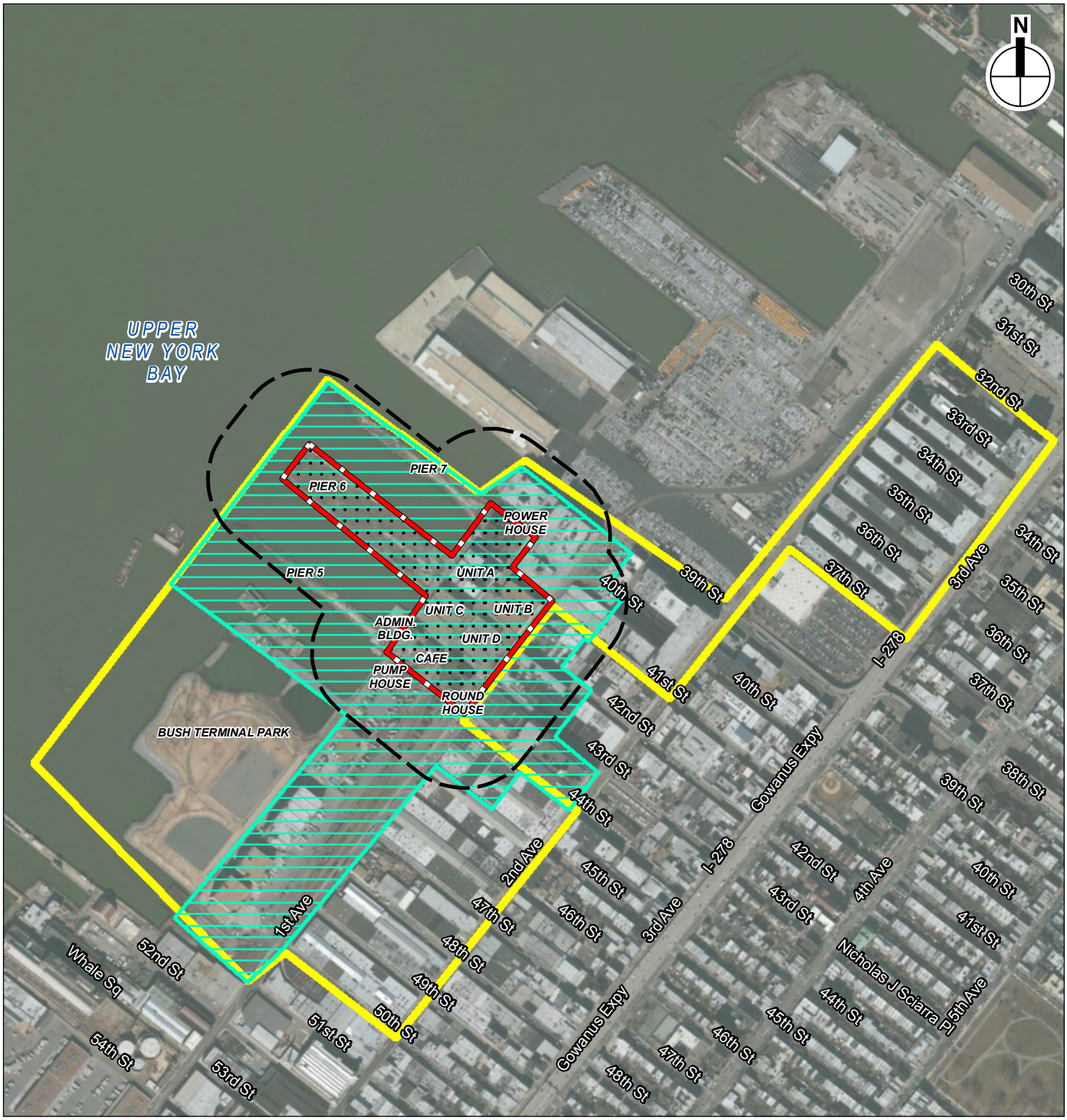
LEGEND

Project Area

0 250 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Location Map
FIGURE 1



Source: ESRI, World Imagery

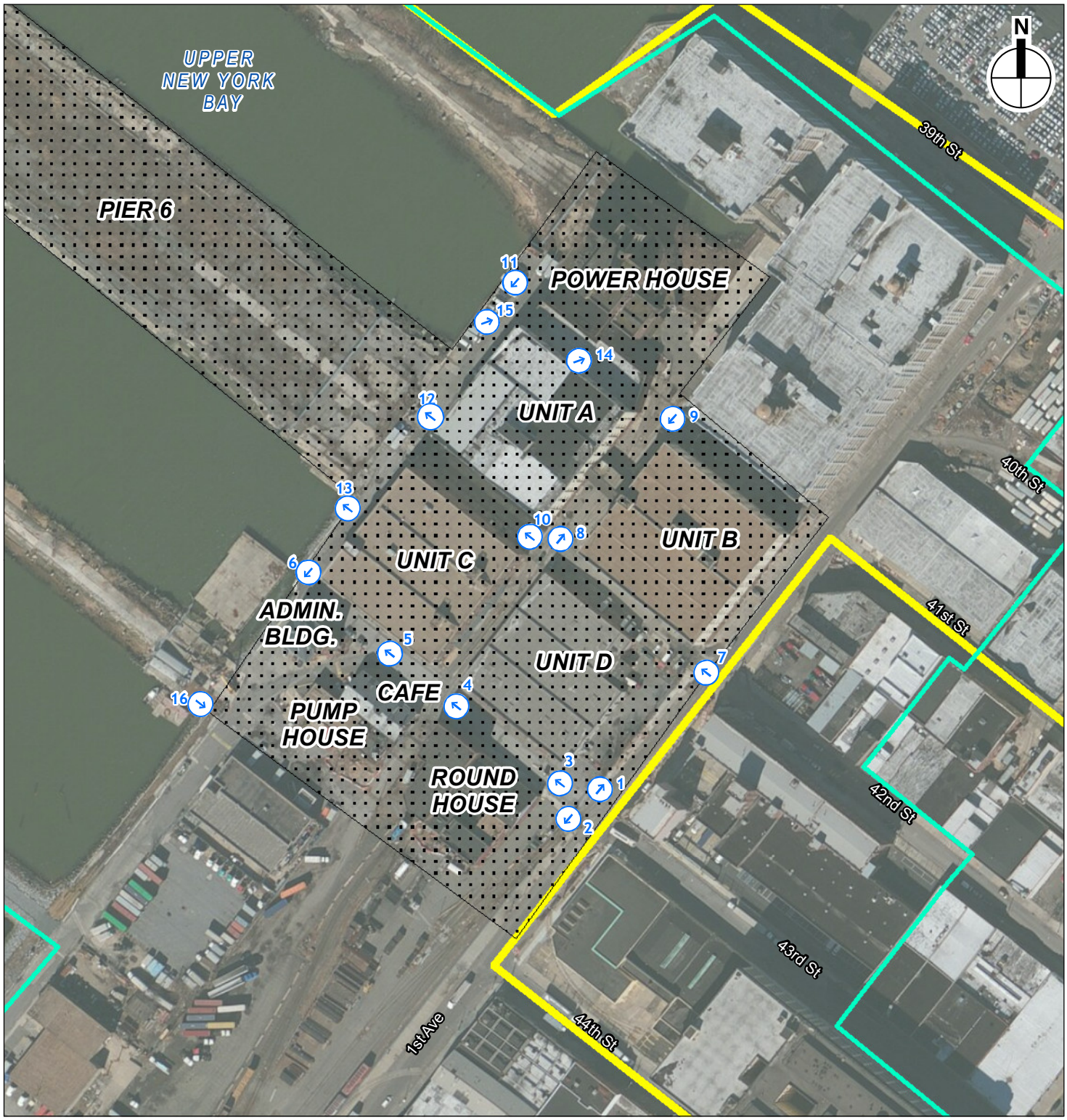
LEGEND

- *Project Area*
- *Study Area 400' Buffer*
- *Bush Terminal Historic District*
- *Direct APE*
- *Indirect APE*

0 800 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Area of Potential Effect
FIGURE 2



LEGEND

- *Direct APE*
- *Indirect APE*
- *Bush Terminal Historic District*
- *Photograph Location*

0 200 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Photograph Key
FIGURE 3

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

October 31, 2018

Mr. Zachary Davis
Senior Archaeologist
Dewberry
600 Parsippany Road, Suite 301
Parsippany, NJ 07054-3715

Re: USACE
MiNY Bush Terminal North Campus
13 42nd Street, Brooklyn, NY
18PR06390

Dear Mr. Davis:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (NY Environmental Conservation Law Article 8).

We note that the Bush Terminal Historic District is eligible for listing in the State and National Registers of Historic Places. We note that character-defining features of the Bush Terminal complex include (but are not limited to) brick and concrete warehouses and industrial buildings; fireproof construction methods; skybridge connectors between buildings; arched loading openings with iron shutters; steel window sash; larger vehicle loading bay openings; and the solid-fill remains of the formerly enclosed deepwater piers. Character-defining site features include (but are not limited to) Belgian block pavers; railroad and trolley rails; loading docks, ramps, and canopies; and steel bollards. Building and site alterations made subsequent to the original construction period are evident, and some of these later alterations may have gained significance in their own right.

We have reviewed the project description and supporting documentation that were provided to our office on October 1st, 2018, as well the information provided during our October 18th meeting on site. We understand that the project will entail site improvements and waterfront redevelopment; rehabilitation of Buildings A, B, and C, the Café building, and Pier 6; and demolition of the Building B annex, Building D, and the remaining portion of the Roundhouse. We understand that no work is currently proposed for the Administration Building, Powerhouse, and Pumphouse, nor the remainder of the historic Bush Terminal complex. Based upon our review, we offer the following comments.

1. By definition under applicable state and federal historic preservation laws, demolition of historic properties is considered an Adverse Effect. Before our office can concur with the proposal it must be demonstrated that reasonable alternatives to demolition have been considered through an Analysis of Alternatives to demolition. Typically

included in this type of study would be a discussion of the project purpose and need, an analysis of the potential for adaptive reuse of the existing structure, a conditions assessment and/or a certified engineer's structural report, a cost analysis, and any relevant use or zoning information. Once we have reviewed the analysis document and agree that demolition cannot reasonably be avoided we can move to an Agreement that admits the Adverse Effect and identifies appropriate mitigation. Please provide an alternatives analysis for the proposed demolition of Buildings D and the Roundhouse. Please provide additional information regarding the date of construction of the Building B Annex and its history of alterations. If the Annex is not historic, we would have no concerns with its demolition.

2. The proposed renovations to Buildings A and C do not appear to meet the Secretary of the Interior's Standards for Rehabilitation. In particular, the extensive changes to the exterior façade walls and openings proposed for both buildings, and the addition of several new overscaled arched openings at Building C, are not appropriate nor compatible with the historic character of these two structures. The enlargement of existing openings by dropping sills or combining adjacent existing openings may be appropriate on a limited basis. New infill at facade openings should reflect or recall the historic condition of the opening. Loading docks and canopies should be retained to the extent possible, so that the buildings can continue to convey their historic use.
3. The interior work proposed for Buildings A and C appears generally appropriate, however we would recommend less removal of floorplates to create double-height spaces.
4. We understand that the landscaping plan is still under development, however we are concerned that the extensive introduction of greenery and other hard landscaping features could compromise the site's historic industrial character and appearance.

Please note that Bush Terminal may be eligible for the Federal and State Historic Rehabilitation Tax Credit Programs. These programs enable developers of National Register listed historic properties to earn a tax credit equal to as much as 40% of the certified rehabilitation expenditures. Eligible costs include all hard and soft costs attributed to the rehabilitation of the historic property and can be used in conjunction with other tax credit programs. The potential 40% credit is a combination of 20% from the Federal Program and 20% from the New York State Program. See the attached documentation for more information on the New York State Program. Information regarding the Federal program can be found at https://www.nps.gov/tps/tax-incentives/before-you-apply.htm Please note that in order to receive the state credits, you must first be approved for the federal Program; please investigate this program's requirements first.

We would appreciate if the requested information could be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/ Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project". You will need this project number and your e-mail address. If you have any questions, I can be reached at (518) 268-2182.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

via e-mail only

cc: Jhaelen Hernandez-Eli, NYC EDC
Krystin Hence, NYC EDC
Gina Santucci, NYC LPC
Zachary Davis, Dewberry
Larry Smith, Dewberry
Tina Fortugno, Dewberry

FEDERAL AND NEW YORK STATE HISTORIC PRESERVATION TAX CREDIT PROGRAMS

Help for Historic Income-Producing Properties

Owners of historic commercial, office, industrial, agricultural or residential rental properties may be eligible for 20% federal and 20% state historic preservation income tax credits for rehabilitation projects.

PROGRAM ELIGIBILITY:

- You must own an income-producing property.
- The property must be listed on the New York State and National Registers of Historic Places individually or contributing to a listed historic district; or in the process of listing
- All the work must be approved by the Division for Historic Preservation before you begin.
- To apply for the state preservation tax credit, the property must also be located in an eligible census tract as well as qualify for the federal credit.

The rehabilitation work must follow the Secretary of the Interior's Standards for Rehabilitation (visit nps.gov/tps/standards.htm), which focuses on repairing historic materials, retaining character-defining features and preserving important interior spaces. The credit does not cover new construction outside the existing footprint of the historic building.

For information, visit nysparks.com/shpo/tax-credit-programs or call 518-268-2213.

GENERAL GUIDELINES

- Contact the division for assistance early in the project planning process before you begin work.
- Projects are reviewed by the division prior to submission to the National Park Service, which is responsible for final tax credit project approval.
- The tax credits are a dollar-for-dollar reduction in federal and state tax liability.
- The cost of the rehabilitation must be equal to or greater than the adjusted basis of the property; basically, the adjusted basis is the value of property minus the value of the land.
- The three part application includes: 1. Evaluation of the property's significance; 2. Description of the proposed rehabilitation; and 3. Certification of completed work.

QUICK TIPS:

- Thoroughly photograph the inside and outside of your building to document its existing, pre-rehabilitation condition.
- Historic windows, significant interior spaces and original floor plans are important, character-defining features that require careful consideration and appropriate treatment during project planning and construction.

FREQUENTLY ASKED QUESTIONS

What is a preservation tax credit?

It is a set percentage of the final historic rehabilitation costs subtracted from the amount of federal and/or state income taxes owed.

How are the federal and state tax credit programs different?

While both programs offer credits equal to 20% of the rehabilitation costs respectively, the state credit is limited to properties that are located in eligible census tracts. Additionally, the state tax credit is capped at $5 million in credits—there is not a cap on the federal credits. In order to receive the state credit, the project must be approved for the federal program. For more information, visit nysparks.com/shpo/tax-credit-programs/ or call 518-268-2213 to speak to the division staff member assigned to the location of your potential project.

What kind of work qualifies?

All interior and exterior rehabilitation work is eligible for the tax credits as long as it follows the Secretary of the Interior's Standards for Rehabilitation, including work that adapts the property for contemporary use or improves its energy efficiency. The programs essentially cover the entire historic building, from foundation to roof, inside and out.

How can I find out if my property is listed on the New York State and National Registers of Historic Places?

Visit parks.ny.gov/shpo/online-tools/ for access to the division's Cultural Resource Information System (CRIS) or call 518-268-2213 for State and National Registers program assistance.

What if my property is not listed on the Registers?

The division can help you determine if your property is eligible for State and National Registers listing and, if so, provide assistance on the nomination process. Although listing is a program requirement, the property does not have to be listed before you begin the project.

Can the preservation tax credits be used in combination with other public funding programs?

Yes. A variety of federal and state incentive programs can be used in conjunction with the preservation tax credits, such as community development grants and low-income housing credits.

What is the review and approval process?

The division is your primary contact, reviewing your application materials throughout project planning and construction, providing technical assistance and advice, requesting information as needed and submitting your application materials to the National Park Service for review & approval.

What recent changes have been made to the federal and NYS historic tax credit programs?

With the passage of federal tax reform, the federal historic tax credit is now required to be taken over a five year period. In response to this, NYS provided a reauthorization to the NYS program to 2024 and a provision that allows the NYS side of the credit can be taken in a single year. Additionally, NYS has provided an extension to formerly eligible census tracts until April 2020.

November 5, 2018

Ms. Olivia Brazee
Historic Site Restoration Coordinator
NYS Historic Preservation Office

RE: USACE
MiNY Bush Terminal North Campus – Buildings A & C Renovation
13 42nd Street, Brooklyn, NY
18PR06390

Dear Ms. Brazee:

Thank you for your comments in your October 31, 2018 letter in response to the information we provided at our October 18th meeting. We are following up on your comments with the attached submission to your CRIS system.

We have presented two previous iterations of our project to SHPO (October 18) and LPC (September 14), which are included as separate appendices* due to file size limitations. We have refined the facades for the better in response to the comments received after each meeting. In response to your specific comments, the current proposed design for Building A on the following pages shows:

- An analysis of the current vs. what we believe were the original facades, including the multiple layers of transformations that have occurred over time.
- A greater re-use / re-opening of existing openings that are currently infilled and a reduction in the amount of enlarged openings, limited to the main 'interior public street', that connects the street on the east to the waterfront on the west.

For Building C, the current proposed design shows:

- Loading docks: The larger project goals of improving pedestrian access to the waterfront along 43rd Street requires us to relocate Building C's docks to the west, mirroring that of Building A's current dock locations. However, we are keeping and working with the language of the current dock openings, which are framed in concrete posts and beams.
- Analysis of the current arched openings and our proposal to keep the same proportions, while scaling the overall sizes up, due to the larger project goals to increase transparency and public access at the ground floor.

Sincerely,

Mimi Hoang, Principal

** Please download the high resolution document with Appendix 1 and 2 at the following link:*
https://personal.filesanywhere.com/fs/v.aspx?v=8d72638f5b6170b6a0a6

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

November 21, 2018

Mr. Zachary Davis
Senior Archaeologist
Dewberry
600 Parsippany Road, Suite 301
Parsippany, NJ 07054-3715

Re: USACE
MiNY Bush Terminal North Campus
13 42nd Street, Brooklyn, NY
18PR06390

Dear Mr. Davis:

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources.

SHPO has reviewed the Phase IA archaeological report submitted for this project – *Made in New York (MiNY) – North Campus Project, CEQR Reference Number: 19SBS002K, Phase IA Archaeological Documentary Study and Architectural Eligibility Assessment* (Dewberry, November 2018).

We concur with the report's conclusions regarding areas of potential archaeological sensitivity. Please continue to consult with this office regarding the need for further archaeological investigations as the project proceeds and specific areas of impact are identified.

Also, please note that this office requires that architectural and archaeological reports be submitted as separate, stand-alone documents. Therefore, please extract the architecture-related materials and resubmit separately. In addition, there are three outstanding requests for additional architectural information.

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

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst - Archaeology Unit
Phone: 518-268-2175
e-mail: philip.perazio@parks.ny.gov via e-mail only

cc: Thomas D. Asbery, USACE; Tina Fortugno and Larry Smith, Dewberry
Aileen Gorsuch, Krystin Hence, and Jhaelen Hernandez-Eli, EDC
Mimi Hoang, nARCHITECTS; Gina Santucci and Amanda Sutphin, LPC

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

December 4, 2018

Mr. Zachary Davis
Senior Archaeologist
Dewberry
600 Parsippany Road, Suite 301
Parsippany, NJ 07054-3715

Re: USACE
MiNY Bush Terminal North Campus
13 42nd Street, Brooklyn, NY
18PR06390

Dear Mr. Davis:

Thank you for continuing to consult with the Division for Historic Preservation of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the response presentation that was provided to our office on November 6th, 2018. We appreciate the careful study of the buildings' historic character and physical alterations over time, as well as the revisions made in response to our comments. However, we still have concerns with two aspects of the design: the introduction of double-height façade openings, and the introduction of the over-scaled arched openings, which risk creating a false sense of the building's historic character. Please consider addressing these two comments with further revisions to your design. We find the proposed use of concrete as a new façade material to be more appropriate and in keeping with the historic materials palette than either metal or glazed brick. In order to continue our review, please provide the previously requested Alternatives Analysis exploring alternatives to the demolition of the Building B Annex (which was constructed within the recommended expanded period of significance, according to the research provided), the demolition of Building D, and the demolition of the remaining portion of the roundhouse. We would also like to review a more detailed site plan, once available. Please note that we will be commenting on the architectural resources portion of the Phase 1A (dated November 2018) under separate cover.

We would appreciate if the requested information could be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/ Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project". You will need this project number and your e-mail address. If you have any questions, I can be reached at (518) 268-2182.

Sincerely,

Olivia Brazee

Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov via e-mail only

cc: Jhaelen Hernandez-Eli, NYC EDC
Krystin Hence, NYC EDC
Gina Santucci, NYC LPC
Zachary Davis, Dewberry
Larry Smith, Dewberry
Tina Fortugno, Dewberry

Dewberry

Dewberry Engineers Inc.
31 Penn Plaza
132 West 31st Street, Suite 301
New York, NY 10001

212.685.0900
212.685.2340 fax
www.dewberry.com

December 21, 2018

Attn: Ms. Olivia Brazee
Historic Site Restoration Coordinator
Division for Historic Preservation
New York State Parks, Recreation & Historic Preservation
Peebles Island State Park
PO Box 189
Waterford, NY 12188-0189

RE: Project Update, Section 106 Consultation
MiNY Bush Terminal North Campus
39th Street to First Avenue to 44th Street to the waterfront
Brooklyn, Kings County, New York
CEQR Number 19SBS002k, NYS OPRHP 18PR06390

Dear Ms. Brazee,

The New York City Economic Development Corporation (NYCEDC) is providing the following updates for the Made in New York (MiNY) Campus project (proposed project). The project description submitted to your office on October 1, 2018 described work at several buildings, including Units A, B (and Unit B Annex), C, and D, the Round House, Café Building and Pier 6, as well as streetscape improvements and a new waterfront walkway/esplanade (see Figure 1). Since that submission, critical changes to the proposed project have occurred. These changes include, the inclusion of the Power House building, and the elimination of the Round House and the majority of Pier 6 from project plans. No changes are proposed for the remainder of the project. Updated descriptions for each element of the project that has changed since our October 2018 initiation letter are provided below.

Units A, B, C and D: No change.

Café Building: No change.

Round House: ***No longer included in the proposed project. The Round House building will remain in its current state.***

Pier 6: ***The proposed project will no longer include the restoration of the entire Pier structure, instead improvements will be limited to a portion of Pier 6 (approximately 4,100 square feet in size) located adjacent to Marginal Street. These improvements would allow the creation of a pedestrian access ramp to the waterfront between Pier 6 and Pier 7 for recreational activities.***

Administration Building, Power House and the Pump House: No change.

Power House: Located just north of Unit A is the Power House—a five-story brick structure, with a two-story section located along the east wall—that that once functioned as the campus power plant. The building no longer contains its former machinery and has been abandoned for decades. Based on a review

of historic Sanborn maps, the Power House was constructed between 1926 and 1928. The structure's former smokestack collapsed into the Power House in 2013 which led to the building being condemned and fenced off for safety purposes. ***Under the updated project plans, the Power House would be demolished and replaced with a new facility that would include approximately 40,000-gross-square-feet of media/production space and have a maximum height of 45 feet.***

Site Improvements: No change.

Waterfront improvements: No change.

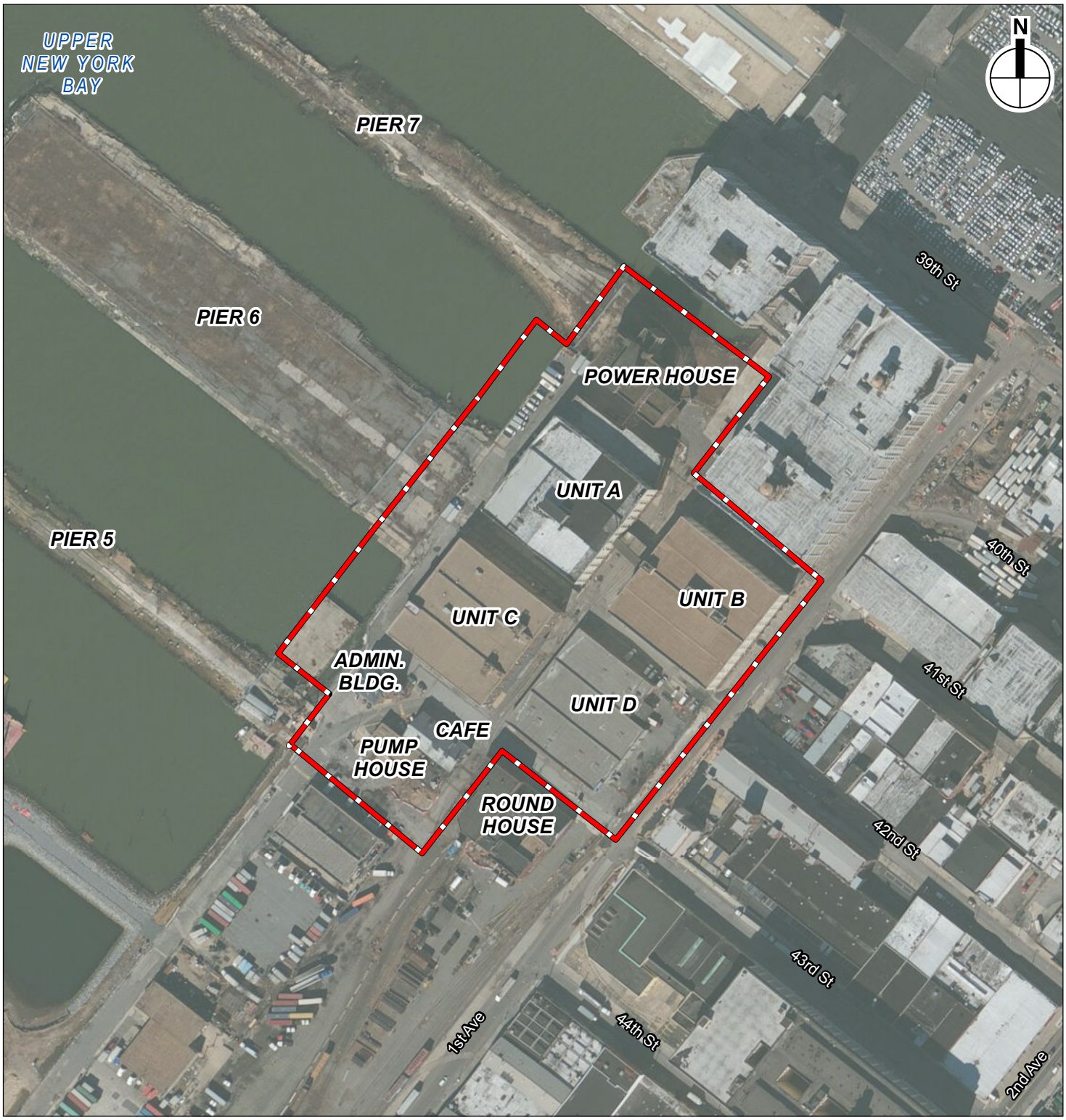
Due to these chances the proposed project's Areas of Potential Effects (APEs) have been revised. Areas of proposed ground disturbance and building renovations represent the proposed project's APE for direct effects (to both archaeological and architectural resources), as shown on Figure 2. The APE for indirect effects incorporates the proposed project's potential to create permanent or temporary visible, audible, economic and/or social changes to the Bush Terminal Historic District or nearby individually designated historic properties through the renovation or demolition of structures within the Bush Terminal North Campus (see Figure 2). The indirect APE incorporates the lots within the direct APE as well as the lots that are adjacent to the proposed Bush Terminal North Campus, and lots from which the proposed project's work can be viewed.

We provide this updated information to continue the Section 106 consultation process with OPRHP and to solicit your assistance as we advance the proposed project's identification of historic properties present within the APEs. We look forward to continued coordination with OPRHP to advance the proposed project through the Section 106 process and coordinate the project's City Environmental Quality Review (CEQR) process.

Sincerely,

Zachary J. Davis, RPA
Senior Archaeologist

cc: Gina Santucci, LPC
Aileen Gorsuch, EDC
Jhaelen Hernandez, EDC
Krystin Hence, EDC
Tina Fortugno, Dewberry
Larry Smith, Dewberry



LEGEND

Project Area

0 250 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Project Location Map
FIGURE 1

Source: ESRI, World Imagery

LEGEND

- Project Area
- Study Area 400' Buffer
- Direct APE
- Indirect APE
- Bush Terminal Historic District

0 800 FEET

MADE IN NEW YORK (MiNY)
NORTH CAMPUS PROJECT

Area of Potential Effect
FIGURE 2

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

January 8, 2019

Mr. Zachary Davis
Senior Archaeologist
Dewberry
600 Parsippany Road
Suite 301
Parsippany, NJ 07054-3715

Re: USACE
MiNY Bush Terminal North Campus
13 42nd Street, Brooklyn, NY
18PR06390

Dear Mr. Davis:

Thank you for continuing to consult with the New York State Historic Preservation Office (SHPO). We have reviewed the provided documentation in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other environmental impacts to New York State Parkland that may be involved in or near your project.

We have reviewed the letter describing the revised project, prepared by Dewberry and submitted to our office on December 21st, 2018. We understand the project has been changed to specify demolition of the Power House and construction of a new building in its place, and that the Round House has been omitted from the project. Based upon our review, it is SHPO's opinion that the demolition of the Power House would constitute an additional Adverse Effect to the S/NRE Bush Terminal Historic District. Please include the Power House in your exploration of project alternatives that would avoid or minimize the identified adverse effects. We do not concur with the proposed indirect Area of Potential Effect; in our opinion, it should be the entire Bush Terminal Historic District, whose historic character and setting would be affected by the loss of contributing buildings.

With regard to archaeology, based on a comparison between the conclusions and recommendations of the Phase IA report and the modified direct APE, we continue to recommend that portions of Unit B and Unit D, and the portion of Pier 6 still within the direct APE are archaeologically sensitive and should be subjected to archaeological investigation if ground-disturbing activities are planned in these areas.

Please provide the requested Alternatives Analysis so that we can move forward with our consultation.

We would appreciate if the requested information could be provided via our Cultural Resource Information System (CRIS) at www.nysparks.com/shpo/online-tools/ Once on the CRIS site, you can log in as a guest and choose "submit" at the very top menu. Next choose "submit new information for an existing project". You will need this project number and your e-mail address. If you have any questions, I can be reached at (518) 268-2182.

Sincerely,

Olivia Brazee
Historic Site Restoration Coordinator
olivia.brazee@parks.ny.gov

via e-mail only

cc: Jhaelen Hernandez-Eli, NYC EDC
Krystin Hence, NYC EDC
Gina Santucci, NYC LPC
Zachary Davis, Dewberry
Larry Smith, Dewberry
Tina Fortugno, Dewberry

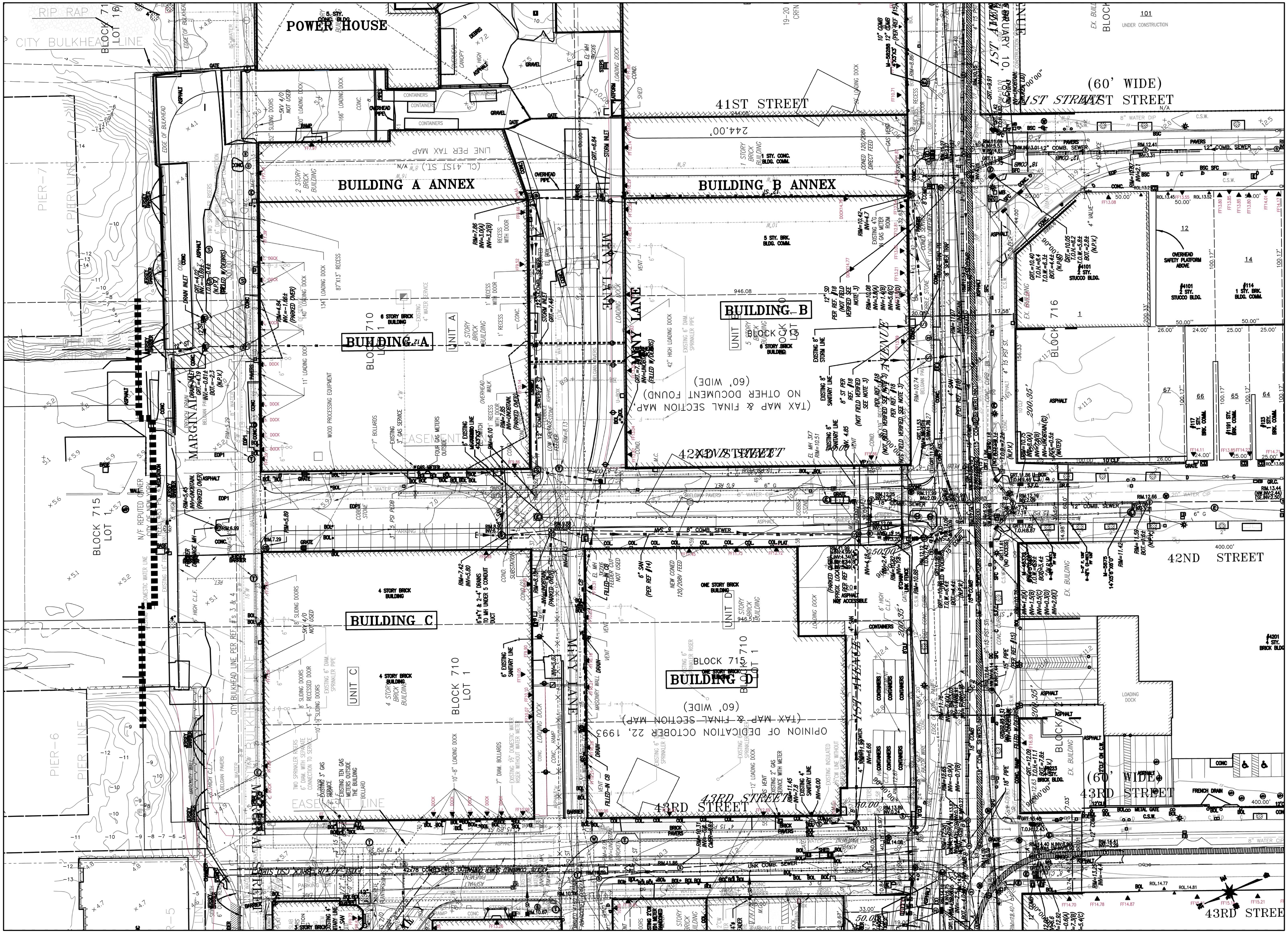
Appendix B: Utilities within Project Area

3A

NORTH CAMPUS
CONCEPT PLAN
EXISTING UTILITY
PLAN

0' 30' 60'

1" = 30'



Appendix C: Professional Qualifications

Tina Fortugno, RPA

Staff Archaeologist

Tina Fortugno conducts Phase IA Archaeological Assessments, Phase IB Archaeological Surveys, Phase II Archaeological Site Evaluations, and Phase III Archaeological Mitigation and Data Recovery. She is practiced in the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and New York's State Environmental Quality Review Act (SEQRA) compliance. Tina has served as a principal investigator for nearly 100 projects in New York, New Jersey, Pennsylvania, and Connecticut.

Meets Secretary of Interior Standards for Archaeology (36 CFR Part 61)

EDUCATION:

MA, Anthropology, Archaeology, University of Arizona, 2002

BA, Anthropology, Columbia University, 1998

Archaeological Field School, Brown University, 1997

CERTIFICATIONS:

Registered Professional Archaeologist

Trenching and Excavation Safety, EMILCOTT Training Institute, 2009

Health and Safety Training for Archaeologists, Panamerican Consultants, Inc., and the New York State Occupational Safety and Health Training and Educational Program, 2006

YEARS OF EXPERIENCE:

Dewberry: 2

Prior: 18

AFFILIATIONS:

Orange County Chapter New York State Archaeological Association

New York Archaeological Council (NYAC)

Register of Professional Archaeologists

CHRONOLOGY:

2016-Present: Dewberry Engineers

2007-2015: The Louis Berger Group

2003-2007: Historical Perspectives, Inc.

2002: National Forest Reserve

2002: University of Arizona Field School

1999-2002: University of Arizona, Arizona State Museum—Borederlands Lab

SELECTED EXPERIENCE

Bruckner-Sheridan Interchange Reconstruction, New York State Department of Transportation, Bronx, NY. Archaeologist for a NEPA EIS process that is evaluating infrastructure and access improvements between the Bruckner and Sheridan Expressways (I-278 and I-895) and the Hunts Point Peninsula / Hunts Point Food Distribution Center. Work also includes a Section 4(f) evaluation for publicly owned open space. The goal of this estimated $1.8-billion phased project is to reduce traffic on local roads.

Phase I Archaeological Investigations for Proposal Bridge Replacement Project on SR 0044, Pennsylvania Department of Transportation (PennDOT) District 3-0, Borough of Jersey Shore, Lycoming County, PA. Archaeologist performing Phase I Archaeological Investigations for a proposed bridge replacement project on State Road 0044, which crosses the Lawshe Run, a tributary to the Susquehanna River. The work required completing hand excavation of test units to assess the site's potential to contain deeply buried archaeological sites. Assisted by a geomorphologist, confirmed that the proposed project would have no effect to archaeological sites given the degree of disturbance to the project area. A Phase I Archaeology Negative Survey Form was completed detailing the project's absence of archaeological resources.

Phase I Archaeological Investigations for Bridge Replacement Project on SR 0154, Pennsylvania Department of Transportation (PennDOT) District 3-0, Estella, Sullivan County, PA. Archaeologist performing Phase I Archaeological Investigations for a proposed bridge replacement project on State Road 0154, which crosses Kings Creek. The work required heavy machine excavation of multiple trenches to evaluate the presence or absence of archaeological resources. None of the trenches documented the presence of intact archaeological resources. A Phase I Archaeology Negative Survey Form was completed detailing the project's absence of archaeological resources.

Roadway Improvements, CTDOT, Trumbull, CT. Project Archaeologist for Phase I Cultural Resource Investigation. Conducted site visit with CTDOT

personnel; prepared portions of cultural resource report including site file and background research conducted at the CT SHPO; conducted additional historic and environmental research to assess the archaeological sensitivity of project area in light of background research and site visit.

On-Call Transportation Engineering Services Task Order Work Program, RIDOT, Statewide. Project Archaeologist, as a subconsultant to CME, for a fast-tracked environmental review process in support of reconstructing the 6/10 Interchange in Providence. Performed Section 106 compliance including the development of a new Area of Potential Effect (APE) for the project based on a revised design. Conducted a Phase IA Archaeological Assessment which consisted of a pedestrian and vehicular reconnaissance, site file, and other historical research at the Rhode Island Historic Preservation Historical Commission and at RIDOT, cartographic review of development within the project area, a review of existing and past topographic and environmental conditions within the project area, and an examination of the results of geophysical testing and soil borings which had been previously conducted within the project area. Also reviewed the results of recent geoarchaeological testing of a portion of the project area and used this data alongside the other historic and environmental research to assess the archaeological sensitivity of the project area.

Environmental Planning Task Order Contract, NJDOT, Statewide, NJ. Senior Archaeologist for this three-year, $5-million contract. Tasks can include inventories and surveys, fieldwork and photo documentation, archival research, preservation plans, Memoranda of Agreement, use determination, alternatives evaluation, impact assessment, and mitigation plans, as well as monitoring and mitigating construction projects for adverse effects to historic properties. Currently completing a Phase IA Archaeological Study and Intensive Level Architectural Survey, in compliance with Section 106, for the Route 47 Nummytown Mill Pond Dam Slope Reinforcement and Safety Improvement project.

Environmental Services Task Order Contract, NJ TRANSIT, NJ, NY, PA. Senior Archaeologist for a three-year, $5-million contract. Involved NEPA EIS and Categorical Exclusions, Section 106 compliance, Section 4(f) evaluations for multiple properties.

Non-Disaster Grants Environmental and Historic Preservation (EHP) Technical Support, FEMA, Nationwide. Senior Archaeologist for this task under the FEMA Hazard Mitigation Technical Assistance Contract (HMTAP). Provides EHP technical support to the Office of Environmental and Historical Preservation for compliance reviews for grant program projects that improve essential services at existing facilities through renovation, retrofitting, or modification of existing structures.

Tina Fortugno, RPA

Staff Archaeologist

Storm Sewer Archaeological Monitoring, New York City Department of Design and Construction, College Point, Queens, NY. Archaeologist responsible for monitoring excavation activities for storm sewer construction to identify potential encounters with historic resources, and preparing a summary report.

West Summit Interlocking, NJ TRANSIT, Summit, NJ. Cultural Resources Lead responsible for the project's compliance with Section 106 of the Historic Preservation Act (NHPA). Involved completion of a Phase IA Archaeological Assessment and Historic Architectural survey of the proposed reconfiguration of the outdated interlocking and relocation of the new interlocking as well as alterations to the existing Morristown Line and Gladstone Branch rail corridors. The project was determined to have no adverse effect on multiple historic properties present in the project area.

Rebuild By Design Hudson River: Resist-Delay-Store-Discharge, NJ TRANSIT and New Jersey Department of Environmental Protection (NJDEP), Hudson County, NJ. Archaeologist for the Feasibility Study and National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) for a $230-million comprehensive urban water strategy conceived to protect the Hoboken waterfront, as well as parts of Weehawken and Jersey City. Compiled historic documentary review and existing conditions summary for the project area, prepared archaeological assessment for proposed project alternatives, contributed to the Cultural Resources section of the EIS and prepared portions of the project's Programmatic Agreement.

Fort Tilden, Gateway National Recreation Area, Queens, NY. Archaeologist responsible for conducting GPS data recordation and photo documentation of shoreline, bulkhead, piers, and other historic waterfront features within Fort Tilden for the National Park Service. This project was conducted in order to provide an assessment of the park's waterfront features following the storm surge associated with Hurricane Sandy. Duties also included post-processing and organizing GPS data, in addition to reconciling GPS data with site photographs and helping to establish a base map of the piers and waterfront features extant within the park.

Phase I Cultural Resource Survey, 20-inch Gas Pipeline from Transcontinental Gas Mainlines (A and E) to Planned Competitive Power Ventures Plant, Williams Gas Pipeline, Middlesex County, NJ. Project Archaeologist/Principal Investigator responsible for conducting Phase I cultural resource investigations in association with proposed pipeline including a review of archaeological and historic architectural files at the New Jersey State Museum (NJSM) and the New Jersey Historic Preservation Office (NJHPO) in Trenton. Conducted pedestrian reconnaissance, disturbance assessment, and limited Phase IB field investigations of project area including a review of cartographic resources and historic aerial imagery. Authored Phase I cultural

resource report for submission to the NJHPO and a Resource Report 4 in support of the client's application to the Federal Energy Regulatory Commission (FERC).

Pine Hill-Terrace 69kV Transmission Line Rebuild, Atlantic City Electric, Washington Township, Gloucester County and Gloucester Township and Pine Hill Borough, Camden County, NJ. Project Archaeologist who engaged in developing the project budget, schedule, and testing strategy for a Phase I cultural resource survey of an 8.2-mile-long transmission line rebuild. Corresponded with NJHPO regarding Project area of potential effect (APE) for both archaeological and historic architectural resources. Conducted background research and coauthored portions of the Phase I report for submission to the NJHPO.

Phase IA Cultural Resource Investigation Lewis-Higbee 69kV Transmission Line Rebuild, Atlantic City Electric, Atlantic County, NJ. Project Archaeologist responsible for developing the project budget, schedule, and testing strategy for a Phase I cultural resource survey of proposed transmission line rebuild. Corresponded with NJHPO regarding Project area of potential effect (APE) for both archaeological and historic architectural resources. Conducted background research and coauthored portions of the Phase I report for submission to the NJHPO.

Phase IA Cultural Resource Investigation Lewis-Ontario 69kV Transmission Line Rebuild, Atlantic City Electric, Atlantic County, NJ. Project Archaeologist responsible for developing the project budget, schedule, and testing strategy for a Phase I cultural resource survey of proposed transmission line rebuild. Corresponded with NJHPO regarding Project area of potential effect (APE) for both archaeological and historic architectural resources. Conducted background research and coauthored portions of the Phase I report for submission to the NJHPO.

Archaeological Monitoring, Washington Square Park Test Borings, Manhattan, NY. Project Archaeologist responsible for the development of archaeological monitoring protocol, project budget, and an unanticipated discovery plan for test borings in an area of archaeological sensitivity for both historic resources and human remains. Monitored and recorded test bore excavations. Authored management summary and results of test bore excavations.

Archaeological Reconnaissance Survey, Jackie Robinson Parkway Roadway Improvements, New York State Museum, Queens, NY. Project Archaeologist responsible for the supervising of a Phase I archaeological field investigations, conducting background research, and authoring a Phase I cultural resource report for submission to the New York State Department of Transportation.

Tina Fortugno, RPA

Staff Archaeologist

Archaeological Reconnaissance Survey, Saw Mill River Parkway Roadway Improvements, New York State Museum, Westchester County, NY. Project Archaeologist engaged in supervising of Phase I archaeological field investigations, conducting background research, and authoring Phase I cultural resource report for submission to the New York State Department of Transportation.

Phase I Archaeological Reconnaissance Survey, Safety Improvements on Route 127 at Evers Street, State Project No. 15-355, Connecticut Department of Transportation (ConnDOT), Fairfield County, CT. Project Archaeologist who supervised Phase I field investigation of proposed roadway improvements. Conducted background research and archaeological site review at the University of Connecticut in Storrs, CT. Authored Phase I archaeological report for submission to the Connecticut Department of Transportation.

Phase I Cultural Resource Survey, First Energy, Englishtown-Wyckoff Street 115kv Transmission Line, Manalapan, Millstone, Monroe and East Windsor Townships, Hightstown Borough, Monmouth, Middlesex, Mercer Counties, NJ. Principal Investigator responsible for the supervision of a Phase I archaeological field investigations, the conduction of background research, and authoring archaeological portions of a Phase I cultural resource report for submission to the New Jersey Historic Preservation Office.

Archeological Overview and Assessment, National Park Service (NPS) MASI 2011 A Manhattan Sites, New York, NY. **Project Archaeologist** whose work consisted of ongoing background and historical research in association with an archeological overview and assessment of six National Park Service sites, including five properties in Manhattan (Federal Hall National Memorial, Theodore Roosevelt Birthplace National Historic Site, General Grant National Memorial, Hamilton Grange National Memorial, and Castle Clinton National Memorial). A single site, Saint Paul's Church National Historic Site, is in Mount Vernon, NY. The archeological overview and assessment include an evaluation of all existing archeological data and previous cultural resource investigations conducted within each property, in addition to contemporary historical background research to evaluate the potential for intact archeological resources within each property.

NJ Pipeline Replacement Project, Buckeye Partners, L.P, Union and Middlesex Counties, NJ. Project Archaeologist responsible for a cultural resource review for the proposed 16-inch six-mile-long pipeline project. Reviewed archaeological and historic architectural files at the New Jersey State Museum (NJSM) and the New Jersey Historic Preservation Office (NJHPO) in Trenton, New Jersey. Conducted pedestrian reconnaissance and disturbance assessment of project area including a review of cartographic resources and historic aerial imagery. Co-authored letter report detailing results of an archival review of cultural resource data and disturbance assessment, and provided opinions

regarding cultural resource sensitivity of the proposed project corridor.

Faculty Housing Project, Additional Metal Detecting and Shovel Test Pit Survey, Wolff and Samson, PC/Institute for Advanced Study, Princeton, NJ. Principal Investigator responsible for additional metal detecting and shovel test survey adjacent to Princeton Battlefield State Park to identify any Revolutionary War period military artifacts in the locations of 15 geophysical test locations and an area in which Revolutionary War military artifacts were previously identified in the project area. Although 21 artifacts were recovered, all of the artifacts post-dated 1900 and therefore none were related to the Battle of Princeton. Co-authored management summary report detailing the results of fieldwork for submission to the Institute for Advanced Study and to the local municipality.

Stone House Drive Sewer Line Installation, Metal Detecting Survey and Archaeological Monitoring, Institute for Advanced Study, Princeton, NJ. Principal Investigator responsible for metal detecting survey and archaeological monitoring associated with the installation of a sewer line along Stone House Drive in Princeton, NJ. The proposed sewer line is located in the immediate vicinity of the Princeton Battlefield State Park. The metal detecting survey and archaeological monitoring were conducted to identify any potential Revolutionary War period military artifacts or deposits in the utility line project area. No Revolutionary War period or eighteenth-century artifacts were identified; historic artifacts, primarily mid-nineteenth- to twentieth-century domestic and agricultural-related materials were observed. Co-authored management summary reports detailing the results of fieldwork for submission to the Institute for Advanced Study and to the local municipality.

Phase I Archaeological Investigation for Phase III Demolish and Remove Hazardous Structures Park-Wide, NPS, Delaware Water Gap National Recreation Area, NJ. **Principal Investigator** for a cultural resource investigation in association with proposed demolition of hazardous structures within five historic properties in the New Jersey section of the Delaware Water Gap National Recreation Area. Supervised Phase I field investigations, conducted background research on historic properties that will be affected, and co-authored end of fieldwork management summary and Phase I cultural resource report for submission to the NPS.

Phase I/II Cultural Resource Investigations, Susquehanna to Roseland 500kV Transmission Project, Pennsylvania Power and Light, Luzerne, Lackawanna, Wayne, Pike, and Monroe Counties, PA. **Project Archaeologist** for a cultural resource survey of 100-mile transmission corridor and more than 100 miles of temporary access roads in support of federal, state, and local permitting processes. Co-authored several Phase I/Phase II cultural resource reports detailing the results of archaeological fieldwork for submission to the Pennsylvania Historic Museum Commission-Bureau of Historic Preservation (PHMC-BHP). Identified and evaluated 18 prehistoric and/or historic

archaeological sites and more than 1,000 historic architectural resources.

Phase I/II Cultural Resource Investigations, Susquehanna to Roseland 500kV Transmission Project, Pennsylvania Power and Light and Public Service, Electric and Gas, Delaware Water Gap National Recreation Area, Monroe County, PA, and Warren County, NJ. **Project Archaeologist** for a cultural resource survey of the portions of the transmission project extending through the Delaware Water Gap National Recreation Area as part of the Section 106 process. Identified and evaluated 25 prehistoric and historic archaeological sites and historic architectural resources (including the Appalachian Trail). Co-authored several cultural resource reports, including end of fieldwork summaries, detailing the results of archaeological fieldwork for submission to the National Park Service (NPS), PHMC-BHP, and the New Jersey Historic Preservation Office.

Phase I Cultural Resource Assessment, Bronx River Parkway Reservation Pedestrian Pathway, Westchester County Department of Parks, Recreation, and Conservation, Scarsdale, NY. Project Archaeologist responsible for supervising Phase I archaeological field investigations, conducting background research on the project area, including historical research focusing upon the Bronx River Parkway Reservation, and serving as the primary author for Phase I cultural resource report for submission to the New York State Office of Parks, Recreation, and Historic Preservation. A single prehistoric site was identified and registered with the New York OPRHP as a result of the investigations.

World Trade Center Campus Plan, Utility Test Pits, Port Authority of New York and New Jersey (PANYNJ) and the Federal Emergency Management Agency (FEMA), New York City, NY. Project Archaeologist responsible for archaeological monitoring of heavy machinery and construction excavations in association with the proposed installation of utilities surrounding the World Trade Center campus. Co-authored report.

Glaser's Pond, New Jersey Department of Transportation (NJDOT), Franklin Lakes, NJ. Archaeologist responsible for the evaluation of archaeological sensitivity for proposed environmental and flood control alterations to a small pond in Franklin Lakes, New Jersey. Included archaeological site file and historic property research at the New Jersey State Museum and New Jersey Historic Preservation Office in Trenton, in addition to an on-site evaluation and photo recordation.

Phase IA Cultural Resource Assessment, Gowanus Canal Corridor Rezoning, New York City Department of City Planning, Brooklyn, NY. **Project Archaeologist** responsible for conducting background research, on-site evaluation, and co-authoring assessment report for the proposed rezoning of 24-block area. Research was conducted on the ownership and occupation history of 16 lots, and each of the lots or portions of each was found to have potential to contain intact

archaeological deposits associated with the residential occupancy of the lots and/or the historic construction of the Gowanus Canal bulkhead, part of the National Register-eligible Gowanus Canal Historic District.

Phase IA Cultural Resource Assessment, Broadway Triangle Redevelopment Project, New York City Department of Housing Preservation and Development, Williamsburg, Brooklyn, NY. **Principal Investigator** responsible for conducting background research and co-authoring the assessment for the proposed rezoning of a nine-block area. Rezoning was designed to implement a mixed-use district with a wide range of uses, both residential and commercial. The research was conducted on the ownership and occupation history of the rezoning area. The project was found to have no effect on archaeological resources; five properties identified and evaluated as part of this study were recommended as eligible for listing in the State and National Registers.

Phase IA Cultural Resource Assessment, Fordham University New Residence Halls, Dormitory Authority of the State of New York (DASNY) on behalf of Fordham University, Fordham University Rose Hill Campus, Bronx, NY. Project Archaeologist responsible for conducting historical research and on-site evaluation as well as co-authoring the assessment report for cultural resource assessment of new residence halls.

Update of Integrated Cultural Resource Management Plan (ICRMP) for Fort Dix Army Base, U.S. Army Directorate of Public Works, Manchester Township, NJ. Archaeologist who participated in the manual conversion of over 500 pages of text from a scanned image to an editable document format and updating the content of the ICRMP to include historic resource information identified in the five prior years.

Phase IA Cultural Resource Assessment, Fort Dix Buildings, U.S. Army Directorate of Public Works, Fort Dix Army Base, Manchester Township, NJ. **Project Manager** responsible for coordinating the preparation of an assessment of the proposed project's potential to encounter archaeological resources in the 1.4-acre parcel for new military housing facilities.

Phase IA Cultural Resource Assessment, Dutch Kills Rezoning, New York City Department of City Planning, Queens, NY. Project Archaeologist for a proposed rezoning of 40-block area adjacent to the Sunnyside Yards and north of Queens Plaza Research was conducted on the ownership and occupation history of the five lots, and each of the five lots or portions of each of the lots was found to have the potential for intact archaeological deposits.

Phase IA Cultural Resource Assessment, Proposed New Primary/Intermediate School at PS/IS 48, William Wordsworth School, New York City School Construction Authority, Queens, NY. Project

Tina Fortugno, RPA

Staff Archaeologist

Archaeologist responsible for conducting historical research and on-site evaluation as well as co-authoring the assessment report.

Phase IA Cultural Resource Assessment, Replacement of the Central Avenue Bridge over Blind Brook (BIN 2225280), City of Rye, Rye, NY. Project Archaeologist engaged in background research, on-site evaluation, and limited field testing; co-authored assessment report for proposed bridge replacement.

Phase I Archaeological Investigation, Frazee House and Grounds, Fanwood/Scotch Plains Rotary/the Aunt Betty Frazee Project, Scotch Plains, Union County, NJ. **Project Archaeologist/Field Director** responsible for systematic subsurface excavations and controlled test unit excavations in the front, side, and rear yards of eighteenth-century Frazee House, as part of a holistic approach to preservation of the house. Testing in rear and side yards revealed extensive disturbance as a result of twentieth-century land manipulation and use. Investigations in the front yard revealed that this area had not been as severely manipulated and exposed fairly intact historic deposits. A light domestic scatter of historic ceramics, kaolin pipe stem fragments, and bottle glass was recovered from the front yard.

Phase I Archaeological Investigation, Stream Restoration and Related Work in the Sweet Brook Bluebelt, JRC Construction Corporation, Annadale, Staten Island, NY. Project Archaeologist/Field Director responsible for archaeological investigations in advance of the restoration and alteration of two sites along the Sweet Brook Bluebelt and its associated wetlands, involving assessment of past ground disturbance and potential for historic archaeological resources in the project area. Property is owned by the New York City Department of Environment Protection and regulated by the New York State Department of Environmental Conservation.

Phase IB Archaeological Survey, Eagle Academy for Young Men, New York City School Construction Authority, Block 2923, Lots 17, 23, & 26, Bronx, NY. **Project Archaeologist/Field Director** responsible for archaeological trenching at proposed school in the Tremont section of the Bronx. Excavations identified, evaluated, and mitigated a buried historic trash scatter and bottle dump feature dating to the early to mid-twentieth century.

Phase I Cultural Resource Investigation, Atlantic City Airport/Federal Aviation Administration Technical Center Intersection Improvements, South Jersey Transportation Planning Organization, Egg Harbor Township, Atlantic County, NJ. Archaeologist responsible for the conduction of archaeological field investigations and background research. Co-authored report.

Phase I Cultural Resource Investigation, Atlantic City Expressway Direct Connector Road, South Jersey Transportation Planning Organization, Egg

Tina Fortugno, RPA

Staff Archaeologist

Harbor Township, Atlantic County, NJ. Archaeologist responsible for conducting background research and co-authoring the report.

Phase IA Archaeological Assessment, Proposed Vent Plants, West 53rd and 55th Streets and Eighth Avenue, New York City Transit, New York, NY. Archaeologist who conducted historical research and on-site evaluation as well as co-authored the report.

Phase I Archaeological Survey for Proposed Detention Basin Sites Associated with Proposed New Jersey Turnpike Widening to Interchanges 6 to 8A, New Jersey Turnpike Authority, Burlington, Middlesex, and Mercer Counties, NJ. Archaeologist for a cultural resource survey along 27-mile corridor of the turnpike from Interchanges 6 to 9 as part of the E.O. 215 process.

Archaeological Documentation, Hudson River Bulkhead, World Trade Center (WTC) PATH Terminal, PANYNJ, New York City, NY. Archaeologist responsible for the documentation of the late nineteenth-century Hudson River Bulkhead located underneath the West Side Highway and within the footprint of the proposed underground pedestrian connector between the new WTC PATH station and the World Financial Center. Tasks included monitoring construction and documenting the extent, nature, and design of the bulkhead in the project area.

Cultural Resource Services, Second Avenue Subway, Phase 1, New York City Transit, New York, NY. Archaeologist responsible for the oversight and coordination of cultural resource compliance for final design and construction of Phase 1 of the Second Avenue Subway, East 63rd to East 99th streets. Duties included archaeological monitoring and implementing archaeological fieldwork in advance of and during construction.

Emergency Recovery of World Trade Center (WTC) Remains, Office of Chief Medical Examiner (OCME), New York, NY. Technician who participated in large-scale search and recovery effort for human remains and personal effects within soils removed from the WTC Site. Required completion of OCME health and safety training for the handling of potentially hazardous materials and daily use of personal protective equipment, including half-face respirator masks, gloves, and Tyvek suits. Water screening of excavated materials removed from the WTC and associated sites, including recovery of human remains, evidence from the September 11 attacks, personal effects, and historic cultural material from within the complicated matrix of soils, dust, building debris, and twentieth-century construction fill.

Engineering District 4-0, Phase II Archaeological Investigation for Proposed Improvements to the Woodloch Intersection of SR590 and SR0408, Pennsylvania Department of Transportation (PennDOT), Lackawanna Township, Pike County, PA. Crew Chief for Phase II archaeological fieldwork

at potentially multicomponent (Middle Archaic to Late Woodland) precontact site. Provided additional supervisory support for the excavation of more than 40 1x1-meter test units to delineate the boundaries and evaluate the National Register eligibility of the site. For PennDOT, Engineering District 4-0.

Supplemental Phase IB Archaeological Survey for Proposed Improvements to SR 0706, PennDOT, Engineering District 4-0, Susquehanna County, PA. **Field Director** for an archaeological survey of SR 0706 corridor, which identified a precontact archaeological deposit in the vicinity of previously recorded precontact sites.

Phase IA Cultural Resource Assessment, Lehman College New Science Facility Project, Dormitory Authority of the State of New York, Lehman College, Bronx, NY. **Archaeologist** responsible for background research, on-site evaluation, and co-author of assessment report for proposed construction of new science facility.

Phase I/II Cultural Resource Investigations along County Road No. 13 (Chase Road), PennDOT, Engineering District 4-0, Luzerne County, PA. Editor responsible for the preparation of graphics for synthetic report of Phase I and Phase II archaeological investigations. Work was originally conducted by Ecoscience, Inc.

Phase I/II Cultural Resource Investigations along County Road No. 16 (Chase Road), PennDOT, Engineering District 4-0, Luzerne County, PA. Editor responsible for the preparation of graphics for synthetic report of Phase I and Phase II archaeological investigations. Work was originally conducted by Ecoscience, Inc.

Environmental Assessment Field Contractor for Superstorm Sandy Funded Programs, NJDEP, Various Locations, NJ. Cultural Resources Specialist for NEPA Environmental Assessments and compliance with Section 106 in support of federally-funded projects (CDBG-DR and other programs). Dewberry completed more than 100 NJHPO consultations.

Reconstruction of Bridge Q-48 and Approach of Kuhl Road over Branch of Neshanic River, Raritan Township, NJ. Senior Archaeologist (as a subcontractor) for bridge reconstruction design services. Conducted historic research and a Phase IA Cultural Resource Assessment and completed an NJHPO survey. Findings were included in the final report prepared and submitted to the NJHPO.

Titusville/Assisted Living, NJDEP, Hopewell Township, NJ. Cultural Resources Specialist for surveys and evaluations of the Edward M. and Helen F. Boehm House and grounds prior to permit approval for potential redevelopment. An extensive survey was undertaken of the designed landscape

gardens as well as water features, walls and paths, landscape furnishings, and remains of former aviaries. The survey resulted in a recommendation as eligible for listing in the NR.

Route 47 Nummytown Mill Pond Dam Slope Reinforcement and Safety Improvement Project, NJDOT, Middle Township, NJ. Archaeologist for a project involving historic research, a Phase IA Archaeological Study, and Intensive-Level Architectural Survey. The bridge crossing Fishing Creek was built in 1925 and has not been previously assessed for its potential eligibility for inclusion in the NR. To the west of the project area is the City of Wildwood Pumping Station, identified as Delsea Drive within the NJHPO GIS database inventory of known historic properties. This resource was previously included in the 1980 Historic Sites Survey for Cape May County and recognized as possibly eligible.

Livingston Avenue Complete Streets Project, New Jersey Department of Transportation, New Brunswick, NJ. Cultural Resources Specialist for preparation of the Categorical Exclusion Document and Section 106 compliance. The documentation included determination of the APE for archaeology and architecture as well as a project description, identification of historic properties, and mapping of sidewalk and curbs throughout the project area. The proposed Complete Streets improvements intersect with a State and NR-designated historic district.

Replacement of Iron Bridge Road over Crosswicks Creek, Mercer County, Hamilton Township and Chesterfield Township, NJ. Archaeologist responsible for conducting historic research for a Phase IA Historical and Archaeological Survey for proposed replacement of the 1905 Warren Pony Truss style bridge spanning Crosswicks Creek between Mercer and Burlington Counties. The study determined that the project area possesses minimal to no archaeological potential while replacing the bridge, which was determined to be eligible for inclusion in the NR, will result in an adverse effect to the bridge.

Bruckner-Sheridan Interchange Reconstruction, New York State Department of Transportation (NYSDOT), Bronx, NY. Cultural Resources Specialist for a NEPA EIS process that is evaluating infrastructure and access improvements between the Bruckner and Sheridan Expressways (I-287 and I-895) and the Hunts point Peninsula/Hunts Point Food Distribution Center. Conducted historic research in support of the Cultural Resources Screening, Architectural Survey, and Cultural Resources Findings Document for the proposed improvements. Our screening study identified multiple historic properties present within the surrounding area; it also demonstrated the presence of extensive disturbances resulting from prior roadway construction projects since the mid-20th century. Our historic architecture survey inventoried over 200 historic architectural resources throughout the project area and clarified the history of multiple bridges within and along the Bruckner and

Tina Fortugno, RPA
Staff Archaeologist

Sheridan Expressways.

Zachary Davis RPA

Senior Archaeologist

Zach Davis is a senior archaeologist and project manager practiced in National Environmental Policy Act (NEPA) and State Environmental Quality Review Act (SEQRA) compliance, as well as Phase IA Archaeological Assessments, Phase IB Archaeological Surveys, and Phase II Archaeological Site Evaluations. Zach has been project manager for over 100 projects in New York, New Jersey, and other Mid-Atlantic States.

EDUCATION:

PhD (ABD) Interdepartmental Doctoral Program in Anthropology, SUNY Stony Brook, 2006

MA, Anthropology, SUNY Stony Brook, 2000

MA, Archaeology, University of London, 1994

BA, Archaeological Studies, Boston University, 1993

REGISTRATIONS / TRAINING:

Registered Professional Archaeologist

An Advanced Workshop for National Register Nomination Preparers, National Park Service and New Jersey Historic Trust (2012)

Cultural Resources Best Practices Workshop, 7-Hour Training Program, New Jersey Historic Preservation Office (2006)

OSHA 40-Hour Hazardous Waste Operations Training (2004); Annual Refreshers: US

Trenching and Excavation Safety – OSHA Construction Industry Standards, Subpart P (29 CFR 2926. 650-652) (2009)

YEARS OF EXPERIENCE:

Dewberry: 3

Prior: 23

AFFILIATIONS:

Register of Professional Archaeologists

Society for American Archaeology

Millburn Short Hills Historic Society

New York Archaeological Council

Commissioner, Millburn Historic Preservation Commission, 2016-2022

SELECTED EXPERIENCE

Phase I Archaeological Investigations for Proposal Bridge Replacement Project on SR 0044, Pennsylvania Department of Transportation (PennDOT) District 3-0, Borough of Jersey Shore, Lycoming County, PA. Senior Archaeologist performing Phase I Archaeological Investigations for a proposed bridge replacement project on State Road 0044, which crosses the Lawshe Run, a tributary to the Susquehanna River. The work required completing hand excavation of test units to assess the site's potential to contain deeply buried archaeological sites. Assisted by a geomorphologist, confirmed that the proposed project would have no effect to archaeological sites given the degree of disturbance to the project area. A Phase I Archaeology Negative Survey Form was completed detailing the project's absence of archaeological resources.

Mt. Ephraim Avenue (CR 605) Roadway Safety Improvement Study, Delaware Valley Regional Planning Commission (DVRPC), Camden, NJ. Cultural Resources Lead for conceptual study for roadway/signal/pedestrian improvements to a 1.5-mile stretch of roadway to improve safety for all modes of travel within the project's study area, with special attention given to pedestrians and bicyclists. The project includes public outreach to gauge community input and meeting with local stakeholders for information. Also involves developing Purpose and Need Statement, data collection, and development of conceptual alternatives to support completion of a Categorical Exclusion Document during preliminary design.

Section 106 Compliance Review Master Price Agreement, Nationwide, ExteNet, Senior Archaeologist supporting Dewberry as we assist ExteNet's compliance with the Federal Communications Commission's (FCC) NEPA documentation. Provided assistance to ExteNet for compliance with the FCC's Tower Construction Notification System (TCNS) used to consult with Native American Nations with an expressed interest in the project's historic territory, completion of Section 106 compliance documents including FCC Form 620 (New Tower Submission Packet) and FCC Form 621 (Tower Collocation Submission Packet) and completion of compliance documents in accordance with the *Nationwide Programmatic Agreement for Review of Effects on Historic*

Zachary Davis RPA

Senior Archaeologist

CHRONOLOGY:

2014-2015: HDR, Inc.

2001-2014: The Louis Berger Group

Properties for Certain Undertakings Approved by the Federal Communications Commission, the *Nationwide Programmatic Agreement for the Collocation of Wireless Antennas*, and the First Amendment to the *Nationwide Programmatic Agreement for the Collocation of Wireless Antennas issued in August 2016*.

Reconstruction of Bridge Q-48 and Approach of Kuhl Road over Branch of Neshanic River, Raritan Township, Hunterdon County, NJ. Project Manager and Senior Archaeologist (as a subcontractor) for bridge reconstruction design services. Conducted a Phase IA Cultural Resource Assessment and completed a New Jersey Historic Preservation Office (NJHPO) survey, involving background research to identify areas of archaeological potential within the project area as well as areas with no potential to contain archaeological resources. Findings were included in the final report prepared and submitted to the NJHPO.

Environmental Planning Task Order Contract, NJDOT, Statewide, NJ. Senior Archaeologist for this three-year, $5-million contract. Tasks can include inventories and surveys, fieldwork and photo documentation, archival research, preservation plans, Memoranda of Agreement, use determination, alternatives evaluation, impact assessment, and mitigation plans, as well as monitoring and mitigating construction projects for adverse effects to historic properties.

Route 47 Nummytown Mill Pond Dam Slope Reinforcement and Safety Improvement Project, NJDOT, Middle Township, Cape May County, NJ. Task Manager for a Phase IA Archaeological Study and Intensive Level Architectural Survey, in compliance with Section 106.

SR 44-064, Lawshe Run, Pennsylvania Department of Transportation District 3-0, Jersey Shore, Lycoming County, PA. Task Manager responsible for identifying and evaluating archaeological resources within the area of potential effects (APE) for a bridge replacement project, using geomorphological inspection of multiple Phase I test unit excavations.

On-Call Transportation Engineering Services Task Order Program, Rhode Island Department of Transportation, U.S. Routes 6/10 Interchange NEPA Re-evaluation, Providence, RI. Cultural Resources Lead responsible for Section 106 compliance based on the revised design. This included a Phase IA Archaeological Assessment and Native American consultation to develop and implement a geoarchaeological field testing program that addressed the concerns of the Narragansett Indian Tribe while advancing the project through the Section 106 process. We conducted a historic architectural survey re-evaluating 37 historic properties within the APE. Application of the Criteria of Adverse Effects resulted in a determination of No Adverse Effects to historic properties. The RIHPHC concurred with the project's no adverse effect on historic properties.

Archaeological Monitoring, Pulaski Skyway Rehabilitation Program, Construction Support, New Jersey Department of Transportation, Contract

7, Newark Ramp, Newark, NJ. Cultural Resources Lead responsible for coordinating the development and implementation of an archaeological monitoring plan for ground disturbing activities in close proximity to the historic location of the Morris Canal, listed in the National Register of Historic Places.

Replacement of Bridge No. 670.4 Carrying Iron Bridge Road over Crosswicks Creek, Township of Hamilton, County of Mercer, and Township of Chesterfield, Burlington County, NJ. Principal Investigator who completed a Phase IA Historical and Archaeological Survey for proposed replacement of the 1905 Warren Pony Truss style bridge spanning Crosswicks Creek between Mercer and Burlington Counties. The study determined that the project area possesses minimal to no archaeological potential while replacing the bridge will result in an adverse effect to the bridge, determined to be eligible for inclusion in the National Register of Historic Places.

West Summit Interlocking, NJ TRANSIT, Summit, NJ. Cultural Resources Lead responsible for the project's compliance with Section 106 of the Historic Preservation Act (NHPA). Involved completion of a Phase IA Archaeological Assessment and Historic Architectural survey of the proposed reconfiguration of the outdated interlocking and relocation of the new interlocking as well as alterations to the existing Morristown Line and Gladstone Branch rail corridors. The project was determined to have no adverse effect on multiple historic properties present in the project area.

Non-Disaster Grants Environmental and Historic Preservation (EHP) Technical Support, FEMA, Nationwide, U.S. Cultural Resources Lead for environmental planning and historic preservation support to perform compliance reviews for grant program projects. Projects include renovation, retrofitting, or modification of facilities funded by a series of non-disaster grant programs. This work supports FEMA's Office of Environmental Planning and Historic Preservation (OEHP) and is a task order under Dewberry's Hazard Mitigation Technical Assistance Program contract.

Environmental Services Task Order Contract, NJ TRANSIT, Statewide, NJ. Senior Cultural Resources Specialist for tasks under a $4-million contract. Responsible for assessing the effects of projects on cultural resources, preparing cultural resources studies, and coordinating with the New Jersey Historic Preservation Office.

Bruckner-Sheridan Interchange Reconstruction, New York State Department of Transportation, Bronx, NY. Cultural Resources Lead for a NEPA EIS process that is evaluating infrastructure and access improvements between the Bruckner and Sheridan Expressways (I-278 and I-895) and the Hunts Point Peninsula / Hunts Point Food Distribution Center. Work also includes a Section 4(f) evaluation for publicly owned open space. The goal of this estimated $1.8-billion phased project is to reduce traffic on local roads.

Phase I Archaeological Investigation, West Apartments Building J, SUNY Stony Brook/DASNY, Town of Brookhaven, Suffolk County, NY. Cultural Resources Specialist, as a subconsultant. Responsible for archival research and archaeological field investigation. While evidence of intense prehistoric activity in the region exists, shovel tests did not yield prehistoric artifacts or features and no further archaeological investigations were recommended.

NJ TRANSIT, Morris & Essex Lines Historic Coal Trestle Study, Essex, Hudson, Morris, Somerset, and Union Counties, NJ. Senior Archaeologist assisting with the preparation of a public information booklet prepared as partial mitigation for the demolition of the Horre Coal Trestle in Jersey City.

Lake Dam Road Bridge Replacement, Lake Dam Road, City of Raleigh, Wake County, NC, Cultural Resources Lead for completion of a North Carolina State Historic Preservation Office project review checklist for a proposed bridge replacement project. The checklist provided a project description, known historic property information and assessment of the proposed project's potential to affect historic properties. NCSHPO concurred that the project will have no effect on historic properties, thereby allowing the City of Raleigh to advance the replacement project.

Rebuild By Design Meadowlands, New Jersey Department of Environmental Protection (NJDEP), Bergen County, NJ. Senior Archaeologist, as a subconsultant, for the NEPA Environmental Impact Statement (EIS) for this project that conceptually consists of a large natural reserve along the Hackensack River, which would connect and expand marshland. The design aims to use a system of green and gray infrastructure, to protect against ocean surges and rain event flooding.

Phase III Archaeological Data Recovery, Winding Brook Townhouse Project, Evesham Township, Burlington County, NJ. Cultural Resources Lead for documentation of archaeological data recovery at William Jones #2 archaeological site's (28-BU-69). Monitored heavy machine removal of the plow zone distributed across the archaeological site to reveal potential archaeological features present in the substrate. Monitoring of the removal of the plow zone failed to identify intact culturally derived subsurface features. At the completion of the Phase III work, the NJHPO concurred with the recommendation that no further archaeological investigations were recommended for the proposed development project.

Phase II Archaeological Investigations, Winding Brook Townhouse Project, Evesham Township, Burlington County, NJ. Cultural Resources Lead for archaeological site investigations and determination of the William Jones #2 archaeological site's (28-BU-69) eligibility for inclusion in the National Register of Historic Places. Directed archaeological investigations, including delineation of archaeological site boundaries and large-scale excavations to ascertain the site's

contextual setting of the archaeological site representing multiple periods of occupation ranging from the Late Archaic (3,000-1,000 BC) through Late Woodland (900-1600 AD). Also directed the lab analysis and interpretation of the recovered archaeological material. The site was recommended as meeting eligibility criteria for inclusion in the National Register of Historic Places.

Myrtle Avenue Line Viaduct (Bushwick Cut) Rehabilitation Project, MTA New York City Transit, Brooklyn, NY. Senior Archaeologist responsible for the preparation of a screening review of known historic property information for a viaduct demolition and replacement project in Bushwick section of Brooklyn, NY. Reviewed historic property information on file with the Landmarks Preservation Commission as well as the New York State Office of Parks, Recreation and Historic Preservation.

Phase IA Literature Search and Sensitivity Assessment, Forsyth and Delancey Street Emergency Ventilation Plant Project, MTA New York City Transit, New York, NY. Planner. Cultural Resources Lead responsible for the preparation of an assessment of the or Prepared Due Diligence Assessment Report for the construction of a new subway ventilation plant near the intersection of Forsyth and Delancey Street in lower Manhattan. Analysis of past cultural resource surveys, historical map and atlas background research, and a pedestrian reconnaissance of the proposed APE indicates that portions of this APE are characterized as having a low potential to encounter pre-contact archaeological resources.

Environmental Assessment Field Contractor for Superstorm Sandy Community Development Block Grant-Disaster Recovery (CDBG-DR), New Jersey Department of Environmental Protection, NJ. Cultural Resources Lead for NEPA Environmental Assessments and compliance with Section 106 of the NHPA, in support of CDBG-DR projects funded by US Housing and Urban Development (HUD). Work involves desktop assessments (review of aerials, historic maps, and NJDEP GIS files), field reconnaissance, and environmental documentation, as well as extensive coordination with local, state, and federal agencies.

Maritime Archaeology, Route 35 Steel Sheet Pile Dune Restoration Project, New Jersey Department of Environmental Protection (NJDEP), Mantoloking Sea Wall, Brick Township, NJ. Senior Archaeologist responsible for Dewberry's services to conduct maritime archaeological recordation and damage assessment for the cultural materials (i.e., shipwreck remains) encountered during the installation of steel sheet piles.

Individual Section 4(f) Evaluation for Route 49 and Buckshutem Road, New Jersey Department of Transportation, Bridgeton, NJ. Senior Archaeologist providing Section 106 documentation and summary of project effects as related to Section 4(f) impacts for the project's adverse effect to the Bridgeton Historic

District and the East Commerce Street Historic Districts. Required coordination with the New Jersey Historic Sites Council as well as the development of a Memorandum of Agreement to mitigate the project's adverse effect on historic properties.

Rebuild By Design Hudson River: Resist-Delay-Store-Discharge, NJ TRANSIT and New Jersey Department of Environmental Protection (NJDEP), Hudson County, NJ. Cultural Resources Lead for the Feasibility Study and National Environmental Policy Act (NEPA) Environmental Impact Statement (EIS) for a $230-million comprehensive urban water strategy conceived to protect the Hoboken waterfront, as well as parts of Weehawken and Jersey City. Responsible for assessing the effects of project alternatives on cultural resources as well as preparing the Cultural Resources Technical Environmental Study, the Cultural Resources section of the EIS, and the Programmatic Agreement. Coordinated with the Advisory Council on Historic Preservation, New Jersey Department of Environmental Protection, New Jersey Department of Community Affairs, and New Jersey Historic Preservation Office. Participated in public outreach.

Phase IA Archaeological Assessment, New Jersey Department of Transportation, I-80 Westbound Rockfall Mitigation Project, Hardwick and Knowlton Townships, Warren County, NJ. Cultural Resources Manager for the preparation of an archaeological assessment of the proposed project to reduce the frequency and severity of rockfall events along Route I-80 Westbound. Conducted an archaeological assessment of the project area by summarizing previously completed cultural resource reports, creating an inventory of know historic properties and completing a site investigation, it was concluded that the APE possesses no sensitivity for the presence of archaeological resources.

Phase IA Cultural Resources Assessment, Dormitory Authority of the State of New York (DASNY), Hashamomuck Marine Waterways Access Site, Town of Southold, Suffolk County, NY. Cultural Resources Manager for compliance with Section 106 of the National Historic Preservation Act. Assessment involved completion of a Phase IA archaeological survey and a reconnaissance-level architectural survey. The assessment concluded that the project site possesses a low pre-Contact archaeological potential, but the proposed project will create minimal disturbances in the area of archaeological potential. Additionally, no historic architectural resources were identified within the project area.

Build It Back Program, New York City Economic Development Corporation and Mayor's Office of Housing Recovery Operations, New York, NY. Historic Preservation Lead for the cultural resources review of residential properties damaged as a result of Hurricane Sandy. Involves reviewing properties for historic preservation issues, both architectural (above ground) and archaeological (below ground), under the May 2013 Programmatic Agreement

executed between the Federal Emergency Management Agency, the New York State Historic Preservation Office, and the New York City Landmarks Preservation Commission for compliance with the National Environmental Policy Act (NEPA) and US Department of Housing and Urban Development (HUD) regulations. Other tasks include consultation with New York State and City review agencies and developing mitigation treatment plans for historic properties adversely affected by the recovery project.

Marshes Mitigation Banking Pilot, New York City Economic Development Corporation, Staten Island, Richmond County, NY. Cultural Resources Manager who coordinated the Phase IA Cultural Resources assessment for the creation of a wetland mitigation bank on Staten Island's West Shore and prepared consultation documents for New York State Office of Parks, Recreation and Historic Preservation and New York City Landmarks Preservation Commission. **(9/2013-5/2014).**

Freedom Pier Utility Project, City of Gloucester City, Camden County, NJ. Project Archaeologist who prepared Cultural Resource Management Protocol to be implemented during the installation of various utilities crossing through the extent of the multicomponent Coast Guard Archaeological Site (28-Ca-94). **(10/2014-2/2015).**

Lloyd Avenue Surface Anode Bed, Section 106 Consultation, Columbia Pipeline Group, Caln Township, Chester County, PA. TITLE Prepared Pennsylvania Historical and Museum Commission project review form for the initiation of Section 106 consultation for an upgrade to an existing gas pipeline in eastern Pennsylvania. Prepared consultation letter on behalf of client and recommended that the proposed project will have no effect on historic properties; PHMC concurred with recommendations. **(11/2014).**

Priority Repair of Seawall, NYCDPR and New York City Department of Transportation, Henry Hudson Parkway, Southbound, West 89th to West 86th Street, Manhattan, NY. Project Archaeologist for a seawall stabilization project requiring a U.S. Army Corps of Engineers permit and involving preparation of historic resource documentation for review by LPC and OPRHP. Provided historic mapping of the project area from before the construction of the Parkway through the mid-20th century and prepared consultation document for submittal to historic preservation review agencies. The project was advanced with a no adverse effect to historic properties determination and concurrence from OPRHP and LPC.

Flood Mitigation and Resiliency, New York City Transit (NYCT), 207th Street Yard, 8th Avenue Line, Borough of Manhattan, New York County, NY. Project Archaeologist who prepared historic resource consultation correspondence for the proposed construction of flood mitigation measures at the 207th Street rail yard. Provided client with known historic property information

relevant to the proposed project area and drafted correspondence for review by New York State Office of Parks, Recreation and Historic Preservation (OPRHP). Prepared additional research related to the historic cemetery present at 207th Street and secured OPRHP concurrence of no historic properties affected by the proposed project. **(7/2014-11/2014).**

Flood Mitigation and Resiliency, New York City Transit, 148th Street Yard, Lenox Avenue Line, Borough of Manhattan, NY. Project Archaeologist who prepared historic resource consultation correspondence for the proposed construction of flood mitigation measures at the 148th Street rail yard. Provided client with known historic property information relevant to the proposed project area, drafted correspondence for review by New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and secured OPRHP concurrence of no historic properties affected by the proposed project. **(7/2014-9/2014).**

Phase I Archaeological Investigation, Access Control Alteration and Rehabilitation, New York Office of General Services and New York Army National Guard, Camp Smith Training Site, Cortlandt Manor, Westchester County, NY. TITLE Supervised the preparation of the archaeological investigation for the proposed entrance improvements at Camp Smith. Field investigations revealed significant disturbance in the project area resulting from past utility installation and prior modifications to the alignment of the entrance to the Camp. Recommended that the project will have no effect on historic properties. **(10/2014 – 1/2015).**

Phase IA Documentary Study, Proposed Development 181 Avenue A, LLC/Steiner NYC, 181 Avenue A, Manhattan, NY. Project Manager responsible for the preparation of an archaeological documentary study in advance of proposed housing development in Manhattan's Lower East Side. The study focused on the potential for the project area to contain unanticipated human remains associated with the Old St. Patrick's Cathedral cemetery at the site of the c. 1915 Mary Help of Christians Church. Use of historic maps georeferenced to the modern street grid demonstrated that all burials were located west of the proposed development project. **(7/2013-9/2013).**

Phase IA Cultural Resource Survey, Sterling Forest Resort, Town of Tuxedo, Orange County, NY. Principal Investigator engaged in the assessment of the potential of a proposed resort to be located within Sterling Forest to affect cultural resources. The preponderance of prehistoric sites located in close proximity to the proposed development and the project's setting in proximity to water sources suggested that undisturbed areas would require an archaeological survey to determine the presence or absence of archaeological resources. **(4/2014-5/2014).**

Phase IA Cultural Resource Survey, New York State Thruway Interchange 15B, Town of Tuxedo, Orange County, NY. Principal Investigator engaged in

the assessment of the potential of a proposed Thruway interchange to affect cultural resources at the western edge of Harriman State Park. Numerous prehistoric sites are known in close proximity to the Thruway and the proposed interchange's location on well-drained soils suggested that undisturbed areas would require an archaeological survey to determine the presence or absence of archaeological resources. **(4/2014-5/2014).**

Phase I Archaeological Reconnaissance Survey, Safety Improvements on the Jackie Robinson Parkway Eastbound, Town of Kew Gardens/Richmond Hill, Queens County, NY. Excavator who assisted with the field survey for proposed safety improvements, including excavation of an existing slope and construction of a widened shoulder and stone retaining wall along eastbound Jackie Robinson Parkway.

Abri Castanet, Sergeac (Perigord), France. Excavator who assisted with the long-term excavations of an early Upper Palaeolithic (Aurignacian) rock shelter in the southwest of France, containing evidence of osseous projectile points, personal adornments and cave wall engravings dating to 32,000 years ago. **(6/1996-8/1996, 6/1997-8/1997, 6/1998-7/1998).**

African Meeting House, Nantucket, Nantucket County, MA. Excavator who assisted with the excavation and interpretation of archaeological deposits surrounding this c. 1820 post and beam structure, the second constructed African Meeting House in America. Supervisor: Mary Beaudry, Boston University. **(9/1993).**

Standing Committee on the Environment, NCHRP Project 25-25/Task 61 American Association of State Highway and Transportation Officials (AASHTO). Best Practices for Establishing and Maintaining and Statewide Cultural Resource GIS Databases for use by State DOTs. Principal investigator. Conducted a nationwide survey of 50 state DOTs to inventory the range of statewide cultural resource GIS databases already established by state DOTs for the purpose of identifying best practices for those state DOTs intending to develop their own statewide cultural resource GIS. The study developed questions for 24 state DOTs with a cultural resource GIS in place to determine similarities and identify best practices for future development of similar GIS databases. The study also prepared a sample GIS database structure based on the similarities exhibited amongst the GIS databases developed by the 24 state DOTs. (7/2009-9/2010)

ARCADIS/BBL, Phase I Archaeological Assessment, Alcan Aluminum Sheet and Plate Company Site, Town of Scriba, Oswego County, NY. Project Manager for a Phase IA archaeological assessment and Phase IB archaeological field survey under SEQRA for the Alcan Facility, located south of Lake Ontario, prior to mitigation of contaminated soils. **(6/2006-8/2007).**

Zachary Davis RPA

Senior Archaeologist

Phase IA Archaeological Assessment, Blasland, Bouck and Lee, Inc., Niagara Mohawk, Hudson (Water Street) Site, City of Hudson, Columbia County, NY. Principal Investigator responsible for the archaeological assessment of late nineteenth-/early twentieth-century coal-to-gas generating facility located on the banks of the Hudson River. Involved research and analysis of past disturbances and potential for historic archaeological resources associated with the industrial use of the project area. **(3/2003-5/2003).**

Phase IA Archaeological Assessment, Remedial Options Pilot Study, Blasland, Bouck and Lee, Inc., Grasse River Study Area, Alcoa-Massena, Massena, St, Lawrence County, NY. Principal Investigator. Archaeological assessment of early twentieth-century Alcoa fabricating, ingot, and extrusion and smelting plant under U.S. EPA jurisdiction as a Superfund Site. Research and analysis of past disturbances and assessment of the potential for historic archaeological resources associated with the industrial use of the project area. **(3/2005-5/2005).**

Boston University Archaeological Field School, Spencer-Peirce-Little Farm, Newbury, Essex County, MA. Excavator for Boston University archaeological field school at a late seventeenth-century farmstead. Supervisor: Mary Beaudry, Boston University. **(7/1992-8/1992).**

Archaeological Monitoring, Bryant Park Corporation, Bryant Park Terrace, Manhattan, NY. Project Manager responsible for coordinating the placement of deep-trench excavation for the identification of the foundation of the nineteenth-century Croton Reservoir distributing tank formerly located on the present location of the New York Public Library. Archaeological monitoring of the heavy machine excavation on the eastern end of Bryant Park failed to locate intact evidence of the reservoir foundation wall but identified potential locations for future exploratory excavations. **(2/2010-4/2010).**

Buckeye Perth Amboy Terminal Phase 2 Project, Buckeye Perth Amboy Terminal LLC, City of Perth Amboy, Middlesex County, NJ. Project Manager responsible for coordinating the review of existing cultural resource information and survey of two historic properties located at the Perth Amboy Terminal facility. **(5/2013-7/2013).**

Calverton Naval Weapons Industrial Reserve, Calverton, Suffolk County, NY. Field supervisor engaged in the creation of a cultural resource survey of the 6,000-acre parcel with several early to mid-twentieth-century buildings and several Late Archaic and Late Woodland prehistoric sites. **(7/1995-9/1995).**

Calverton Naval Weapons Industrial Reserve, Calverton, Suffolk County, NY. GIS Analyst who integrated GIS analysis with lithic analysis to interpret prehistoric activity patterns across the former naval facility. **(9/1996-3/1997).**

Zachary Davis RPA

Senior Archaeologist

Phase IA Archaeological Assessment, Montclair State University, Dormitory Construction Project, Capstone Development Corporation, Little Falls, Passaic County, NJ. Project Manager. Prepared archaeological assessment for a proposed dormitory construction project located in the northern section of Montclair State University campus. Review of historical documents, aerial photographs, and maps indicated that the entire project area, now a parking lot for the university, was historically used as a quarry. The project area was heavily impacted by past activities and retained no potential for archaeological resources. **(2/2010-5/2010).**

Archaeological Monitoring, Demolition of the Gloucester City Water Works Reservoir, City of Gloucester, Camden County, NJ. Project Manager. Coordinated the archaeological monitoring of the demolition of the circa 1873 NRHP-listed Gloucester City Water Works Reservoir, preparation of a Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) recordation of the waterworks, and the photo documentation of its components during demolition. **(5/2009-1/2013).**

Phase IA Cultural Resource Assessment, Replacement of the Central Avenue Bridge over Blind Brook, City of Rye, Westchester County, NY. Project Manager. Cultural resource assessment, including background research, on-site evaluation, limited field testing, and historic architectural survey and evaluation of early twentieth-century bridge and surrounding area. **(7/2007-5/2009).**

Phase I Archaeological Survey, Mount Vernon Avenue Bridge, County of Morris, Department of Public Works, and the County of Union, Department of Public Works, Chatham, Morris County, and Summit, Union County, NJ. Principal Investigator. Coordinated Phase I archaeological assessment of the proposed bridge replacement. Included archaeological fieldwork and assessment of project's potential to affect archaeological resources. **(8/2003-5/2004).**

Cultural Resources Eligibility/Effects Documentation, Two Bridges Road Bridge, County of Passaic and the North Jersey Transportation Planning Authority, Lincoln Park, Wayne and Fairfield, Morris, Passaic and Essex Counties, NJ. Principal Investigator. Cultural resource screening, archaeological survey, and historic architectural resource survey for proposed bridge construction. The survey identified the historical bridge crossing the Pompton River, constructed in 1887 and eligible for the NRHP, identified extensive prehistoric occupation to the project area, and evaluated the surrounding area for additional historic properties. One archaeological site was identified in the project area. **(5/2003-5/2005, 3/2008-2/2009).**

Phase IA Cultural Resource Assessment, Intersection Improvements for Church Street, County of Somerset, Department of Public Works, Bernards

Township, Somerset County, NJ. Project Manager. Coordinated the preparation of a cultural resource assessment for proposed improvements to three signalized interchanges along Church Street in Bernards Township. Historic documentary research and environmental factors indicate that portions of the project area are sensitive for prehistoric and/or historic archaeological deposits. Additionally, the project area includes one known historic property, the National Register-listed Liberty Corner Historic District. Further cultural resource investigations were recommended to determine the presence or absence of archaeological resources and to evaluate the potential of the project to affect the historic character and setting of the Liberty Corner Historic District. **(6/2009-10/2010).**

Phase IA Cultural Resource Assessment, Harlem Hospital Center Modernization, DASNY and the New York City Health and Hospitals Corporation, Manhattan, NY. Project Manager responsible for a cultural resource assessment of proposed modernization project. This cultural resource assessment included an archaeological assessment of the area of potential effect; historic architectural evaluation of the surrounding area; and the preservation, removal, storage, and adaptive reuse of five Works Progress Administration-commissioned murals in buildings slated for demolition. Required Level-II HABS documentation of the Old Nurses Residence (circa 1915), the New Nurses Residence (circa 1932), and the Women's Pavilion Building (circa 1932) prior to demolition. **(5/2004-10/2006).**

Phase IA/IB Cultural Resource Assessment, Beacon Institute for Rivers and Estuaries, DASNY and the New York State OPRHP on behalf of the Beacon Institute for Rivers and Estuaries, Beacon, Dutchess County, NY. Project Manager for a Phase IA archaeological assessment and limited Phase IB archaeological field survey of the proposed location for the Center for Advanced Environmental Research, positioned on the remnants of nineteenth- and twentieth-century historic brickwork at Denning's Point. Historical document and cartographic research, georeferencing historical maps to modern maps to ascertain past disturbances and/or prior settlement and land use, and assessment of the property's potential to contain historic and/or prehistoric archaeological resources. Identified several locations on Denning's Point with high archaeological potential. **(10/2006-5/2009).**

Phase IA Cultural Resource Assessment, DASNY on behalf of Fordham University, Fordham University New Residence Halls, Fordham University Rose Hill Campus, Bronx, NY. Project Manager who coordinated cultural resource assessment of new residence halls on the southwest portion of campus. Required the georeferencing of historical maps to the modern campus to determine the archaeological potential of the proposed building locations. **(1/2008-5/2008).**

Historic Architectural Assessment, DASNY, Louis Armstrong House

Museum (LAHM) Visitors Center. Corona, Queens County, NY. Project Manager responsible for the preparation of a historic architectural assessment for the area surrounding the proposed location of a new visitor's center for the Louis Armstrong House Museum, a National Historic Landmark and New York City Landmark. The historic architectural survey assessed 43 historic properties within view of the proposed visitor's center, including the LAHM, and determined that none of the other 42 historic properties met NRHP eligibility criteria and that the LAHM would not be visually affected by the construction of the proposed visitor's center. **(8/2008-5/2010).**

Historic Resource Inventory Form Preparation, Baruch College Field Building Renovation, DASNY, 17 Lexington Avenue, Manhattan, NY. Project Manager who coordinated the preparation of New York State OPRHP historic resource survey inventory forms for three historic buildings that would be physically and/or visually affected by the renovation of the 1929 Field Building. The three buildings, the Lawrence and Eris Field Building, the Administrative Building for Baruch College (the former Domestic Relations Court Building at 135 East 22nd Street), and Baruch College's Newman Hall (the former Children's Court Building at 137 East 22nd Street) were all found to be eligible for listing in the NRHP. **(5/2010-7/2010).**

Historic Resource Inventory Form Preparation, Brooklyn College (CUNY) Performing Arts Center (PAC) Addition, DASNY, Brooklyn, NY. Project Manager. Coordinated the preparation of New York State OPRHP historic resource survey inventory forms for Brooklyn College's Gershwin Hall and associated Hillel Gate entrance, which would be replaced with a state-of-the-art performing arts facility. Gershwin Hall and the Hillel Gate were found to lack sufficient integrity to meet NRHP eligibility criteria. **(4/2009-6/2009).**

Phase IA Cultural Resource Assessment, City College of New York/Advanced Science and Research Science Facility Project, DASNY, City College of New York Campus, Manhattan, NY. Project Manager and Principal Investigator. Archaeological assessment and historic architectural survey of proposed location for the Advanced Science Research Center Facility Project, located over the foundation remains of the nineteenth-century Convent of the Sacred Heart, the precursor to Manhattanville College. Conducted historical and cartographic research, identified and analyzed past disturbances and/or prior settlement and land use, used GIS technology to locate the proposed construction on historical maps, and assessed the project's potential effect on historic properties. Identified the potential location of a nineteenth-century burial vault in the proposed project area, which was then monitored for potential burials during excavation for the foundation to the science facility. **(4/2006-5/2009).**

Phase IA Cultural Resource Assessment, Lehman College New Science Facility Project, DASNY, Lehman College, Bronx, NY. Project Manager.

Cultural resource assessment for proposed science facility to be attached to Gillet Hall, one of the original buildings at Hunter College's Bronx branch, constructed in 1931. Traced the history of the campus location, which included the nineteenth-century Jerome Park Racetrack followed by the Jerome Park Reservoir at the end of the nineteenth century. No archaeological areas of concern were identified; historic architectural survey identified the Hunter College Campus (Gillet Hall, the Music Building, the Gymnasium, Davis Hall, and the fences, piers, and underground passages) as eligible for listing in the State and National Registers for their historic and architectural significance for the campus's role as the site of the first United Nations, and as a Depression-era Collegiate Gothic-style campus. **(11/2007-2/2009).**

Phase IB Archaeological Survey, DASNY, SUNY College at Purchase, New Residence Hall, Purchase, NY. Principal Investigator. Archaeological field survey of 2-acre parcel slated for development of new residence halls. Field survey identified extensive mechanized impacts to the project area, and no archaeological resources were identified. **(8/2004-10/2004).**

Phase I Cultural Resource Assessment, Trenton-Morrisville Toll Bridge Rehabilitation and One Auxiliary Northbound Lane, Delaware River Joint Toll Bridge Commission. Morrisville, Buck County, PA and Trenton, Mercer County, NJ. Project Manager. Cultural resource assessment of improvements to interchanges and the Trenton-Morrisville Toll Bridge spanning the Delaware River. Archaeological assessment of proposed ground disturbance and historic architectural assessment of proposed interchange improvements to local structures, including the National Historic Landmark Delaware Division of the Pennsylvania Canal. **(5/2004-11/2006).**

Cultural Resource Eligibility/Effects, Improvements to County Route 571, Delaware Valley Regional Planning Commission, Princeton/Hightstown Road, Princeton Junction, Mercer County, NJ. Project Manager. Coordinated the preparation of eligibility/effects documentation for proposed road improvements. Included determination of the project's archaeological resource potential, evaluation of the presence/absence of archaeological resources, and survey of the historic architectural resources in view of project's area of potential effect. **(5/2008-4/2009).**

Historic Resource Inventory Form Preparation, Dormitory Authority of the State of New York (DASNY), New York State Office of Court Administration (OCA) Training Academy, Kings County, NY. Project Manager. Coordinated the preparation of New York State Office of Parks, Recreation and Historic Preservation (OPRHP) historic resource survey inventory forms for three historic buildings that would be physically and visually affected by the development of a training academy complex for OCA court officers in Brooklyn. The three buildings, St. Theresa's Convent, St. Theresa's Auditorium, and St. Teresa of Avila Parochial School, were found to lack sufficient integrity to meet NRHP eligibility

criteria. **(11/2009-2/2010).**

Englishtown-Wyckoff Street 115kv Transmission Line, Phase I Cultural Resource Survey, First Energy, Manalapan, Millstone, Monroe and East Windsor Townships, Hightstown Borough, Monmouth, Middlesex and Mercer Counties, NJ. Project Manager. Coordinated the cultural resource survey for the construction of a new eight mile long transmission line in central NJ. **(5/2013-1/2014).**

Fouilles Prehistoriques a Cagny, Cagny (Nord), France. Excavator. Excavation of two open-air Lower Palaeolithic sites located in northern France. Archaeological deposits included a variety of fauna (red deer, horse and prehistoric cattlre/aurochs) and lithic implements in river-edge sediments dating to roughly 320,000 years ago. **(7/1994-8/1994).**

Phase IA Cultural Resource Assessment, Freeholders of Burlington County, Burlington Sod Farm, Springfield Township, Burlington County, NJ. Project Manager. Phase IA cultural resource assessment of 640-acre agricultural property slated to become new county fairgrounds. Involved historical and cartographic research, identifying and analyzing past disturbances and/or prior settlement and land use, and determining property's potential to contain archaeological resources. **(3/2006-7/2007).**

Preparation of Section 106 Property Disposal Checklist, General Services Administration (GSA), Dover Main Post Office, Dover, Morris County, NJ. Project Manager. Potential sale of early twentieth-century post office. Project involved completing background research to identify previously documented historic properties and project's effect on historic properties. Determined that the post office is located over the historical location of the Morris Canal, listed in the National Register of Historic Places (NRHP). **(6/2010).**

Hudson Energy Project, Genpower Hudson Energy, Hudson River Bulkhead at Pier 92, Manhattan, NY. Principal Investigator. Archaeological and architectural site file review at New York City Landmarks Commission (LPC), background research, field inspection of the study area from the bulkhead at Pier 92 to the ConEd substation at West 94th Street in Manhattan, and preparation of existing conditions report for cultural resources. **(9/2001-10/2001).**

La Tourette Park, Staten Island, Richmond County, NY. Principal Investigator. Historic architectural resource assessment of proposed Omnipoint cell tower installation. **(10/2001).**

Phase I Archaeological Assessment, General Services Administration (GSA), GSA Leased Office Space, City of Oswego, Oswego County, NY. Project Manager Archaeological investigation of planned Social Security Administration building. Project included background and archival research,

using GIS to georeference historical maps to the APE, pedestrian reconnaissance and archaeological survey of the APE. **(5/2009-8/2009).**

Preparation of Section 106 Property Disposal Checklist, GSA, USPS Facility, 185 West John Street, Hicksville, Nassau County, NY. Project Manager. Project involved completing background research to identify previously documented historic properties and project's effect on historic properties. Research revealed a lack of archaeological and historic architectural potential at the location of the postal facility. **(10/2010).**

Preparation of Section 106 Property Disposal Checklist, GSA, West Jersey Processing and Distribution Center, 54 Jefferson Road South, Whippany, Morris County, NJ. Project Manager. Project involved completing background research to identify previously documented historic properties and the potential of the project to affect historic properties. Research revealed a lack of archaeological and historic architectural potential at the location of the postal facility. **(10/2010).**

Historic Properties Management Plan, Clyde River Hydroelectric Project, Orleans County, VT. GIS Technician. Prepared project's GIS database for historic property information for multiple hydroelectric power plants around multiple lakes in Orleans County. Prepared graphics depicting the location of previously identified historic properties and areas of archaeological sensitivity within the FERC licensed boundaries. **(5/2004-10/2004).**

Hudson Valley Rod & Gun Club, Pawling, Dutchess County, NY. Excavator. Mitigation of a Middle and Late Archaic prehistoric site. **(7/1994)**

New Jersey Cellular Telecommunications, Innovative Engineering, Inc., Verizon Wireless Communications. Principal Investigator. Over 50 Section 106 compliance reports completed for proposed communications facilities throughout New Jersey. Surveys typically included cultural resource assessments, archaeological surveys of areas directly impacted by the proposed construction, evaluations of the proposed project's potential to adversely affect historic properties, and archaeological mitigation of identified archaeological sites. **(2001-2005).**

New Jersey Cellular Telecommunications-Sprint/Nextel Communications, IVI Environmental, Inc. Principal Investigator. Numerous Phase IA archaeological assessments and historic architectural resource assessments for proposed communications facilities throughout New Jersey. Surveys typically included cultural resource assessments, archaeological surveys of areas directly impacted by the proposed construction, evaluations of the proposed project's potential to adversely affect historic properties, and archaeological mitigation of identified archaeological sites. **(2001-2005).**

Zachary Davis RPA

Senior Archaeologist

Phase I Archaeological Investigation, Sweet Brook Drainage Area, JRC Construction Corporation for NYC DEP, Carlton Boulevard, Annadale, Staten Island, Richmond County, NY. Principal Investigator. Archaeological survey for sewage installation project along the Sweet Brook. **(3/2003-5/2003).**

Arbutus Avenue Sewer Project, JRC Construction Corporation, Staten Island, Richmond County, NY. Principal Investigator. Phase I archaeological survey for sewage installation project along the Arbutus Creek. **(5/2001-6/2001).**

Phase I Archaeological Investigation, JRC Construction Corporation, Stream Restoration and Related Work in the Sweet Brook Bluebelt, Annadale, Staten Island, Richmond County, NY. Project Manager. Archaeological investigations in advance of restoration and alteration of two sites along the Sweet Brook Bluebelt and its associated wetlands for construction of storm water drainage facilities. **(4/2007-6/2007).**

Le col de Jiboui, Haut-Diois (Drome), France. Excavator. Assisted with salvage excavations of an open-air Middle Palaeolithic site in the Vercors, located at an elevation of 5300 feet along the passage way between the northern and southern French Alps. **(5/1998).**

Long Island College Hospital, Brooklyn, Kings County, NY. Excavator. Monitoring heavy machine excavation of eighteenth-, nineteenth-, and twentieth-century historical archaeological deposits for the construction of a parking garage along Atlantic Avenue and the Brooklyn-Queens Expressway. **(10/1995).**

Cultural Resource Screening, Chatham Square/Park Row Improvement Project, Lower Manhattan Development Corporation (LMDC), Manhattan, NY. Project Manager. Coordinated a screening of existing cultural resource information for proposed roadway reconfiguration and pedestrian/open space improvements to the area surrounding One Police Plaza and the Chinatown neighborhood. The proposed project's APE was found to contain several previously recorded historic properties, thereby requiring coordination with the New York State OPRHP and New York City Landmarks Preservation Commission in advance of cultural resource assessment for compliance under SEQRA. **(3/2009-10/2009).**

Cultural Resource Constraints, Louise Nevelson Plaza Redesign, Lower Manhattan Development Corporation, William Street, Maiden Lane and Gold Street, Manhattan, NY. Principal Investigator. Preparation of cultural resource screening report to identify previously documented historic resources close to the proposed project and assessment of archaeological potential in the area of potential effect. Coordinated review of historical documentation with New York State OPRHP. **(4/2005-8/2005).**

Zachary Davis RPA

Senior Archaeologist

Archaeological Monitoring, Fortesque Creek Dredging Project, Mobile Dredging & Pumping Co., Downe Township, Cumberland County, NJ. Project Manager. Conducted archaeological monitoring for the dredging of sediments deposited in the Fortesque Creek as a result of the storm surge from Superstorm Sandy. Archaeologists monitored the deposition of the dredge material onto the Fortesque beach throughout the duration of the dredging project. As the dredge material was deposited on the beach, the sediment was spread across the beach bulldozer. Throughout the dredging project and re-deposition project, no sign of archaeological resources were observed either in the dredge material or when the bulldozer shifted the dredge material around the beach. **(11/2013-2/2014).**

Phase I Archaeological Investigation, National Park Service (NPS), Denver Service Center, Fire Island National Seashore, Sailor's Haven Boardwalk and Helipad, Fire Island, Suffolk County, NY. Project Manager. Phase I archeological investigation for the rebuild of the Sailor's Haven boardwalk and helipad in the Fire Island National Seashore (FIIS) destroyed by Superstorm Sandy's storm surge in October 2012. A total of 18 shovel tests were excavated in the project area and failed to identify any archeological artifacts or features. **(6/2013-9/2013).**

Archeological Overview and Assessment for the Edison National Historic Site (EDIS), NPS, Northeast Region, West Orange, Essex County, NJ. GIS Technician. Georeferenced historical maps covering the areas of Edison's Laboratory Unit, Edison's residence (Glenmont), and the facility's maintenance area to develop recommendations for areas of potential archaeological resources. Updated and extensively added to the NPS (Archaeological Sites Management Information System (ASMIS) data for the three units within the National Park. **(6/2007-11/2007, 3/2010-5/2012).**

Archeological Overview and Assessment for the Manhattan Sites, NPS, Northeast Region, Manhattan, NY. Project Manager. Archeological Overview and Assessment for six NPS sites in New York, including Castle Clinton National Monument, Federal Hall National Memorial, Theodore Roosevelt Birthplace National Historic Site, General Grant National Memorial, Hamilton Grange National Memorial and Saint Paul's Church National Historic Site. Supervised research project, coordinated GIS data file creation, prepared ASMIS data and drafted portions of the AOA. **(7/2012-7/2013).**

Cultural Resource Eligibility/Effects Documentation for Final Scope Development of Routes 1 and 9 at North Avenue, New Jersey Department of Transportation, City of Elizabeth, Union County, NJ. Principal Investigator. Identified and evaluated archaeological resources (Phase I/II) and historic architectural properties (eligibility/effect) in proposed project area for roadway improvements. Also conducted all background research and prepared archaeological report. **(8/2002-7/2003).**

Zachary Davis RPA

Senior Archaeologist

Cultural Resource Eligibility/Effects Investigations for the Proposed Tuckahoe Road (C.R. 557) Bridge Over Cape May Branch Rail Line Replacement, NJDOT, Atlantic County, NJ. Principal Investigator. Section 106 compliance activities for proposed replacement of the Tuckahoe Road Bridge. Involved subsurface archaeological investigation and historic architectural survey. Tuckahoe Road Bridge had previously been determined not eligible for inclusion in the NRHP, but Cape May Rail Line was determined potentially eligible as a historic district; investigation determined that the proposed bridge replacement would not have an adverse effect on the rail line. **(2/2004-8/2006).**

Interchange 142 (Garden State Parkway and I-78), New Jersey Highway Authority/New Jersey Turnpike Authority, Hillside, Irvington, and Union, Essex and Union Counties, NJ. Principal Investigator. Contributed to the Historic Architectural Evaluation with background research on and evaluation of the Elizabeth River Park, a NRHP-eligible park. Supervised Phase IB archaeological survey of proposed roadway improvements, monitored backhoe excavations and excavated shovel tests as needed in the project's APE. **(2/2001-5/2002).**

Cultural Resource Screening, Proposed Middle School Replacement, New Jersey School Construction Corporation, City of Irvington, Essex County, NJ. Principal Investigator. Cultural resource assessment as part of the EA process for proposed elementary school to be constructed in existing residential neighborhood. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(3/2004-8/2004).**

Phase I Cultural Resource Investigation, Trenton Daylight/Twilight High School Demonstration Project, New Jersey School Construction Corporation, Trenton, Mercer County, NJ. Principal Investigator. Cultural resource assessment as part of the E.O. 215 process for proposed high school in the Academy-Hanover Historic District. Conducted research, including historical map and document review, used GIS software to georeference historical maps to the proposed school's footprint, evaluated historic architectural resources of the surrounding area, assessed the proposed project's potential to affect the historic district or adjacent historic properties, and conducted field investigations. **J (8/2005-11/2006).**

Phase IA Cultural Resource Assessment, East Orange Demonstration Project, New Jersey School Construction Corporation, Pre-K to 12th Grade School for the Performing Arts, City of East Orange, Essex County, NJ. Principal Investigator. Cultural resource assessment of proposed school to be constructed at the location of the circa 1910 East Orange High School. Determined the project's potential to affect potential archaeological resources and used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. Coordinated the

determination of the East Orange High School's NRHP eligibility and the recordation of the school prior to demolition. As additional mitigation prepared school lesson focused on the history of East Orange and particularly East Orange High School. **(2/2004-10/2006).**

Phase IA Cultural Resource Assessment, Proposed Burnet-Warren Elementary School Replacement, New Jersey School Construction Corporation, City of Newark, Essex County, NJ. Principal Investigator. Cultural resource assessment as part of the E.O. 215 process for proposed elementary school to be constructed within the limits of the National Register-listed James Street Commons Historic District. Used GIS technology to georeference historical maps to project area; identified areas of archaeological potential for future investigations. **(3/2004-11/2004).**

Phase IA Cultural Resource Assessment, Proposed Grove Street Elementary School Replacement, New Jersey School Construction Corporation, City of Irvington, Essex County, NJ. Principal Investigator. Cultural resource assessment as part of the E.O. 215 process for elementary school to be constructed in existing residential neighborhood. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(2/2005-5/2005).**

Phase IA Cultural Resource Assessment, Proposed Oakwood Avenue Elementary School Addition, New Jersey School Construction Corporation, City of Orange, Essex County, NJ. Principal Investigator. Cultural resource assessment as part of the E.O. 215 process of an addition to the existing circa 1888 school. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(10/2004-4/2005).**

Phase IA Cultural Resource Assessment, Proposed Peshine Avenue School, Elementary School Replacement, New Jersey School Construction Corporation, City of Newark, Essex County, NJ. Principal Investigator. Cultural resource assessment of proposed school to be constructed at the location of the circa 1911 Peshine Avenue Elementary School. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(9/2004-5/2005).**

Cultural Resource Constraints Technical Memo, Dinky Right-of-Way Route 1 BRT Project, New Jersey Transit, Princeton Township, Princeton Borough, and West Windsor Township, Mercer County, NJ. Project Manager. Identification of potential cultural resource constraints within the Dinky right-of-way project area of the proposed Route 1 Bus Rapid Transit Project, between Princeton University and Princeton Junction. **(8/2006-6/2007).**

Cultural Resources Eligibility/Effects, Garden State Parkway, Interchange 10 Improvements, New Jersey Turnpike Authority, Cape May Court House,

Zachary Davis RPA

Senior Archaeologist

Cape May County, NJ. Project Manager. Cultural resource services associated with environmental compliance on three new interchanges on the National Register-eligible Garden State Parkway Historic District in Cape May County. Background research, archaeological fieldwork, identification of five previously unidentified archaeological sites (all eligible for listing in the NRHP), and survey of historic architectural resources within the view of the proposed project. Drafted archaeological mitigation plans for the identified archaeological sites and Memorandum of Agreement stipulating the steps needed to complete the project's environmental documentation. Assisted with the completion of the Section 4(f) document for cultural resources. Directed Phase III archaeological mitigation of four prehistoric sites within the project's construction zone. **(8/2004-5/2014).**

Phase I Cultural Resource Assessment, Garden State Parkway Interchange 125 Improvements, New Jersey Turnpike Authority, Sayreville Borough and City of South Amboy, Middlesex County, NJ. Project Manager. Supervised the preparation of Phase I cultural resource assessment for the proposed interchange improvements for compliance with Executive Order 215, including the creation of a southbound exit ramp and a northbound entrance ramp to Chevalier Avenue at mile-post 125. Project area contains two historic properties and the proposed project will create an adverse impact to the Garden State Parkway Historic District. Mitigation in the form of HABS-HAER documentation was completed to alleviate the project's adverse impact to historic properties. **(5/2010-8/2011).**

Phase I Cultural Resource Assessment, Garden State Parkway Widening, MP 35-38 and Interchange Improvements, New Jersey Turnpike Authority, Egg Harbor Township, Atlantic County, NJ. Project Manager. Supervised the preparation of Phase I cultural resource assessment for the widening and improvements to the Garden State Parkway from Mileposts 35 to 38. Cultural resource documentation completed for compliance with Executive Order 215. Archaeological testing of proposed ramp improvements did not identify any intact, significant archaeological resources. Historic architectural survey of the project area identified only the Garden State Parkway Historic District as National Register-eligible resources. Proposed project created an adverse effect to the GSP historic district, but the project's Programmatic Agreement for the entire widening project outlined the necessary mitigation. **(5/2012-4/2014).**

Phase IA Archaeological Assessment, Hudson Yards/Number 7 Subway Line Extension, New York City Department of City Planning and New York City Transit, Manhattan, NY. Principal Investigator. Assisted with analysis of archaeological resource potential for 39 lots on Manhattan's West Side and determined the potential effect of alternatives on cultural resources. Completed the alternatives analysis for cultural resources and prepared a construction protection plan for historic properties. **(5/2003-7/2005).**

Zachary Davis RPA

Senior Archaeologist

Phase IA Cultural Resource Assessment, Dutch Kills Rezoning, New York City Department of City Planning, Queens, NY. Project Manager. Proposed rezoning of 40-block area adjacent to the Sunnyside Yards and north of Queens Plaza and Long Island City. Coordinated the research for ownership and occupation history of five redevelopment parcels and georeferenced historical lot was determined to possess potential for intact archaeological deposits. Of the historic structures identified and evaluated, 10 individual properties and one historic district were recommended as eligible for listing in the State and National Registers. Three properties were also recommended as New York City Landmark-eligible. **(4/2007-5/2008).**

Phase IA Cultural Resource Assessment, Gowanus Canal Corridor Rezoning, New York City Department of City Planning, Brooklyn, Kings County, NY. Project Manager. Proposed rezoning of 24-block area along the Gowanus Canal. Georeferenced historical maps to overlay with modern maps for determining areas of archaeological potential. Coordinated the research for ownership and occupation history of 16 lots, with all lots determined to have potential to contain intact archaeological deposits associated with the residential occupation and/or the historic construction of the Gowanus Canal bulkhead, part of the NRHP-eligible Gowanus Canal Historic District. Of the properties identified and evaluated, 12 were recommended as eligible for listing in the State and National Registers. **(7/2008-5/2009).**

Phase IA Cultural Resource Assessment, Proposed Oak Point Detention Facility, New York City Department of Corrections, Block 2604, Lot 174, The Bronx, Bronx County, NY. Project Manager. Phase IA archaeological assessment of late nineteenth- to early twentieth-century rail yard, reviewed under CEQR. Research required investigating historical and cartographic sources, identification and analysis of past disturbances and/or prior settlement and land use, and assessment of the property's potential to contain historic and/or prehistoric archaeological resources. **(3/2006-10/2007).**

Phase IA Cultural Resource Assessment, Broadway Triangle Redevelopment Project, New York City Department of Housing Preservation and Development, Williamsburg, Brooklyn, Kings County, NY. Project Manager. Proposed rezoning of nine-block area. Coordinated research for ownership and occupation history of the area; georeferenced historical maps to identify areas of archaeological potential. Of the properties identified and evaluated, five were recommended as eligible for listing in the State and National Registers. **(5/2008-2/2009).**

Phase IA Cultural Resource Assessment, New Stapleton Waterfront Plan, New York City Economic Development Corporation, Staten Island, Richmond County, NY. Project Manager and Principal Investigator. Cultural resource assessment of mixed-use development and 12-acre park on the site of the former Navy Homeport. Georeferenced proposed project to extensive

historical mapping of the shoreline. Coordinated historical deed research on 11 development parcels and analyzed historical shoreline evolution, revealing five locations with potential to contain historic archaeological resources. Historic architectural survey identified one historic architectural resource that meets eligibility criteria. **(4/2004-6/2007).**

Stage IA Archaeological Assessment, Cross Harbor Freight Improvement Project, New York City Economic Development Corporation, Greenville Yards, Jersey City, Hudson County, NJ. Co-Principal Investigator. Phase IA archaeological assessment of the early twentieth-century Greenville Yards for proposed improvements, including construction of new track and support structures, rehabilitation of railcar float bridges, cut and cover tunnel construction, and mined tunnel construction. Research and analysis of past disturbances and potential for prehistoric and historic period resources. **(8/2001-12/2001).**

P.S. 234-Q, New York City School Construction Authority, Long Island City, Queens County, NY. Principal Investigator. Phase IB archaeological investigation for proposed school location with the potential to contain nineteenth-century backyard deposits associated with documented individuals prior to the installation of municipal services. Monitored heavy machine excavation of two trenches within the location of two nineteenth-century residential backyards. **(7/2001-10/2001).**

Phase IA Archaeological Assessment, New York City School Construction Authority, Hebrew Academy of Brooklyn/Yeshiva R'tzahd, 965 East 107th Street, Block 8215, Lots 12 and 21, Brooklyn, Kings County, NY. Principal Investigator. Archaeological resource assessment of proposed school location. Used GIS technology to georeference historical maps to trace project area's potential for historic archaeological resources; project is located close to prehistoric archaeological site identified in the early 1900s. **(3/2004-2/2006).**

Phase IA Archaeological Assessment, Jamaica Avenue School, New York City School Construction Authority, Block 4102, Lots 19, 27, 33, 35 and 36, Cypress Hills, Brooklyn, Kings County, NY. Principal Investigator. Archaeological resource assessment of proposed school location. Used GIS technology to georeference historical maps to identify potential for historic backyard archaeological deposits in portions of the project area. **(2/2005-6/2005).**

Phase IA Cultural Resource Assessment, Proposed Eagle Academy for Young Men, New York City School Construction Authority, East 176th Street, Block 2923, Lots 17, 23, and 26, Bronx, NY. Project Manager. Phase IA archaeological assessment for proposed school building. Project involved historical and cartographic research, identifying and analyzing past disturbances and/or prior settlement and land use, and determining that the project has the potential to affect previously unknown archaeological resources from the late

nineteenth through twentieth centuries. **(5/2006-10/2006).**

Phase IA Cultural Resource Assessment, Proposed New Primary/Intermediate School at PS/IS 48, New York City School Construction Authority, William Wordsworth School, Queens County, NY. Project Manager. Coordinated cultural resource assessment of new primary/intermediary school adjacent to historic school building. Areas of archaeological potential were identified by comparing historic mapping of the project area with known areas of prior disturbance from previous construction. **(5/2007-3/2008).**

Phase IB Archaeological Survey, Eagle Academy for Young Men, New York City School Construction Authority, Block 2923, Lots 17, 23, and 26, The Bronx, Bronx County, NY. Project Manager. Archaeological field testing at proposed school location. Excavations identified, evaluated, and mitigated a buried late nineteenth- to early twentieth-century trash scatter and bottle dump feature. **(10/2006-3/2007).**

Phase IB Archaeological Survey, Jamaica Avenue School, New York City School Construction Authority, Block 4102, Lots 19, 27, 33, 35 and 36, Cypress Hills, Brooklyn, Kings County, NY. Project Manager. Archaeological trenching at proposed school location. Excavations identified, evaluated, and mitigated extensive backyard deposits dating to the late nineteenth through early twentieth centuries, resulting in the designation of the Jamaica Avenue School Site. **(4/2006-11/2006).**

PS 56R Site, New York City School Construction Authority, Staten Island, Richmond County, NY. Archaeological Lab Director. Analysis, curation, and data entry for cultural material derived from the Phase III mitigation of a primarily Late Archaic prehistoric site covering over 150 square meters. **(11/1995-7/1996).**

Cultural Resource Assessment, E. 68th St./Hunter College Subway Station Improvement Project, New York City Transit, Manhattan, NY. Archaeologist. Completed cultural resource assessment for the proposed ADA improvements to the Lexington Avenue subway line. Assessment included compiling an inventory of known historic properties within the project area and vicinity, performing field investigation of current conditions of known historic properties, conducting historic architectural survey of historic properties 50 years in age or greater and assessing the project's potential to adversely affect historic properties. Project identified the Imperial House Apartments as National Register-eligible. **(4/2012-12/2012).**

Cultural Resource Services, New York City Transit, Second Avenue Subway, Phase 1, Manhattan, NY. Project Manager. Provided oversight and coordination of cultural resource compliance for final design and construction of

Phase 1 of the subway, from East 63rd to East 99th streets. Responsible for drafting the archaeological field testing plans, archaeological monitoring, and implementing archaeological fieldwork before and during construction. Coordinated historic architectural resource evaluations of properties adjacent to the proposed ancillary structures associated with the new station. Reviewed design plans for potential adverse effects on historic properties. Provided comments to structural remediation plans for historic properties. Coordinated review of project documents with New York State Office of Parks, Recreation and Historic Preservation and New York City Landmarks Preservation Commission. **(12/2006-5/2014).**

Phase IA Archaeological Assessment, New York City Transit, East 126th Street Bus Garage, Manhattan, NY. Principal Investigator. Responsible for the archaeological and architectural site file review at New York City Landmarks Commission, background research, and archaeological assessment for half-block project area. **(10/2002-3/2003).**

Phase IA Archaeological Assessment, New York City Transit, New South Ferry Terminal, Manhattan, NY. Project Manager. Responsible for the archaeological resource assessment of proposed subway terminal project in Battery Park. Extensive cartographic research on historical evolution of the Lower Manhattan shoreline, used GIS technology to georeference numerous historical maps to trace potential historic archaeological resources in the project area, drafted portions of the Memorandum of Agreement and all of the Archaeological Resource Management Plan to be enacted during construction, coordinated review with New York City Landmarks Commission and New York State OPRHP. **(2/2002-8/2005).**

Phase IA Archaeological Assessment, Proposed Fan Plant Rehabilitation, New York City Transit, 52nd Street and Sixth Avenue, Manhattan, NY. Principal Investigator. Archaeological resource assessment of proposed fan plant rehabilitation. Employed GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(5/2003-8/2003).**

Phase IA Archaeological Assessment, Proposed Fan Plant Rehabilitation, New York City Transit, Lafayette and Flatbush Avenues, Brooklyn, Kings County, NY. Principal Investigator. Archaeological resource assessment of a proposed fan plant rehabilitation in Fort Green. Employed GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(5/2003-9/2003).**

Phase IA Archaeological Assessment, Proposed Fulton Street Transit Center, New York City Transit, Fulton Street and Broadway, Manhattan, NY. Principal Investigator. Supervised and conducted archaeological resource assessment of proposed transit facility. Reviewed historical maps and documents

and summarized past disturbances to the project area to calculate the project area's potential for archaeological resources. Drafted portions of the project's Programmatic Agreement. **(1/2003-9/2004).**

Phase IA Archaeological Assessment, Proposed Vent Plant Installation, New York City Transit, Chrystie and Stanton Streets, Manhattan, NY. Principal Investigator. Archaeological resource assessment of proposed vent plant on Manhattan's Lower East Side in an area surrounded by several historic cemeteries. Employed GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(2/2003-5/2003).**

Phase IA Archaeological Assessment, Proposed Vent Plant Installation, New York City Transit, West 21st Street and Sixth Avenue, Manhattan, NY. Principal Investigator. Archaeological resource assessment of proposed vent plant installation in Chelsea adjacent to the Third Shearith Israel cemetery on 21st Street. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area. **(3/2004-7/2004).**

Phase IA Archaeological Assessment, Proposed Vent Plants, New York City Transit, West 53rd and 55th Streets and Eighth Avenue, Manhattan, NY. Project Manager. Archaeological resource assessment of two proposed vent plant installations in midtown Manhattan. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area and used historical elevation survey data to determine extent of disturbance from construction of Eighth Avenue in the early nineteenth century. **(3/2008-6/2008).**

Phase IA Archaeological Assessment, Proposed Ventilation Fan Plant Rehabilitation, New York City Transit, West 30th Street and Sixth Avenue, Manhattan, NY. Project Manager. Archaeological resource assessment of proposed vent plant rehabilitation project servicing four NYCT subway lines. Evaluated proposed project's potential to adversely affect previously undisturbed archaeological deposits, including investigation with GIS technology using historical and present-day maps of the subway line and utilities to trace potential historic archaeological resources in the project area. **(9/2004-2/2005).**

Phase IA Archaeological Assessment, New York City Transit, Rockaway Boulevard Site, Rockaway Boulevard and Nassau Expressway, Block 14260, Lot 1, Jamaica, Queens County, NY. Principal Investigator. Coordinated archaeological resource assessment of proposed bus parking facility adjacent to JFK International Airport. Used GIS technology to georeference historical maps to trace potential historic archaeological resources in the project area; determined that the project area had potential to contain previously undocumented prehistoric archaeological resources. **(7/2005-9/2005).**

Zachary Davis RPA

Senior Archaeologist

Phase IB Archaeological Survey, Proposed Vent Plant Installation, New York City Transit, Chrystie and Stanton Streets, Manhattan, NY. Principal Investigator. Supervised archaeological survey (backhoe trench) to assess the presence or absence of late nineteenth- and early twentieth-century front yard archaeological resources. **(6/2003-10/2003).**

Phase IB Archaeological Survey, New York City Transit, Rockaway Boulevard Site, Rockaway Boulevard and Nassau Expressway, Block 14260, Lot 1, Jamaica, Queens County, NY. Principal Investigator. Coordinated archaeological survey of proposed bus parking facility adjacent to JFK International Airport. **(3/2006-5/2006).**

Replacement/ Rehabilitation of the Kosciuszko Bridge, New York State Department of Transportation (NYSDOT), Brooklyn-Queens Expressway (I-278), Queens and Kings Counties, NY. Project Manager. Provided archaeological consultation services, including the review of previously completed cultural resource documentation, assisted with the preparation of the scope of work for the Phase IB archaeological field testing, and reviewed the archaeological work plan. Conducted as part of an environmental impact statement, enabling the client to meet its requirements under Section 106 of the National Historic Preservation Act and Section 4(f) of the National Transportation Act. **(5/2006-9/2006).**

Contextual Study, NYSDOT, 153rd Street Pedestrian Bridge Access at Fort Washington Park, Manhattan, NY. Principal Investigator. Completed archaeological resource assessment in addition to assisting with completion of the required environmental documentation for new pedestrian bridge providing access from Riverside Drive and 151st Street to Fort Washington Park, crossing rail lines and the Henry Hudson Parkway (Route 9A). Completed contextual study of the project area, including an inventory of all historic properties listed in and eligible for listing in the state and national registers. **(5/2003-8/2006, 3/2014-5/2014).**

Cultural Resource Screening Report, NYSDOT, FDR Southbound Improvements between 125th Street and 116th Streets, Manhattan, NY. Prepared a cultural resource screening study for the proposed project area, which involved reviewing known historic properties on file with the New York State Office of Parks, Recreation and Historic Preservation and the New York City Landmarks Preservation Commission. Proposed project entailed roadway widening and improvements to the FDR between 125th and 116th streets in Manhattan. The project also includes the reconstruction of the existing pedestrian bridge at 121st Street with a new bridge crossing. **(8/2005-2/2006).**

Cultural Resource Constraints Assessment, North Jersey Transportation Planning Authority, Route 17, Bergen County, NJ. Principal Investigator. Conducted background research on archaeological and historic architectural

resources in the project corridor; prepared GIS files for cultural resources and summary cultural resource assessment of the corridor. **(6/2003-7/2003).**

Cultural Resource Constraints Assessment, North Jersey Transportation Planning Authority, Route 22, Essex and Union Counties, NJ. Principal Investigator. Conducted background research on archaeological and historic architectural resources in the project corridor; prepared GIS files for cultural resources and a summary cultural resource assessment of the corridor. **(6/2003-7/2003).**

Cultural Resource Constraints Assessment, North Jersey Transportation Planning Authority, Route 57, Warren County, NJ. Principal Investigator. Conducted background research on archaeological and historic architectural resources in the project corridor; prepared GIS files for cultural resources and a summary cultural resource assessment of the corridor. **(8/2003-11/2003).**

Phase IA/IB Archaeological Investigation, Southern Water Pollution Control Facility Expansion Project, Ocean County Utilities Authority, Stafford Township, Ocean County, NJ. Project Manager. Archaeological assessment and subsurface survey conducted for compliance with the environmental approvals required for loan application submitted to the New Jersey Department of Environmental Protection Environmental Infrastructure Trust. Historical and contextual background research, archaeological site file and historic property searches at the New Jersey State Museum and the New Jersey Historic Preservation Office, pedestrian reconnaissance, and a subsurface survey. **(5/2007-6/2007).**

Archaeological Documentation, Port Authority of New York and New Jersey (PANYNJ), Hudson River Bulkhead, World Trade Center PATH Terminal, Manhattan, NY. Project Manager. Documentation of c.1893 Hudson River Bulkhead located underneath the West Side Highway and within the footprint of the proposed underground pedestrian connector between the new WTC PATH station and the World Financial Center. Monitored construction activities and documented the extent, nature, and design of the Hudson River Bulkhead in the project area. **(5/2007-1/2013).**

Cultural Resource Screening, PANYNJ, PATH to Newark Airport, Preliminary Design, Newark, NJ. Principal Investigator. Completed the cultural resource screening document to identify previously documented historic properties in the corridor between Newark Penn Station and Newark Liberty International Airport. **(2/2003-8/2003).**

Phase IA Cultural Resource Assessment, PANYNJ, Newark Liberty International Airport, Redevelopment and Modernization of Terminal A, Elizabeth, Union County and Newark, Essex County, NJ. Project Manager. Cultural resource assessment of proposed improvements to Terminal A at

Newark Liberty International Airport, including determination of archaeological resource potential and historic architectural resources within view of the project's area of potential effect. **(5/2008-8/2008).**

Phase IB Archaeological Survey, PANYNJ, World Trade Center PATH Terminal, Manhattan, NY. Project Manager. Coordinated and supervised archaeological investigations in advance of construction of the new WTC PATH Terminal, including drafting the archaeological field plans. Supervised the excavation of 170-foot-long trench to 15 feet below the surface, following OSHA safety regulations. Identified intact backyard archaeological deposits associated with historical residences on Vesey Street; site was determined eligible for the NRHP, and the late eighteenth- to early nineteenth-century archaeological deposits were mitigated. **(4/2005-12/2006).**

Phase IA Cultural Resources Survey for the Proposed Southport Development Project, Pennsylvania Department of General Services and Weston Solutions, Inc., City of Philadelphia, Philadelphia County, PA. Project Manager. Coordinated the preparation of a cultural resource survey in advance of the development of an approximately 116 acre marine container terminal located to the east of the former U.S. Naval Station on League Island and south of the Walt Whitman Bridge. The proposed project was found to have no potential to affect historic properties in the project area. **(3/2010-8/2010).**

Phase IA Cultural Resources Survey for the Proposed Wetland Mitigation Associated with the Proposed Southport Development Project, Pennsylvania Department of General Services and Weston Solutions, Inc., Bucks County, PA. Project Manager. Coordinated the preparation of a cultural resource survey in advance of the creation of new wetlands in four discontinuous parcels Bensalem and Bristol townships, associated with the Southport Development Project in Philadelphia. One parcel was considered to have a high potential to contain prehistoric archaeological deposits and was recommended for subsurface archaeological survey. **(8/2010-11/2010).**

Phase I Archaeological Survey, Pennsylvania Department of Transportation Engineering District 4-0, Luzerne County Road No. 9, Jackson, Lehman, and Dallas Townships, Luzerne County, PA. Principal Investigator. Documented the results of previously conducted roadway survey, designed to assess the project's potential impact on late historic period archaeological deposits. **(8/2001-7/2002).**

Emmaus Tap 69 kv Transmission Line Rebuild, PPL Electric, Upper Milford and Emmaus Townships, Lehigh County, PA. Historic Property Research. Conducted review of previously documented archaeological and historic architectural resources on file with the Pennsylvania Historical and Museum Commission for inclusion in initial screening level study of existing environmental conditions present within the proposed transmission line corridor

project area. **(5/2013).**

Clayton Cell Tower, Rescom Environmental Corporation, Clayton, Gloucester County, NJ. Principal Investigator. Phase IB archaeological assessment of proposed AT&T cell tower installation in Gloucester County. **(10/2001).**

Peach County Cell Tower, Rescom Environmental Corporation, Mantua, Gloucester County, NJ. Principal Investigator. Phase IB archaeological assessment of proposed AT&T cell tower installation in Gloucester County. **(10/2001).**

U.P.N. Pallet Co. Cell Tower, Rescom Environmental Corporation, Penns Grove, Salem County, NJ. Principal Investigator. Phase IB archaeological assessment of proposed AT&T cell tower installation in Salem County. **(10/2001).**

Robin's Island, Southold, Suffolk County, NY. Field Supervisor and Lithic Analyst. Survey of 450-acre island located in the Peconic Bay, revealing several prehistoric and historic sites. **(10/1994-3/1995).**

Russian Mission, The Bronx, Bronx County, New York. Lithic Analyst. Cultural resource survey of a Late Archaic/Woodland quartz quarry site situated on the grounds of the Russian Mission. Quartz raw materials were quarried directly from exposed veins running through outcropped Fordham Gneiss formations. **(5/1995).**

Archaeological Monitoring, Silk Mills Ventures, LLC and the City of Paterson Historic Preservation Commission, Condominiums at Cooke Mill, Market and Jersey Streets, Block H0850, Lot 21, City of Paterson, Passaic County, NJ. Principal Investigator. Archaeological monitoring at the former location of the Cooke Locomotive and Machine Works, which manufactured locomotives from 1852 until 1926. Identified previously unknown raceways running underneath the historical location of the mill. **(5/2005-9/2005).**

Phase I Cultural Resource Investigation, Atlantic City Airport/Federal Aviation Administration Technical Center Intersection Improvements. South Jersey Transportation Authority and Federal Aviation Administration, Egg Harbor Township, Atlantic County, NJ. Project Manager. Supervised the preparation of a cultural resource investigation for the proposed improvements to the intersection leading to the Atlantic City International Airport from the main access road and directing public traffic away from the Federal Aviation Administration Technical Center. Field investigations identified no significant historic architectural resources and no archaeological deposits in the proposed project area. **(10/2010-5/2011).**

South Jersey Transportation Authority and Federal Aviation

Zachary Davis RPA

Senior Archaeologist

Administration, Phase I Cultural Resource Investigation, Atlantic City Expressway Direct Connector Road, Egg Harbor Township, Atlantic County, NJ. Project Manager. Supervised the preparation of a cultural resource investigation for the proposed direct connection between the Atlantic City Expressway and the Atlantic City International Airport access road. Field investigations identified no significant historic architectural resources and no archaeological deposits in the proposed project area. **(10/2010-5/2011).**

Cultural Resource Constraints Assessment, South Jersey Transportation Planning Organization, Route 9 and Garden State Parkway, Cape May County, NJ. Principal Investigator. Conducted background research on archaeological and historic architectural resources in the project corridor. Prepared GIS files for cultural resources and summary cultural resource assessment of the project corridor. **(6/2003-7/2003).**

Homer City - Handsome Lake 345 kv Loop Transmission Line Project, TrAILCo, a FirstEnergy Company, Washington Township, Armstrong County, PA. Principal Investigator. Conducted the archaeological field survey for a proposed 1.6-mile long transmission line in western Pennsylvania. Field work identified two non-significant archaeological sites within the footprint of the proposed line. **(10/2013-2/2014).**

Triborough Bridge Rehabilitation Project, Triborough Bridge and Tunnel Authority/Metropolitan Transportation Authority, Randall's and Ward's Islands, Manhattan, NY. Principal Investigator. Coordinated the review of historical documents for proposed off-ramp from the Triborough Bridge to Randall's Island in an area with a strong possibility for human burials from the Manhattan Psychiatric Center. Conducted archaeological monitoring of geotechnical borings in the area of concern for the historical cemetery, including observation of soil stratigraphy, inspection for human remains, and recordation of archaeological materials. No human remains were identified during the testing; however, specifications related to archaeological issues and the potential for human remains were drafted and incorporated into the bid documents for the construction contracts. **(8/2003-9/2004).**

Archaeological Monitoring of Sign-Post Installation, Trinity Wall Street, Trinity Church and St. Paul's Chapel Cemeteries, Manhattan, NY. Project Manager. Directed the archaeological monitoring and evaluation of identified archaeological deposits recovered during the installation of six sign-posts within the limits of the early eighteenth-century cemeteries at Trinity Church and St. Paul's Chapel in lower Manhattan. No evidence of human remains were encountered during the monitoring project, but two locations of intact archaeological deposits were identified that predated the cemeteries, including a late seventeenth-century deposit at the corner of Rector Street and Broadway that predates 1698 construction of the first Trinity Church. **(10/2009-12/2009).**

Zachary Davis RPA

Senior Archaeologist

Phase IA Cultural Resource Assessment, U.S. Army Directorate of Public Works, Fort Dix Buildings, Fort Dix Army Base, Manchester Township, Ocean County, NJ. Project Manager. Coordinated the assessment of the proposed project's potential to encounter archaeological resources in the 1.4-acre parcel for new military housing facilities. **(6/2008-7/2008).**

Update of Integrated Cultural Resource Management Plan (ICRMP) for Fort Dix Army Base, U.S. Army Directorate of Public Works, Manchester Township, Ocean County, NJ. Project Manager. Updating of the base ICRMP. Entailed manually converting over 500 pages of text from a scanned image to an editable document format, including verifying text conversion for entire document. Updated the content of the ICRMP to include historic resource information identified in the five prior years, including recently documented archaeological sites and recently completed cultural resource surveys. **(7/2008-11/2009).**

Phase I/II Cultural Resource Assessment, Armed Forces Reserve Center and Implementation of Base Realignment and Closure (BRAC) 05 Realignment Actions, U.S. Army, 99th Regional Support Command, Preferred Site, Alternative 2 Site and Lakeland #2 Site. Gloucester and Winslow Townships, Camden County, NJ. Project Manager. Cultural resource investigations associated with new construction of military housing. Project involved completing background and archival research, architectural survey, pedestrian reconnaissance, and systematic subsurface archaeological survey in the proposed areas of potential effect, yielding three previously unidentified archaeological sites, with two sites determined eligible for listing in the NRHP. Responsible for the preparation of cultural resource sections of the environmental assessment. **(9/2008-7/2009).**

Cultural Resource Services, Goethals Bridge Replacement Project, U.S. Coast Guard and the Port Authority of New York and New Jersey (PANYNJ), Elizabeth, Union County, NJ, and Staten Island, Richmond County, NY. Project Manager. Section 106 and NEPA compliance involving archaeological survey and evaluation of National Register eligibility of and potential impacts for historic architectural resources adjacent to bridge. **(5/2004-9/2006).**

Umm el Tlel, Syria. Excavator. Long-term excavations of an open-air site containing archaeological deposits from the terminal Lower Palaeolithic, through the Middle, Upper, and Epi-Palaeolithic, to the Neolithic. Excavations focused on lacustrine deposits containing abundant faunal remains associated with an approximately 70,000 year old Mousterian lithic assemblage. **(8/1998-9/1998).**

United States Department of State, Overseas Buildings Operations, New Embassy Compound, Baghdad, Iraq. Research Assistant. Cultural resource investigations associated with construction of new embassy compound. Securing

historical maps of Baghdad, georeferencing historical maps to modern mapping, and drafting portions of the report's historic background section. **(8/2005-4/2005)**

Phase I Cultural Resource Survey, Bronx River Reservation Pathway from Crane Road Bridge to Greenacres Avenue, Westchester County Department of Public Works, Scarsdale, Westchester County, NY. Project Manager. Responsible for the preparation of a cultural resource assessment for proposed 1.5 mile-long pedestrian walkway paralleling the Bronx River Parkway and within the National Register listed Bronx River Reservation. Preparation of the report included completing a contextual background report focused on the historic landscape of the Bronx River Reservation, archaeological field survey of the proposed pedestrian pathway and a historic architectural survey of the project area. Archaeological fieldwork identified a small prehistoric archaeological site while no historic architectural resources were identified in addition to the Bronx River Reservation. **(10/2010-5/2014).**

Phase IA Cultural Resources Survey for the Proposed Reading 42-Inch Force Main Replacement, Weston Solutions, Inc. and Hill International, City of Reading, Berks County, PA. Project Manager. Coordinated the preparation of a cultural resource survey to assess the potential for previously undocumented archaeological resources to exist within the Project Area extending from the Canal Street Pump Station to the wastewater treatment plant on Fritz Island and to record the presence of historic architectural resources listed in or eligible for listing in the NRHP and/or the Pennsylvania Register of Historic Places (PARHP). The project was determined to have no effect on historic properties. **(5/2010-9/2010).**

Phase I Cultural Resource Survey for Proposed Sentinel Williams/TRANSCO Pipeline Expansion Project: Mountain View and Turnpike Loops, Williams/Transco, Houston, Texas, Somerset and Union Counties, NJ. GIS Technician. Compiled GIS data from client for use during archaeological field surveys, drafted report graphics, and prepared GIS data files with locations of historic properties in the project's APE. **(8/2006-2/2008).**

PC/Institute for Advanced Study, Faculty Housing Project, Wolff and Samson, Princeton, Mercer County, NJ. GIS Analyst. Georeferenced historic maps of the Battle of Princeton and the surrounding area to overlay the proposed housing development area upon inferred locations of troop movements during the 1777 Revolutionary War skirmish. Additionally, using 3-dimensional GIS software, performed viewshed analysis to determine areas viewable from the top of Cochran's Hill where the British soldiers could have detected American troop movements on the battlefield. **(8/2006-4/2012).**