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Prepared for:

New York City
Department of
Environmental
Protection
Bureau of
Engineering
Design and
Construction

**Phase IB Archaeological Survey
Contract QBT-ES-DES, Contract C547SP:
Shaft 17B Site**

Sunnyside, Queens, New York

**THIS REPORT CONTAINS CONFIDENTIAL INFORMATION
NOT FOR PUBLIC DISTRIBUTION**

Prepared by:

AECOM

Burlington, New Jersey

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Abstract

AECOM conducted a Phase IB archaeological monitoring survey for the site-preparation activities associated with the proposed Shaft 17B Site in Sunnyside, Queens, New York. The New York City Department of Environmental Protection (NYCDEP) Bureau of Engineering Design and Construction (BEDC) is engaged in the facility planning and site-preparation portion of the construction of Shaft 17B for the planned Queens-Brooklyn Tunnel portion of City Tunnel No. 3, Stage 2. Archaeological fieldwork for the project was conducted between February 26 and March 26, 2020. The primary objective of the Phase IB archaeological survey was to identify the presence or absence of buried archaeological resources within the project's 63,950-square-foot area of potential effects (APE) that may prove to be potentially eligible for listing on the National Register of Historic Places. The survey was completed to comply with Section 106 of the National Historic Preservation Act of 1966, as amended.

URS (now AECOM) conducted initial background research in February 2004 as part of a Phase IA archaeological assessment (Wuebber and Morin 2004); this research revealed that no previously identified archaeological sites were located within the APE. However, research did indicate that the APE was once part of the mid-eighteenth-century Bragaw/Gosman farm and that during the British occupation of New York (1776–1783), troops were garrisoned in the Sunnyside area. The Phase IA report concluded that there was a high-to-moderate potential for a variety of features associated with the British occupation of the area. The Phase IA report included a recommendation that a Phase IB survey should be conducted for portions of the APE that had seen little to no subsequent development or subsurface disturbance. No prior subsurface archaeological testing had been conducted within the APE. Most of the APE has been impacted by twentieth-century development, including the construction of a warehouse building and block shed as part of the lighting and signal yard facility operated by the New York City Department of Transportation (NYCDOT), paved surfaces, underground utility installation, storage containers, fencing, and spare parts/materials piles.

Soil borings were completed in December 2019 in conjunction with site-preparation activities. Examination of the soil-boring logs revealed the presence of deep fill deposits within portions of the APE. No evidence of former ground surfaces that might possess historic or precontact resources were identified.

Archaeologists monitored the stripping of areas for two new entryways, the excavation of postholes for a new construction barrier fence, the removal of the warehouse building's slab foundation and associated subsurface support pillars, and examined the area surrounding the block shed post demolition. AECOM archaeologists supervised the mechanical excavation of two exploratory trenches (EX1 and EX2) and excavated one shovel test pit (STP) beneath the

footprint of the warehouse building following slab removal. Disturbed fill deposits were observed during the stripping for entryways, the excavation of postholes, and around the foundation of the block shed. Disturbed fill deposits were also observed to a depth of at least 5 feet below ground surface (bgs) within the warehouse footprint; no intact natural soils were impacted during site-preparation activities. No historic or precontact artifacts, features, or partial features were encountered.

No additional archaeological investigations are recommended for the site-preparation portion of the construction of the Shaft 17B Site.

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Introduction

This report presents the results of a Phase IB archaeological survey in support of the site-preparation work for the proposed Shaft 17B Site Complex in Sunnyside, Queens, New York. AECOM performed the Phase IB archaeological fieldwork on four dates: February 26, March 20, 25, and 26, 2020.

The Phase IB archaeological survey involved review of the Phase IA background research, assessment of archaeological sensitivity, and field investigations. The primary objective of the Phase IB survey was to ground truth areas through subsurface testing that were identified as having archaeological potential in the Phase IA assessment of the archaeological APE (Wuebber and Morin 2004) and determine if potentially significant archaeological resources were present within the APE.

AECOM conducted all tasks for this project in accordance with: 1) *Guidelines for Archaeological Work in New York City*, established by the New York City Landmarks Preservation Commission (LPC, see Sutphin et al. 2018); 2) the New York Archaeological Council's *Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State* (NYAC 1994), adopted by SHPO; and 3) Section 106 of the National Historic Preservation Act of 1966, as amended. This Phase IB archaeological report follows the procedures outlined in the LPC 2018 and NYAC 2004 guidelines, as well as the Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation* (48 FR 44734-37). The Principal Investigators for the project meet and exceed the Secretary of Interior's *Professional Qualifications Standards* (36 CFR 61) for archaeology (Appendix A).

Nancy A. Stehling, RPA, and Edward M. Morin, RPA, served as Co-Principal Investigators for this project, consulted with the LPC, and prepared the June 2019 Phase IB scope of work. Edward M. Morin and Ingrid Wuebber conducted the previous Phase IA background research. Joseph Kwiatek and Kristopher Montgomery shared the role of Archaeological Monitor. Joseph Kwiatek was the principal author of this report, with assistance from Nancy Stehling, Edward Morin, Ingrid Wuebber, and Elisabeth Lavigne. Nina Shinn produced the graphics. Paul Elwork edited the report for style and consistency.

PROJECT HISTORY

Facility planning for the site-preparation portion of the construction of two new shafts along City Tunnel No. 3 has been authorized by the New York City Department of Environmental Protection (NYCDEP) Bureau of Engineering Design and Construction (BEDC) under Contract

QBT-ES-DES: Engineering Services and Design Services during Construction (DSDC) for the Queens-Brooklyn Tunnel (QBT) portion of City Tunnel No. 3, Stage 2. The QBT Project includes site-preparation work at two sites: the Shaft 17B Site in Sunnyside, Queens (Contract C547SP), and the Shaft 18B Site in Maspeth, Queens (Contract C548SP). This report is for the Shaft 17B Site only.

PROJECT DESCRIPTION

The proposed project area is located on 37th Avenue, Tax Lot 28, Block 143 (Figures 1.1 and 1.2). The property is bounded to the east by 48th Street, to the south by 37th Avenue, and to the north and west by other portions of Block 143. Therefore, the APE for the site-preparation work is defined as the entire 63,950-square-foot Tax Lot 28, Block 143.

The site is located just east of a Korean Presbyterian Church and east of the Sunnyside Yard railroad facility. Amtrak tracks run parallel to 37th Avenue, directly across the street south of the site. The New York City Department of Transportation (DOT) previously occupied the site and operated a lighting and signal yard from the location. The site is now occupied by NYCDEP. Currently two entrances to the site are in use, both located at the north side of 37th Avenue; one is directly adjacent to the bordering church and the other is west of the warehouse building footprint. A 10-foot-high perimeter fence encloses the site (a portion of the fence is a 6-foot-high chain-link fence atop a short concrete retaining wall). There are six gates located along the south side of the site adjacent to 37th Avenue, which could allow access through the retaining wall (some gates and driveways are overgrown with vegetation and thus have not been used in years).

The following is a site description prior to the commencement of site-preparation activities. NYCDEP trailer, metal storage containers, the block shed, and the warehouse building are located throughout the site. The NYCDEP trailer is located directly at the main entrance gate at the west end of the site (Photograph 1.1), and two metal storage containers (one in use as a NYCDEP/contractor office trailer) are located along the southern border of the site, approximately equidistant between the two in-use entrances (Photograph 1.2). A small concrete block shed, presumed to have been used for flammable material storage, is located on the northern edge of the site, north of the warehouse building (Photograph 1.3). In addition to the trailer and storage containers, there is a one-story warehouse building on the site, which served as a storage facility for DOT lighting and signal equipment (Photograph 1.4). The rectangular warehouse building measures about 180 feet (E-W direction) by 80 feet (N-S direction).

The utilities currently on site consist of electric, potable water, storm drain, sanitary sewer, and telephone lines. The electric, water, and sewer lines will be connected to new office trailer that will be installed as part of this project. The storm drain piping will remain in service during the site-preparation contract.

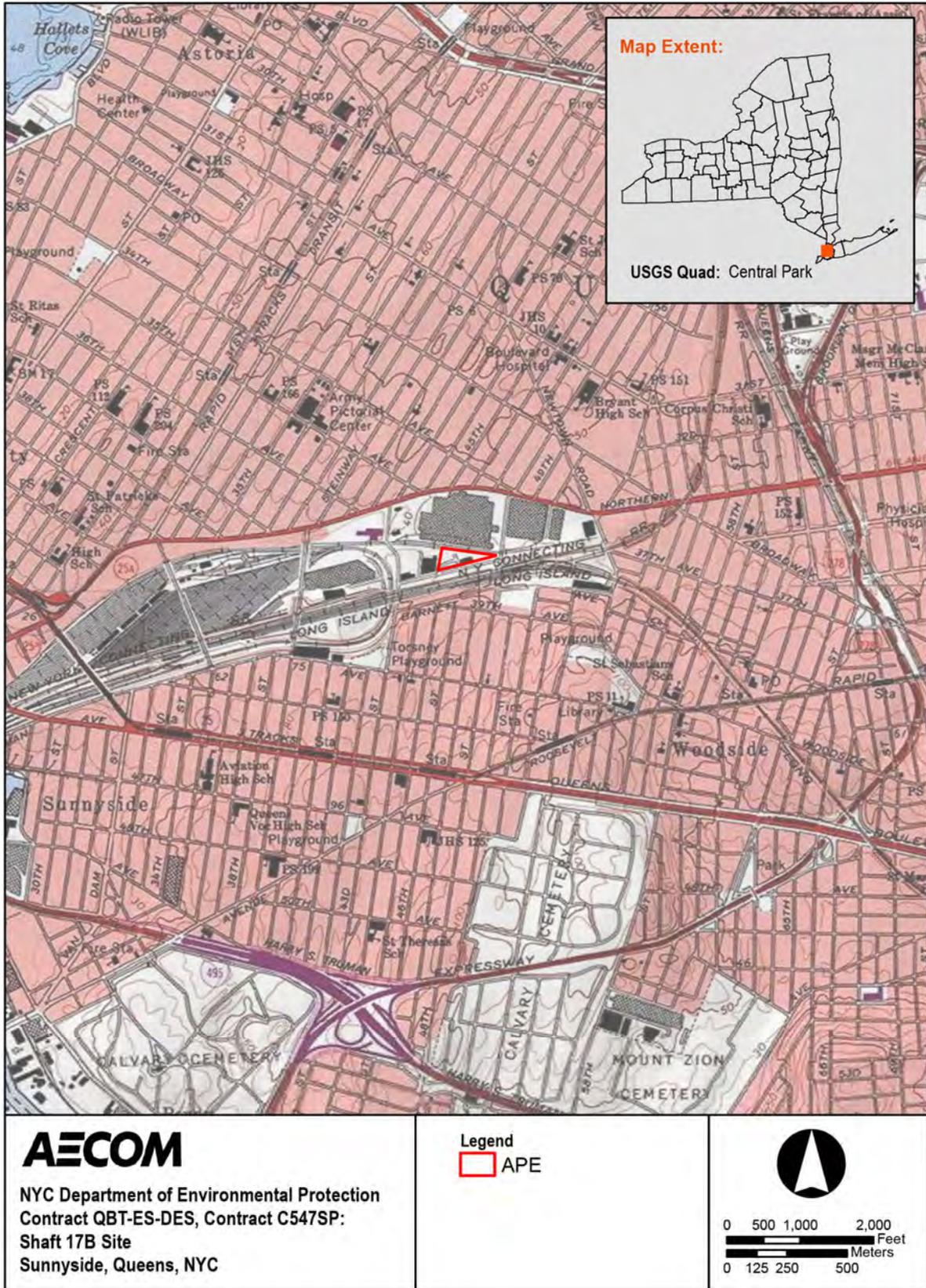


Figure 1.1 USGS map showing the area of potential effects.

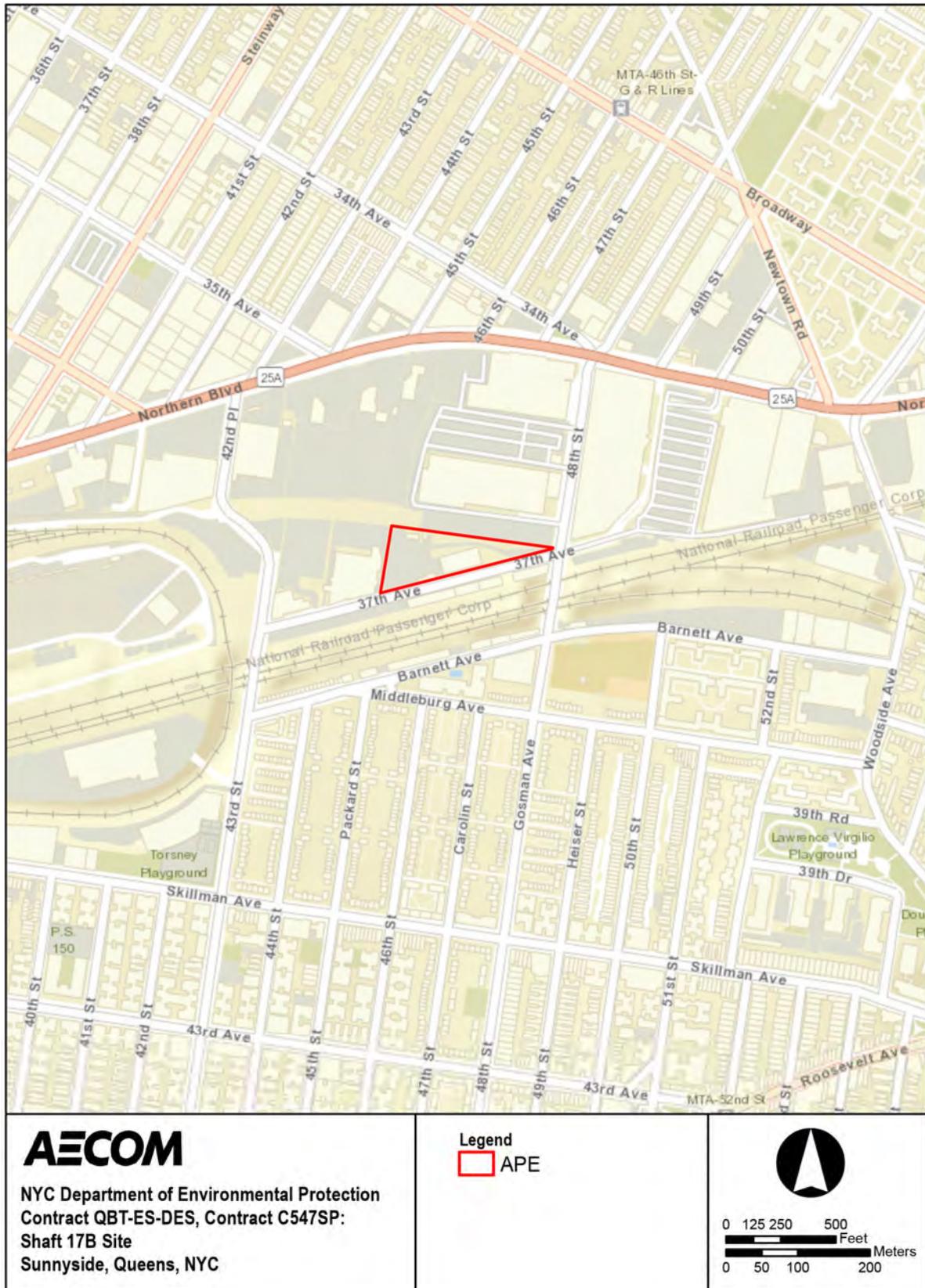
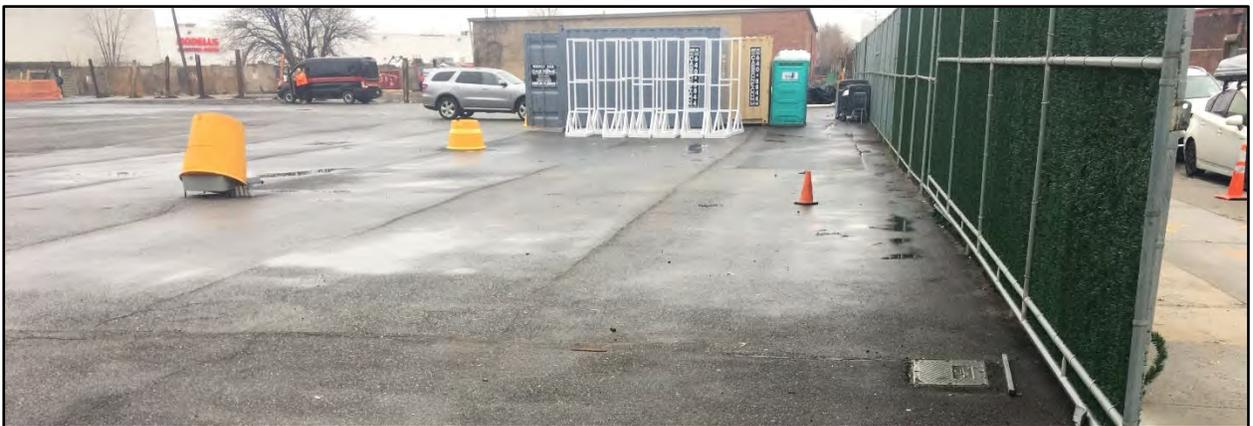


Figure 1.2 Road map showing the area of potential effects.



Photograph 1.1 NYCDEP trailer adjacent to western in-use entranceway, view to the southwest.



Photograph 1.2 NYCDEP/contractor storage containers/office trailer on southern side of the APE, view to the northeast. Note the standing warehouse building in the background.



Photograph 1.3 The standing block shed building on the north side of the APE, view to the north.



Photograph 1.4 The standing warehouse building adjacent to the eastern in-use entranceway, view to the east. Note the cut outs in the asphalt in preparation for the installation of the eastern entranceway gravel.

Background Research

ENVIRONMENTAL AND PHYSICAL SETTING

Physiography and Geology

The Queens Shaft 17B project is located in the northwestern part of Long Island. The bedrock geology here consists of weathered Precambrian gneisses and schists overlain by unconsolidated Late Cretaceous and pre-Wisconsin Pleistocene clay, silt, and gravel. Surficial geology consists of late Pleistocene and Holocene glacial sediments of variable thickness, which is attributed to the Wisconsin glaciation, the terminal advance being demarcated by Long Island itself. Remnant moraines are visible along the northern shore and central spine of the island. The southern portion of the island is covered with outwash plain sediments. Late Pleistocene glacial deposits include till, lacustrine deposits, outwash sand and gravel, and loess deposits. Holocene deposits include alluvial and shoreline deposits, salt marsh and wetland sediments, and historic fill across the landscape (Soren 1978; Morin and Wagner 2007).

Soils

The USDA classifies soils within the project area as UtA (Urban land, till substratum, 0–3% slopes) across the majority of the area and UGAI (Urban Land-Greenbelt complex, 0–3% slopes) across the northern edge of the project area. The UtA soil group is described as 0–15 inches of cemented material (asphalt) over a 2[^]C gravelly sandy loam fill deposit. The UGAI soil group is described as having the same properties for its urban component. Greenbelt soils form on loamy fill that is not capped by asphalt. The typical soil profile consists of an [^]A (loam) – [^]Bw1 (loam) – [^]Bw2 (loam) – [^]C sandy loam. The fill deposit is typically at least 6 feet deep (USDA: NRCS 2020).

Hydrology and Elevations

Dutch Kills, which lies 6,500 feet (2 kilometers) to the southwest of the project area, provides drainage in the overall project area. Historically, prior to infilling of Dutch Kills, its banks were within 4,600 feet (1.4 kilometers) to the west of the project area. Dutch Kills is a tributary of Newtown Creek, and the confluence of these two creeks is 9,250 feet (2.8 kilometers) southwest of the project area, the same distance as documented historically. Newtown Creek flows 0.9 miles (1.43 kilometers) to the west, where it joins the East River. The East River eventually joins the Hudson River to form the Upper New York Bay. Average elevations range from 43–46 feet above mean sea level.

PRECONTACT CONTEXT

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

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

Pre-European contact sites within the New York City environs are not common, as subsequent development has obliterated them. A search of the archaeological site files has indicated that no known precontact sites have been recorded within the immediate vicinity of the project area. However, three precontact sites have been recorded within one mile of the project area. These consist of a village site (NYSM#4538), located in Long Island City; a burial site (NYSM#4537), identified northeast of the village; and another burial site (NYSM#5472), located within Michael's Cemetery, Queens. Although the project area was once located within a wooded upland setting (as depicted on a U.S. Coast Survey Map of 1844), the New York City Landmarks Preservation Commission did not identify it as being sensitive for precontact cultural resources (NYCLPC 1982), perhaps due to the project area's distance from a freshwater source. Historic

maps indicate that the closest freshwater source was Dutch Kills, located approximately 0.9 miles (1.43 kilometers) to the west. Several studies have indicated that the majority of precontact sites are located in elevated and well-drained areas within 150–200 feet of a water source (Mascia et al. 1999). This tendency drops off sharply as distances increase.

HISTORIC CONTEXT

The proposed site of the Shaft 17B Complex is located at 46-01 37th Avenue. It is a triangular tract of land wedged between the Long Island Railroad right of way (ROW) and 37th Avenue in the Sunnyside section of the borough of Queens (see Figures 1.1 and 1.2). This parcel is presently designated as Tax Lot No. 28 of Block 143. Ownership of the lot was traced back to the eighteenth century, when it was part of the John Bragaw farm (see the list of property owners in Appendix B). Historically, this section of Queens was part of Newtown and was associated with the scattered settlement around Dutch Kills. The project area has been under the control of a water department since 1873.

The Settlement of Sunnyside and the Bragaw Family

The first generation of New Amsterdam settlers to establish themselves in Queens in the 1640s chose home sites at Hunter's Point and the area around Newtown Creek and Dutch Kills. By 1650, Dutch Kills had been dammed and Burger Jorissen, a German immigrant, established a gristmill. The mill was located about a mile southwest of the project area. The mill stayed in business for a century and a half; remains of the millpond and gristmill were still clearly visible when the Long Island Railroad built their line through the mill site in 1861. Middleburg Avenue (now 39th Avenue) was laid out in the seventeenth century and, by the time of the American Revolution, was lined with farmsteads, one of which (the Bragaw/Gosman farm) contained the project area (Figure 2.1). Middleburg Avenue, at one time known as Bragaw Avenue, crossed Dutch Kills and continued east to where it intersected with Newtown Avenue at Woodside. Many of the old farmhouses survived into the early part of the twentieth century (Seyfried 1984:77).

In 1650, Burger Janssen dug a long ditch—thereafter known as “Burger's Sluice”—to drain his land and improve the flow of water over his dam. The sluice ran northward along what later became the alignment of 42nd Street and passed through the Bragaw/Gosman farm. The sluice then turned eastward and formed the northern border of the farm (Van Alst 1873). Burger's Sluice was reportedly filled in when the Long Island Railroad and Jackson Avenue (now Northern Boulevard) were constructed in 1861 (Seyfried 1984:76).

The Bragaw family is descended from a French Huguenot exile, Bourgon Broucard, who arrived in New York in 1675. The family first lived on a farm in Bushwick, but in 1690 began to assemble a large tract of land in the area of Dutch Kills by buying land and a gristmill from Burger Jorissen. Bourgon's eldest son, Isaac, a weaver, added onto the paternal farm. Isaac



Figure 2.1 Location of project area on the Bragaw/Gosman farm.

(1676–1757) had five sons who established farms in the area. His son John Bragaw inherited the farm on Middleburg Avenue that encompasses the project area (see Figure 2.1; Riker 1852:370–372).

During the period in which the British army occupied New York (1776–1783), troops were garrisoned in the Sunnyside neighborhood. The area where today’s Northern Boulevard, Woodside Avenue, and Newtown Avenue intersect was part of a narrow upland passage among the swampy tracts and meadowlands that covered the area in the eighteenth century. British officers were billeted in the ancient Dutch farmhouses and soldiers bivouacked in the outbuildings. During the occupation, all the woodland remaining in Queens was cut down to fuel the soldiers’ fires. Lord Cornwallis’ 33rd Regiment built 50-foot-long three-sided log huts on the farm of John Bragaw on Middleburg Avenue. John Bragaw’s Tory leanings made his farmhouse the preferred meeting place for all the British officers of the area, including Lord Cornwallis and Sir Henry Clinton. As late as the 1890s, newspapers reported on the unearthing of artifacts in Sunnyside related to the British occupation, while the outlines of the soldiers’ huts were clearly visible in the fields (Riker 1852:209; Seyfried 1984:79).

When John Bragaw died in 1782, his son Andrew inherited the homestead farm. Andrew Bragaw lived on the farm with his wife and 12 children; he died in 1828 at the age of 73 (Riker 1852:372–373). The farm remained vested in his estate until a Chancery Court case in 1839 resulted in an order for sale. In 1842, the farm was sold out of the family to New Yorker Samuel Morrison. Morrison’s occupation was given as “truckman,” a transporter of goods. It appears that Samuel Morrison’s family defaulted on a mortgage following his death and the farm was put on the auction block. It was sold in 1847 to William Gosman, a local farmer (Queens County Deed Books 57:282, 71:46, see Appendix B).

The Development of Long Island City and Its Water Supply

Long Island City was created in 1870 with the unification of the neighborhoods of Hunter’s Point, Astoria, Ravenswood, and Dutch Kills. The project area falls within the city’s second ward. One of the new city’s first public works efforts was to fill in the swampy land that had become polluted and stagnant as industry and population increased. Efforts to supply the area with a reliable and safe water system began in 1865 with the establishment of private water companies. These water companies did little but develop plans. Residents got their water from hand pumps at street corners or rural wells. In 1871, the state legislature passed a bill authorizing the sale of water bonds in the amount of \$300,000 to fund the construction of a water system for Long Island City. The money became available just as Henry S. Debevoise began his term as mayor. Debevoise was the agent for James Thomson, a real-estate developer with a knack for turning a profit at the public’s expense. The mayor arranged to buy land near Pumping Station No. I, on Van Dam Street, and another tract of land around Gosman’s Pond, near Jackson Avenue, from James Thomson at inflated prices. A public outcry resulted in Thomson buying back some of the land, technically for a higher price. Thomson managed to buy back the land

with city bonds that were worth far less than their face value. His real profit in the land deal was realized when he sold soil from this tract of land to the city to fill the area's wetlands (Seyfried 1984:109–110).

In February 1873, James Thomson and his partner, J. P. Giraud Foster, paid William Gosman \$65,280 for his farm on Middleburg Road. The purchase price amounted to about \$1,275 per acre. The following month, Thomson and Foster sold approximately six and a half acres of the former Gosman farm to Long Island City's Board of Water Commissioners for about \$5,000 per acre (Figure 2.2; Queens County Deed Books 401:63, 402:421, see Appendix B).

Besides paying exorbitant prices for land, the Long Island City Water Board paid large sums to cronies to carry out surveying, construct stations, and lay pipes. A reservoir was built but never used. By 1875, only \$10,000 of the original \$300,000 remained and the city still had an insufficient water system (Seyfried 1984:110).

The consolidation of Kings, Queens, Richmond, and parts of Westchester Counties into New York City in 1898 brought multiple water suppliers under the jurisdiction of the city. Overnight, New York's water department was responsible for serving a population of 3,500,000 people, and the water supply system had reached its limits. A combination of private and public pumping facilities supplied Queens. The municipal waterworks in Flushing, Whitestone, and College Point were able to provide water of sufficient quality and quantity for their small population centers, but the pumping stations in Long Island City could not meet the demands of its 48,000 residents. The Long Island City water system was composed of three pumping stations: No. 1 at Blissville, just outside the city limits; No. 2 at Astoria, known as the Steinway station; and No. 3 on the former Bragaw/Gosman farm at Sunnyside (Figures 2.3 and 2.4). Three engineers and three firemen staffed each station (Seyfried 1984:127). The Sunnyside Pumping Station (see Figure 2.4), built in the 1890s, supplied water to the Ravenswood neighborhood and central sections of Long Island City (New York City Department of Water Supply, Gas and Electricity 1904:65). The station sat on a tract of 43 acres and pumped its water out of 11 wells (*Brooklyn Eagle*, March 1898).

Together, the three stations furnished 2,500,000 gallons of water a day, but Long Island City needed twice that amount. New water mains with larger and more uniform dimensions were needed, as well as new pumping machinery at the stations. Minor repairs were made to the dilapidated Sunnyside Pumping Station while the New York City Department of Water Supply waited for appropriations to carry out major improvements (New York City Department of Water Supply, Gas and Electricity 1902:9). Finally, in 1903, the water department received the funding to overhaul the water supply system in Queens. The pumping stations were rebuilt and remodeled. The pumps were overhauled and repaired or replaced with new ones. The buildings were repainted and outfitted with new windows. When needed, additions and extensions were constructed. New machinery was ordered, and new wells dug (New York City Department of Water Supply, Gas and Electricity 1902:30–31).

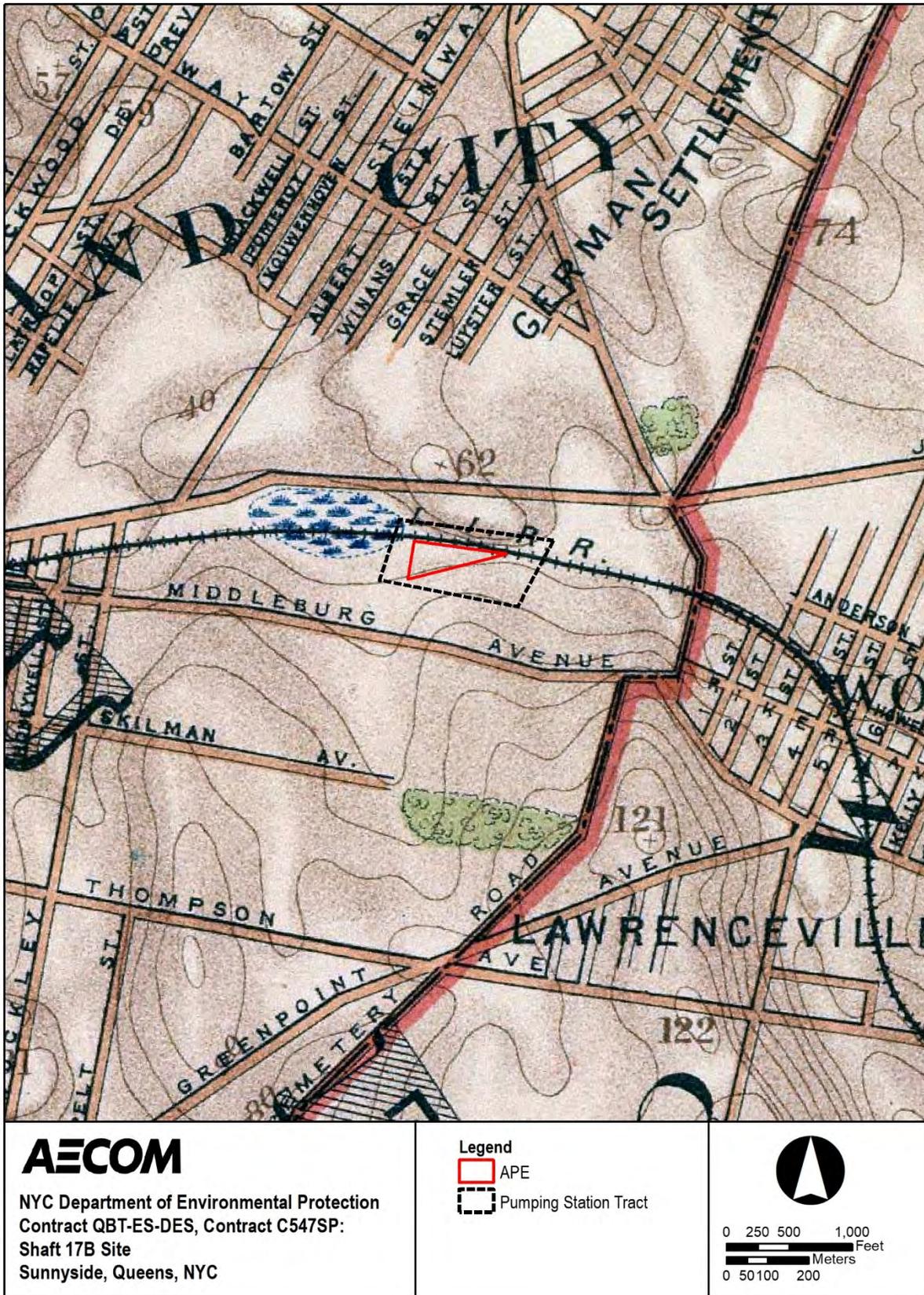


Figure 2.2 Location of proposed Shaft 17B Complex in 1890.

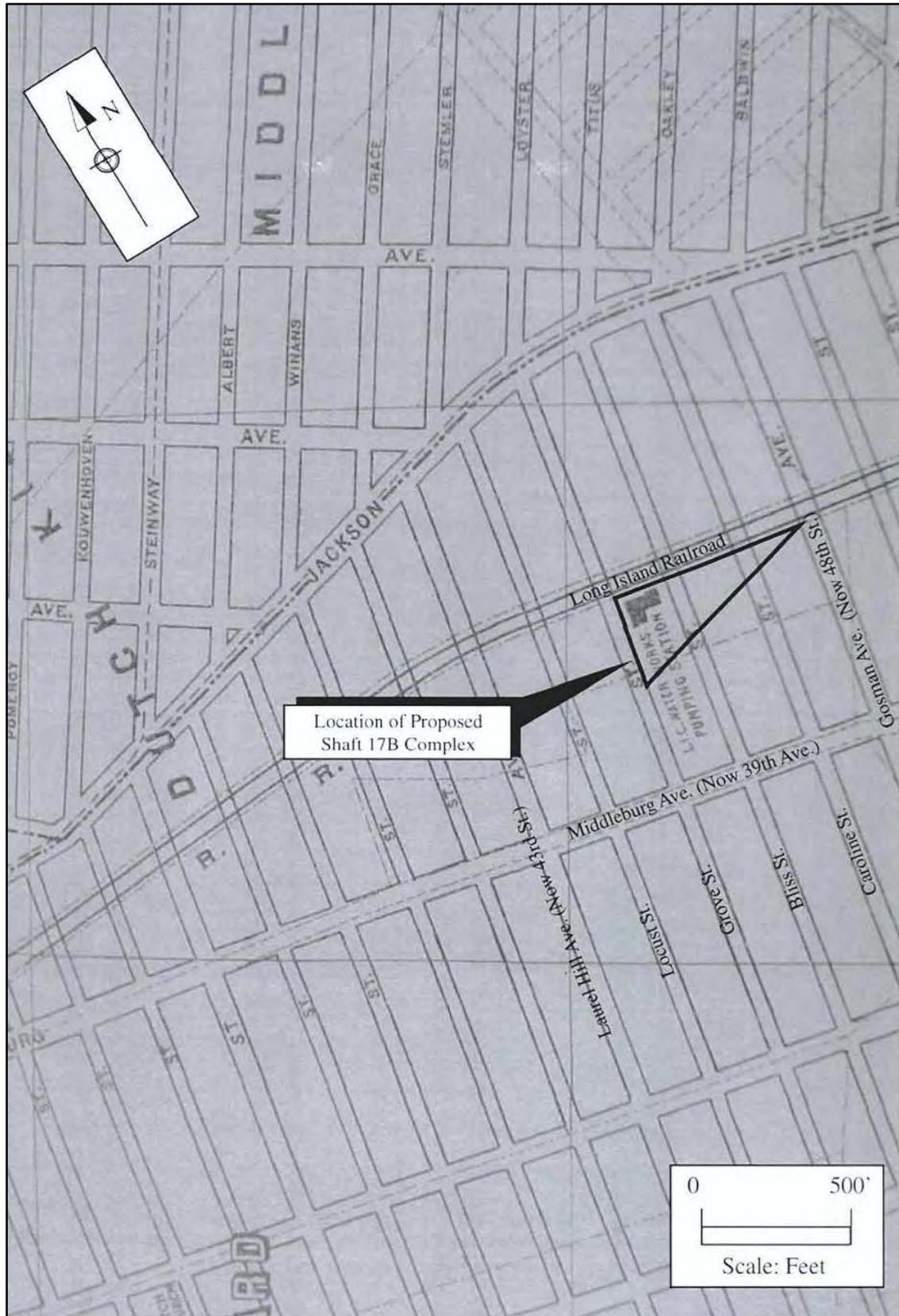


Figure 2.3 Long Island City Pumping Station, circa 1901.

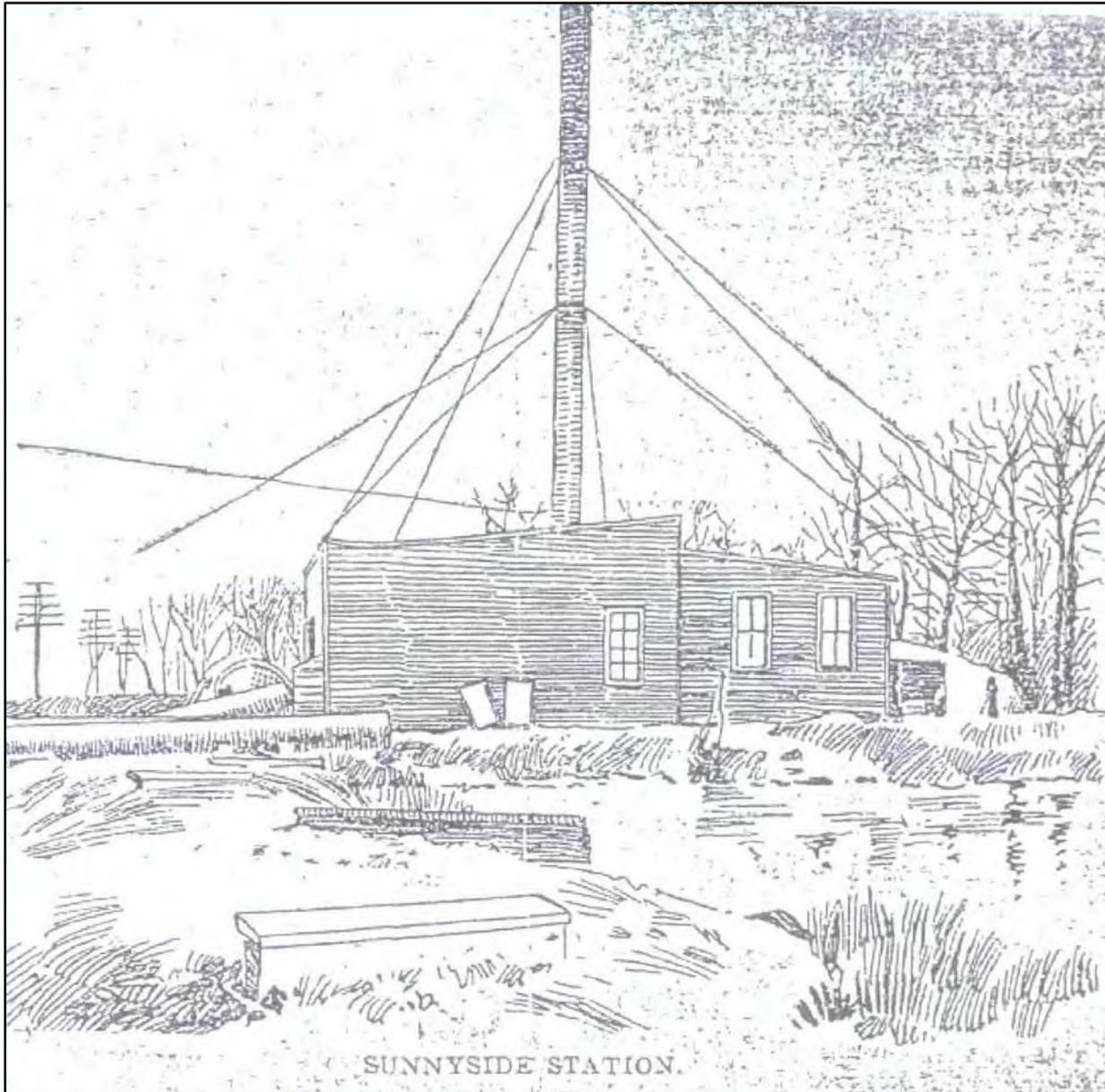


Figure 2.4 Water Pumping Station No.3 at Sunnyside.

Improvements at Pumping Station No. 3 in Sunnyside included building a new coal bin; building storehouses; installing a 10-ton wagon scale; installing two 100-horsepower boilers, along with a water heater and purifier to prolong the life of the boilers; building a new steel stack; and driving new wells. Additionally, a new boiler house was built, and a drain excavated at the front of the station (Figure 2.5; New York City Department of Water Supply, Gas and Electricity 1902:67–68; Sanborn Map Company 1915). In order to provide better access to the facility, a new street was laid out between Laurel Hill Avenue (now 43rd Street) and Gosman Avenue (now 48th Street); it was called Dreyer Avenue (now 37th Avenue).

Even though pumping had been carried on for several years, the water table in the aquifer in 1903 was close to natural levels. By 1936, the water table was at a record low, dipping to 15 feet below sea level. The decline of the water table was attributed to excessive pumping, the elimination of wastewater into sewers, and extensive paving and construction activities that inhibited natural recharge (Perlmutter and Soren 1962: E 136–138).

Soon after consolidation, surveys were undertaken to try and find a reliable source of water that could supply the current and future needs of New York City. In 1907, the Board of Water Supply began construction of the Catskill Aqueduct System. City Water Tunnel No. 1 was completed in January 1917 to distribute the water from upstate reservoirs. City Water Tunnel No. 2 went into operation in March 1936 to distribute water from the Delaware Aqueduct system. City Water Tunnel No. 3 was proposed in 1966. The third tunnel will meet increased demand, reduce the high flows which periodically overload the older tunnels, permit maintenance and repair work on the older tunnels, and provide an alternative in the event of a disruption in one of the other tunnels (Merguerian 2000).

The Sunnyside Pumping Station was already out of operation by 1915. With the depletion of the aquifer and the opening of the city water tunnel, it had outlived its usefulness and was relegated to functioning as a storage building (see Figure 2.5). It appears the pumping station was extant until the 1930s (Hyde 1930). Although the 1936 Sanborn insurance map of the area does not depict the pumping station, it is noted in 1937 tax records (Figure 2.6; New York City Department of Finance 1937, Sect. 2, Vol. 1:28; Sanborn Map Company 1936). In 1931, the New York City Water Department built a garage with attached machine and workshops on 37th Avenue. A certificate of occupancy indicates that a warehouse located on 37th Avenue east of the garage and shops was completed on January 1, 1963 (Department of Housing and Buildings 1971). The garage and shop complex were demolished circa 2012. Demolition of the warehouse, slated for March 19, 2020, occurred between March 19 and 26, 2020.

In 1901, the decision of the Pennsylvania Railroad to locate its rail yard in Sunnyside wiped out the old Dutch farmsteads and much of old Middleburg Road. After buying up all the property between 32nd and 43rd Streets and between Skillman Avenue and Northern Boulevard, the railroad razed all the houses, leveled a 60-foot-high hill, and filled in over 250 acres of tidal marsh, including the headwaters of Dutch Kills. Sunnyside Yards officially opened to rail traffic

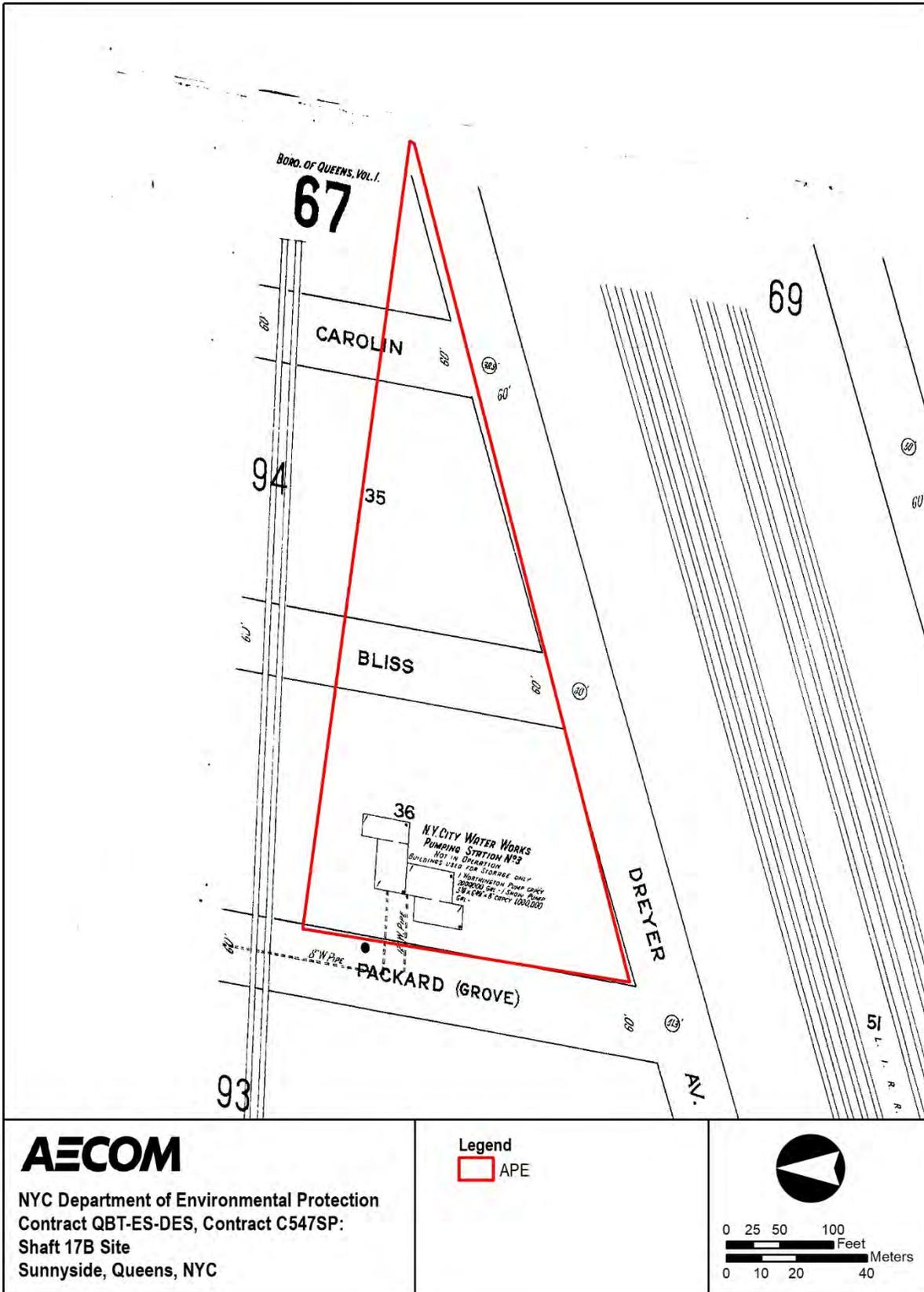


Figure 2.5 Queens Pumping Station No.3, circa 1915.

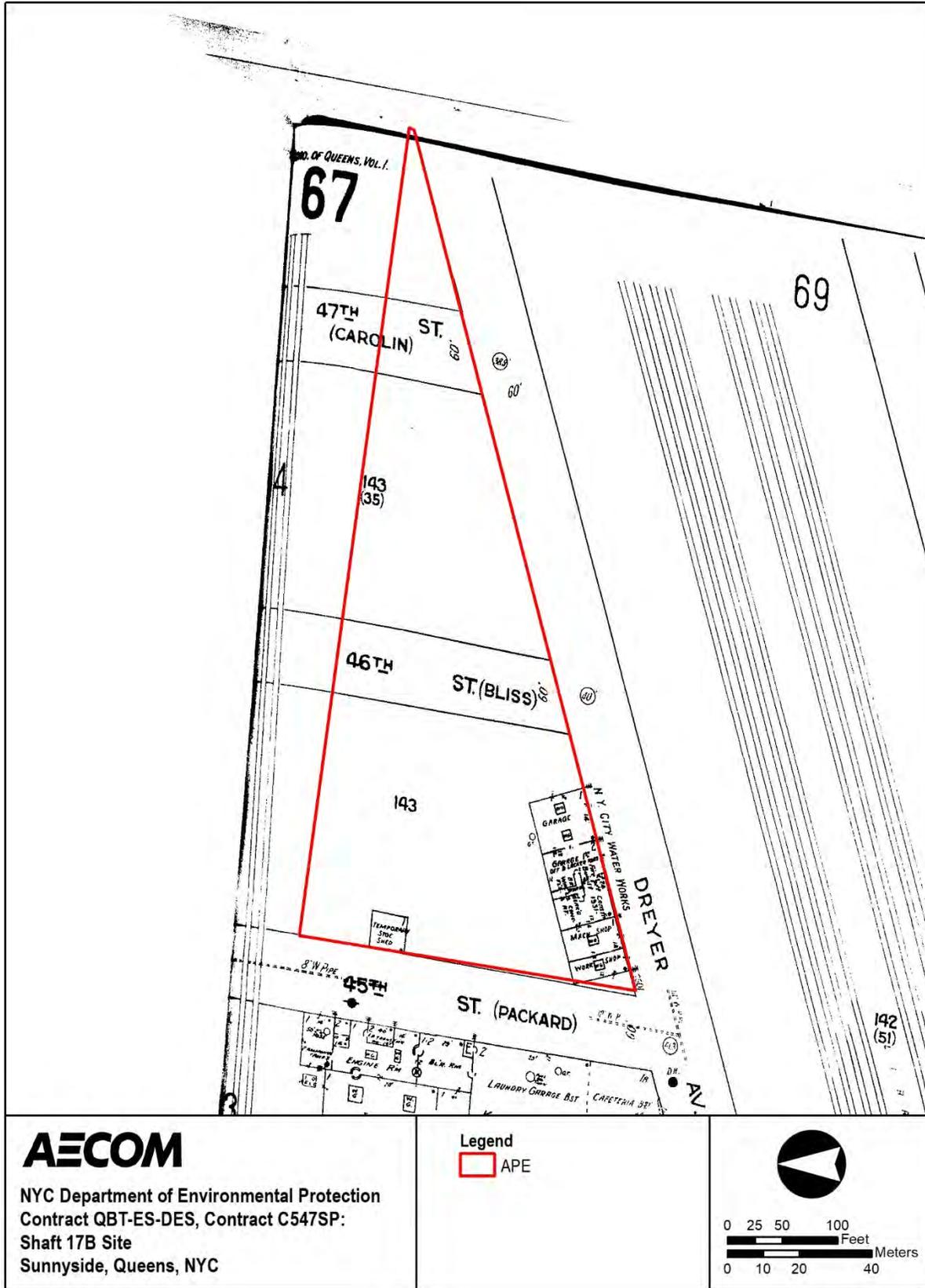


Figure 2.6 New York City Water Works, Sunnyside Facility, circa 1936.

in 1910 (Seyfried 1984:82). The opening of the Sunnyside Yards coincided with the completion of the Queensborough Bridge in 1909. The bridge turned the quiet residential backwater of Dutch Kills into a commercial and transportation hub. The rail yard effectively ended any remaining agrarian Dutch Kills atmosphere in neighboring Sunnyside and boosted the commercial economy of the area. Strategically located between the Long Island Railroad and the Pennsylvania Railroad, 37th Avenue became the home for industrial plants (Figure 2.7).

Research Design

Work was initiated in response to the proposed construction of the Shaft 17B Complex in Sunnyside, Queens, New York. AECOM, in consultation with the LPC, submitted a scope of work in June 2019, including archaeological monitoring and an anticipated subsurface testing survey in advance of future planned construction activity. Research objectives and methods are discussed below.

RESEARCH OBJECTIVES

The primary objective of this Phase IB survey effort is to ground truth areas identified as having archaeological potential in the Phase IA assessment of the archaeological APE. The Phase IA archaeological assessment sought to identify all areas with the potential for containing resources, while the current effort will test these areas to document the presence or absence of buried resources and provide a preliminary assessment of their integrity.

The Phase IA report concluded that there is a high-to-moderate potential for a variety of features associated with the British occupation of the area. Such features have the potential to address research issues regarding the nature of British occupation and layout of encampment life. The types of archaeological features that could provide valuable information are the remnants of the soldiers' huts and sheet-midden scatter (yard trash), in addition to remnants of privies.

The Phase IA report recommended that a Phase IB survey should be conducted for portions of the APE that have seen little to no subsequent development or subsurface disturbance. The large warehouse building (180 x 80 feet) located along 37th Street was constructed on a concrete slab, which would have created minimal subsurface disturbance. The focus of the Phase IB monitoring was on the footprint of this building, slated for demolition as part of the current project, as well as the block shed and two construction entranceways.

METHODS

Research Methods

Historical research for the proposed site of the Shaft 17B Complex entailed the collection of maps and plans at the Queensborough Public Library and the Queens County Register's Office, both in Jamaica, Queens. The Municipal Archives, the City Hall Library, and the Map Division of the New York Public Library were also utilized. The Queensborough Public Library provided local history resources and newspaper clippings. Land records were searched at the County

Register's Office. Water Department reports were consulted at the City Hall Library. Published histories in the New York Public Library's collection provided contextual information. Additionally, files and reports maintained by the LPC were consulted.

In addition, the geotechnical boring data that had been collected within the project area was reviewed with the purpose of identifying any potential buried surfaces that could indicate archaeological preservation potential. AECOM's Senior Geoarchaeologist, Elizabeth Lavigne, reviewed the draft boring logs for details regarding depth, color, textural changes, and inclusions.

Field Methods

Archaeological monitoring was conducted for the demolition of the warehouse building and slab, as well as the stripping of areas proposed for two new entryways. The Archaeological Monitor examined the ground surrounding the in situ block shed foundation after removal of the aboveground structure. In addition, the Archaeological Monitor observed the excavation of postholes for a new construction barrier fence. Figure 4.3 in the next chapter depicts these areas.

The demolition of the existing warehouse building and its slab involved the monitoring of approximately 14,400 square feet. The demolition of the block shed required monitoring of approximately 200 square feet of ground along the northern fence line of the lot. The stripping of two areas proposed for new entryways from 37th Avenue entailed monitoring of approximately 1,800 square feet. The posthole excavation for the construction fence entailed monitoring a series of 1-foot-diameter holes, spaced approximately 10 feet apart, running from the northern to the southern end of the APE.

Field conditions were photo-documented before, during, and after the Phase IB survey tasks.

The Phase IB scope of work, prepared in consultation between AECOM and the LPC in June 2019, was designed to ensure that if potential features or seemingly intact soils were encountered during monitoring of the demolition and/or stripping actions, STPs would be excavated to more fully investigate the stratigraphy in those locations. Given the high-to-moderate archaeological potential initially determined during the Phase IA survey, STPs were proposed along linear transects on a 15-foot grid interval across the footprint of the demolished warehouse building. A sub-meter accurate Trimble global position system (GPS) device was proposed to record the location of STPs.

Description of Work

GEOTECHNICAL BORING REVIEW

Prior to conducting fieldwork, AECOM reviewed geotechnical boring data that had been collected within the project area (Figure 4.1). A graphic representation of the borings along with symbology of interpreted and conclusive fill versus natural sediments is provided in Figure 4.2. A discussion of each boring is provided below.

SB-17B-CE-1 (AECOM)

Boring SB-17B-CE-1 was excavated by Aquifer Drilling & Testing Company and recorded by AECOM. It was located in the northwest portion of the APE. The boring was documented as fill from 0–5 feet below ground surface (bgs). Brick and asphalt were recovered from the fill, characterized as gray gravel with minor amounts of sand and silt. No sample was collected from 5–7 feet bgs. Natural sediments were recorded below 7 feet bgs as brown and gray sand with variable gravel, silt, and clay.

SB-17B-6 (WSP)

Boring SB-17B-6 was excavated and recorded by WSP on behalf of the NYCDEP. This location was approximately 15 feet south of AECOM's SB-17B-CE-1 boring. The boring was documented as fill from 0.8–12 feet bgs, significantly deeper than that seen in SB-17B-CE-1. The sediment ranged from gray gravel with silty clay to fine to coarse sand and gravel. Brick fragments were only documented between 1.5 and 5 feet bgs. No samples were taken from 12–15 feet bgs. Natural sediment was documented below 15 feet as brown fine to coarse sand with variable clay, silt, and gravel.

SB-17B-2 PZ (WSP)

Boring SB-17B-2 was excavated and recorded by WSP on behalf of NYCDEP. It was located to the west of the main building within the APE. The boring was documented as fill from 0.8 feet down to 11 feet bgs. It was characterized as variable brown fine to coarse sand with various levels of clay, silt, and gravel. Brick fragments were noted in the sample from 9–11 feet bgs. No retrieval occurred between 11 and 15 feet bgs. The sample from 15–17 feet bgs was documented as possible fill composed of brown fine to coarse sand with gravel. No sample was collected from 17–20 feet bgs. Below 20 feet bgs, the sediment was documented as natural, a brown fine to coarse micaceous sand.



Figure 4.1 Geotechnical boring locations within the area of potential effects.

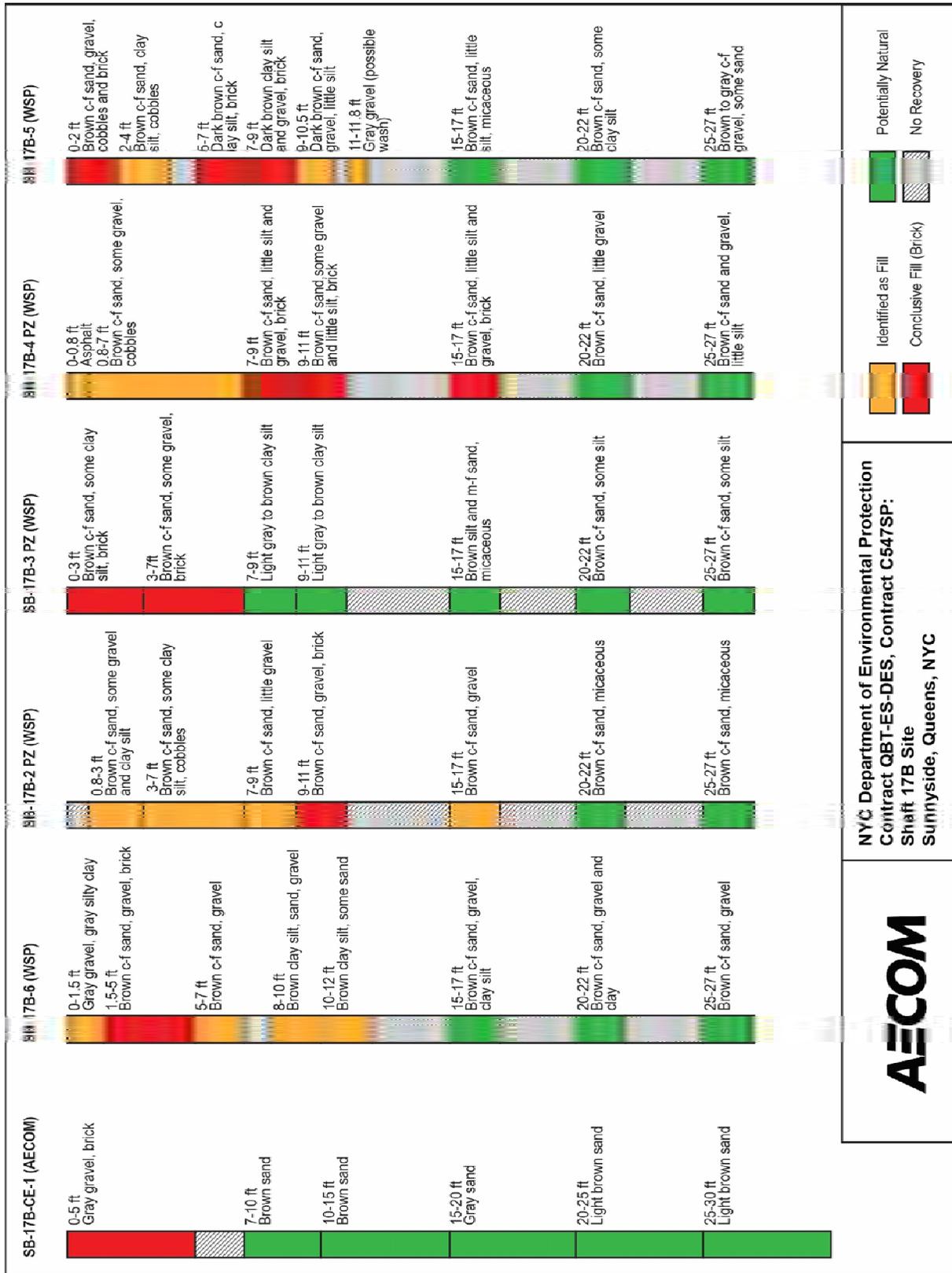


Figure 4.2 Geotechnical boring profiles.

SB-17B-3 PZ (WSP)

Boring SB-17B-3 was excavated and recorded by WSP on behalf of NYCDEP. This boring was located to the east of the main building within the APE. The boring was documented as fill from 0–7 feet bgs. Below 7 feet bgs, the sediment was documented as natural light gray to brown clayey silt down to 11 feet bgs. Below this level was natural brown silt and sand. This was the only WSP boring with natural sediment documented as shallow as 7 feet bgs. While the same distance from the building footprint as SB-17B-2 PZ, the depth of fill found here was at least 8 feet shallower.

SB-17B-4 PZ (WSP)

Boring SB-17B-4 was excavated and recorded by WSP on behalf of NYCDEP. It was located approximately 96 feet to the west of SB-17B-2 PZ. The boring was documented as fill from 0–17 feet bgs. Brick and stone fragments were collected from the 15–17 feet bgs sample. The sample from 20–22 feet bgs was documented as natural brown fine to coarse sand with some silt and gravel.

SB-17B-5 (WSP)

Boring SB-17B-5 was excavated and recorded by WSP on behalf of NYCDEP. This boring was located immediately north of the main building within the APE. The boring was documented as fill from 0–11.8 feet bgs. Brick fragments were only collected from the 7–9 feet bgs sample. Natural sediment was documented below 15 feet bgs as brown fine to coarse sand with variable clay, silt, and gravel.

FIELDWORK

AECOM conducted the Phase IB archaeological fieldwork on four dates: February 26, March 20, 25, and 26, 2020. Archaeologists monitored the installation of the eastern entranceway and the excavation of the construction fence postholes on February 26. Archaeologists monitored the installation of the western entranceway and observed the soils around the previously demolished block shed on March 20. Archaeologists monitored the removal of the slab foundation for the warehouse building on March 25 and 26. The APE, subsurface disturbance areas, and photograph locations are shown on Figure 4.3.

Entranceways, Construction Fence Posts, and Block Shed

An archaeologist monitored ground-disturbing activities during installation of the eastern construction entranceway near the standing warehouse building on February 26. The entrance footprint was cut out with an excavator-mounted jackhammer (Photograph 4.1). The overlying asphalt and underlying concrete pad were mechanically removed with the excavator bucket. The underlying concrete pad was approximately 6–8 inches thick. As such, excavation exceeded the planned 6-inch depth, but little to no soil was removed and the machinery at the interface of the

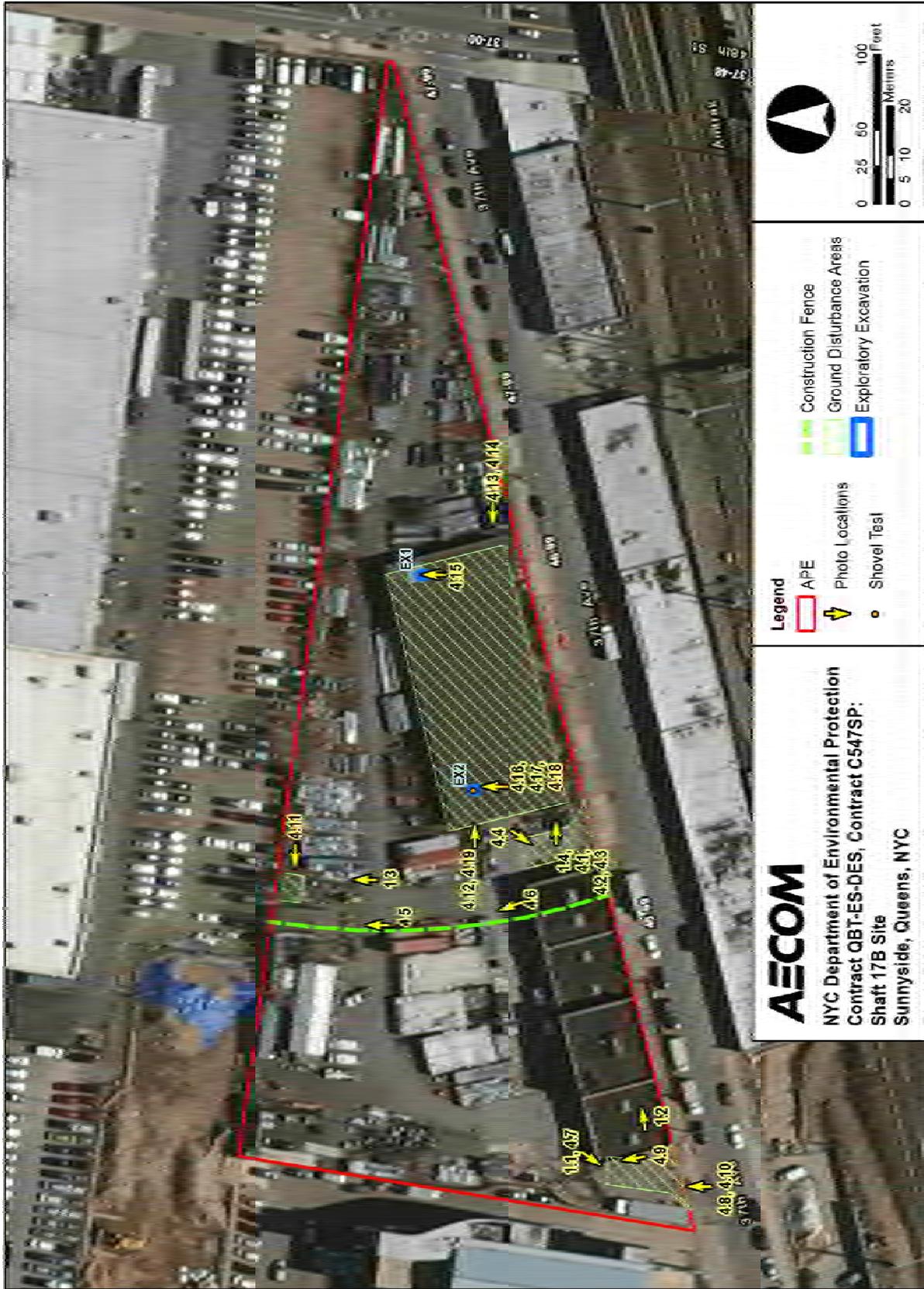


Figure 4.3 Overview of area of potential effects and photograph locations.



Photograph 4.1 Eastern construction entranceway outline being cut out in asphalt, view to the northeast. Not the standing warehouse building in the background, and two postholes for the planned construction fence line in the foreground.

ground and the concrete pad disturbed only 1–2 inches of underlying soil. The entranceway footprint was then covered with filter fabric and covered in gravel (Photographs 4.2, 4.3, and 4.4). Plastic food wrappers, metal concrete reinforcement mesh, and a PVC pipe were observed beneath the concrete. No historic artifacts or features were observed during excavation. The Archaeological Monitor also observed the mechanical and manual excavation of a line of postholes across the middle of the APE in preparation for the installation of a wooden construction fence line bisecting the site north to south, approximately 80 feet west of the west side of the existing garage. These holes went down approximately 2 feet below grade (Photograph 4.5). The northern half of these holes encountered mixed construction/asphalt fill. The southern half of these holes went through 6–8 inches of concrete before reaching underlying fill (Photograph 4.6). No historic artifacts or features were observed during excavation or in the spoil piles of these postholes.

An archaeologist monitored ground-disturbing activities during installation of the western construction entranceway near the onsite NYCDEP trailer on March 20. The entrance footprint was cut out with an excavator-mounted jackhammer (Photograph 4.7). The overlying asphalt was mechanically removed with an excavator bucket. Excavation of approximately 6 inches of underlying fill material was observed (Photograph 4.8). Potentially intact soil was observed in the northeast corner of the entranceway footprint, but no historic artifacts or features were observed on the surface or within the removed spoil (Photographs 4.9). Later soil observations during removal of the warehouse building pad foundation (discussed below) suggest that this soil is likely another disturbed fill deposit. The entranceway footprint was then covered in filter fabric and covered in gravel (Photograph 4.10). The Archaeological Monitor also inspected the in-progress demolition of both the warehouse building and the block shed. Fill soils were noted adjacent to the cinderblock foundation of the block shed. Only aboveground demolition had been conducted up to this point, and the underlying concrete slab of the warehouse was still intact, capping the soils below (Photographs 4.11 and 4.12).

Warehouse Building

An archaeologist monitored ground-disturbing activities during removal of the pad foundation and support pillars for the warehouse building on March 25 and 26. The foundation footprint was framed by a concrete wall extending about 8 inches above ground surface in an 80 x 190 foot rectangle. The concrete slab was mechanically removed with an excavator bucket (Photograph 4.13). Plastic sheeting was observed immediately underneath the slab, overlying approximately 1 foot of leveling sand. Concrete pillars standing 4 feet high with a triangular 4-foot base were mechanically removed with an excavator bucket (Photograph 4.14). Fill soils were observed surrounding and at the base of the concrete pillars.

As a sample, the archaeologist instructed the equipment operator to dig two exploratory excavation trenches to test the depths of the observed disturbed fill deposits. Exploratory Excavation 1 (EX1) was excavated in the northeast corner of the warehouse building footprint to



Photograph 4.2 Eastern construction with concrete slab underlying asphalt, view to the east.



Photograph 4.3 Eastern construction entranceway fill soils underlying removed concrete slab, view to the southeast.



Photograph 4.4 Eastern construction entranceway covered in filter fabric and gravel, view to the south.



Photograph 4.5 Posthole from northern half of construction fence line, excavated approximately 2 feet below grade, fill soils encountered.



Photograph 4.6 Postholes from southern half of construction fence line, underlying concrete encountered, view to the north.



Photograph 4.7 Western construction entranceway outline being cut out in asphalt, view to the southwest. Note the NYCDEP trailer and church in the background.



Photograph 4.8 Western construction entranceway with fill soils underneath, view to the north. Note the lighter soil near the excavator bucket, at the time thought to be potentially natural.



Photograph 4.9 Lighter soil exposed in the northeast corner of the western entranceway, at the time thought to be potentially natural, view to the north.



Photograph 4.10 Western entranceway covered with filter fabric prior to gravel spreading, view to the north.



Photograph 4.11 Rubble pile from the aboveground demolition of the block shed, view to the west.



Photograph 4.12 Rubble pile from the aboveground demolition of the warehouse building, view to the northeast.



Photograph 4.13 Overview of the slab foundation removal for the warehouse building, view to the west. Note the bright yellow leveling sand.



Photograph 4.14 Overview of support pillar removal beneath warehouse slab foundation, view to the west.

5 feet below ground surface (Figure 4.4; Photograph 4.15). All the removed soil represented a disturbed fill deposit. Banded and mottled soils were observed at the base of excavation. These soils were potentially intact but were not disturbed by this stage of the construction process. Exploratory Excavation 2 (EX2) was excavated in the northwestern corner of the warehouse footprint to 4 feet below ground surface (Figure 4.5). Again, all the removed soil represented a disturbed fill deposit. At this stage, the Archaeological Monitor excavated a single STP at the base of EX2 to further test the depth of the fill deposits. The STP encountered compacted dark grayish brown (Munsell 2.5YR4/2) loamy sand fill with strong brown (Munsell 7.5YR5/8) mottles. A single modern glass beer bottle was noted and discarded from the STP. Densely packed gravels were observed throughout the STP, and gravel resistance prevented further hand excavation at 10 inches below the base of EX2 (Photograph 4.16). The archaeologist instructed the operator to mechanically remove an additional 3 feet of fill material below the depth of the STP, reaching approximately 7 feet below grade. Still, no intact soils were observed (Photograph 4.17). Utility pole debris was observed in the removed spoil from 7 feet below grade (Photograph 4.18). The entire footprint of the warehouse building was then graded flat and covered in gravel (Photograph 4.19).



Figure 4.4 Location of Exploratory Excavation 1 (EX1).



Photograph 4.15 EX1 excavation with potentially intact soil at 5 feet below ground surface.



Figure 4.5 Location of Exploratory Excavation 2 (EX2) and a single STP.



Photograph 4.16 STP excavated at 4 feet below grade in EX2, further mechanical digging refused by large rocks/gravels.



Photograph 4.17 Base of EX2 at approximately 7 feet below grade with fill soils still observed, view to the west.



Photograph 4.18 Utility pole debris from the base of EX2.



Photograph 4.19 Final grading and graveling of warehouse building footprint, view to the east.

Conclusions and Recommendations

This report presents the results of a Phase IB archaeological survey in support of the site-preparation work for the proposed Shaft 17B Site Complex in Sunnyside, Queens, New York. The Phase IB archaeological survey included background research, review of the geotechnical boring logs, archaeological monitoring, and the excavation of two exploratory excavations and one STP.

There are a few caveats to keep in mind regarding the ability to interpret these borings in terms of archaeological potential when they are documented by others:

- Relying on soil and fill definitions determined by others is not a “hands on” review of the actual strata while being sampled and, therefore, interpretations can be problematic;
- The borings were not sampled in a continuous column from surface to bottom, so certain strata with potential to be archaeologically sensitive could have been missed/not sampled;
- Noted depths of fill are not consistent between recorders. The WSP logs show much deeper fill layers than the AECOM log, even though they are only 15 feet apart in distance. It is unclear if this is due to variable interpretation of the recorder, or if there is in fact that much variability in the fill levels.

Based on the recorded levels of fill, there is no preservation of a natural stratum within 5 feet of the current ground surface. The two shallowest fill levels were found within SB-17B-CE-1 (5 feet, with no recordation down to 7 feet) and SB-17B-3-PZ (7 feet). These were both located within the eastern portion of the APE. However, SB-17B-6-PZ was located in the same area and recorded a depth of at least 12 feet of fill. The borings to the west of the main building within the APE (SB-17B-2-PZ and SB-17B-4-PZ) recorded at least 17 feet of fill; clearly, some sort of major disturbance or infilling occurred within this part of the APE. The natural sediments below the fill levels are likely till sediments, based on the textural variability.

Conclusively, no peat or organic layers were noted in the draft geotechnical logs, and no clear indication of strata representing former ground surfaces was noted within the details of soil descriptions in the logs (i.e., dark brown coloration, discrete textural changes, or organic inclusions). However, there is the possibility that such strata could be present but were either not sampled, and therefore not identified, or were not recorded in a level of detail that would provide indicators of such a surface.

Archaeological monitoring of ground-disturbing activities within the APE during site-preparation work encountered fill deposits beneath both construction entranceways, within postholes

excavated for a construction fence, and around the foundation for the block shed. Thick fill deposits ranging from a minimum of 5 feet to over 7 feet in depth were observed beneath the footprint for the warehouse building. Since no intact soil deposits were impacted during the site-preparation activities and disturbed soils exceeded depths testable by hand, the planned subsurface STP survey of the warehouse footprint was deemed unnecessary. No additional archaeological investigations are recommended for the site-preparation portion of the construction of the Shaft 17B Site.

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Appendix A
Project Personnel

Nancy A. Stehling, MS, RPA

Senior Archaeologist

Education

MS, Public Archaeology,
Rensselaer Polytechnic Institute

BA, Anthropology, BA, Geology,
SUNY College at Potsdam

Years of Experience

18 with AECOM

22+ with other firms

Technical Specialties

Cultural Resource Management
Studies

Section 106 of the National Historic
Preservation Act

Archaeological Survey and
Excavation Planning and Execution

Historic Artifact Analysis

Archaeological Oversight

Public Outreach

National Environmental Policy Act

Professional Affiliations

Register of Professional
Archaeologists

Society for Historical Archaeology

Council for Northeast Historical
Archaeology

Society for Industrial Archeology

National Trust for Historic
Preservation

Training and Certifications

Registered Professional
Archaeologist, Reg. No. 10642,
National, since 1985

Meets Secretary of the Interior's
Professional Qualifications
Standards for Archaeologists (36
CFR Part 61, Appendix A)

Metro-North Railroad Safety
Awareness Training 9/2018-2019

AMTRAK Roadway Worker Safety
Training 6/2018-2019

Ms. Stehling is AECOM's New York City office principal archaeologist and archaeology project manager. Her responsibilities include the management, scoping, and implementation of all phases of archaeological surveys; selection and oversight of contractors as necessary; and consultation with federal, state, Native American and local review agencies. In addition, Ms. Stehling established the methods and procedures used in AECOM's NYC in-house archaeology laboratory, and she continues to serve as historic materials specialist.

Ms. Stehling has more than 35 years of experience as a professional archaeologist, which has included supervisory-level field survey, testing, excavation, and all phases of laboratory processing and analysis in both prehistoric and historic archaeology. Additional qualifications include extensive experience in archival research of primary and secondary resources including title, deed, will, mortgage, census records, maps, and literature searches of published and unpublished references. Section 106 public outreach/public participation efforts include library exhibits of historic artifacts, brochure preparations, PowerPoint presentations to interested parties, and professional conference presentations.

Relevant Experience

The Office of the Deputy Mayor for Environmental Coordination and New York City Economic Development Corporation, East Midtown Waterfront Esplanade and Greenway, Manhattan, New York City. Served as Principal Investigator for the archaeological sections of the Supplemental Studies to the Environmental Assessment Statement. Completed the existing conditions and environmental impacts sections in compliance with CEQR and SEQRA guidelines.

New York City Economic Development Corporation, Charleston Mixed-Use Development Project, Charleston, Staten Island, Environmental Impact Statement (EIS). Served as Principal Investigator for the archaeological sections of the Environmental Assessment Statement, Draft and Final Scoping Documents, and Draft and Final EIS. The Charleston Mix-Use Development Project required a coordinated CEQR/SEQRA review.

New York City School Construction Authority, Preliminary Archaeological Assessment/Disturbance Record for the 3K Center at 2040 Forest Avenue, Staten Island NY. Served as Principal Investigator for preliminary archaeological assessment of this project located in an Area of Archaeological Sensitivity. Project actions included excavation for new utility line. Oversaw documentary and cartographic research and provided oversight on draft report. SHPO concurred with finding of No Effect on Historic properties due to extent of prior disturbance in APE..

Metropolitan Development Group Design & Construction, Phase IA Archaeological Documentary Study 142-150 South Portland Avenue Rezoning, Brooklyn, NY. Served as Principal Investigator for the Phase IA documentary and literature study to assess the archaeological potential of the project area at the request of the New York City Landmarks Preservation Commission (LPC). The Phase IA was conducted in compliance with the City Environmental Review Act (CEQR). The results of the Phase IA study recommended Phase IB subsurface archaeological testing on a portion of the rezoning area. LPC reviewed and concurred with this recommendation.

New York City Department of Environmental Protection (NYCDEP), Archaeological Monitoring of 27 kV Substation Area, Tallman Island Water Pollution Control Plan (WPCP), Interim Plant Upgrade, College Point, New York.

Served as principal investigator for archaeological monitoring of mechanically excavated trenches within project area footprint to determine the presence or absence of buried living surfaces or archaeological features. Primary author of final report for review by New York City Landmarks Preservation Commission (NYCLPC).

21st Century Oncology/Radiation Therapy Services, Inc. Phase IB Archaeological Boring Survey for the New York Proton Center, East Harlem, Manhattan, New York.

Served as Principal Investigator for the archaeological testing requested for this project by the NYC Landmarks Preservation Commission. A boring survey was conducted on discrete areas of the project site that had been determined archaeologically sensitive. No significant archaeological deposits, undisturbed former ground surfaces, or organic layers indicative of shaft features were present in either geoprobe. Construction/demolition related fill deposits to depths of 10 to 12 feet lie atop the natural soil column, or subsoil. No further work was recommended for the site and the NYC LPC concurred with the findings.

MTA Bridges and Tunnels, Preliminary Phase IA Archaeological Sensitivity Assessment for the Installation of Fender Protection at Towers and Anchorages of the Throgs Neck Bridge, Bronx and Queens Counties, New York.

Served as Principal Investigator for the preparation of an archaeological assessment in compliance with Section 14.09 of the NYS Historic Preservation Act of 1980, and the State Environmental Quality Review Act (SEQRA) and its implementing regulations. Research on previously identified terrestrial and underwater sites was conducted. The assessment concluded that the project actions would have No Effect on archaeological resources, and the SHPO concurred.

MTA Bridges and Tunnels, Preliminary Phase IA Archaeological Sensitivity Assessment for the Installation of Fender Protection at Towers and Anchorages of the Bronx Whitestone Bridge, Bronx and Queens Counties, New York.

Served as Principal Investigator for the preparation of an archaeological assessment in compliance with Section 14.09 of the NYS Historic Preservation Act of 1980, and the State Environmental Quality Review Act (SEQRA) and its implementing regulations. Research on previously identified terrestrial and underwater sites was conducted. The assessment concluded that the project actions would have No Effect on archaeological resources, and the SHPO concurred with that finding.

New York City Department of Design & Construction, Old West Farms Soldier Cemetery, Bronx, New York. Performed archaeological monitoring as field director for a new fence installation; consulted with the NYC Landmarks Preservation Commission Director of Archaeology, and was contributing author of report submitted to NYC DDC and NYC LPC by Parsons ES

New York City HPD, Saratoga Square Urban Renewal Area, CEQR No. 89-232K, Brooklyn, Kings County, New York. Assisted in the data recovery excavations of cistern and privy features located in the rear yards of the early-19th century residential structures, conducted the historic ceramic analysis, and was a contributing author of final report submitted by Joan H. Geismar, PhD.

New York City Parks & Recreation, New York City Hall Park Restoration, New York, New York. Performed test and feature excavations and human interment delineations under the auspices of the NYC Landmarks Preservation Commission.

New York City Landmarks Preservation Commission, Stone Street Historic District, New York, New York. Conducted Phase 1B archaeological monitoring of water and electric line installation as field director; primary author of final report. Archaeological work included the deep excavation of a five-foot-square test pit, to determine the age and cultural affiliation of a foundation wall segment encountered within the street during the contractor's water line excavation.

Brooklyn Navy Yard Development Corporation, Building 305 – Naval Annex, Phase IA Archaeological Coordination, Brooklyn Navy Yard, New York. Reviewed the archaeological potential of the Northern Triangle portion of the Naval Annex in association with the proposed demolition of Building 305, at the request of the BNYDC. Consulted and coordinated with NYSHPO. Determined that a Phase I archaeological survey was not necessary because the Northern Triangle had little to no archaeological potential due to the extent of prior subsurface disturbance across the area. NYSHPO concurred with the opinion.

Wall Associates, Cooper Square Urban Renewal Documentary Study, New York, New York. Conducted archival research on portions of three city blocks on the Lower East Side of Manhattan, including complete deed searches for all lots and the disinterment history of two former cemeteries within the project area. Primary Author of report submitted to the NYC Landmarks Preservation Commission.

The Broad Financial Center Block: The Excavation of Augustine Heerman's Warehouse and Associated 17th Century Dutch West India Company Deposits, Whitehall Street, New York, New York. Worked as field supervisor and historic ceramic analyst, responsible for the identification, tabulation, and analysis of 17th through 19th century ceramic artifacts; contributing author of final report.

Stadt Huys/Stone Street Archaeological Excavation, New York, NY. (85 Broad Street Building – Lobby Alignment). Under the auspices of the New York City Landmarks Preservation Commission. Performed field excavations and laboratory processing, cataloguing, and analysis of prehistoric through late-19th century artifacts recovered from beneath the now de-mapped block of Stone Street between Coenties Slip and Broad Street.

175 Water Street Archaeological Project, South Street Seaport Historic District Area, New York, New York. Conducted historic ceramic analysis and was a contributing author of the final report for this large urban excavation of an 18th century landfill block. Over 90,000 ceramic artifacts were recovered from dozens of features, some of which were associated with former glass and china shops on the block. An 18th century ship, incorporated as part of the landfill was discovered and partially excavated.

Stadt Huys Archaeological Project, 85 Broad Street Building, New York, New York. Performed field excavation and laboratory processing, cataloguing, and analysis of 17th through 20th century artifacts recovered from this two-block, fast-land site in lower Manhattan – the site of New Amsterdam's first City Hall and the ca. 1700 Lovelace Tavern, built by colonial New York Governor Lovelace. Performed under the auspices of the New York City Landmarks Preservation Commission.

64 Pearl Street Archaeological Project, Fraunces Tavern Block, New York, New York. Performed laboratory processing, cataloguing, and analysis of 17th through 19th century artifacts recovered from this early landfill site in lower Manhattan. Performed under the auspices of the New York Landmarks Conservancy.

7 Hanover Square Archaeological Project, New York, New York. Assisted in field excavations; Laboratory Director responsible for artifact processing, cataloguing, and analysis of 17th through 20th century artifacts recovered from this part fast-land, part landfill site in lower Manhattan, a fashionable residential block during the colonial and early Federal New York City.

The Telco Block Archaeological Project, South Street Seaport District Area, New York, New York. Assisted in field excavations; laboratory director responsible for laboratory set-up, organization, artifact processing, cataloguing, and analysis of 18th through 19th century artifacts recovered.

New York State Department of Transportation – Region 11, Phase IA Archaeological Assessment Survey, PIN X727.07, Rehabilitation of Six Bridges On or Spanning the Cross Bronx Expressway from Boston Road to Noble Avenue, Bronx County, New York. Conducted archival documentary, cartographic and literature research toward an archaeological assessment of previously identified and potential archaeological resources likely to be affected by the project actions. Report concluded that the project was unlikely to affect any National Register eligible archaeological resources. NYSHPO concurred with the assessment. Primary author.

New York State Department of Transportation - Region 11, Criteria of Effects Report, Alexander Hamilton Bridge and Highbridge Interchange Ramps Rehabilitation I-95 Corridor Between Amsterdam Avenue in New York County and Undercliff Avenue in Bronx County. Conducted documentary and cartographic research toward an archaeological assessment of archaeological resources likely to be affected by project actions. Contributing author of report.

New York State Department of Transportation - Region 11, Addendum to Cultural Resources Survey, Alexander Hamilton Bridge and Highbridge Interchange Ramps Rehabilitation I-95 Corridor Between Amsterdam Avenue in New York County and Undercliff Avenue in Bronx County, New York. Conducted documentary, cartographic, and literature research toward an archaeological assessment of previously identified and potential archaeological resources likely to be affected by additional project actions.

New York State Department of Transportation, Federal Highway Administration, Phase IA Documentary Study and Report, Trans-Manhattan Expressway (I-95, US Route 1, US Route 9) Connector Ramp from the Harlem River Drive, Manhattan, New York. Conducted archival deed, documentary, cartographic and literature research toward an archaeological assessment of previously identified and potential archaeological resources likely to be affected by the project actions. Co-author of final report.

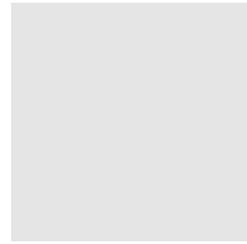
Transmission Developers Inc., Champlain Hudson Power Express High Voltage Direct Current Transmission System Project, Environmental Management and Construction Plan (EMCP). Served as cultural resources task leader for preparation of the EMCP for the 335.5-mile-long corridor running from the New York-Quebec international border to Astoria, Queens. The cumulative underwater route is approximately 191 miles and includes the length of Lake Champlain and portions of the Hudson and Harlem rivers. The cumulative underground route is approximately 144 miles running along existing roads, highways, and railroad rights of way. Responsible for the archaeology sections of the EMCP and coordinated the known shipwreck research at the NYSHPO for Lake Champlain and the Hudson, Harlem, and East Rivers.

Federal Communications Commission (FCC), Metro-North Railroad, and Long Island Rail Road. Positive Train Control (PTC) Study of Proposed Pole and Antenna Locations - Environmental Assessments and TCNS and E-106 Submissions. Served as cultural resources lead for the preparation of Environmental Assessments (EAs) in compliance with the National Environmental Policy Act of 1969 (NEPA) for the installation of Positive Train Control (PTC) infrastructure for all branches of the MNR in NYS and CT, and LIRR in NYS. Conducted data collection through the New York State Historic Preservation Office's (NYSHPO) on-line Cultural Resources Information System (CRIS) and oversaw data collection at the CTSHPO. All cultural resources within a ¼-mile radius of each proposed pole location were mapped and evaluated. Separate tables were created for the MNR and LIRR sites. EA sections were compiled for each proposed pole location. Identified and contacted tribal nations that may have an interest in the sites.



Edward Morin

Principal Archaeologist



Areas of Expertise

National Historic Preservation Act Section 106 and 110 Consultation
 Historical and Industrial Archaeology
 Cultural Resource Management Studies
 Archaeological Surveys and Investigations
 Historic Preservation
 Regulatory Agency Liaison and Coordination
 Public Outreach

Education

MS, Archaeology, Rensselaer Polytechnic Institute, 1980
 MA, American Studies, Saint Louis University, 1978
 BA, History, Westfield State University, 1975

Licenses/Registrations

Register of Professional Archaeologists (#10066)
 36 CFR Part 61
 (Archaeology and History)
 Certified Project Manager
 Amtrak Railroad Worker Safety and Security Training

Years of Experience

With AECOM	5
With URS	16
With Other Firms	20

Professional Associations

Professional Archaeologists of New York City, 1983-Present
 Society for Historical Archaeology, 1979-Present
 Society for Industrial Archeology, 1981-Present

Summary

Mr. Morin has over 40 years of experience in conducting and supervising archaeological investigations. His responsibilities include scheduling of office staff and projects; project management; federal, state, local agency and client coordination; budgeting and design of research; and direction of fieldwork, laboratory analysis and report preparation. Mr. Morin has managed and directed archaeological and historical assessments, National Register evaluation and archaeological data recovery efforts. He has also managed numerous open-end contracts involving general cultural resource services and has managed multi-million dollar archaeological data recovery programs. Prior to joining AECOM, Mr. Morin served as Principal Archaeologist for URS Corporation, Staff Archaeologist with the National Park Service, Denver Service Center, Applied Archeology Center, Senior Archaeologist for Louis Berger & Associates, and Staff Historical Archaeologist for American Resources Group, Inc. In those positions, his responsibilities included conducting and contracting archaeological investigations at historic and industrial sites within the Northeast, Mid-Atlantic and Midwest states; budgeting and design of research; direction of fieldwork, laboratory analysis, and report preparation; and project management. Mr. Morin's particular expertise is in the area of historic archaeology, but he has conducted a number of survey investigations of prehistoric sites.

Experience

Geoarchaeological Field Testing for the MTA NYC Transit Proposed Forsyth/Delancey Emergency Ventilation Plant Proposal, New York, Project Manager, 2020, conducted for E E Cruz and the MTA NYC Transit. A geoarchaeological survey was conducted prior to the construction of the proposed Forsyth/Delancey Emergency Ventilation Plant serving the subway system connection between the IND Chrystie St. Line and the BMT Nassau Line in Lower Manhattan. The purpose of the proposed survey was to identify the presence or absence of intact or truncated buried surfaces with the potential for pre-contact archaeological resource preservation within the ventilation plant project area. The survey indicated that no intact surfaces were present that could contain intact pre-contact archaeological resources. It was recommended that no additional archaeological investigations were required, and the project proceed as planned.

East Side Access Project, New York, Principal Archaeologist, 2003 to present. Conducted for the Metropolitan Transit Authority, New York City Transit/Long Island Railroad. Principal Project Archaeologist responsible for developing a Construction Protection Plan (CPP) and an Advance Field Testing Plan (AFTP) for the protection and investigation of archaeological resources during the entire course of the construction project. Other responsibilities included overseeing all archaeological investigations and providing archaeological awareness training for both MTA and contractor personnel working on the project. The goal of the training is to provide a basic understanding of the archaeological process as required under Federal, State and City guidelines; the archaeological procedures present in the Constructor

Council for Northeast Historical
Archaeology, 1979-Present

Training and Certifications

Annually, OSHA 8-Hour Annual
Refresher Course (09/26/19)

2019, Amtrak Railroad Worker
Safety and Security Training

2019, OSHA 10-hour
Construction Safety and Health
Course.

Protection Plan for the protection of archaeological resources during the course of the project; the responsibilities of all personnel in the protection of archaeological resources; and showing examples of the most common archaeological resources that may be exposed during construction activities.

Cultural Resource Consultation and Investigation for the Rockaway Delivery Lateral Pipeline Project, Kings and Queens Counties, New York, Principal Archaeologist, 2011 to 2013, conducted for the Transcontinental Gas Pipe Line Company, LLC (Transco), a Williams Company, is constructing a 26-inch diameter pipeline (Rockaway Delivery Lateral [RDL]) and a meter and regulating station (M&R Facility). The M&R facility is proposed for Hangars 1 and 2 at Floyd Bennett Field, Brooklyn, which are contributing properties within the National Register listed Floyd Bennett Field Historic District. The hangars were built in 1931 as part of New York City's first airport. AECOM is providing cultural resources consultation for the project, and has completed a Phase IA assessment of the pipeline project, a Phase IA assessment of the M&R facility, Phase IB archaeological investigations and archaeological monitoring, a Historic Structure Report for the Hangars, historic architectural design review services for the rehabilitation design of the Hangars, FERC Resource Report 4, and agency consultation. This complex, high-profile project involves considerable public interest and requires review and action from multiple agencies, including the National Park Service, New York State Historic Preservation Office, and Federal Energy Regulatory Commission.

Archaeological Monitoring, Area 6C, East Side Access Project, Contract CH054A, Queens, New York, Principal Archaeologist, 2013, conducted for the MTA New York City Transit/Long Island Railroad. Archaeological monitoring during construction activities in an area previously identified as potentially being archaeologically sensitive during an earlier Phase IA archaeological assessment. Observations during construction indicated extensive subsurface disturbances from previous development activities within Yard A, Sunnyside Yard Rail Complex, an active railroad yard.

Archaeological Monitoring, Areas 15 and 16, East Side Access Project Contract CH053, Queens, New York, Principal Archaeologist, 2013 conducted for the MTA New York City Transit/Long Island Railroad. Archaeological monitoring during construction activities in two areas previously identified as potentially being archaeologically sensitive during an earlier Phase IA archaeological assessment. Observations during construction and the examination of erosional cuts within the two areas indicated that the original surface had been removed and up to 20 feet of fill brought in.

Archeological Overview and Assessment, Ellis Island, Statue of Liberty National Monument, Project Manager, 2012-2013, conducted for the National Park Service. The goal of the project was to document all archeological investigations that have been done at Ellis Island in the Statue of Liberty National Monument in New York Harbor. The report summarized and evaluated more than 35 previous reports, assessed the status of archeological studies on the island, and updated the recordation of 13 sites. In addition to completing site record forms for New Jersey and New York historic preservation offices, the project included data collection and condition assessments within the NPS's Archeological Sites Management Information System (ASMIS). The report is a critical planning tool for the parks in the NPS system.

New York City Hall Park Archaeological Investigations, New York New York, AECOM Project Manager 2010 to 2013, conducted for Chrysalis Archaeology, Inc. AECOM provided field and laboratory personnel for archaeological monitoring, testing, artifact processing and analysis and report preparation of the utility upgrade project for New York City's historic City Hall. To date, the investigations have uncovered and documented structures and

artifacts associated with the 1735 New York City Almshouse, the 1798 Horse Market, and the 1803 City Hall.

Phase IB Investigations of the Atlantic Yards Arena and Redevelopment Project, Brooklyn, New York, Project Manager, 2007-2010, conducted for Forest City Ratner Companies. Subsurface investigations that entailed the excavation of eight test trenches within two areas in Block 1119, Lot 1, and three test trenches in Block 1127, Lots 55 and 56. Since no evidence of either intact deposits or features was encountered, no further work is recommended for this area.

Spring Street Church Site, New York, New York, Project Manager, 2007-2008, conducted for Bayrock/Sapir Organization, LLC. Investigation of human skeletal remains from 242-246 Spring Street. These investigations were requested by the New York City Department of Buildings (DOB) and New York City Landmarks Preservation Office (LPC). The specific goals of the archaeological examinations were to recover previously identified human remains and to determine whether or not additional, potentially intact burials or related funerary features and artifacts were contained within portions of the site. The process involved eight primary steps or stages of work, including: 1) detailed background research regarding the sequence of historical occupation of the site; 2) the identification of potential descendant populations; 3) the collection and documentation of known skeletal remains; 4) the controlled investigation of previously unexcavated, or partially excavated portions of the site to verify the presence or absence of additional human remains or burials; 5) the exhumation and documentation of any intact historic burials that may be present; 6) the analysis and inventorying of all human remains recovered from the site (including materials previously collected by the ME staff); 7) the reburial of recovered skeletal remains in a manner to be decided in consultation with any identified descendant population; and 8) the preparation of a final project report.

Geoarchaeological Assessment for Sunnyside, Queens Rail Complex (Queens Area 12), MTA/LIRR East Side Access Project, Construction Contract CH053, Queens, New York, Principal Investigator, 2007, conducted for MTA New York City Transit/Long Island Railroad. A geoarchaeological assessment within Area 12 of the Sunnyside Yards Railroad Complex in Queens, New York. The goal was to provide the necessary information on the nature, location, and extent of intact and original soil surfaces within Area 12 and the depth of twentieth-century fills above these surfaces. Wholly or partially intact surface horizons marking the original land surface were identified at six locations. Therefore, additional investigations (Stage 1B) were recommended in order to determine the presence/absence of cultural deposits within the two locations of Area 12 that retain intact soils.

Phase IA Documentary Study, East Side Access Ventilation Shaft, Park Avenue, New York, New York, Principal Investigator, 2007, conducted for AKRF and the MTA New York City Transit/Long Island Railroad. Conducting a documentary study of a proposed site for a ventilation shaft. The purpose of the study was to provide information on the nature, location, and extent of intact and original soil surfaces within the project area and the depth of 20th-century fills above these surfaces. This information was needed in order to determine if proposed construction activities would extend to a depth that would encounter the historic and/or prehistoric surfaces that might contain archaeological resources.

Phase IA Archeological Investigation, Rehabilitate Battery Weed Seawall and Dock, Fort Wadsworth Unit, Gateway National Recreation Area, Staten Island, New York, Principal Investigator, 2005-2006, conducted for the National Park Service, Denver Service Center. Principal Investigator for developing a program for an archaeological resources investigation at Battery Weed in Fort Wadsworth, Staten Island, New York. The goal of the investigation was to collect and synthesize documentary information regarding the prehistory

and history of the project area; prepare a series of recommendations for further archaeological work, to include field testing if required; and to prepare a project report documenting the investigation for use by National Park Service personnel.

Modified Phase I Cultural Resources Inventory, Floyd Bennett Field Jamaica Bay Unit, Gateway National Recreation Area, Brooklyn, New York Principal Investigator, 2005-2006, conducted for the National Park Service Denver Service Center. A cultural resources inventory in support of the proposed replacement of aging electrical cables. The goals of the investigations were to 1) identify areas of disturbance and fill that may be excluded from further investigation; and 2) identify areas with the potential for prehistoric and historic archaeological sites that should be avoided or mitigated during the replacement of the electrical cables.

Phase III Data Recovery of an 18th Century Section of Battery Wall, Battery Park, New York, New York , Co-Principal Investigator, 2006, conducted for Dewberry/LMS. Data recovery investigation of the remains of an 18th century stonewall associated with the Battery that once protected Fort George in Lower Manhattan.

Phase IA Archaeological Assessment of the Shaft 17B Complex in Sunnyside, Queens, New York, Principal Investigator, 2004, conducted for Jenny Engineering Corporation, Springfield, New Jersey. An archaeological assessment of a 63,950 square foot area for a proposed shaft complex. The study provided information on the potential for the presence of archaeological resources within the site that are associated with British military occupation during the Revolutionary War.

Phase IA Documentary Study, East Side Access Ventilation Shaft, 38th Street, New York, New York, Principal Investigator, 2004, conducted for the MTA New York City Transit/Long Island Railroad. A documentary study of a proposed site for a ventilation shaft in a 25 x 100-foot lot. The purpose of the study was to provide information on the nature, location, and extent of intact and original soil surfaces within the project area and the depth of 20th-century fills above these surfaces. This information was needed in order to determine if proposed construction activities would extend to a depth that would encounter the historic and/or prehistoric surfaces that might contain archaeological resources.

Addendum, Phase IA Archaeological Study, 3-7 Wooster Street, Borough of Manhattan, New York City, New York, Principal Investigator, 2004 conducted for Extended Management Company, Inc., Newark, New Jersey. An addendum Phase IA study in order to provide additional background research to adequately address revisions requested by the New York City Landmarks Preservation Commission to another firm's previously conducted study.

Reconstruction of the Stone Street Historic District, New York City, New York, Principal Investigator, 2003, conducted for the New York City Department of Design and Construction. Archaeological monitoring of the Stone Street reconstruction project. Provided the oversight and inspection of an archaeological contractor conducting monitoring services associated with the installation of a water main, catch basins and streetscape improvements.

Phase I Archeological Investigations within the Gateway National Recreation Area at the Jacob Riis Bathhouse, Jamaica Bay Unit, New York Principal Investigator, 2002-2003, conducted for the National Park Service Denver Service Center. Archaeological investigations at the Jacob Riis Bathhouse, Breezy Point, New York. Excavations through the concrete floor of the courtyard revealed heavily disturbed sandy fill related to the construction of the bathhouse. Disturbance included numerous utilities and a buried roadbed composed of oiled clinker and gravel. No further work was recommended since the investigations revealed that the development of the courtyard would not impact any archeological deposits.

Phase I Archeological Investigations within the Gateway National Recreation Area at the Jamaica Bay Wildlife Refuge, Broad Channel Island Jamaica Bay Unit, New York, Principal Investigator, 2002-2003, conducted for the National Park Service, Denver Service Center. Archaeological investigations at the Visitor Contact Station and Building 101 of Jamaica Bay Wildlife Refuge. Excavations revealed levels of recently disturbed soil capping a thick layer of landfill. The recovered artifacts consisted of architectural/structural material (with a small number of container glass fragments). No further work was recommended because the investigations indicated that proposed development of the two sites would not impact any archaeological deposits.

Cultural Resources Assessment, 1440 Story Avenue, Bronx, New York Principal Investigator, 2003, conducted for the MTA New York City Transit. A documentary study of a 12-acre site proposed for a warehouse complex. The study provided information on the potential for the presence of archaeological resources within the site.

Phase IB Archaeological Field Investigation, 101-117 Worth Street, New York, New York, Principal Investigator, 2001-2002, conducted for AKRF, New York, New York. Phase IB archaeological investigations of mid-19th to mid-20th century foundation remains and yard areas. Responsible for budgeting and design of research, direction of fieldwork, laboratory analysis, and report preparation. The Phase IB investigation consisted of both machine-excavated test trenches and hand-excavated test units, as well as monitoring of construction activities within a 150 x 260-foot site in lower Manhattan. The test trenches were utilized to determine the presence or absence of early intact surfaces, foundations, and/or shaft features within the project area. Test units were then used to further investigate potential intact surfaces and features encountered during trench excavation. The archaeological monitoring of construction activities afforded a wider exposure of the project area than otherwise provided by the excavation of test units and test trenches. The investigation identified two sections of intact stonewalls associated respectively with the Broadway Tabernacle Church (1835 – 1857) and a late-nineteenth century commercial building, along with the truncated remains of a mid-nineteenth-century well and a buried Holocene surface.

Chronology

01/2019 to Present: Principal Archaeologist/Deputy Department Manager/New England, Archaeology, AECOM, Rocky Hill, CT

01/2017-01/2019: Principal Archaeologist/Deputy Department Manager, Archaeology, AECOM, Burlington, NJ

10/2015-01/2017: Principal Archaeologist/Program Manager, AECOM, Burlington, New Jersey

01/1999-10/2015: Principal Archaeologist/Program Manager, URS Corporation, Burlington, New Jersey

10/1991-01/1999: Staff Archeologist, National Park Service, Denver Service Center, Applied Archeology Center, Silver Spring, Maryland

08/1983-10/1991: Senior Archaeologist, Louis Berger & Associates, Inc., East Orange, New Jersey

08/1980-08/1983: Staff Historic Archaeologist, American Resources Group, Inc., Carbondale, Illinois

06/1980-08/1980: Staff Archaeologist, Macon County Conservation District, Decatur, Illinois

03/1980-06/1980: Archaeologist, Center for Archaeological Investigations, Southern Illinois University, Carbondale, Illinois

09/1979-09/1980: Archaeologist, Turner Construction Company, New York,
New York

Contact Information

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Ingrid Wuebber

History Manager

Areas of Expertise

Cultural Resource
Management Studies

Section 106 of the National
Historic Preservation Act

Research

Public Outreach

Education

B.A./Archaeology/ Douglass College,
Rutgers University/1979

Years of Experience

With AECOM 20

With Other Firms 19

Professional Associations

Society for Industrial Archaeology,
Active member of National and
Roebling Chapter (NY/NJ) and Oliver
Evans Chapter (PA)

Association of Professional
Genealogists

Training and Certifications

Ms. Wuebber meets the Secretary of
the Interior's Professional
Qualifications Standards for Historians
[36 CFR 61].

Summary

Ms. Wuebber has over 35 years of experience providing historical research expertise, including supervising and conducting research for archaeological and historic architectural resource surveys, historic structures reports, and historic transportation studies. She has prepared numerous cultural resource documents in compliance with federal, state, and local preservation regulations including Sections 106 and 110 of the National Historic Preservation Act (NHPA). Ms. Wuebber has written a broad range of contextual and site-specific histories for industrial, military, transportation, commercial, and residential properties in the Northeast, Mid-Atlantic, Southeast, and Midwest regions.

Experience

Republic Airport Hangars 2, 3 & 4, New York State DOT, East Farmingdale, Long Island, Suffolk County, NY. HABS/HAER level documentation in support of the relocation of National Register-eligible Fairchild Aircraft Company hangars at Republic Airport. The hangars were built between 1923 and 1944 to serve the Fairchild Flying Field, now Republic Airport. Utilized local historical society holdings, archival collections of the National Air and Space Museum and an array of online digital libraries to document the construction history and use of the airfield and its hangars.

Molly Corbin Enhancement Project, CCI Energy and Construction Service, United States Military Academy, West Point, NY. Documented development of the Cadet Cemetery using a wide variety of cartographic and secondary source material.

Historic Context and Significance Evaluation of Two Abandoned Communication Cables, Transcontinental Gas Pipe Line Company, (a Williams Company). Rockaway Delivery Lateral Project, Queens County, NY. Prepared a historical context on the development of telegraphy and the trans-atlantic submarine cable network off the Rockaway Peninsula.

National Park Service, Gateway National Recreation Area, New York. Determinations of National Register Eligibility for Canarsie Pier, Gateway Marina and Plumb Beach, Brooklyn. Documented three sites that had been developed by the New York City Parks Department under Robert Moses.

Metropolitan Transportation Authority (MTA) New York City Transit/Long Island Railroad, Documentary Study, East Side Access Ventilation Shaft, 38th Street, New York, New York. Conducted archival, cartographic and photographic research of proposed site for a ventilation shaft – the site of a mid-19th century townhouse in Murray Hill.

Transcontinental Gas Pipe Line company (a Williams Company). Rockaway Delivery Lateral Project, Kings County, New York. Floyd Bennett Field, Hangars 1 & 2, Historic Structure Report, Brooklyn, New York, Gateway National Recreation Area. Researched and wrote historical context of New York aviation and Floyd Bennett Air Field, New York City's Municipal Airport in the 1930s and a naval air station during World War II.

National Park Service, Denver Service Center, Historic Structure Report, Liberty Island Seawall, Statue of Liberty National Monument, New York County, New York. Researched and wrote the historical background, context, and chronology of development and use of Liberty Island's seawall.

National Park Service, Gateway National Recreation Area, Jamaica Bay Unit, Brooklyn, New York. Modified Phase IA Cultural Resources Inventory of Floyd Bennett Field. Identified areas of disturbance and fill and delineated areas with the potential for prehistoric or historic sites. Floyd Bennett Field was the site of many aviation milestones as New York's municipal airport and developed into a Coast Guard Station and Naval Air Station.

National Park Service, Northeast Region Archeology Program, Lowell, Massachusetts. Archeological Overview and Assessment, Ellis Island, Statue of Liberty National Monument, New York County, New York and Hudson County, New Jersey. Conducted documentary research to summarize the current state of archeological knowledge for Ellis Island and offer direction for future preservation and management of its archeological resources and collections.

Jenny Engineering Corporation, Springfield, New Jersey. Phase IA Archaeological Assessment of the Shaft 17B Complex in Sunnyside, Queens, New York. Conducted documentary, cartographic, and photographic research for an archaeological assessment of a 63,950 square foot area for a proposed shaft complex. The study provided information on the potential for the presence of archaeological resources within the site that are associated with British military occupation during the Revolutionary War.

Transcontinental Gas Pipe Line Company, a Williams Company. Historic Context and Significance Evaluation of Two Abandoned Communication Cables, Rockaway Delivery Lateral Project, Queens, New York. Researched and prepared historical context on the development of telegraphy and the trans-atlantic submarine cable network off Rockaway Peninsula.

Consolidated Edison Company of New York (ConEd), Environmental Assessment Report for Furnace Brook Lake Dam Removal, Town of Cortlandt, Westchester County. Research Historian responsible for conducting documentary and cartographic research for an iron furnace and grist mill complex.

AKRF, New York, New York. Phase IB Archaeological Field Investigation, 101-117 Worth Street, New York, New York. Researched, analyzed and prepared the historic section of the report incorporating documentary, cartographic, and photographic data for Phase IB archaeological investigations of the site of the Broadway Tabernacle Church (1835 – 1857) and a late 19th-century commercial building.

National Park Service, Gateway National Recreation Area, Fort Wadsworth Unit, Staten Island, New York. Phase IA Archeological Investigation, Rehabilitate Battery Weed Seawall and Dock, Staten Island, New York. Conducted documentary, cartographic and photographic research for Battery Weed in Fort Wadsworth. The goal of the investigation was to collect and synthesize documentary information regarding the prehistory and history of the project area; prepare a series of recommendations for further archaeological work, to include field testing if required; and to prepare a project report documenting the investigation for use by National Park Service personnel.

National Park Service, Gateway National Recreation Area, Jamaica Bay Unit, Brooklyn, New York. Phase I Archeological Investigations within the Gateway National Recreation Area at the Jacob Riis Bathhouse, Queens, New York. Conducted documentary, cartographic, and photographic research for archaeological investigations at the Jacob Riis Bathhouse, developed by the New York City park system in the 1920s.



Areas of Expertise

Evolutionary Anthropology
Archaeological Surveys and
Excavations
Geographic Information
Systems (GIS)
Stratigraphic Analysis
Lithic Analysis

Years of Experience

With AECOM/URS: 7 Years
With Other Firms: 2+ Years

Education

B.S./2010/Rutgers University,
Rutgers College New
Brunswick/Evolutionary
Anthropology and Archaeology

Continuing Education

OSHA 40-Hour HAZWOPER
Course, 2015-Refresher 2020
Excavation Safety for Competent
Person Training, 2015
Red Cross First Aid, CPR, AED
Training, 2020

Chronology

2015 – Present: AECOM,
Burlington, NJ
2014: United States Forest Service
North Fork, CA
2012 – 2013: URS,
Burlington, NJ
2011 – 2012: Gray & Pape, Inc.
Providence, RI
2009: Nels Nelson North
American Archaeology Lab,
American Museum of Natural
History, New York, NY
2008: Koobi Fora Field School,
Koobi Fora, Kenya

Joseph M. Kwiatek

Archaeological Supervisor

Overview

Joseph Kwiatek joined Legacy URS in the summer of 2012 before the company was acquired by AECOM. He has 9+ years of professional experience in Cultural Resource Management and historic preservation at a long list of firms. He has surveyed territory and excavated sites throughout the Northeast and Mid-Atlantic Region, as well as in northeastern California and northern Kenya. Much of his work has been conducted on linear projects, surveying new underground and overhead utility corridors. Additionally, Joseph has participated in numerous Phase II and III excavations at registered historic-era sites and within prehistoric floodplain contexts. As an Archaeological Supervisor with AECOM he serves as a field director, client and contractor liaison, data manager and report writer. Joseph has extensive experience in field survey, GPS use and lithic analysis.

Selected Project Experience

Phase I Archaeological Survey of the PennEast Natural Gas Pipeline Project, Pennsylvania and New Jersey

Archaeological Supervisor. Directed field crew for Phase I and Phase II survey along 113-mile long proposed natural gas pipeline corridor. Coordinated and completed imminent domain surveys. Supervised deep testing of Susquehanna River floodplain. Co-authored SHPO reports.

Phase IB Archaeological Survey and Phase II Investigation, Site 7S-F-152, for the Park Avenue Realignment Project, Sussex County, Delaware

Archaeological Supervisor. Directed Phase I and Phase II excavations, including short interval STPs, Test Units, and Strip Trenches. Consulted with DelDOT archaeologists on testing strategies. Co-authored SHPO reports.

Phase IB Archaeological Survey for the James River Sustainable Water Initiative for Tomorrow Project, Newport News, Virginia

Archaeological Supervisor. Directed field crew for Phase IB of existing wastewater facility and surrounding properties. Investigated previously registered historic and prehistoric scatters near the James River.

Phase I Archaeological Investigation for the Kenton Road, SR8 to Chestnut Grove Road Project, Kent County, Delaware

Archaeological Supervisor. Directed field crew for Phase I survey of roadside shoulders and work areas for infrastructure expansion. Discovered and documented a domestic site attributed to C.I. Dupont. Primary author of SHPO report.



Phase I/II Archaeological Investigations for the Proposed Petrochemicals Complex, Potter and Center Townships, Beaver County, Pennsylvania

Archaeological Crew Chief. Directed Phase II investigations on the bank of the Ohio River within the floodplain contexts of site 36BV0051. Supervised the excavation of multiple deep testing units containing prehistoric artifacts and features. Responsible for safety measures such as hydraulic shoring and rescue harnesses while working at depths of greater than two meters below ground surface.

Whiskey Ridge Ecological Restoration Project, Sierra National Forest, California

Archaeological Technician. Conducted systematic Phase I pedestrian survey in the Sierra Nevada mountains. Authored and edited Department of Parks and Recreation (DPR) site records according to established standards for historic period railroad grades, work camps and prehistoric food processing sites. Produced site maps and updated the forest-wide GIS database in ESRI ArcGIS 10.1.

Phase I and II Archaeological Survey of the Constitution Natural Gas Pipeline Project, Pennsylvania and New York

GIS/Field Technician. Participated in Phase I and II survey along 600-foot wide and 126-mile long proposed natural gas pipeline corridor. Utilized a handled Trimble GPS unit to locate predetermined GPS shovel test locations based on a predictive modeling grid and to record site boundaries, historic foundation walls and judgmental shovel tests.

Williams Leidy Southeast Natural Gas Pipeline Project, New Jersey

Field Technician. Excavated shovel test transects during Phase I survey across multiple agricultural fields, residential yards and numerous drainages. Testing was conducted based on specialized prehistoric and historic probability models.

Archaeological Investigations of the I-95/Girard Avenue Improvement Project, Philadelphia, Pennsylvania.

Field Technician. Conducted Phase III data recovery in the urban contexts of downtown Philadelphia. Excavated historic-era privies and recovered numerous household artifacts dating from the earliest settlement of the city to the early 20th century.

Phase I and II Archaeological Survey of Mashipacong Island, Northeast Upgrade of the Tennessee Gas 300 Line, Montague, NJ

Field Technician. Shovel tested floodplain soils down to a depth of 2.5 meters below ground surface on an island in the Delaware River. Multiple areas of the island contained moderate concentrations of prehistoric artifacts and one excavation unit uncovered a cache of over 200 net sinkers.

Phase II Archaeological Excavations at the Vanderbilt Mansion National Historic Site, Hyde Park, NY



Field Technician. Conducted Phase II shovel testing and unit excavation on the grounds of the Vanderbilt Mansion. Investigations uncovered high concentrations of architectural and household artifacts while attempting to pinpoint the location of a lost toll house.



Kristopher Montgomery

Archaeologist

Areas of Expertise

Cultural Resource Management
Studies
Section 106 of the National Historic
Preservation Act
Archaeological Surveys and
Excavations
Historic Preservation
Public Outreach

Years of Experience

With AECOM: 8 Years
With Other Firms: 5 Years

Education

B.A./2007/Pennsylvania State
University/Anthropology

Safety Certifications

OSHA 40-hour Hazwoper
OSHA 30 hour Construction Safety
National Safety Council Defensive
Driving
Coble Trench Confined Space
Coble Trench Competent Person
Certification

Overview

Mr. Montgomery has over 12 years of experience in archaeological investigations throughout the eastern and mid-western United States and has participated in the excavation and identification of over 85 archaeological sites. Mr. Montgomery has also been in a field supervisory position for over 300 miles of natural gas pipeline right of way and has extensive experience in energy sector related projects. Mr. Montgomery's experience encompasses both historic and prehistoric archaeological investigations at all phases. Mr. Montgomery has also co-authored 15 technical reports.

Select Project Experience

Phase I Archaeological Investigations, PennEast Pipeline Project, Luzerne, Carbon, Northampton, and Bucks Counties, PA. Field Director for a 118-mile natural gas pipeline project. Tasks included logistical coordination of staff, supervision of fieldwork, technical report preparation, site identification, and training field personnel. Identified over 40 archaeological sites.

Phase I Deepwater Reterminations Project, Atlantic City Electric, Salem County, NJ. Field Director for transmission line construction project near the Churchtown Substation in Pennsville Township. The project area encompassed 16 acres near the Delaware Bay. Archaeological testing was conducted in portions of the project area with a high sensitivity for prehistoric and historic archaeological resources. The project is still on-going.

Phase I/II Archaeological Investigations for the Proposed Petrochemicals Complex, Potter and Center Townships, Beaver County, Pennsylvania Archaeological Crew Chief. Directed Phase I and Phase II investigations of site 36BV0046. Supervised the excavation of multiple backhoe trenches, test units, and shovel test pits. Responsible for field safety, test unit placement, and stratigraphic interpretation.

Phase I Archaeological Investigations, Sunbury Pipeline Project, Northcentral, PA. Crew Chief for a 34-mile natural gas pipeline project. Tasks included logistical coordination of staff, supervision of fieldwork, excavation, and artifact identification. Identified over 30 archaeological sites.

Phase III Archaeological Data Recovery, Route 19 Expansion, Yancey County, NC. Field Crew on site 31YC0031, a stratified archaic site eligible for the National Register of Historic Places. Tasks included test unit and block excavation, artifact identification, soil and feature interpretation, and assisted in the collection of soil samples for luminescence dating.



Phase I and II Archaeological Investigations for the Constitution Pipeline Project, PA/NY. Crew Chief for the cultural resource study of a new 120-mile pipeline from Susquehanna County, PA to Schoharie County, NY. Over 200 prehistoric and historic sites were identified during the survey, three of which are eligible for nomination to the National Register of Historic Places.

Phase I Archaeological Investigation, Northeast Pocono Reliability Project, PPL Electric Utilities, Northeastern PA: Crew Chief for a 64-mile electric transmission line right of way and two 100+ acre substations. Tasks include logistical coordination of staff, supervision of fieldwork, and identification of archaeological sites. Identified nine historic Euro-American sites and one Native American archaeological site.

Phase I and Phase II Archaeological Investigations, Northeast Upgrade Project, Bradford, Susquehanna, Wayne, and Pike Counties, PA. Sussex, Bergen, and Passaic Counties, NJ. Field Director for a 77-mile natural gas pipeline project. Tasks included logistical coordination of staff, supervision of fieldwork, technical report preparation, site identification, and supervision of Phase II archaeological evaluations. Identified over 40 archaeological sites.

Phase I and Phase II Archaeological Investigation, 300 Line Project, Potter, Tioga, Bradford, Susquehanna, Wayne, and Pike Counties, PA. Sussex, Bergen, and Passaic Counties. Crew Chief for a 155-mile natural gas pipeline project. Tasks included logistical coordination of staff, supervision of fieldwork, technical report preparation, site identification, and supervision of Phase II archaeological evaluations. Identified over 50 archaeological sites.

Paleo-botanical Sampling and Deep Testing, Millennium Pipeline, Pine Island, NY. Field Crew on the paleo-botanical sampling of the Black Dirt peat bog, near Pine Island, NY. Tasks included excavation of several three-meter by three-meter excavation blocks to a depth of five meters below ground surface, installation and maintenance of hydraulic shoring, site competent person, monitoring the safety of excavation personnel, and the collection of soil samples.

Professional Societies/Affiliations

Society for Pennsylvania Archaeology

Chronology

2012-present	AECOM
2007-2012	Gray and Pape Inc., Providence, RI
2007	GAI Consultants, Pittsburgh, Pennsylvania

Appendix B
Chain of Title

CHAIN OF TITLE

- 1898 Consolidation of Kings, Queens, Richmond, and parts of Westchester Counties into New York City brings the Long Island City Water Works under the control of the New York City Department of Water Supply.
- 1873 J. P. Giraud Foster, James and Anna D. Thomson, to Long Island City [Board of Water Commissioners]
Written March 8, 1873; recorded March 12, 1873
\$ 32,074
Parcels in 2nd Ward of Long Island City. Block 3 Lots 35-58; Block 4 Lots 35-58; Block 5 Lots 35-58; Block 6 Lots 33-56; Block 3A Lots 1-2; Block 4A Lots 1-2; Block 5A Lots 1-2; Block 6A Lots 1-2; Block 7A Lot 1; including Grove and Caroline Streets.
Queens County Deed Book 402: 421
- 1873 William Gosman to J. P. Giraud Foster and James Thomson, Counselors at Law
Written February 6, 1873; recorded February 17, 1873
\$65,280
Farm at Dutch Kills, Long Island City divided by public highway. 1) 26 acres & 12 perches on north side of highway adjoining Abraham L. Schuyler and William Bragaw. 2) 32 acres, 3 roods, & 22 perches on south side of highway adjoining William Morrel, John Alsop, William Payntar, and heirs of Richard Bragaw.
Queens County Deed Book 401:63
- 1860 William Gosman to The Long Island Rail Road Company
Written August 27, 1860; September 8, 1860
\$500
Strip of land 50 feet wide across William Gosman's land
Queens County Deed Book 18 1:463
- 1847 Philo T. Ruggles, Master in Chancery, to William Gosman
Written April 12, 1847; recorded April 14, 1847
\$5,810
Farm at Dutch Kills, Long Island City divided by public highway. 1) 26 acres & 12 perches on north side of highway adjoining Abraham L. Schuyler and William Bragaw. 2) 32 acres, 3 roods, & 22 perches on south side of highway adjoining William Morrel, John Alsop, William Payntar, and heirs of Richard Bragaw.
Queens County Deed Book 71 :46

- 1842 Thomas Addis Emmet, Master in Chancery, to Samuel Morrison
Written May 23, 1842; recorded June 15, 1842
\$6,642.12
Farm at Dutch Kills, Long Island City divided by public highway. 1) 26 acres & 12 perches on north side of highway adjoining Abraham L. Schuyler and William Bragaw. 2) 32 acres, 3 roods, & 22 perches on south side of highway adjoining William Morrel, John Alsop, William Payntar, and heirs of Richard Bragaw. [Part of Andrew Bragaw farm].
Queens County Deed Book 57:282
- 1839 Abraham & Sarah Bragaw, Margaret Stockholm, and John & Jane Humpry vs. Ellen Bragaw, Rulof Bragaw, Elsy Bragaw, et al.
Chancery Court held April 23, 1839
Case involving the estate of Andrew Bragaw 1828 Death of Andrew Bragaw [Cited in Riker 1852:373]
- 1782 Death of John Bragaw
[Cited in Riker 1852:372]
Farm containing project area inherited by his son, Andrew.
- 1757 Death of Isaac Bragaw
[Cited in Riker 1852:371]
Farm containing project area inherited by his son, John.

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