BROADWAY TRIANGLE REDEVELOPMENT PROJECT WILLIAMSBURG, BROOKLYN, NEW YORK

PHASE IA CULTURAL RESOURCE ASSESSMENT

Prepared For:

New York City Department of Housing Preservation and Development New York, New York



Prepared By: **The Louis Berger Group, Inc.** New York, New York



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EXECUTIVE SUMMARY

The New York City Department of Housing Preservation and Development (HPD) is seeking discretionary actions in order to facilitate the redevelopment of a nine-block area known as Broadway Triangle, located in Williamsburg, Brooklyn. The Proposed Action includes zoning map amendments to generally rezone the existing M1-2 Manufacturing District to Residential and Commercial Districts; zoning text amendments to establish Inclusionary Housing in the proposed R6A and R7A zoning districts; the disposition of City-owned properties; Urban Development Action Area Projects designation; the modification of an Urban Renewal Plan; and City Acquisition through eminent domain. The Project Area encompasses approximately 31 acres and is generally bounded by Flushing Avenue to the south, Throop Avenue to the east, Lynch Street to the north, and Union Avenue, Walton Street, and Harrison Avenue to the west.

As part of this action, the HPD is undertaking an Environmental Impact Statement (EIS) for the proposed Broadway Triangle Redevelopment Project. Consideration for cultural resources, including both archaeological and historic architectural resources, must be undertaken as part of the City Environmental Quality Review (CEQR) process. In addition, the HPD anticipates the use of federal funding from the United States Department of Housing and Urban Development (HUD) to facilitate the construction of affordable housing. Given this anticipated use of federal funds, the EIS has been designed to include an Environmental Assessment (EA) in accordance with the *National Environmental Policy Act* (NEPA). As such, the following Phase IA Cultural Resource Assessment establishes Areas of Potential Effect (APEs) for the project, those areas within which the proposed actions may affect potential archaeological and/or historic architectural resources, identifies designated and potential cultural resources that may be affected by the proposed project, and assesses the proposed action's potential effects on those resources. This Phase IA Cultural Resource Assessment will be submitted to the New York City Landmarks Preservation Commission (LPC) and the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP).

Within the Project Area, HPD has delineated projected and potential development sites. The proposed rezoning project consists of 35 projected development sites and two potential development sites. These development sites are located throughout the 31-acre rezoning area and encompass a total of 114 individual tax lots. LPC determined that none of the projected or potential development sites are sensitive for archaeological resources. As such, they concluded that there are no further archaeological concerns with respect to the 114 lots. Given that the Proposed Action must be reviewed by the NYSOPRHP, in addition to LPC, Areas of Potential Effect (APEs) for archaeological and historic architectural resources were defined despite the non-sensitivity determination of LPC. The archaeological APE for the Proposed Action was determined to be the area within which direct impacts would most likely occur as a result of the proposed project. Therefore, the archaeological APE was defined as the entire redevelopment area, encompassing all of the projected and potential development sites along with the blocks within which the development sites are located. As for the historic architectural survey, the historic architectural APE was determined using the CEQR guidelines that recommend a 400-foot (121.92 meters) radius from the borders of the project site as the limits of the study area for architectural resources (CEQR Technical Manual 312). Consultation with NYSOPRHP was also initiated so as to obtain a preliminary determination of the archaeological and historic architectural sensitivity of the project area. With respect to archaeological resources, NYSOPRHP found in concurrence with the LPC that there are no concerns with respect to the redevelopment project. Regarding historic architectural resources, the NYSOPRHP requested additional information, in the form of photographs of the area surrounding the project site, before issuing a sensitivity determination.

The documentary study, including a review of historical accounts, cartographic resources, and previously conducted archaeological studies and previously identified archaeological sites, concluded that the archaeological APE was not sensitive for prehistoric or historic archaeological deposits. Therefore, no additional archaeological investigations were recommended with respect to the proposed redevelopment project. The comprehensive support for the conclusions regarding the sensitivity of the archaeological APE is included in the following report.

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1.0 INTRODUCTION AND PROJECT DESCRIPTION

1.1 Project Description

The New York City Department of Housing Preservation and Development (HPD) is seeking discretionary actions in order to facilitate the redevelopment of a nine-block area known as Broadway Triangle, located in Williamsburg, Brooklyn (Figure 1). The Proposed Action includes zoning map amendments to generally rezone the existing M1-2 Manufacturing District to Residential and Commercial Districts; zoning text amendments to establish Inclusionary Housing in the proposed R6A and R7A zoning districts; the disposition of City-owned properties; Urban Development Action Area Projects designation; the modification of an Urban Renewal Plan; and City Acquisition through eminent domain. The Project Area encompasses approximately 31 acres and is generally bounded by Flushing Avenue to the south, Throop Avenue to the east, Lynch Street to the north, and Union Avenue, Walton Street, and Harrison Avenue to the west (Figure 1).

The Proposed Action is designed so as to facilitate the orderly redevelopment of the Broadway Triangle area in a fashion and at a pace consistent with the surrounding neighborhood. The rezoning amendments are intended to encourage housing production, including affordable housing and mixed-use development in an area already well-served and accessible via public transportation and mass transit. Under the Proposed Action, residential development would be allowed on an as-of-right basis and incentives would be provided for the development of affordable housing. Along with housing development, the Proposed Action would encourage the growth of local commercial and community facility uses to support the growing residential community. The project would also bring residential uses currently situated within manufacturing districts into conformance with zoning regulations. Ultimately, the Proposed Action is expected to result in approximately 1,895 dwelling units, 914 of which would be affordable, 103,535 square feet of retail space, and 25,856 square feet of community facility space.

Adoption of the Proposed Action would require public review and approvals by a number of government agencies, including HPD, the local Community Board, the Brooklyn Borough President, the New York City Planning Commission, and the City Council. As part of this action, the HPD is undertaking an Environmental Impact Statement (EIS) for the proposed Broadway Triangle Redevelopment Project. Consideration for cultural resources, including both archaeological and historic architectural resources, must be undertaken as part of the *City Environmental Quality Review* (CEQR) process. In addition, the HPD anticipates the use of federal funding from the United States Department of Housing and Urban Development (HUD) to facilitate the construction of affordable housing. Given this anticipated use of federal funds, the EIS has been designed to include an Environmental Assessment (EA) in accordance with the *National Environmental Policy Act* (NEPA). As such, the following Phase IA Cultural Resource Assessment establishes Areas of Potential Effect (APEs) for the project, those areas within which the proposed actions may affect potential archaeological and/or historic architectural resources, identifies designated and potential cultural resources. This Phase IA Cultural Resource Assessment will be submitted to the New York City Landmarks Preservation Commission (LPC) and the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP).

This study was performed for compliance with the *City Environmental Quality Review* (CEQR) and follows the guidance of the CEQR Technical Manual (October 2001) and the regulations of Article 8 of the State Environmental Conservation Law, *State Environmental Quality Review Act* (SEQRA), as found in 6 NYCRR Part 617. This investigation was also completed in accordance with the *National Environmental Policy Act* (NEPA) and will be reviewed by the NYSOPRHP under Section 106 of the *National Historic Preservation Act* (NHPA). The cultural resource specialists who performed this study meet the standards specified in 36 CFR 66.3(b) (2) and 36 CFR 62.

1.2 Areas of Potential Effect

Within the Project Area, HPD has delineated projected and potential development sites. Projected development sites consist of those sites considered most likely be developed within ten years of the Proposed Action. Potential sites are those considered less likely to be developed within this same period. The proposed rezoning project consists of 35 projected development sites and two potential development sites (Figure 2). These development sites are located throughout the 31-acre rezoning area and often encompass multiple tax lots within a single projected or potential site. A total of 108 individual lots comprise the 35 projected development sites; six city lots encompass the two potential development sites (Figure 3; Appendix C). A list of the 114 lots, including both those lots within both the



FIGURE 1: Overview of the Proposed Broadway Triangle Redevelopment Project

SOURCE: USGS 7.5' Series, Brooklyn, NY



FIGURE 2: Projected and Potential Development Sites within the Proposed Broadway Triangle Redevelopment Project

SOURCE: City of New York Department of City Planning; MapPLUTO Release 07C.1.

FIGURE 3: Tax Blocks and Lots within the Projected and Potential Development Sites within the Proposed Broadway Triangle Redevelopment Project

SOURCE: City of New York Department of City Planning; MapPLUTO Release 07C.1.

projected and potential development sites, was submitted to LPC in order to preliminarily evaluate the potential archaeological sensitivity and historic architectural sensitivity within the redevelopment area (Zachary Davis, Information Request dated December 16, 2008). LPC completed its initial evaluation of the projected and potential lots so as to assist HPD in fulfilling its environmental review obligations under CEQR. After reviewing archaeological sensitivity models, reports detailing previously conducted archaeological studies in the vicinity of the rezoning area, and historic maps, LPC found that none of the projected or potential development sites were sensitive for archaeological resources. As such, they concluded that there are no further archaeological concerns with respect to the 114 lots (Santucci, Environmental Review letter dated 12/18/2008). In a separate letter, LPC also found that there are no historic architectural concerns with respect to the proposed Broadway Triangle Redevelopment Project (Santucci, Environmental Review letter dated 1/9/2009).

The Proposed Action is also subject to review by NYSOPRHP. As such, consultation with the NYSOPRHP was also initiated (Zachary Davis, Information Request dated December 16, 2008). In light of the federal purview of the project, Areas of Potential Effect (APEs) for archaeological and historic architectural resources were defined. Following Section 106 guidelines for the delineation of the archaeological APE, the archaeological APE for the Proposed Action was determined to be the area within which direct impacts would most likely occur as a result of the proposed project. Therefore, the archaeological APE was defined as the entire redevelopment area, encompassing all of the projected and potential development sites along with the blocks within which the development sites are located (Figure 4). After their preliminary evaluation of the projected and potential development sites, NYSOPRHP concluded that they had no [archaeological] concerns with the development of the project (Cumming, Determination Letter dated 1/21/09).

The historic architectural APE was determined using the CEQR guidelines that recommend a 400-foot (121.92 meters) radius from the borders of the project site as the limits of the study area for architectural resources (CEQR Technical Manual 312). Thus, the historic architectural APE was calculated by buffering 400 feet (121.92 meters) from the exterior limits of the proposed Project Area (Figure 5). The historic architectural APE for this Phase IA Cultural Resource Study encompasses an irregularly shaped area roughly bounded by Rutledge Street, Johnson Avenue, and Montrose Avenue to the north, Broadway, Manhattan Avenue, Leonard Street, and Lorimer Street to the east, Ellery Street to the south, and Marcy and Harrison Avenues to the west. In their preliminary evaluation of the historic architectural APE, NYSOPRHP determined that additional information was required in order to determine the historic architectural sensitivity of the Proposed Action (Cumming, Determination Letter dated 1/21/09). To complete their assessment and determination, NYSOPRHP requested clear, original photographs of the area surrounding the project site, taken from a vantage point within the project area (Howe, Request for Additional Information letter dated 1/21/2009).

1.3 Scope of Work and Project Personnel

This Phase IA Cultural Resource Survey consisted of background research on the archaeological APE and its immediate vicinity, and, a historic architectural survey of the historic architectural APE. The archaeological assessment was designed to determine the history of land use throughout the area and the nature of historic development of the archaeological APE and its vicinity, determine if historical resources and/or their associated features existed within the area, establish the potential to encounter prehistoric and/or historic archaeological resources within the area, identify the extent to which prior disturbances (such as grading and construction) would have affected potential archaeological resources, and assess the proposed project's likelihood to affect any areas identified to possess archaeological potential.

The archaeological study is designed to address two primary concerns—the likelihood that potential historic archaeological resources of significance existed within the archaeological APE and the potential for such resources to have remained intact and relatively undisturbed. The nature and extent of past development within the area was also evaluated in light of the preexisting topography, natural setting, and previous archaeological studies within the region in order to evaluate the potential, if any, for intact prehistoric archaeological deposits.

To accomplish these goals the Louis Berger Group, Inc. (Berger) performed a general documentary and cartographic review of the archaeological APE. Research was conducted at various institutions, including the New York Public Library and the New York City Landmarks Preservation Commission (LPC). Additional resources were consulted online for historic and cartographic information.

FIGURE 4: Archaeological APE for the Broadway Triangle Redevelopment Project SOURCE: City of New York Department of City Planning; MapPLUTO Release 07C.1.

FIGURE 5: Architectural APE for the Broadway Triangle Redevelopment Project

SOURCE: City of New York Department of City Planning; MapPLUTO Release 07C.1.

Site file searches were performed at the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP), the New York State Museum in Albany (NYSM), and at LPC. In addition to documentary research, field visits were undertaken and resident interviews were conducted as necessary. During these field visits, site photographs were also taken.

Zachary Davis, RPA, Principal Archaeologist, served as Project Manager, while historic architectural resources were evaluated by Deborah Van Steen, Architectural Historian. Archaeologists Tina Fortugno, RPA, Lauren Hayden, RPA, and Mark Penney conducted the background research. Ms. Fortugno, Ms. Van Steen, and Mr. Davis, who also assembled the report's graphics, authored this report.

2.0 ENVIRONMENTAL SETTING

2.1 Project Area and Current Land Use

The Broadway Triangle Redevelopment Project Area lies within Williamsburg, Brooklyn. Currently, the redevelopment area consists of a light manufacturing district defined by vacant buildings, asphalt parking lots, autobody and auto-repair shops, and warehouses (Photo 1). Within this area, several light manufacturing buildings have been converted to residential use, in violation of current zoning regulations. In recent years, the larger Williamsburg area has experienced a substantial growth in its residential community and in the development of mixed-use space associated with the growing residential population. The residential development within the larger neighborhood has outpaced the growth within the Broadway Triangle area.

Photo 1: Bird's Eye View of the Project Area (Source: Windows Local Live, 2008)

2.2 Geology and Geography

Brooklyn, as part of the Long Island land mass, is situated within the Atlantic Coastal Plain physiographic province (USGS 2003a; Schuberth 1968: 9). The Atlantic Coastal Plain extends from the north shore of Long Island along the Atlantic Ocean southward towards Florida and westward to the Piedmont. According to Schuberth, the sediments within this province lack a definite coherence, consisting of layers of sand, clay, and marl, "recently emerged sea bottom" (1968: 9). In addition to the coastal plain deposits, sedimentary deposits within Long Island also consist of moraine and outwash, till once deposited by the movement of the Pleistocene glaciers (USGS 2003b).

Two expressions of the Wisconsin glacial terminal moraine—the Ronkonkoma Moraine and the Harbor Hill Moraine have been identified on Long Island. The Ronkonkoma Moraine, the older of the two, extended from the eastern extent of Long Island to the southern shore. The Harbor Hill Moraine, also trended from east to west across Long Island, and terminated north of the Ronkonkoma terminal extent. The Harbor Hill Moraine represents a single, laterally continuous feature which extends from Brooklyn to Port Jefferson. Within Brooklyn, the moraine ridge is sharply linear and its adjacent outwash plain forms a southward sloping elevated surface (Bennington 2009).

Sediment within the moraine ranges from unsorted till deposits to local deposits of stratified and sorted sand and gravel (New York City Soil Survey 2005). With the retreat of the Wisconsin glacier, streams of melt water carrying sand, gravel, and silt would flow outward from the terminal moraine and the ice front, weaving a complicated pattern of channels within the land in front of the glacier (Schuberth 1968: 187). Schuberth further observes that,

As they flow away from the ice sheet, these streams rapidly lose their velocity and, in so doing, deposit much of their debris. In time an extensive plain, called an *outwash plain*, is formed of these stratified and sorted sediments, a plain that may extend for miles beyond the ice front. The heaviest particles, the sand and gravel, are deposited near the terminal moraine, while the fine sands and silts form a more gentle slope farther to the south [1968: 187-188].

Within Brooklyn, beneath the glacial outwash deposits, the soil profile consists of coastal plain sediments of unconsolidated deposits of Late Cretaceous age eroded New England Upland deposits (New York City Soil Survey 2005).

According to the New York City Soil Survey, soils within the project area and immediate vicinity are classified as *Pavement & Buildings*—till substratum (2005). This soil complex consists of nearly level to gently sloping, highly urbanized areas with more than 80 percent of the surface being covered by pavement and buildings. The pavement and structures overlie deposits of glacial till. This soil type is typically found within urban centers (New York City Soil Survey 2005).

Although the project area has seen extensive development throughout the twentieth century, its preexisting topography can be established from early historic maps. Plotting the project area on Burr's 1829 map indicates that a drainage feeding into the Wallabout Bay previously crossed the northern portion of the parcel from the northeast to the southwest (Figure 6). The 1844 US Coast Survey provides a more detailed depiction of the area. The survey indicates that the proposed redevelopment parcel encompassed an area that included an undeveloped wooded tract along its southern extent, cleared agricultural fields within its central and western extent, and the beginnings of urban development within its northeastern corner (Figure 7). The drainage which previously crossed the project area appears to terminate approximately 2720 feet (829.1 meters) to the west. However, the wooded tract along the southern portion of the project area appears to follow the trajectory of the unnamed drainage. This suggests that the drainage and/or its associated marshlands may have extended into the southern portion of the project area. The wooded terrain most likely represents wooded marshlands within the floodplain or the adjacent border of the unnamed creek. The 1844 survey also indicates that two major roadways with associated settlement have developed to the east and south of the project area. The East River and the Wallabout Bay are roughly 4800 feet (1463 meters) to the west.

The project area currently consists of relatively level terrain at an elevation of 15 feet (4.6 meters) above sea level. The elevation rises gradually to the southwest and northeast reaching a maximum elevation of 40 feet (12.2 meters) above sea level. The topography rises more dramatically to the northwest, reaching an elevation of 50 feet (15.2 meters) above sea level before dropping towards the East River. There is a more dramatic rise to the southeast of the project area, with the elevation reaching 70 feet (21.3 meters) above sea level along a knoll associated with St. John's Preparatory School. Although the historic drainage which previously sat in the vicinity of the project area is no longer extant, the East River and Wallabout Bay still sit within 5000 feet (1524 meters) to the west.

FIGURE 6: 1829 View of the Broadway Triangle Project Area

FIGURE 7: 1844 View of the Broadway Triangle Project Area

SOURCE: U.S. Coast Survey 1844

3.0 BACKGROUND

3.1 Prehistoric Overview

The earliest documented human occupation of New York occurred about 12,000 years before present (BP) during what is known as the Paleoindian period. The Paleoindians were groups of mobile hunter-gatherers who were adapted to the periglacial environments of the late Pleistocene and early Holocene. Paleoindian sites are known primarily through distinctive lanceolate fluted points that were usually made of high-quality stone. The Paleoindian economy was dominated by game hunting, an adaptation to the open forest environments and colder climate of the period. Although isolated fluted points have been found on Long Island (Saxon 1973), no Paleoindian habitation sites have been identified. The Port Mobil Site on Staten Island is the nearest excavated Paleoindian site (Eisenberg 1978; Funk 1977). At the time of Paleoindian occupation, large portions of the present continental shelf near coastal New York would have `been exposed because of the lower sea levels. It is, therefore, possible that former habitation sites on Long Island may have been submerged or destroyed by rising seas following the last glacial retreat (Edwards and Merrill 1977; Newman 1977).

The Archaic period extended from circa 10,000 BP to circa 3300 BP; however, the instability of the coastal environments during the early Holocene epoch may be one reason that evidence of significant Native American occupation of Long Island prior to Late Archaic times (circa 6000 to 3300 BP) is lacking (Wyatt 1977:400). Remains of Early Archaic (circa 10,000 to 8000 BP) occupation are represented by a few scattered points similar to the Kanawha Stemmed and LeCroy Bifurcate Base types (Broyles 1971). Vosburg and Brewerton point types are also known to have come from Long Island, but are relatively scarce (Wyatt 1977:400).

The rate of sea-level rise and isostatic rebound of the continental margins had lessened by Late Archaic times (Edwards and Merrill 1977; Newman 1977; Snow 1980), resulting in the stabilization of marine environments. There is considerable archaeological evidence in the form of shell midden sites concentrated near salt marshes to indicate that marine resources were intensively exploited by Late Archaic populations on Long Island (Wyatt 1977). However, the relationship between the shell midden sites and Late Archaic sites in interior areas, which are characterized by artifact assemblages that include Wading River points, atlatl weights, and celts (Ritchie 1980:142-145), is poorly understood.

The rise in sea-level and changes in drainage patterns during the Holocene also had widespread effects on the terrestrial environment and on vegetation. By 8500 BP, oak and hemlock forests had replaced the predominantly pine forests of the area. The ecological changes brought about by the warmer Holocene climates subsequently encouraged population migrations and the development of new subsistence strategies that characterize the Archaic period. Compared with the Paleoindian period, a wider variety of artifact types was used during the Archaic. This suggests that a greater diversity of subsistence and technological activities was pursued, although hunting still appears to have been the major focus.

The Terminal Archaic or Transitional period (3000 to 2700 BP) is characterized by distinctive technologies that included production of soapstone vessels and a variety of broad-bladed projectile point types. The appearance of soapstone or steatite vessels and artifacts during this period provides evidence of interregional trade and also suggests increased residential stability, since stone bowls are items not easily transportable. Coastal occupation intensified during the Transitional period, which is represented by artifact assemblages that include broadspear points and soapstone vessels. On Long Island, the earliest known Native American burials are associated with Transitional period occupation (Ritchie 1980:164-165).

The appearance of ceramics in cultural assemblages marks the beginning of the Woodland period (circa 2700 BP). Various ware types and distinctive projectile points provide a means of dating sites. Later in the Woodland period (circa 2000 BP), horticulture became a part of subsistence practices, and as the cultivation of plants intensified, Native American settlements became larger and more permanent. In some areas of New York State, competition for land and resources appears to have resulted in conflicts that caused groups to nucleate in larger defensible settlements; late precontact occupation of Long Island, however, seems to have been dispersed along the coastline, suggesting that marine and estuarine resources continued to dominate subsistence economies. The majority of Woodland period studies have been conducted primarily along the coast, or along rivers and streams, and it is therefore not surprising that most sites have been found in these locations. More recently, archaeologists have shown that Native Americans conducted many activities in inland areas of Long Island (e.g., Lightfoot and Moore

1985), suggesting that there may have been a range of settlement patterns and more diverse subsistence strategies during the Woodland period.

At the time of European contact, Long Island was occupied by the Canarsee tribe (Bolton 1922: 132; Sanchez 1990: 2). According to Bolton, the Marechkawick or Mareyckawick, a sub-chieftancy of the Canarsee occupied old Brooklyn (132-133). Bolton also alludes to Furman's early nineteenth century observations of the area, contending that, "there were, thus, in all probability, several groups situated within the area occupied by the Marechkawick, settled in favorable situations about the broad waters and marshes of the Wallabout and the Gowanus" (Bolton 1922: 133). This description suggests that prehistoric settlements were located to the south and west of the project area.

At the time of contact, the local indigenous population lived in small bands, fished in the rivers, and pursued primarily corn and tobacco agriculture (Educational Broadcasting Corporation 2008). Initial contact between Europeans and Native Americans was made when early explorers entered the area to engage in trade. The introduction of European material goods, the demands of trading relationships, rapid colonial expansion, and the spread of diseases brought by the Europeans had profound effects on the settlement and subsistence practices of the native populations. Native groups gradually became dependent on trade with the Europeans. Tribal and clan affiliations were quickly affected, and much of the native population was depopulated or displaced (Brasser 1978). Some estimates suggest that between 60 and 90 percent of the native population was lost to European diseases in the seventeenth century in southern New England and New York (Snow 1980:34).

3.1.1 Prehistoric Archaeological Site Potential

A search of the archaeological site records on file at the New York State Museum (NYSM) and at the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) revealed a total of two previously recorded archaeological sites within a one-mile radius of the proposed Broadway Triangle Redevelopment Project Area (Table 1). Both of these sites represent historic occupations; no previously recorded prehistoric archaeological sites were identified within the project area or in its immediate vicinity by the site file search.

NYSOPRHP Site Number	Additional Site Number	Additional Site Name	Site Type/Description	Source
04701.014975		NAVSTA Brooklyn	Nineteenth Century Naval Hospital: Four features—a pair of large cisterns, a cesspool, and a brick drain.	Wolf 1999
04701.014899		NAVSTA Brooklyn	Nineteenth Century Naval Hospital Cemetery	Baystate Environmental Consultants, Inc. 1998

Table 1: Previously Recorded Archaeological Sites within One-Mile Vicinity of Project Area

Several prehistoric sites have been documented over two miles to the south, southwest, and southeast of the project area. Furman documented a trace prehistoric occupation along the East River in the vicinity of Bridge Street (1865: 34). In Bolton's discussion of prehistoric sites within Brooklyn, he does not identify any prehistoric deposits within the project area or in its immediate vicinity (1934: 144-145). However, he does locate the prehistoric village site of Marechawick (Mareyckawick) near Gallatin Place and Elm Place in the Fort Greene section of Brooklyn. Researchers disagree as to the exact location of this village site, Solecki and Grumet both place this site in slightly different locations within the Fort Greene area (Solecki 1977; Grumet 1981). Another occupation site, Werpos, has also been identified between Marechawick and the Gowanus Creek (Grumet 1981: 58). No additional descriptive information is available for this site. Parker documents a camp site with clay pipes, prehistoric ceramics, and projectile points along a "barren sand hill" to the northeast of present-day Grand Army Plaza (1920: 582). He also identifies shell heaps and burials along the southern coastline of Brooklyn. Similarly, Bolton places the nexus of prehistoric settlement within both the Gowanus area and within the far southeastern portion of Brooklyn (1934: 144-145).

3.1.2 Previous Cultural Resource Surveys

A review of previously conducted archaeological surveys indicated that 25 previous cultural resource studies have been conducted within a one-mile radius of the project area. Six of these surveys were conducted in the immediate vicinity of the project area within the larger Broadway Triangle Urban Renewal area. In 1989, Tams Consultants, Inc. (TAMS) completed an archaeological evaluation of a 24-block area encompassing Marcy, Union, Park, Throop, and Flushing Avenues, Broadway, Walton and Lorimer Streets (1989a). This study found that those blocks east of Harrison Avenue and the six blocks south of Flushing Avenue had the potential for intact prehistoric deposits. The predevelopment location and topography of these blocks, at a higher elevation and in proximity to salt marshes and the earlier Wallabout Creek which drained into and provided a conduit to the Wallabout Bay and the East River. would have created an attractive environment for prehistoric settlement (1989a: 80). The study also found that Blocks 1721, 1726, 1730, and 1731 were sensitive for late eighteenth and nineteenth century deposits associated with rural farmsteads, and that Blocks 2270 and 2245a were potentially sensitive for early industrial deposits associated with a nineteenth century ropewalk and with the Williamsburgh Flint Glassworks (1989a: 82). TAMS also completed a second level documentary study of portions of the 24-block Broadway Triangle area including the parcels south of Flushing Avenue, the ropewalk, and the Williamsburgh Flint Glassworks (1989b). This evaluation found that the area south of Flushing Avenue has the potential to produce late nineteenth century domestic deposits reflective of the Brooklyn community during this time period. With respect to Blocks 1722, 1726, and 1730, the study also contended that they may contain intact nineteenth century domestic deposits and, as such, should be subjected to a series of soil borings in order to determine the integrity and nature of any subsurface deposits (1989b: 21). The evaluation also identified areas within the former Williamsburgh Flint Glassworks site which may be sensitive for industrial deposits; the ropewalk occupation was determined to fall outside of the project parcel (1989b: 20-21).

In 1991 and 1992, Greenhouse Consultants Incorporated (Greenhouse) conducted cultural resource assessments for the proposed Broadway Triangle Partnership Housing Project. In 1991, Greenhouse completed mechanical excavation of specific lots within Blocks 1730 and 1732. Both blocks were considered potentially sensitive for late nineteenth century residential and/or commercial deposits, along with portions of the historic Cripplebush Road (1). Ten linear backhoe trenches were excavated in the rear portions of several lots within Block 1730 and 1732. No features or significant historic deposits were uncovered. Greenhouse reevaluated the historic resource potential of Blocks 1721, 1722, 1726, and 1730 in light of fill deposits uncovered during the previous testing of Blocks 1730 and 1732. Greenhouse concluded that historic deposits may still exist despite documented development and fill episodes within the area, and, therefore, recommended the excavation of a total of 20 backhoe trenches between the four blocks (1992: 7). In 1992 and 1993, a total of 24 backhoe trenches were mechanically excavated within the four blocks (Greenhouse 1996a). While historic artifacts were collected from the majority of the trenches, only one historic feature was identified. A stone-lined privy was identified in Lot 1 of Block 1722. No other features, significant historic deposits, or prehistoric deposits were uncovered. Greenhouse recommended no further archaeological testing of Blocks 1721, 1726, 1730, and the majority of Block 1722; they did, however, recommend additional investigation of the privy within Lot 1 of Block 1722 (1996a: 14-15).

Greenhouse also completed mechanical testing of Block 2270 in association with the proposed Broadway Triangle Partnership Project (1998). Testing within Block 2270 was designed so as to ascertain the depth and extent of fill deposits within this area and the potential for intact prehistoric deposits and/or historic deposits associated with the late nineteenth century Williamsburg Flint Glassworks (1998: 1-2). Three linear backhoe trenches were excavated within the parcel. Two of these trenches produced deposits of glass waste products affiliated with the Williamsburg Glassworks. The deposit within Backhoe Trench 40 contained mixed modern materials alongside the historic artifacts suggesting that its integrity had been compromised (1998: 12). Conversely, the deposits within Backhoe Trench 39 appeared to be intact. Given the intact nature of these deposits and their perceived potential to yield information relating to the mid-nineteenth century operations of the Williamsburgh Flint Glassworks, Greenhouse recommended that these deposits were potentially eligible for listing on the National Register of Historic Places (NR) under criterion D (1998: 12).

Greenhouse conducted an evaluation of the proposed Lorimer/Middleton Rezoning Project, Block 2240, to the immediate west of the project area, in 1990. This documentary study found that historic development of the parcel was contemporaneous with the extension of water and sewer lines. Therefore, Greenhouse concluded that Block 2240 had a low potential for intact historic period deposits and, thus, recommended that no additional archaeological fieldwork was necessary with respect to the rezoning project (1990: 3).

Five cultural resource studies have been conducted to the north, northeast, and northwest of the project area. In 1995, City/Scape: Cultural Resource Consultants (CityScape) completed a *Phase IA Archaeological Evaluation of the Nueva Vista Site, 140 Johnson Avenue, Lots 10-14 on Block 3070*, for proposed housing construction. This assessment found that each of the lots had the potential to possess intact nineteenth century domestic deposits (1995: 25-26). Additionally, Lots 12 and 14 were also considered sensitive for nineteenth century industrial and commercial deposits. The Stage IB archaeological fieldwork associated with the proposed housing project was completed in 1997. CityScape excavated two linear backhoe trenches within the rear portions of the four lots, one at the back of the historic houses, the other along the boundary of the lots (1997: 7-8). These trenches revealed two partially destroyed rear foundation walls. No other features or significant deposits were identified (1997: 8). Therefore, CityScape did not recommend any additional archaeological work in relation to the proposed construction project.

In 1994, CityScape conducted a Phase IB archaeological investigation of the Caribe Village Site, Lots 1 and 12 of Block 2429 on South Fourth Street, Williamsburg, Brooklyn (1994). A previous historical assessment of this parcel found that four nineteenth century houses were once located within these lots. Each house predated the extension of water and sewer lines into the area. The development history of the lots suggested that the backyard areas associated with each historic residence may have sustained minimal disturbance thereby leaving preexisting historic deposits or shaft features intact. Archaeological field investigations of the lots consisted of the hand excavation of shovel test pits and mechanical excavation of two linear trenches. The trench excavations revealed that two of the historic house lots were extensively disturbed. Historic lot 65 produced two features-an unidentified concrete construction and a subterranean wall (1994). The remnants of a preexisting brick feature were also identified. Historic lot 67 contained two cylindrical cisterns one of which rested upon a square masonry foundation with a water pipe running from it to the house foundation. Given the presence of intact historic period features within historic lots 65 and 67, CityScape recommended subsequent Phase II investigations of these lots (1994). In 2002, CityScape completed a Phase IA documentary investigation for proposed construction of senior housing on Lot 18 of Block 2418 on South Third Street. This study was conducted in response to an LPC determination that the area was potentially sensitive for early nineteenth century historic deposits (2002: 3). As a result of their historic and cartographic research. CityScape found that the parcel was not sensitive for early nineteenth century resources. Rather, CityScape determined that the earliest occupation of the site postdated 1850 and that subsequent periods of building and demolition within the parcel had caused extensive disturbance and most likely destroyed any preexisting historic deposits (2002: 12-13). Therefore, CityScape recommended no additional archaeological fieldwork in relation to the proposed housing construction.

CityScape also conducted a sensitivity assessment of Lots 24 and 25 of Block 2428 on Grand Street in 2001. The assessment found that both lots were not developed until the 1870s (2001: 16-20). By 1878, water and sewer lines had been extended into the area. CityScape concluded that it was unlikely that either lot would contain a backyard shaft feature, e.g., a privy, well, or cistern, given the availability of piped water and sewage. Thus, the lots were considered to possess low potential for intact historic period resources, and no further archaeological investigations were recommended (2001: 19-20).

Six surveys were also conducted to the southwest of the project area. In 2006, CityScape completed a Phase IA archaeological assessment of 231-239 Skillman Street on Block 1928. This study was conducted in response to an LPC determination that the parcel was potentially sensitive for nineteenth century resources (2006: 1). CityScape found that the earliest development within the parcel postdated the introduction of water and sewer lines (2006: 14). Therefore, the site was considered to possess low potential for historic shaft features or backyard deposits. CityScape recommended that no further archaeological work be conducted with respect to this project (2006: 14-15). Loorya and Ricciardi performed a Phase IA evaluation of a proposed residential development at 102-104 Franklin Avenue in 2006. This documentary study found that the earliest occupation of the area appeared to postdate the extension of water and sewer lines. Thus, Looyra and Ricciardi concluded that there was little potential for historic shaft features within the parcel (2206). The historic research also indicated that the area had been occupied by multiple families throughout the late eighteenth and early nineteenth century. Given that multiple families were associated with this same parcel over various years, Loorya and Ricciardi also concluded that any existing historic deposits could not be linked to a particular family or occupation. Therefore, they found that 102-104 Franklin Avenue was not sensitive for intact historic period deposits and further recommended no additional archaeological investigations (2006).

Greenhouse completed Archaeological Data Recovery Excavations at the Shaft 21B Project Site Near Kent and Willoughby Avenues, Brooklyn, New York in 1991 (1994). Preliminary archaeological field testing within the parcel consisted of 14 shovel tests pits and the mechanical excavation of two linear trenches. Trench 4002 uncovered two brick and mortar features one associated with the rear yard of 909 Kent Avenue and one associated with the rear vard of 911 Kent Avenue. Given that neither feature was found along the rear line of the lot, Greenhouse identified both features as cisterns. Subsequent data recovery excavations of the two shaft features was conducted in December 1991 (1994: 6-7). Greenhouse found that the two cisterns were filled around 1868 or 1869, the point at which the associated houses were connected to municipal water and sewer lines. The cultural material recovered from the cisterns suggested that they were both filled sometime between 1868 and 1890 (1994: 15-16). The cistern associated with 909 Kent Avenue produced a dense amount of architectural and building debris in addition to historic artifacts including ceramics, glass fragments, and pipestems. Conversely, the 911 Kent Avenue cistern yielded a density of medicinal bottle fragments indicating the frequent use of homeopathic cures and patent medicines by the historic occupants (1994: 116-117). Greenhouse observed that the documentary record was incomplete making it difficult to establish the historic residents associated with these deposits. Faunal analysis of the recovered assemblage revealed slight differences between the two cistern deposits. Primarily, each deposit suggested that the historic occupants had access to a variety of foods provided by the market. Within the 911 Kent Avenue deposit, sheep bones were more common than cow or pig; within the 909 Kent Avenue cistern, cow bones were more common. The faunal analysis inferred that this difference might reflect an economic disparity between the two residential occupations with the 909 Kent Avenue residents have accessing to meat cuts of higher or moderate economic rank (Pipes 1995).

In 1998, CityScape conducted a Phase IA archaeological assessment of a proposed housing development at 45-59 Taafe Place and 796 Kent Avenue on Block 1883, Lots 13-20 and Lot 27. This evaluation was performed in response to an LPC determination that the subject parcel was potentially sensitive for nineteenth century historic deposits. The Phase IA found that development along Kent Avenue dated to as early as 1850, prior to the installation of water and sewer lines (1998: 14-15). Therefore, CityScape concluded that the parcel had the potential for intact historic period deposits including cisterns or privies (1998: 15). CityScape completed a supplemental State IB Evaluation of Archaeological Potential for the proposed development in 1999 (1999a). This secondary evaluation included a review of historic maps, sewer information, and census records. As a result of this analysis, CityScape concluded that each of the lots had either experienced extensive past disturbance or development, or had a high turnover and frequency of occupants such that any existing historic deposits could not be associated with a distinct family or resident (1999a: 4-5). Therefore, they found that none of the lots were potentially sensitive for intact or significant historic period deposits and thus recommended no additional archaeological fieldwork in relation to this project. In response to communications with LPC, CityScape conducted a Phase IB Archaeological Field Survey of Block 1883, Lots 13, 15, 16, 19, 27, and 28 (1999b). LPC determined that Lots 14 and 18 were not sensitive for historic resources; CityScape, in their previous State IB Evaluation, documented that Lot 20 had been extensively developed and disturbed (1999b: 4). The field survey consisted of the mechanical excavation of 15 linear transects. The excavations uncovered a series of features within the rear yards of the lots including: a midnineteenth century privy in Lot 13, a mid-nineteenth century cistern in Lot 15, a mid-nineteenth century privy in Lot 16, and two mid-nineteenth century privies within Lot 27/28 (1999b: 17). Once identified, each of these features was recorded and reburied pending future investigation. CityScape recommended Phase II Date Recovery Excavations of each feature identified within Block 1883. They also outlined a series of research questions to guide the Phase II investigations (1999b: 17-19)

Several cultural resource studies have also been conducted to the west of the current project area. In 1996, Greenhouse completed an archaeological evaluation of 523 Kent Avenue on Block 2165. This study documented the historic landuse of Block 2165, being primarily agricultural until the 1850s (1996b: 7-14). By the late 1860s, the Block was extensively developed. Greenhouse found that the majority of the area had experienced extensive modern development such that any preexisting nineteenth century resources would have been compromised (1996b: 15-16). However, they also concluded that portions of the parcel, including the rear of 16 Rush Street and the courtyard behind 8 Rush Street, were potentially sensitive for cultural resources (1996b: 15-16). The rear yard of 16 Rush Street was considered sensitive for mid-nineteenth century shaft features predating the extension of water and sewer lines to this address; the courtyard behind 8 Rush Street was considered an archaeological evaluation of 248-252 Wallabout Street and 541-561 Flushing Avenue. This study found that historic development of these parcels postdated the extension of municipal water and sewer lines (2000: 18-19). Therefore, CityScape concluded that the areas were not sensitive for historic period shaft

features or significant deposits. Furthermore, given the predevelopment topography of this area, falling within the Wallabout Creek streambed and the adjacent salt marshes, it was considered to possess low potential for prehistoric deposits (2000: 18). Thus, CityScape recommended no additional archaeological investigation of these parcels (2000: 19).

AKRF completed a *Phase IA Archaeological Documentary Study of Rose Plaza on the River, 470-490 Kent Avenue* (2007). This study found that the majority of the parcel, aside from its eastern edge along Kent Avenue, consisted of constructed landfill along the East River shore (2007: VI-1). As such, the parcel was determined to have low sensitivity for prehistoric deposits. The Phase IA indicated that landfilling episodes may have begun sometime between 1833 and 1852 and were completed by 1880 (2007: VI-1). AKRF further documented that the area had experienced extensive industrial development since 1850. Given the nature of the historic and modern development, the area was not considered sensitive for historic industrial resources. However, given the depth of the historic landfill, AKRF concluded that these deposits may have escaped historic and modern disturbance and, thereby, remaining intact (2007: VI-1-5). Therefore, the Phase IA found that the area has a moderate sensitivity for historic landfill deposits and, as such, recommended that an archaeologist monitor proposed construction activities so as to document any historic resources that may be uncovered.

Five cultural resource evaluations have also been performed at the former Naval Station within the Brooklyn Navy Yard, approximately one-mile to the west of the project area. Baystate Environmental Consultants (Baystate) conducted a cultural resources survey, including both an archaeological survey and an historic architectural assessment, of the former Naval Station (NAVSTA) in 1993 (1994). The parcel consisted of the Main Area, an extension of the former Brooklyn Navy Yard, and the Annex, the Naval Hospital complex dating to the 1820s (1994: i). This study delineated several areas of moderate and high prehistoric and historic archaeological sensitivity within the Annex complex. It also documented two New York City Landmarks (NYCLs) within the parcel, the main building of the Naval Hospital and the Surgeon's Quarters (1994: i). Both of these resources have been found eligible for individual listing on the NR. Baystate also determined that the Annex was eligible for listing on the NR as an historic district. Eighteen (18) buildings, one structure, and one site were identified as contributing elements to this district (1994: i-ii). The Former Brooklyn Navy Yard was also evaluated as a district eligible for NR listing. Six buildings within the Main Area were considered as contributing elements to this district.

In 1996, Geismar conducted an archaeological evaluation of the Navy Yard Annex Site as a follow-up to the previous Baystate study. Of particular interest within Geismar's analysis was the former presence of a military cemetery, NYSOPRHP A04701.014899, within the Annex site (1996: i). Baystate had determined that the cemetery was removed from the premises and reinterred offsite in 1926. Geismar concluded that the documentary record was insufficient to confirm that all those interred within the Naval Cemetery had been removed (1996: iii-vi). She also determined that portions of the hospital complex may contain subsurface historic features relating to its nineteenth century operation and occupation. Such deposits, particularly abandoned privy pits, could potentially yield information relating to nineteenth century hospital life and medical procedures (1996: vi). As such, Geismar identified portions of the Annex as potentially sensitive for historic period resources, including the former cemetery grounds. She recommended the use of Ground Penetrating Radar (GPR) so as to determine whether any burials remained within the Annex in order to identify any potentially undisturbed prehistoric deposits (1996: vii). Trenching behind the hospital complex and within its south wing was also suggested to located any historic features or significant deposits.

In 1997, TAMS used GPR to examine the former Naval Cemetery grounds. They identified five areas within the grounds with individual or multiple anomalies (1997: 4). Mechanical trench excavations accompanied by hand excavations were conducted in each of these five areas in order to determine the nature of the anomaly. Several empty shaft features along with disarticulated human remains and coffin fragments were observed within the majority of the tested areas (1997: 4-7). However, Trench 4 revealed a potentially intact burial. These remains were recorded and reburied without further excavation. TAMS concluded that the use of GPR technology was useful in identifying former cemetery features although the technology was unable to distinguish between empty shaft features and intact burials. TAMS also found that burials within the cemetery were at shallower depths than anticipated (1997: 7).

In 1999, TAMS and Geismar prepared a *Final Determination of National Register Eligibility Naval Hospital Archaeological Features*. This study presents the results of archaeological field testing within four areas of the

NAVSTA parcel previously identified as potentially sensitive for archaeological deposits (1999: S-1-3). The former cemetery grounds was not tested during this phase of investigation. Mechanical trench excavations were conducted in designated Areas B, C, D, and E. Testing within Area D identified four historic features—two cisterns, a cesspool, and a brick drain (1999: 5-1). These resources were recommended as eligible for listing on the NR under Criterion D. TAMS and Geismar also concluded that these resources were contributing elements within a NR-eligible US Naval Hospital Historic District. They further observed that untested portions of Area D along with unexcavated areas in the vicinity of the hospital buildings may contain undisturbed hospital-related features and, as such, should be considered highly sensitive for historic archaeological deposits (1999: 5-1-2). The Naval Hospital Archaeological Site, NYSOPRHP A04701.014975, was registered as a result of this fieldwork.

TAMS and Geismar also produced a report detailing the state of research regarding the Naval Hospital Cemetery in 1999 (1999b). This study summarized the previous archaeological and documentary research involving the cemetery and provided a more in-depth discussion of its history. Through supplemental historic and documentary research, they found that 517 burials were not documented as removed during the 1926 cemetery disinterment (1999b: 7-2-3). The study offered several reasons for this lack of documentation and suggested that any burials remaining within the former cemetery may have been severely compromised by historic and modern activities. The discovery of a single potentially intact burial during fieldwork in 1997 indicates that some burials, particularly those located in the higher elevated portions of the site, may remain intact (1999b: 7-2-3).

3.2 Historic Background

In order to document any development and changes to the project area over time, historic maps of the region were scanned and georeferenced to the project location using the software program ArcView 9.3. This software enables the superimposition of the Broadway Triangle rezoning area to historic maps (Pratt 2002). The process of georeferencing historic maps to a contemporary GIS database necessarily involves reconciling resources and information that have been acquired at different times via disparate surveying and cartographic methods. Therefore, discrepancies may appear in the relative location of the project area due to the variability in the historical accuracy of the surveying methods used to create the historic era maps.

Historical resources indicate that the majority of present-day Brooklyn was once occupied by the Canarsee tribe (Bolton 1922: 132; Sanchez 1990: 2). According to Bolton, the Marechkawick or Mareyckawick, a sub-chieftancy of the Canarsee, occupied old Brooklyn with stations at Flatlands, Canarsie, Bergen Island, and Gerritsen Basin (1922: 132-133). He further observes that there were most likely many small groups within the Marcehkawick area with settlements extending from the marshes of the Wallabout to those of the Gowanus. This description suggests that prehistoric occupations may have been centered to the south and west of the project area.

In 1609, Henry Hudson, as an explorer for the Dutch East India Company, arrived on the coast of Long Island with his ship the *Half Moon* (Von Skal 1908: 7). After attempting to enter Jamaica Bay via the Rockaway Inlet, Hudson passed through the Narrows and sailed up the present day Hudson River. After this discovery, the Dutch began to quickly settle Manhattan Island, founding the colony of New Amsterdam. In 1614, Adrian Block became the first European explorer to circumnavigate Long Island and, as a result, ascertain that Long Island was not connected to the mainland (Von Skal 1908: 7). Several years would elapse before colonists settled on Long Island with Dutch settlers coming from the west and English settlers coming from the New England settlements to the east. Long Island became disputed territory with both nations laying claim to it. In fact, the last act of the Plymouth Company of England was to grant "lands in New England and Long Island to Lord Sterling" (Von Skal 1908: 7). Despite the actions of Lord Sterling's land agent, James Farret, who claimed the whole of Long Island and secured a personal claim to Shelter and Robbins Islands, the Dutch authorities appear to have ignored these English ventures. Ultimately, Farret returned to Europe having accomplished little (Von Skal 1908: 8).

The earliest European settlement within the present-day area of Williamsburg may have begun during the 1620s. (Merlis 2005: 5). Around 1624, landings began to appear along the Brooklyn waterfront, from today's Greenpoint border at North 14th Street to the Navy Yard. Squatters settled huts and lodges near the creeks and mud flats along this shoreline. According to Merlis, this area was known as Kripplebush (Kreuppelbosch) in light of the indigenous scrub oak vegetation (Merlis 2005: 5). The first European settlers within this area were French Huguenots and Scandinavians including the following individuals, Hans Hansen, Cornelius Jacobus Stille, Claus Carmensen, Jan de Zweed, Wilcox, and Herry Satley (Armbruster 1912). These early settlers did not have legal title to the land; many

hoped that they would be able to obtain title after having improved it, e.g., after having constructed a house within its boundaries.

In 1638, the Dutch West India Company was authorized by Governor Kieft to secure a deed from the Canarsee for the territory bounded by the East River, Division Avenue, Broadway, Flushing Avenue, and the Newtown Creek (Merlis 2005: 5; Jewell 1926: 9; Brooklyn Historical Society 2000). After obtaining this patent, the Dutch West India Company began issuing parcels to those settlers already inhabiting particular tracts; some land grants were also made to newcomers (Armbruster 1912). The project area appears to have fallen within the parcel belonging to Hans Hansen (Figure 8).

From 1638 through 1668, the Dutch continued to acquire title throughout present-day Kings County forming five towns—Breuckelen (Brooklyn), New Amersfoort (Flatlands), Midwout or Vlacke Bosch (Flatbush), New Utrecht, and Boswick (Bushwick) (Snyder-Grenier 1996: 2). A sixth town, Gravesend, along the southeastern extent of the county, was settled by the English in 1643 (Snyder-Grenier 1996: 2). The majority of present-day Williamsburg fell within the Town of Bushwick. However, it appears that the project area which sits to the south of Division Avenue was included within the seventeenth century boundaries of Brooklyn Township (Merlis 2005: 30).

In February 1660, Governor Stuyvesant ordered all isolated settlers to centralize and congregate within nucleated towns for protection against indigenous Native American groups (Merlis 2005; Armbruster 1912; Jewell 1926: 11). In response to this directive, 14 Frenchmen and their Dutch interpreter, Peter Jans Wit, founded a settlement near the junction of present-day Bushwick and Metropolitan Avenues. This town, *Het Dorp*, with 22 house lots surrounding a village green, was situated on flat meadowland between the Newtown and Bushwick Creeks (Merlis 2005: 5). When visiting this settlement on March 14, 1661, Stuyvesant named this town *Boswijck* (Bushwick) (Merlis 2005: 6; Armbruster 1912).

For ten years, between 1664 and 1674, the English and the Dutch fought for control of the New York colony (Snyder-Grenier 1996: 2). By the end of this period, the English had acquired full control of present-day Brooklyn. In 1683, the English united the previously established six towns within Brooklyn under one jurisdiction, Kings County (Snyder-Grenier 1996: 3). By 1698, the population of Kings County was reported as 2,017. About half of the population at this time was Dutch, with other settlers coming from Germany, France, England, and Scandinavia (Educational Broadcasting Corporation 2008). Approximately 15 percent (296) of the population was of African descent, having been brought to the colony as slaves or indentured servants (Snyder-Grenier 1996: 3). Up until the abolition of slavery in 1827, Kings County was the largest slave holding county in the north (Sanchez 1990: 2).

Throughout the seventeenth and eighteenth centuries, settlement within Kings County consisted primarily of agricultural pursuits. During this period, the overall population of the county grew incrementally. Snyder-Grenier cites the observations of an eighteenth century French tourist who suggested that newcomers to the area could not afford farmland within the county due to its high value, being in close proximity to markets within Manhattan, and the reluctance of existing landowners to sell their property (1996: 5).

During the Revolutionary War, British and Continental forces fought campaigns from the Gravesend to the Gowanus sections of Brooklyn (Educational Broadcasting Corporation 2008; Snyder-Grenier 1996: 5). Driving the Continental troops out of Brooklyn and Manhattan, British forces occupied the area for seven years. During this occupation, the British cut down and removed the forested vegetation and thicket throughout Kings County, using the available wood to support their fuel needs (Merlis 2005: 10; Stiles 1884: 100). Some British ships were moored off of Wallabout Bay during the war (Baystate 1994: 20; Figure 9). Prisoners were stationed on these ships primarily for violating the British embargo against the colonies; from 1776-1783, approximately 11,000 prisoners died on board the ships (Brooklyn Navy Yard 2005). The deceased prisoners were buried "in long shallow trenches along the shore of the Wallabout Bay" (Baystate 1994: 20). Revolutionary conflict at Fort Putnam, near present-day Fort Greene, was the closest recorded military action to the project area.

In 1781, John Jackson and his brothers purchased a portion of the Rapelje parcel from Cornelius Remsen (Brooklyn Navy Yard 2005; TAMS & Geismar 1999a: 3-2). This parcel consisted of marshlands along the East River coastline. Jackson and his brothers built the first shipyard along these muddy marshlands near Wallabout Bay (Brooklyn Navy Yard 2005). In 1801, the newly formed federal government purchased the Jackson shipyard for \$40,000 in order to construct a US Navy shipyard (Brooklyn Navy Yard 2005; Baystate 1994: 21).

Figure 8: Map of the Original Plantations within Brooklyn, NY. (Reproduced from Armbruster 1912.)

Figure 9: Map of Brooklyn at the Time of the Revolutionary War. Reproduced from Baystate 1994: Figure 4-2. (Map on file at the Brooklyn Historical Society Library.)

The New York State Legislature recognized the Town of Brooklyn on March 7, 1788 (CityScape 2005: 20). At this time, the Town of Brooklyn was comprised of seven hamlets including The Ferry, Red Hook, Brooklyn, Bedford, Gowanus, Cripplebush, and Wallabout. The project area continued to sit within the boundaries of Brooklyn Township, lying immediately south of the boundary between the historic towns of Brooklyn and Bushwick (Merlis 2005: 30).

In 1792, Richard M, Woodhull purchased thirteen acres of waterfront property along the East River coastline of Bushwick (Merlis 2005: 11; Brooklyn Public Library 2005). Ten years after this purchase, Woodhull hired Colonel Jonathan Williams to survey the tract, create a street grid, and subdivide the property. Woodhull named the parcel Williamsburgh¹ after his surveyor. He also built a ferry at the base of North 2nd Street which connected to Grand Street in Manhattan. By 1805, Woodhull purchased additional waterfront territory and opened a second ferry operation from near Drigg's Avenue in Brooklyn to Rivington Street in Manhattan (Merlis 2005: 11).

Woodhull's operation was in direct competition with a preexisting ferry service founded by James Hazard in 1797 (Merlis 2005: 10). Hazard's ferry ran from South 1st Street in Brooklyn to Grand Street in Manhattan. In the face of Woodhull's ferry service, Hazard and his partner, Thomas Morrell, acquired the 28-acre Folkert Titus farm. In 1812, they opened Grand Street through the center of their parcel. Hazard and Morrell also mapped and subdivided the property creating the Yorktown development. They organized a second ferry service to run from Grand Street in Brooklyn to Grand Street in Manhattan (Merlis 2005: 11). "Yorkton extended south from Metropolitan Avenue to the Wallabout, and Williamsburgh stretched north to the Greenpoint border, at Norman's Kill" (Bushwick Creek) (Merlis 2005: 11).

Neither of these early ferry operations or attempts at attracting settlers to Williamsburgh or Yorktown proved successful. By 1817, Woodhull was forced to sell his ferry service to Morrell who quickly consolidated all of the

¹ Williamsburgh was spelt with an "h" up until the twentieth century, when it became known as Williamsburg.

ferry operations to New York. Morrell also lost possession of his ferry operation by 1823 (Merlis 2005: 11; Jewell 1926: 16). The decade-long competition between Woodhull and Morrell delayed the construction of a road which would connect the ferry service to those farmers and settlers along the coast as well as those settlements within the interior of Kings County (Merlis 2005: 15). Without a developed road system, "travelers were forced to open and close seventeen barred property gates in order to travel the half-mile from the Wallabout to the ferry landing" (Merlis 2005: 15). In the early 1800s, General Jeremiah Johnson began planning the construction of a road connecting Newtown Creek in Queens County to Wallabout Bay in Kings County (AKRF 2007: IV-1). With the construction of the Bushwick-Newtown Turnpike, Johnson sparked economic growth and development throughout the present-day Williamsburg area (Merlis 2005: 15; AKRF 2007: IV-1-2; Jewell 1926: 16).

The completion of the Erie Canal in 1825 expanded the economic power of Manhattan and its seaport. The growing economic importance of New York City, which was connected to major trade and shipping corridors via both the Hudson River and the newly constructed Erie Canal, spilled over into Brooklyn (Sanchez 1990: 2-3). In light of the expansion and growth within Williamsburgh and the anticipated future growth within this area, the Village of Williamsburgh was incorporated within the Township of Bushwick in 1827 (Merlis 2005: 17; Jewell 1926: 16). Present-day Division Avenue appears to have served as the southern boundary of Williamsburgh, with the project area sitting to the south of the village within the Township of Brooklyn (Merlis 2005: 30). By this time, the former settlement of Yorktown was also known as Williamsburgh.

Burr's 1829 map of Kings and Queens Counties, New York illustrates the development of a nucleated Williamsburgh to the northwest of the project area (see Figure 6). At this time, the only development within the project area appears to be a northeast-southwesterly trending road which runs through the southern portion of the parcel. This road may represent the historic Bushwick-Newtown Turnpike. Another historic roadway is depicted to the west of the project area, following a northwest to southeast trajectory. There appears to be no other development within or in the immediate vicinity of the project area. An unidentified drainage, most likely the Wallabout Creek, also follows a southwestern course across the parcel draining into the Wallabout Bay to the west.

The incorporation of Williamsburgh spurned continued growth and industrial development throughout the area.

Whereupon, docks and warehouses were built, rope-walks and shipyards established as they fitted naturally into the scheme of things in a deep water port, and so, apparently, did distilleries and taverns, for the first official act of the village board was to grant licenses to ten public houses.

Among other important industries of the village in those days was an iron foundry, a spice mill, hat factories, and the largest glue factory in the United States [Jewell 1926: 17].

During this period, several of the large farms within Kings County were acquired by speculators who immediately began mapping out street and building lots (Merlis 2005: 17). In 1834, portions of the Thirteenth and Fourteenth Wards, designed by Brooklyn in 1855, were opened for subdivision. As a result, New York State expanded Williamsburgh's charter; in the following year, the eastern boundary of the village was extended from Union Avenue to Bushwick Avenue (Jewell 1926: 17; Merlis 2005: 17). At this time, the project area was still located to the south of Williamsburgh (Merlis 2005: 30)

In 1838, the Navy completed construction of its Naval Hospital adjacent to its Navy Yard property. The hospital was erected in the previous location of the Schenck farm, east of the Navy Yard on Wallabout Bay. By May 1824, the Navy had acquired this property consisting of approximately 25 acres with intact buildings (TAMS & Geismar 1999a: 3-2). These buildings may have been used as temporary hospital facilities up until the new hospital construction was completed. Prior to the acquisition of the Schenck property, it appears that the Navy may have used an historic mill, "a decrepit building on the west side of the Brooklyn Naval Yard," as its primary medical facility until this building was deemed unfit for patients (TAMS & Geismar 1999a: 3-2). The 1838 Greek Revival-Style Naval Hospital building was designed by Martin E. Thompson, a then prominent architect of military structures within New York City (TAMS & Geismar 1999a: 3-2). Continuous upgrades and new building construction occurred within the Naval Hospital complex throughout the nineteenth and into the twentieth century.

By 1840, Williamsburgh was made a separate town from Bushwick (Greenhouse 1996: 8). The population of the town had risen to over 5000 people; there were over 600 dwellings within the township (Merlis 2005: 26). "Thirty streets had been graded and regulated by 1840, only a few paved, but one boasted macadamized pavement" (Merlis

2005: 26). The 1844 US Coast Survey illustrates the continued expansion and development of Williamsburgh (see Figure 7). By this time, it appears that an extension of the street grid system has at least been proposed within the far northern portion of the project area. The turnpike which ran through the southern extent of the project area in 1829 appears to run to its immediate south in 1844. By 1846, Flushing Avenue replaced portions of the preexisting Wallabout (Brooklyn/Bushwick) and Newtown Turnpike Road (Armbruster 1942: 155). It is possible that once Flushing Avenue was created, it followed a slightly different course from the trajectory of the historic turnpike with the turnpike running to the south of the present-day road. The representation of the is road to the south of the project area in 1844 would then represent the accurate location of the turnpike at this time. Alternatively, if Flushing Avenue followed the course of the historic turnpike, then the location of this road outside the project area may reflect past cartographic or surveying inaccuracies. Armbruster further observes that the Wilson Jarvis family house was located at Flushing and Throop Avenues in 1840 (1942: 156). The US Coast Survey does not indicate the extension or creation of Throop Avenue by this time. However, several structures are depicted along the historic turnpike road, immediately south of the project area in the vicinity of present-day Throop Avenue. One of these structures may represent the Jarvis farm house which, if the trajectory of the historic road is accurate, fell to the south of the project area.

The 1844 map indicates that the majority of the project parcel is undeveloped by this time. The northern portions of the area appear to have been cleared for agricultural purposes. Wooded meadowlands are depicted within the southern half of the project site. This wooded vegetation seems to follow the trajectory of the Wallabout Creek drainage which terminates to the west of the project area. The shape of the vegetated area suggests that the depicted wooded meadowlands may represent marshlands surrounding the creek.

Colton's 1849 map of Brooklyn illustrates the continued development of Williamsburgh and Brooklyn (Figure 10). By this time, a grid-based street system has been proposed and possibly extended into the project area. The majority of these streets appear to mirror their present-day orientation. However, Union Street has not yet been extended across Broadway and Harrison Avenue. The Wallabout Creek is depicted with a branch terminating to the immediate west of the project area. The marshland surrounding the creek is also illustrated in the immediate vicinity of the parcel. A canal running from east to west across the parcel and draining into the Wallabout Bay runs along the path of present-day Wallabout Street. It is unclear whether the map illustrates a proposed canal or whether the Wallabout Creek has been canalized by this time. According to Armbruster,

Paine Street was laid out in 1835 on the line of Wallabout Creek from Wallabout Road to Broadway. A portion was closed in 1848. River Street was opened along this line in 1861 from the Williamsburgh Road to Broadway, now the street is known as Wallabout Street. The street was constructed upon the bed of the creek [1942: 312].

The 1849 map most likely reflects the extension of Paine Street across the Wallabout Creek as referenced by Armbruster. TAMS observes that an 1852 Field map of Brooklyn indicates that the River Canal was proposed. They could find no definitive indication that the canal was ever constructed (TAMS 1989a: 30-33).

Colton's map does not indicate any houses or development within the project area. It does appear to reflect the presence of hydrants or some other public utility along the eastern intersection of Harrison Avenue and adjoining streets. Within Williamsburgh and the surrounding area, drinking water was obtained via public pumps up until the 1850s (Merlis 2005: 26). "Household water was obtained from rainwater cisterns. When water companies were formed, cisterns and street-corner pumps were abandoned" (Merlis 2005: 26). The 1849 map may reflect the presence of public water pumps along Harrison Avenue.

Throughout the mid-nineteenth century, Brooklyn, particularly the Williamsburgh and Greenpoint areas, experienced tremendous population and industrial growth (Sanchez 1990: 3; Merlis 2005: 28). Given the dense and congestive growth of commercial and industrial districts within lower Manhattan, northern Brooklyn offered space for the construction of large-scale facilities within which production could be centralized (Brown and Ment 1980: 6). Brooklyn's factories were constructed principally along the shoreline with ready access to raw materials and the ability to conveniently and inexpensively shipped finished products.

A chief characteristic of Brooklyn's industry was its diversity. No single industry or group of industries dominated the city's economy. The 'Five Black Arts' [glass, porcelain, publishing, petroleum refining, and cast iron] represent a cross section of Brooklyn's manufacturing, each

FIGURE 10: 1849 View of the Broadway Triangle Project Area

industry exhibiting different aspects of industrial organization and production and different patterns of growth and change. In some cases, Brooklyn took the lead in the development of a national industry, devising techniques of production that set the pace for manufacturers across the country. The Greenpoint Glass Works, Union Porcelain Works, D. Appleton & Company Publishers, Pratt's Astral Oil Works, the Hecla Architectural Works—all were examples of Brooklyn companies in the vanguard of the development of their respective industries [Brown and Ment 1980: 7].

Industrial development was not limited to the coastline of Brooklyn. In 1848, Chemist Charles Pfizer immigrated to New York from Germany (Merlis 2005: 29). Pfizer and Company moved to Brooklyn in 1849, purchasing a building on Bartlett Street and Harrison Avenue, to the immediate west of the project area (Figure 11). With his cousin, Charles Erhard, Pfizer produced their first product, Santonin. Santonin, which combated parasitic worms, was sold in "candy-like cones" (TAMS 1989a: 31; Pfizer 1949: 20; Merlis 2005: 29). During the Civil War, Pfizer also produced cream of tartar for use as a preservative. In 1868, given the growth and expansion of the company, Pfizer moved its headquarters to a new building on Maiden Lane in Manhattan (Pfizer 2009).

Figure 11: Drawing of the Original Pfizer Building. (Reproduced from Merlis 2005: 31).

On January 1, 1852, the New York State Legislature incorporated the City of Williamsburgh, a distinct municipal entity from Brooklyn and Bushwick (Merlis 2005: 29). Corruption and mismanagement lead to the merger of Williamsburgh with the City of Brooklyn in 1855 (Merlis 2005: 29-30; Sanchez 1990: 4). At this time, Williamsburgh, Greenpoint, and Bushwick were absorbed by Brooklyn, making it the third largest city within the United States (Sanchez 1990: 4). With the annexation, the project area, which as part of the area to the east of the Naval Hospital, bounded by Division and Flushing Avenues and Broadway, had historically remained a part of Brooklyn, became the Nineteenth Ward (Merlis 2005: 30). The newly created Nineteenth Ward, "along with Greenpoint, Williamsburgh, and the rest of the former town of Bushwick, was designated as Brooklyn's *Eastern District*" (Merlis 2005: 30).

With the incorporation of the larger City of Brooklyn, the city attempted to tackle concerns over the municipal water supply. From 1854 to 1855, and again in 1857, the city constructed public cisterns in various locations (Bergoffen 2004: 19-20). The Nassau Water Company began construction of a public reservoir in present-day Prospect Park in 1856; two years later, this water was introduced into the city mains (Stiles 1869: 422; Bergoffen 2004: 20; AKRF 2007: V-2). A Board of Sewer Commissioners was also instituted in 1857 to develop a municipal sewage system. Prior to the installation of this commission, the city council had already authorized the construction of storm water sewers across the major thoroughfares within the city (Bergoffen 2004: 20; AKRF 2007: V-2). Once this system was completed, a sewer plan was adopted a sewer construction was begun in at least the First, Third, Thirteenth, and Fourteenth Wards (AKRF 2007: V-2).

Industrial, residential, and commercial development within Brooklyn, including the Nineteenth Ward, continued throughout the later part of the nineteenth century. By 1860, the population of Brooklyn was approximately 266,000

people. Between 1863 and 1865, brothers, John and Nicholas Dannenhoffer, immigrants from Lorraine, built the Williamsburgh Flint Glass Works to the east of the project area at the corner of Gerry Street and Throop Avenue (Armbruster 1942; TAMS 1898a: 17). The glass works occupied six lots and, at its prime, employed 150 workers. In 1880, the factory produced a total of 1000 to $1200 \ Silex^2$ lamp chimneys per day (Armbruster 1942: 308). Nicholas Dannenhoffer operated the Williamsburgh Flint Glass Works at the Gerry Street location up until 1886 when it was moved to 260 Boerum Street.

In 1862, the Union Base Ball Grounds, the first enclosed baseball grounds, was opened (Armbruster 1942: 193). The Union Grounds represented Brooklyn's first ball park; they were situated to the northwest of the project area, bounded by Marcy Avenue, Rutledge Street, Lynch Street, and Harrison Avenue (Snyder-Grenier 1996: 225-226). A ten-cent admission was charged for the games. An 1865 illustration of the park indicates that the grounds were "located near residential buildings and tenements" in a spacious area encircled by a fence (Snyder-Grenier 1996: 225; Figure 12). At this time, the field served as home grounds for the Atlantic Base Ball Club of Brooklyn (Armbruster 1942: 193). The Union Grounds was used extensively as a ball park throughout the 1870s, continuing to function as an ice skating rink during the winter off-season (Healey 2005). The last major league game played within the park was between the Providence Grays and the Milwaukee Cream City on July 26, 1878. (DodgerBlues2008)

Figure 12: Reproduction of Frank Leslie's "Great Base Ball Match," 1865. (Reproduced from Healey 2005.)

Dripps 1869 map of Brooklyn shows rapid development within the project area since the 1840s (Figure 13). By this time, all of the modern streets except for Union Avenue have been formally extended into the area. The far northern extent of the project area appears to be the least developed with only a few lots along the intersection of Harrison Avenue. Building lots and relatively extensive settlement has occurred along Bartlett, Gerry, Walton, and Whipple Streets, in particular. No identifiable businesses or industries appear to have developed within the project area. Dripps map also does not indicate whether water or sewage lines have been extended into the area. Wallabout Creek is no longer depicted within the vicinity suggesting that Wallabout Street may have been built over this drainage (Armbruster 1942). A Chemical Works, the Pfizer Chemical Plant, and Glass Works, the Williamsburgh Flint Glass Works, are both located in immediate proximity to the project area. A ropewalk and a foundry are also situated to the proximate east of the parcel. A church is depicted on Thornton Street east of Throop Avenue. This building most likely represents the All Saints Roman Catholic Parish. According to Armbruster, the church was founded in 1867 (1942: 307). The original church building consisted of a frame edifice which was subsequently replaced by a brick structure in 1894 (Armbruster 1942: 307).

By 1880, the Nineteenth Ward had become "one of the Eastern District's fashionable sections" (Merlis 2005: 44). During this period, wealthy individuals built opulent mansions along Bedford Avenue. The Kings County Savings Bank and the Williamsburgh Savings Bank were both constructed on Broadway between 1868 and 1875. Charles Luger also began building his café, billiards, and bowling alleys along Broadway in 1876 (Merlis 2005: 44). Development within the project area at this time appears relatively unchanged (Figure 14). Bromley's 1880 atlas of the area indicates that Union Avenue has not yet been extended across Broadway or Harrison Avenue. Structures continue to front along Whipple, Bartlett, Walton, and Gerry Streets. The northern portion of the project area has

² French for flint

FIGURE 13: 1869 View of the Broadway Triangle Project Area

FIGURE 14: 1880 View of the Broadway Triangle Project Area
experienced additional development, although that area still appears to be sparsely settled. A German Episcopal Church has been built in the far northeastern corner of the parcel, along the present-day Union Avenue frontage. In 1880, a Hall now fronts Harrison Avenue to the south of Gerry Street. This structure most likely represents Winter's Teutonia Hall (Armbruster 1942: 193). Masquerade balls and cake walks were held in this hall; the buildings were taken down in December 1921 (Armbruster 1942: 193). The Thirteenth Police Precinct has also opened along the southern edge of the project area at the corner of Flushing Avenue and Whipple Street. Armbruster describes this station house as a brick building which was subsequently vacated for a structure on Vernon and Tompkins Avenues (1942: 156).

The Williamsburgh Flint Glass Works and the Pfizer Chemical Complex are still located in the immediate vicinity of the project area. The earlier ropewalk which fronted Middleton Street is no longer extant. Additional industries, including an iron foundry, a second flint glass works, and a varnish factory have developed to the west of the parcel. Hopkins 1880 map indicates that municipal water and sewer lines were extended into the area by this time. The Bromley map also depicts the presence of hydrant lines in several locations throughout the project area.

In 1883, the cornerstone for the 47th Regiment Armory was erected on a portion of the Union Grounds facing Marcy Avenue (Armbruster 1942: 193; Todd 2006: 126). The 47th Regiment National Guard Infantry was organized by Colonel J.V. Meserole in 1882. The Armory building was designed by William A, Mundell. The Armory was occupied by October 1885. "Aside from the 23rd Regiment Armory (1891-1895), the Marcy Avenue Armory was the only state-sponsored armory built in Brooklyn during this period" (Todd 2006: 126). Additions were placed on to the building in 1889 and 1898 (Armbruster 1942: 193). The Union Grounds appears to have been officially closed by 1889 (Healey 2005).

The 1887 Sanborn maps give a more detailed representation of the nature of settlement and development within the project area. These maps indicate that the area was dominated by small-story domestic structures and storefronts. Industries within the project area appear to represent smaller, more localized ventures than the larger factories to the immediate east and west. At this time, the types of stores found within the project area include the Brooklyn Pottery Company on Wallabout Street, a bowling alley, a fur factory, a wagon maker, a truck maker, a chair factory, a soft soap factory, and several bakeries near Flushing Avenue.

During the 1880s, the first elevated steam train lines were built within Brooklyn. The Brooklyn Elevated Railroad (BER) constructed the first elevated line in 1885; this line, known as "Old Main Line" stretched from Washington and York Streets to Gates Avenue and Broadway (Feinman 2001). In 1888, the Old Main Line was extended to include Driggs Avenue via Broadway and to reach Broadway Ferry and beyond. The Broadway portion of this line, portions of which ran to the immediate east of the project area with a station stop at Lorimer Street, was known as the Broadway-Brooklyn El (Feinman 2001). The Lorimer Street Elevated Station was opened on September 16, 1888 (nycsubway.org 2009).

Bromley's 1893 map indicates continued development within the project area (Figure 15). By this time, the majority, if not all of the lots along the various streets have been developed with primarily frame structures. The police precinct is no longer present at the corner of Flushing Avenue and Whittle Street. The Gayety Theater has been built along the southwest corner of Throop Avenue and Middleton Street. According to Armbruster, a gold fish pond previously occupied this lot (1942: 308). Commercial and industrial development continues to surround the project area with buildings of the North American Iron Foundry, the Pfizer Chemical Complex, a ropewalk, and a candy factory sitting to the west of the parcel. The Williamsburgh Flint Glass Works is no longer depicted in the vicinity of the project area. A ribbon factory, a wagon works, a bakery, and a public school are also located to the immediate north of the parcel, suggesting that this area was more densely settled around the turn of the century. The Broadway-Brooklyn El is not depicted on the 1893 map. However, the 1908 Sanborn maps illustrate the Broadway corridor of the train and the elevated platform near Lorimer Street.

On January 1, 1898, Kings County was consolidated into the Greater City of New York (Merlis 2005). With the consolidation, Brooklyn became the most populous borough within New York City. In this same year, construction of the masonry piers for the Williamsburg³ Bridge began (Merlis 2005: 68). The first proposed bill for the construction of the Williamsburg Bridge was introduced into the New York State Legislature in 1884 by Senator Patrick McCarren. In March 1895, a second bill was introduced proposing the construction of a bridge from

³ Williamsburgh was spelt with an "h", up until the twentieth century. At this time, it became known as Williamsburg.



FIGURE 15: 1893 View of the Broadway Triangle Project Area

Delancey Street, New York to Marcy Street and Broadway, Brooklyn. The principal engineer of the Williamsburg Bridge was Leffert L. Buck. Given concerns over the industrial nature of Buck's design, Henry Hornbostel was hired to "beautify the bridge's architectural ornamentation" (Merlis 2005: 68). The bridge was completed and opened to public traffic on December 19, 1903. At the time of its completion, the Williamsburg Bridge was the world's heaviest and longest suspension bridge. It represented the first bridge constructed with all-steel towers, four traffic lanes, and two subway lines (Merlis 2005: 68).

The opening of the Williamsburg Bridge precipitated a dramatic population expansion within Brooklyn. According to Merlis, "a flood of Italian, Jewish, and Slavic immigrants poured across the bridge to escape the overcrowded conditions of Manhattan's lower east side. They settled in Williamsburg, Brownsville, Greenpoint, and other parts of Brooklyn" (2005: 68). From 1900 to 1920, Williamsburg's population grew from 105,000 to 260,000, having already doubled by 1910 (Sanchez 1990: 5; Merlis 2005: 68). In order to accommodate its new residents, cold water flats replaced brownstones and wooden houses throughout the city. From 1912 to 1917, a total of 500 six-story apartment buildings were built (Sanchez 1990: 5). The influx of people and the construction of larger apartment houses caused Williamsburg to become the most crowded neighborhood in New York City, "as…tenements on squalid blocks were filled beyond their capacity, and the last of the fine townhouses were cut up into multi-family rentals" (Merlis 2005: 68; Sanchez 1990: 5).

Hyde's 1912 Map of Brooklyn indicates that the early twentieth century population expansion and housing growth may have impacted at least a portion of the project area (Figure 16). In particular, several larger buildings, four and five-story brick structures, have developed along both Throop and Harrison Avenues south of Walton Street. A Public School has also been built on the western corner of Bartlett Street and Throop Avenue. A BRT Substation building is now located along Lorimer Street east of Harrison Avenue. The Brooklyn Railroad Transit Corporation (BRT) was organized by Timothy S. Williams in 1896 (Feinman 2001). The BRT was not an operator, but rather a holding company established so as to control other transit interests. By 1900, the BRT had acquired and consolidated all of the independent train interests within Brooklyn, including the Broadway-Brooklyn El, except for the Brooklyn and Rockaway Beach Railroad (Feinman 2001; Figure 17). The Broadway-Brooklyn El was electrified in this same year. By December 31, 1907, the connection between Fulton Street in Manhattan and the Broadway-Brooklyn El had been completed (Feinman 2001).

Aside from these developments, the project area has primarily remained a dense mix of residential and commercial space. Small businesses, including wagon shops and a coffee factory, are still interspersed amidst two and three-story dwellings. The Gayety Theater, Teutonia Hall, and the German Evangelical Church are still present within the project area. The Pfizer complex continues to operate to the west of the parcel, with a bread bakery and a public school sitting to the immediate north of the project area.

In 1913, the New York State Legislature enacted legislation for the "creation of a 'colored regiment of infantry' in the National Guard (Rothstein 1987). After three years, recruiting began for the 15th Regiment Colored Infantry at a cigar store on 131St Street and Seventh Avenue in Harlem. According to Rothstein, "young men from San Juan Hill and Harlem in Manhattan and from Williamsburg in Brooklyn trained for trench warfare in back yards and vacant lots" (1987). One enlistee with the 15th Regiment was Henry Johnson (Martin 2008). On June 5, 1917, Johnson joined the 15th Regiment at the Marcy Avenue Armory in Brooklyn (Martin 2008). The 1918 Sanborn map depicts the Armory for the 15th Regiment within the project area, along Harrison Avenue between Gerry and Bartlett Streets (Figure 18). The Armory appears to occupy the earlier Teutonia Hall building. Although Johnson's biographical account suggests that he joined the National Guard at the 47th Regiment Armory, the 1918 Sanborn suggests that the 15th Regiment was segregated from the white regiments within the National Guard, and installed in their own armory.

During World War I, the 15th Regiment was converted into the 369th Infantry of the US Army, which became the mostly African American 93rd Division of the American Expeditionary Force. Facing a hostile reception from the white troops, the majority of the African Americans within the Expeditionary Force worked as laborers and stevedores (Martin 2008; Rothsein 1987). Eventually, the 369th Infantry was called into combat as reinforcements for the battered British and French forces. This infantry became the first African American combat troops to fight on French soil (Rothstein 1987). "They spent 191 days in the front-line trenches, serving alongside French troops at the battles of Champagne-Marne and Meusse-Argonee and suffering many casualties" (Rothstein 1987). On February 17, 1919, New York City put on a ticker tape parade across Fifth Avenue to welcome the 369th Infantry home. Johnson, who had sustained substantial wounds during the war, enjoyed short-lived fame for his bravery and



FIGURE 16: 1912 View of the Broadway Triangle Project Area



Figure 17: Map of the BRT Rapid Transit System in 1912. (Source: NycSubwayinfo)



FIGURE 18: 1918 View of the Southern Portion of the Broadway Triangle Project Area

efforts during the war (Martin 2008). Upon his return to the United States, Johnson quickly fell into debt and alcoholism which eventually took his life in 1929. Unbeknownst to his family, he was buried in Arlington Cemetery under the name William Henry Johnson. In 1996, Henry Johnson posthumously received the Purple Heart for his exploits during the War (Martin 2008). In 2007, the Henry Johnson Charter School opened in Albany.

In 1913, the City of New York created a new transit system project, including both underground and elevated trains, known as the Dual System of Rapid Transit. (State of New York 1913) This project was designed such that,

The Dual System will have 618 miles of track, more than double the present mileage, and will increase the transportation facilities in even greater ratio. When completed the new lines will be combined with the existing railroads and will be operated in two grand divisions, one by the Interborough Rapid Transit Company, which operates the existing subway and the elevated railroads in Manhattan and The Bronx, and the other by the New York Municipal Railway Corporation, formed for the purpose by the Brooklyn Rapid Transit Company, which controls the existing elevated railroads in Brooklyn (State of New York 1913).

After the signing of this contract, BRT began to engage in poor customer relation and management practices. As a result, their transit workers went on strike in October 1918. Pushing untrained motormen into service so as to cover for the striking workers resulted in the worst transit accident in New York City, the Malbone Street wreck, which killed at least 93 people (Feinman 2001). After this accident, BRT fell into bankruptcy. The company remained in receivership until 1923, when it was reorganized as the Brooklyn-Manhattan Transit Corporation (BMT) (Feinman 2001). The BMT maintained continued control over the Brooklyn underground and elevated lines, including the Broadway-Brooklyn El, present-day **1**/**1** subway lines.

Hyde's 1921 map of Brooklyn indicates that the project area remained relatively unchanged after the close of World War I. The 15th Colored Regiment Infantry Armory building has been reverted back to Teutonia Hall by this time. Several auto shops have also developed within the parcel. Wagon shops and small businesses are still located within the project area. Union Avenue has still not been extended across Broadway and Harrison Avenues.

After World War I, New York experienced a severe housing shortage. "To stimulate new construction, the City enacted a ten year property tax exemption and the State offered incentives to insurance companies to invest in housing construction" (Sanchez 1990: 5). While this program instigated a housing boom throughout many neighborhoods, it did not provide for the construction of low income housing and, therefore, had little impact on Williamsburg. The population of Williamsburg began a steady decrease around this time, dropping from 260,000 in 1920 to 179,000 by 1940 (Sanchez 1990: 5).

Hyde's 1929 map of Brooklyn shows little additional development within the project area (Figure 19). Teutonia Hall, the former location of the 15th Regiment Infantry, has been torn down by this time and replaced with a onestory garage. In fact, several garage spaces are located throughout the project area. The BRT substation has become a BMT substation. The preexisting German Episcopal Church on Harrison Avenue is now occupied by a Jewish Mission. An extension of Union Avenue to the southwest, across Broadway and Harrison Avenue, has been proposed by this time. The proposed line of the road is reflected on the map, with the proposed avenue cutting through Blocks 2238, 2241, and 2245, and appearing to truncate the eastern portion of the Jewish Mission.

In 1932, the Independent City Owned Rapid Transit Railroad (IND) was opened (Feinman 2000). With the opening of the IND line, numerous proposals for new subway lines and extensions of preexisting lines were put forward (Feinman 2000). One such proposal was for the construction of a crosstown Brooklyn line, extending from Queensborough Plaza in Queens to Fulton Street in Brooklyn. On July 1, 1937, the Brooklyn-Queens crosstown line between Nassau Avenue and Hoyt-Schermerhorn Streets opened for service (Feinman 2000). The irregular corridor of the crosstown line required the extension of Union Avenue from its previous termination at Broadway to the southwest towards the Flushing Avenue and Marcy Avenue intersection (Figure 20). The 1935 Sanborn maps illustrate the extension of Union Avenue prior to the completion of the subway line. The Broadway and the Flushing Avenue Station stops for the crosstown were opened on July 1, 1937 (nycsubway.org 2005). At the time of its completion, the Brooklyn-Queens crosstown line was identified as the GG, the present-day G subway line. In 1939, the various independent subway lines were integrated into one system, the New York City Rapid Transit



FIGURE 19: 1929 View of the Broadway Triangle Project Area



Figure 20: Map of the IND Controlled Train Lines in 1937. Source: nycsubway.org 2005.

System (Feinman 2000; Homberger 1998: 126). The previously distinct lines became divisions within the larger system, e.g., the BMT and the IND divisions.

In 1938, Brooklyn's first public housing project, the Williamsburg Houses, was completed (Brooklyn Historical Society 2000: 8; Sanchez 1990: 6; Merlis 2005: 96). The housing development is bounded by Scholes Street, Maujer Street, Leonard Street, and Bushwick Avenue, to the northeast of the project area. The design of the development consisted of 20 low-lying buildings of four-stories situated on 23 acres of landscaped park and playground (Sanchez 1990: 6). At the time of its completion, the development was heralded as a housing situation that offered "more the amenities of good housing than many expensive Park Avenue apartment houses" (WPA 1939: 459). The complex received more than 200,000 applications for 1600 vacancies (Brooklyn Historical Society 2000: 8; Sanchez 1990: 6).

During World War II, Williamsburg endured limited revitalization. Activity surrounded the Brooklyn Navy Yard where battleships for the war effort were constructed in the Wallabout dry docks and then launched into the East River (Merlis 2005: 96). Also during this time, Pfizer Pharmaceuticals developed the technology to mass produce penicillin in its production plant on Marcy Avenue and Lorimer Street. During the War, penicillin became an essential weapon in fighting off infection and saving soldiers lives (Brooklyn Historical Society 2000: 13).

After the war, sections of Williamsburg fell into disrepair; the neighborhood had more substandard apartment buildings than any other section of Brooklyn (Brooklyn Historical Society 2000: 8; Merlis 2005: 96). Post-War projects focused on the removal of buildings and the construction of massive complexes. "Much of Williamsburg was torn down over a short span of years to make way" for the larger housing developments (Sanchez 1990: 7). In 1949, the Marcy Houses complex was completed to the southwest of the project area in the Bedford-Stuyvesant neighborhood. This low-income housing development consists of 27 six-story buildings on 28.49 acres (The City of New York 2009). An influx of immigrants also moved into Williamsburg during this time. The immigrant groups included Puerto Ricans and Chasidic Jews who replaced the Conservative and secular Jews, Irish, and Italian residents leaving the community (Merlis 2005: 102).

The 1950 Sanborn maps indicate that the project area had become more commercial and industrial during this period. Many of the former residences within the parcel have been replaced with parking areas, garage spaces, a wholesale meat shop, auto-body businesses, a book binding operation, a furniture display shop, and a metal plating facility. The Pfizer complex appears to have expanded to the north and east over time. By 1950, it appears to control the former location of Teutonia Hall. The Bartlett School, PS 168, still occupies the western corner of Throop Avenue between Whipple and Bartlett Streets. Vacant lots and lumber yards have also developed within the project area.

During the 1950s, the Brooklyn-Queens Expressway (BQE), a six lane depressed highway designed by Robert Moses, was constructed across Williamsburg, to the west of the project area (Sanchez 1990: 9, Merlis 2005: 102). The construction of this highway removed at least 2200 dwelling units, displacing between 5000 and 10000 residents (Sanchez 1990: 10). It also disrupted commercial streets and destroyed portions of the retail center within the neighborhood. Coupling the displacement caused by the BQE, manufacturing and industrial activities declined with industries vacating Brooklyn throughout the 1960s. Population continued to decline throughout Williamsburg and crime began to increase (Merlis 2005: 102). The Brooklyn Navy Yard shut down operations in 1966; the Shaefer Brewery also closed in 1976. "From 1961 to 1988, more than 200,000 local jobs disappeared" (Brooklyn Historical Society 2000: 15).

In 1967, the City of New York purchased 260 acres of the Brooklyn Navy Yard. Four years later, the city reopened the Navy Yard as an industrial park under the management of a local development corporation called the Commerce Labor and Industry in the County of Kings, Click (Brooklyn Navy Yard 2005). In the 1980s, artists unable to afford the real estate prices in SoHo began to expand into the industrial spaces within Williamsburg (Brooklyn Historical Society 2000: 15). This artistic community, along with the Puerto Rican and Jewish residents of the area, have begun to work together on local community issues including environmental concerns, neighborhood planning and zoning policies, and on proposals for reuse of the Navy Yard (Merlis 2005: 102). Brewing returned to Brooklyn in 1988 with the small-scale operation of S. Hindy and T. Potter. By 1996, Hindy and Potter opened a large-scale brewing operation, the Brooklyn Brewery (Merlis 2005).

In 2005, the New York City Council passed a rezoning plan for a 175-block area in Williamsburg and Greenpoint. This plan would allow

Developers to erect luxury 40-story apartment buildings, condominiums, shops, and waterside recreation areas. An estimated 10,500 apartments would be constructed as a result of the rezoning. ..To keep businesses in the area, 22 blocks near Bushwick Creek were designated as an Industrial Business Zone.

In exchange for granting rights to erect such tall buildings, those developers must reserve twenty to twenty-five percent of all new housing units for low and middle-class families. [Merlis 2005: 102-103]

In January 2007, Pfizer announced that it would be cutting 7800 jobs in the United States and within its international operations (Newman 2007). These cuts would include its Brooklyn plant whose operation would be phased out over the next two years. At the same time as Pfizer has been shutting down its operations, the Brooklyn Navy Yard has been operating as a "thriving industrial park with over 40 buildings, 230 tenants, and 5000 employees (Brooklyn Navy Yard 2005).

Presently, the project area consists of a light manufacturing district defined by vacant buildings, asphalt parking lots, auto-body and auto-repair shops, and warehouses. In recent years, as reflected by the 2005 rezoning plan, the larger Williamsburg area has experienced a substantial growth in its residential community and in the development of mixed-use space associated with the growing residential population. However, the residential development within the larger neighborhood has outpaced the growth within the proposed Brooklyn Triangle Redevelopment area.

4.0 ARCHAEOLOGICAL POTENTIAL

As a function of the EIS for the proposed Broadway Triangle Redevelopment Project, a letter detailing all of the projected and potential development sites and the respective lots within each development site was submitted to LPC for their review (Zachary Davis, Information Request dated December 16, 2008). Of the total 37 projected and potential development sites, representing 114 tax lots, LPC found that none of the projected or potential development sites are sensitive for archaeological resources. As such, they concluded that there are no further archaeological concerns with respect to the 114 lots (Santucci, Environmental Review letter dated 12/18/2008).

The Proposed Action is also subject to review by NYSOPRHP. As such, consultation with the NYSOPRHP was also initiated (Zachary Davis, Information Request dated December 16, 2008). In light of the federal purview of the project, Areas of Potential Effect (APEs) for archaeological and historic architectural resources were defined. Following Section 106 guidelines for the delineation of the archaeological APE, the archaeological APE for the Proposed Action was determined to be the area within which direct impacts would most likely occur as a result of the project. Therefore, the archaeological APE was defined as the entire redevelopment area, encompassing all of the projected and potential development sites along with the blocks within which the development sites are located (Figure 4). After their preliminary evaluation of the projected and potential development sites, NYSOPRHP concluded that they had no [archaeological] concerns with the development of the project (Cumming, Determination Letter dated 1/21/09).

In order to document any development and changes to the project area over time, historic maps of the region were scanned and georeferenced to the project location using the software program ArcView 9.3. This software enables the superimposition of the archaeological APE onto historic maps (Pratt 2002). The process of georeferencing historic maps to a contemporary GIS database necessarily involves reconciling resources and information that have been acquired at different times via disparate surveying and cartographic methods. Therefore, discrepancies may appear in the relative location of the project area due to the variability in the historical accuracy of the surveying methods used to create the historic era maps. Comparing the evidence for past disturbance to the project area, with the cartographic and historic record provides an insight into the potential archaeological sensitivity of the proposed project.

4.1 Prehistoric Archaeological Site Potential

The early nineteenth century cartographic record indicates that a branch of the Wallabout Creek and its surrounding marshlands once extended into the project area. Burr's 1829 map presents the first evidence of a drainage running through the parcel, with a branch of an unnamed creek running from the northeast to the southwest across the northern portion of the project area (see Figure 6). The 1844 US Coast Survey depicts a waterbody draining into Wallabout Bay terminating to the immediate west of the project area (see Figure 7). The survey map further illustrates untouched meadowland, most likely wooded marshlands, within the southern portion of the project site following the trajectory of the unnamed drainage. This vegetation suggests that the drainage and its floodplain extended into the southern portion of the project area. Colton's 1849 map indicates that a branch of the Wallabout Creek and its surrounding marshland terminated to the immediate west of the project area, with a canal running through the center of the project area in the vicinity of present-day Wallabout Street (see Figure 10). Armbruster notes that Paine Street was laid out along the line of Wallabout Creek in 1835, and replaced by River Street in 1861 (1945: 312). Subsequently, River Street was replaced by Wallabout Street which according to Armbruster "was constructed upon the bed of the creek" (1942: 312). Dripps 1869 map depicts portions of Wallabout Creek to the south of the project area near Flushing Avenue; the northern branch of the creek appears to be no longer extant (see Figure 13).

The cartographic record indicates that a watersource and surrounding marshland were present within at least portions of the project area prior to its development. Furthermore, the lack of topographic relief within the historic parcel suggests that the entire area consisted of low-lying terrain bordering a creek. While the presence of a perpetual watersource in this area would have provided an attractive setting for the extraction of natural resources, e.g., fish, animal, and plant sources, to prehistoric occupants, the low-lying elevation of the area would have prohibited prolonged habitation or settlement. Furthermore, the lack of previously identified prehistoric sites within a one-mile vicinity of the project area suggests that if this area had experienced past prehistoric activity it most likely resembled transient, ephemeral, and brief occupations (Geismar 1987). Given the extensive historic and modern development of the project area, including fill episodes related to the creation of road surfaces atop the

preexisting Wallabout Creek and its associated marshlands, it is highly unlikely that a prehistoric ground surface has remained intact within the project area. In addition, the high potential that any such occupation would have left only a minimal archaeological signature suggests that even if portions of the project area have not been disturbed by more recent activities, that there is little likelihood for prehistoric deposits to be uncovered or to have maintained integrity in light of the surrounding disturbance. Therefore, the project area is not considered sensitive for intact significant prehistoric archaeological deposits.

4.2 Historic Archaeological Site Potential

The historic record suggests that the earliest development within the project area or its immediate vicinity began with the construction of the Bushwick-Newtown Turnpike in the early 1800s. Burr's 1829 map reflects the orientation of this historic roadway, running from southwest to northeast across the southern portion of the project area (see Figure 6). Armbruster notes that present-day Flushing Avenue replaced the historic turnpike, possibly beginning as early as 1840 (1942: 155). He further observes that the Wilson Jarvis farmhouse was located at the corner of Flushing and Throop Avenues in 1840, suggesting that an historic farmstead may have been situated within the far southeastern corner of the project area (1942: 156). However, the 1844 US Coast Survey Map places Flushing Avenue and those structures with frontages on the historic road to the south of the parcel (see Figure 7). It is possible that the historic turnpike may not have followed the exact route of present-day Flushing Avenue and, therefore, that the 1829 representation of this road is inaccurate. Alternatively, as Flushing Avenue replaced the turnpike road, the trajectory of the road may have altered, with, as illustrated by the 1844 map, historic Flushing Avenue following a different course than the modern road. Conversely, the historic road may have been inaccurately surveyed or recorded by the 1844 survey and, thus, georeferencing the modern project area onto the historic map may have inaccurately projected the historic roadway to the south.

Colton's 1849 map indicates that the extension of the formal street grid into the project area has at least been proposed (see Figure 10). The majority of the streets appear to follow their modern orientation, with Flushing Avenue forming the southern boundary of the project area. By this time, Union Avenue did not have its present-day trajectory, having been extended to the southwest across Broadway and Harrison Avenues. The 1849 map does not reflect the presence of a structure or occupation at the corner of Flushing and Throop Avenues. Furthermore, the 1855 Perris Map also fails to depict any occupation or settlement within the project area. The lack of development on both of these cartographic resources suggests that either Armbruster was incorrect in his assertion that a farmhouse was located on the corner of Flushing and Throop Avenues or that the location of these streets differed from their present orientation, placing the farmhouse to the south of the project area. While it is possible that the Jarvis farmstead was a brief occupation, the location of structures to the south of the parcel on the 1844 Coast Survey suggests that there was no early nineteenth century settlement within the project area.

By 1869, the project area appears to have experienced extensive development with the extension of formal streets and the subdivision of property lots along the streets (see Figure 13). Historic accounts and previously conducted cultural resource studies indicate that municipal sewer and water lines were most likely extended into this portion of Brooklyn sometime between the 1850s and 1860s. This suggests that the structures present within the project area in 1869 are connected to the municipal lines and, therefore, would most likely not have independent means of obtaining water, e.g., a well or cistern, or of disposing of waste, e.g., a privy. Industrial development, including the Pfizer Chemical Works and the Williamsburgh Flint Glass Works, has developed to the west and east of the project area. There is no indication that a similarly large industrial or commercial enterprise has developed within the parcel. Rather, an examination of the 1887 Sanborn maps indicates that small-scale industrial spaces, storefronts, and two to three-story domestic residences dominated the project area during the late nineteenth century and at the turn of the twentieth century.

Throughout the twentieth century, the project area continued to maintain a mixed industrial, commercial, and residential character up until the downturn of larger Williamsburg following World War II. By 1950, several residential and commercial spaces had been demolished and replaced with garage, auto-body and auto-repair shops, and industrial uses. Union Avenue was extended into its present orientation in association with the construction of the Brooklyn-Queens Crosstown subway line in 1937. The extension of Union Avenue removed preexisting residential and commercial space within the project area, and destroyed an historic German Episcopal Church that became a twentieth century Jewish Mission along Harrison Avenue. Additionally, by the mid-twentieth century, historic Teutonia Hall, the location of the 15th Regiment Colored Infantry National Guard Armory during World

War I, was demolished and replaced with garage space. By 1950, Pfizer had expanded its holding to encompass this area along Harrison Avenue between Bartlett and Gerry Streets.

Given the lack of evident development of the project area prior to 1869, it appears that historic settlement of the project area postdated the extension and installation of municipal water and sewer lines. Aside from the reference in Armbruster, there appears to be no evidence for the presence of an historic farmhouse at the corner of Flatbush and Throop Avenues. It is possible that this structure may have been located on the eastern corners of this intersection or along the historic orientation of these roads which may differ from their modern locations. Nevertheless, the nineteenth century cartographic record does not indicate the presence of any structures within the southeastern extent of the project area. Therefore, in light of the fact that development within the project area appears to be coincident with or to postdate municipal utilities, the project area is not considered sensitive for historic archaeological resources relating to nineteenth century domestic deposits, particularly shaft features. Furthermore, despite the development of industrial spaces within the vicinity of the project site, the historic Pfizer Chemical Works to the west and the Williamsburgh Flint Glass Works to the east, there is no indication that such large-scale or historically significant industrial and/or commercial spaces developed within the parcel. Therefore, the project area is not considered sensitive for nineteenth or twentieth century historic industrial deposits.

Based upon the historic review of the project area, an analysis of historic maps and accounts, and on the modern development of the project area, the archaeological APE is considered to have no potential for intact significant prehistoric deposits. Given the lack of evident historic development of the project area prior to the installation of municipal utilities and the lack of a significant industrial or commercial occupation within the parcel, the project area is also not considered sensitive for historic period archaeological resources. Therefore, Berger concludes that the proposed rezoning project area possesses no potential for archaeological resources, in agreement with the recommendations from LPC and NYSOPRHP, and does not recommend any additional archaeological work in association with the proposed Broadway Triangle Redevelopment Project.

5.0 HISTORIC ARCHITECTURAL SURVEY

A historic architectural survey has been conducted to assess the potential of the proposed Broadway Triangle rezoning project to affect historic architectural resources. This section has been prepared in accordance with the City Environmental Quality Review (CEQR) guidelines, which requires that city agencies consider the affects of their actions on historic properties. Pursuant to CEQR guidelines, historic architectural resources that have been designated or determined to meet the eligibility requirements for local, state, or national designation have been identified. This section also identifies those architectural resources that appear to meet these eligibility requirements.

The *CEQR Technical Manual* recommends that architectural resources be assessed if the proposed action would result in new construction, demolition, or significant physical alteration to any building, structure, or object; construction related disturbances; a change in scale, visual prominence, or visual context of buildings, structures, objects, or landscape features; and screening or elimination of publicly accessible views. An architectural survey is required when a proposed action may result in any of these conditions. As the proposed Broadway Triangle rezoning project is expected to generate some of these results, an assessment of historic architectural resources has been undertaken.

5.1 Methodology

Historic architectural resources are those properties that are National Historic Landmarks (NHLs), listed in or determined eligible for listing in the State and National Registers of Historic Places, designated New York City Landmarks (NYCLs) and historic districts, and properties found by the New York City Landmarks Preservation Commission (LPC) to appear eligible for designation, considered for designation ("heard") by LPC at a public hearing, or calendared for consideration at such a hearing (these are "pending" NYCLs).

The study area within which the architectural assessment is to be conducted, known as the Area of Potential Effect (APE), is developed based on the potential for the proposed project to affect historic architectural resources. Potential impacts on historic architectural resources can include both direct physical impacts and indirect impacts. Direct impacts include demolition of a resource, alterations to a resource that cause it to become a different visual entity, damage from vibration (e.g., from train movements underground or from construction blasting or pile driving), and additional damage from adjacent construction that could occur from falling objects, subsidence, collapse, or damage from construction machinery.

Indirect impacts are contextual or visual impacts that could result from project construction or operation. The *CEQR Technical Manual* indicates the following examples of indirect impacts: blocking significant views of a resource; isolating a resource from its setting or relationship to the streetscape; altering the setting of a resource; introducing incompatible visual, audible, or atmospheric elements to a resource's setting; or introducing shadows over *significant characteristics* of a historic resource, such as a church with notable stained-glass windows.

To address the potential for direct (physical) and indirect (contextual) impacts, the architectural APE consists of the projected and potential development sites outlined in the proposed project and an area that extends approximately 400 feet (121.9 meters) beyond the perimeter of those sites.

Once the architectural APE has been determined, an inventory of previously listed, eligible, or potentially eligible properties within the study area was compiled. Criteria for listing on the National Register are outlined in the Code of Federal Regulations, Title 36, Part 63, and the LPC has adopted these criteria for use in identifying architectural resources for CEQR review. Following these criteria, districts, sites, buildings, structures, and objects are eligible for the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of history;
- B. That are associated with the lives of persons significant in our past;
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield [archaeological] information important in prehistory or history. Properties that are younger than 50 years of age are ordinarily not eligible, unless they have achieved exceptional significance. Eligibility determinations are made by the Office of Parks, Recreation and Historic Preservation (NYSOPRHP).

The LPC designates historically significant properties in the City as NYCLs and/or historic districts following the criteria provided in the Local Laws of the City of New York, New York City Charter, Administrative Code, Title 25, Chapter 25, Chapter 3. Buildings, properties, or objects are eligible for landmark status when a part is at least 30 years old. Landmarks have a special character or special historical or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the city, state, or nation. There are four types of landmarks: individual landmarks, interior landmarks, scenic landmarks, and historic districts.

In addition to identifying architectural resources officially recognized in the architectural APE, an inventory was compiled of other buildings within the architectural APE that could warrant recognition as architectural resources. For this project, potential architectural resources were those properties that appeared to meet one or more of the National Register Criteria (described above) and are at least 30 years of age. Such architectural resources were identified based on a field survey of the architectural APE and by using historical sources, such as documents at the New York Historical Society, the New York Public Library, the Avery Architectural Library at Columbia University, the Department of Buildings (DOB), the Brooklyn Public Library, and the Brooklyn Historical Society, as well as a variety of online repositories and databases.

Once the historic architectural resources in the architectural APE were identified, the proposed actions were assessed for both direct physical impacts and indirect visual and contextual impacts to these resources.

5.2 Identification and Evaluation of Historic Properties within the Architectural APE

5.2.1 Previously Listed or Eligible Historic Properties within the Architectural APE

The identification of previously listed or eligible architectural resources was conducted in consultation with the New York City Landmarks Preservation Commission (LPC) and the NYSOPRHP. One historic property, the Forty-Seventh Regiment (Marcy Avenue) Armory, is located within the architectural APE. In 1993, a National Register Multiple Property Documentation Form (MPDF) of Army National Guard Armories in New York State was completed and an Intensive Level Survey of New York's Armories was undertaken. As a result of the survey, the NYSOPRHP determined the Forty-Seventh Regiment (Marcy Avenue) Armory eligible for listing on the National Register.

Forty-Seventh Regiment (Marcy Avenue) Armory, Block 2233, Lot 1 (#1; Photos 2-7; Figures 21&22)

The Forty-Seventh Regiment (Marcy Avenue) Armory is a Castellated style armory building that occupies the block bounded by Heyward Street, Harrison Avenue, Marcy Avenue, and Lynch Street. Constructed in two phases, the first, built 1883-1884, is sited at the southwest portion of the block, fronting on Marcy Avenue. The design and decoration of the building reflects the influence of medieval Gothic military architecture (Todd 1993:F-12). Designed by architect William A. Mundell, the armory is a brick structure with a stone foundation, topped by a crenellated parapet (Todd 2006:126). The primary facade has three crenellated square towers, a central tower and canted corner towers. Brick pilasters separate bays of segmental arched windows. The towers have rectangular windows with stone lintels and sills. This section of the building is set on a stone water table and has a spiked iron fence (not the original) surrounding the lawn along Marcy Avenue. In 1899, the armory was expanded to fill the remaining section of the block, replacing the former Union Grounds, reported to be the first enclosed baseball field. The 1899 construction consisted of a massive drill shed that tripled the size of the existing building. Designed by state architect Isaac G. Perry, the building is typical of armory buildings of the period, incorporating large round crenellated and machicolated towers, a hipped roof with a double clerestory, large sally ports, and a brick water table (Todd 2006:126). An arched iron truss system supports the expansive open space of the drill shed, spanning 196 feet across the width of the 1899 building. On the exterior sidewalls, cross-shaped iron anchors are labeled "47 N G SNY."

The following history has been excerpted from New York's Historic Armories by Nancy L. Todd:

The earliest components of what later became the Forty-seventh Regiment were organized as home guard units during the Civil War; several of these companies served briefly at the front in 1862 and 1863, but returned to New York City to assist in suppressing the Draft Riots in July 1863. In its postwar years, the regiment helped subdue rioters during the Great Railroad Strike of 1877 and the Brooklyn Trolley Strike of 1895.

Between 1862 and 1864, the Forty-seventh Regiment was housed in rented quarters on Fifth Street in a building called the Odeon. In 1864 a site on Fourth and North Second streets was selected for the erection of a permanent armory for the regiment, and the cornerstone was laid on July 14, 1864. Little is known of this facility. By 1883 the regiment appears to have outgrown its quarters on Fourth and North Second Streets, and a new site on Marcy Avenue was acquired. The building of the present armory was begun in 1883 and completed in 1884. The armory was built at a cost of \$125,000; "it is of brick, with stone trimmings, it is 200 x 204 feet, with eight company rooms, each 19 x 42 feet, and a drill room, 130 x 128 feet. In the basement are eight rifle galleries, each 204 feet long." The Forty-seventh took formal possession of the new building in 1885 (Todd 2006:126).

According to Todd, the Forty-Seventh is one of two state-sponsored armories to be constructed in Brooklyn during the period (1880-1910), the other is the Twenty-third Regiment Armory (1891-1895) located on Bedford Avenue. The other armories built at the time were city or Kings County funded and operated. During the 1920s and 1930s, the regiment was reorganized several times as the Fifty-third Pioneer Infantry, the Forty Seventh Mountian Engineers, the Twenty-seveth Division Train Q.M.C., and the 102nd Quartermaster Regiment. The facility continues to operated by the New York Army National Guard (Todd 2006:126).

Architect William A. Mundell (1844-1903) was a Brooklyn architect responsible for a variety of public projects in Brooklyn during the late nineteenth century. He designed two Brooklyn armories in addition to the Forty-seventh Regiment Armory, the Clermont Avenue Armory (1872-1873) and the Fourteenth Regiment Armory on Eighth Avenue (1891-1895). Other buildings attributed to him include the first Brooklyn Hall of Records on Adams Street, the Kings County Almshouse on Flatbush Avenue. Mundell was the son of Jeremiah Mundell, an English-born painter, who became a dealer of paint and related products. William maintained an office at 16 Court (Todd 2006:308; Withey 1970:434; US Bureau of the Census; Lain 1884; 1897).

Isaac G. Perry (1822-1904), a self-trained architect, was born in Bennington, Vermont, and was raised and educated in Keeseville, New York. After an apprenticeship, he entered into partnership with his father, Seneca Perry, a shipwright who worked as a carpenter. The Perry's advertised themselves as carpenter-joiners who also undertook masonry work. According to Todd, Perry gained regional renown in New York, New Jersey, and Pennsylvania for the design of large-scale public buildings. In 1857, design and construction of the New York State Inebriate Asylum in Binghamton was his first major commission and put him in the forefront of his profession. Governor Grover Cleveland selected Perry as capitol commissioner in 1883 to oversee completion of the State Capital in Albany. By the late 1880s, Perry was informally known as New York State architect and responsible for state-funded building programs. Expansion of Perry's duties corresponded with the growth and prestige associated with the state militia and construction of armories and also included hospital and asylum buildings across the state. During his tenure as state architect, Perry designed and/or oversaw construction of 27 armories in Upstate New York. In 1899, Perry retired as Capitol Commissioner after Governor Roosevelt's selection of George Louis Heins for the post (Todd 2006:149; The New York Times 1899; Wikepedia 2008).

The Forty-Seventh Regiment (Marcy Avenue) Armory is one of the earliest examples of the more restrained, Classically-inspired armories, characterized by its symmetry and regularity. The Forty-Seventh Regiment (Marcy Avenue) Armory is significant under Criterion A, in the area of architecture as a representative example of its type that embodies the distinctive characteristics of function, form and plan, and design and decoration of armories constructed between 1880 and 1910. The armory is also eligible under Criterion A in the area of military history and entertainment/recreation, for its association with New York's voluntary militia and the critical role of these men in our nation's military system and as an important cultural and community space. Located in urban areas, the armory is and was a prominent component of the landscape (Todd, MPDF 1993).



Photo 2: Forty-Seventh Regiment Armory, View East.



Photo 3: Historic Postcard Forty-Seventh Regiment Armory, 1883-1884View East. Source: Published in Todd 2006.



Photo 4: Forty-Seventh Regiment Armory, View West.



Photo 5: Forty-Seventh Regiment Armory, View South.



Photo 6: Historic View Drill Shed Interior, Circa 1910s. Source: Published in Todd 2006.



Figure 21: Trusses for Drill-Hall (Shed), Forty-Seventh Regiment Armory. Source: Engineering Record, December 23, 1899, Published in Kidder 1921.



Photo 7: Anchor Detail, Forty-Seventh Regiment Armory, View North.



Figure 22: Plan Forty-Seventh Regiment Armory. Source Sanborn, 1918.

5.2.2 Previously Undocumented Historic Properties within the Architectural APE

In addition to the one previously identified historic property, the Forty-Seventh Regiment (Marcy Avenue) Armory, 11 previously undocumented properties have been surveyed. The following historic architectural resources were identified within the historic architectural APE and appeared to be 50 years in age or greater (30 years in age or greater for New York City Landmarks) (Figure 23; Table 2). The resources described below were assessed for their potential to be listed in the State and National Registers of Historic Places using the criteria outlined above.

Map No.	Name/Type	Address	Block/Lot	Survey Recommendation
1	Forty-seventh Regiment (Marcy Avenue) Armory	355 Marcy Avenue	2233/1	NYSOPRHP Determination of Eligibility 1993
2	Lindsay Park Cooperatives	30-48 Montrose Avenue aka 331 Lorimer Street 42-70 Boerum Street aka 67 Leonard Street aka 284 Lorimer Street 72-108 Boerum Street aka 67-91 Manhattan Avenue 77-107 Beorum aka 68 Lenoard Street aka 93 Manhattan Avenue	3058/1 3077/1 3078/1 3060/75	Not Eligible
3	Lincoln Savings Bank	541 Broadway	3076/6	SR/NR Eligible
4	Office/Residential Building	502 Broadway Aka 305 Heyward Street	2228/33	Not Eligible
5	BRT Sub Station No. 17	145 Lorimer Street	2242/57	Not Eligible
6	Eugenio Maria DeHostos School (IS 318)	140 Harrison Avenue	2246/1	Not Eligible
7	Bartlett School (PS 168)	102 Throop Avenue	2272/21	SR/NR Eligible
8	Stores and Tenements	662-670 Broadway 86-94 Barlett Street	2273/6,8,9,11	Not Eligible
9	All Saints Church Complex: Church, Rectory, Schools, and Convent	115 Throop Avenue, 44-58 Whipple Street, 21 Thornton Street	2275/1,21	SR/NR Eligible
10	PS 148	185 Ellery Street aka 182 Hopkins Street	1726/14	LPC and SR/NR Eligible
11	Stores and Apartments	209-213 Harrison Avenue aka 657 Flushing Avenue	2272/1,2,57	Not Eligible
12	Charles Pfizer & Co. Buildings	623-631 Flushing Avenue 475 Marcy Avenue	2268/1 1720/1	LPC and SR/NR Eligible

Table 2: Historic Architectural Resources Present within the Historic Architectural APE



FIGURE 23: Properties Surveyed for the Broadway Triangle Redevelopment Project SOURCE: City of New York Department of City Planning; MapPLUTO Release 07C.1.

Lindsay Park Cooperative, Block 3058, Lot 1, Block 3077, Lot 1, Block 3078, Lot 1, & Block 3060, Lot 57 (#2; Photo 8)

The Lindsay Park Cooperative, constructed 1964-1966 consists of seven high rise residential buildings, 22 stories in height, located at Lorimer, Boerum, Leanard Streets and Manhattan Avenue, east of Broadway and the elevated subway. The towers occupy four superblocks south of Montrose Avenue, adjacent to Sternberg Park (formerly Lindsay Park); blocks 3058, 3077, and 3078 have two towers set perpendicular to each other; the seventh building at block 3060 shares the block with the George H. Lindsay School (PS 250) (Sternberg Park NYC Parks and Recreation 2009). Designed by the architectural firm of Kelly and Gruzen, the buildings are unassuming modern slab blocks, finished with brick (Fried New York Times 1962). Metal balconies, staked windows, and concrete lintel courses accentuate the repetitive context of the fenestration and massing. Parking, open space and recreation are integrated in the plan, as well as commercial development along the periphery, improvements to Lindsay Park, and construction of a new school (PS 250), also integrated into the redevelopment project. When completed in 1966, the seven buildings contained 2,687 cooperative apartments, designed for middle-income families.

One of the post-World War II projects conceived under the Limited Profit Housing Companies Law, passed by the New York State legislature in 1955, and known as the Mitchell-Lama program. The program provided for low interest loans and tax breaks on housing projects for middle-income families, which could be combined with Title I slum clearance programs (Plunz 1990:281). The Lindsay Park project combined the two programs, with clearance of over 16 square blocks and the loss of 189 buildings resulting in displacement of 1300 families and 300 firms (Sanchez 1990:7). Controversy, however, quickly followed due to deterioration of the buildings and what the tenants argued was a lack of general maintenance (Mancuso New York Times 1977).

The architectural firm of Kelly & Gruzen was formed in 1936 by General Hugh A. Kelly and B. (Barney) Sumner Gruzen in Jersev City, New Jersey, and focused on commercial and government projects. In the 1940s, the firm expanded its operations and established an office in New York City. During World War II, they designed schools and housing for military bases, hospitals, and other military facilities. After the war, public housing became an area of specialization. The firm continued to expand with offices in Newark, New Jersey, and Boston, Massachusetts. They also designed award winning public schools in New York and New Jersey. After Kelly's retirement Gruzen continued at the head of the firm. In 1967, the name was changed to Gruzen & Partners and subsequently became Gruzen Samton Architects. The firm's first post-war apartment design was Chatham Green, built in 1961, followed by Chatham Towers (1964), River View Towers (1964), and West Side Manor Apartments (1968) (Gruzen Samton 2009; Rozhon New York Times 1994; Emporis.com 2009). At Chatham Green, innovations such as "rows of metal grid balconies set in front of the sweep of red brick" and firsts at Chatham Towers such as the first residential use of exposed concrete poured at the site and use of extruded aluminum windows with Venetian blinds installed between double panes, set Kelly and Gruzen "at the forefront of American architecture" (Rozhon New York Times 1994). Although hailed and criticized at the same time, the firm contributed to the now accepted architectural vocabulary commonly associated with the high rise apartment. This prolific firm designed numerous other buildings; the AIA Guide to New York City lists more than a dozen projects in the city. The firm's work reached well beyond the New York metropolitan area.

The Lindsay Park Cooperative expresses a design aesthetic that has become synonymous with urban housing projects: high rise slab blocks with brick exterior cladding and banks of metal balconies, set on super blocks. The Lindsay Park Cooperative is not a distinctive example of public housing, does not embody exceptional qualities of its type, nor does it represent a noteworthy example of the design work undertaken by architects Kelly and Gruzen. Therefore, the Lindsay Park Cooperative is recommended not eligible for listing on the State and National Registers.



Photo 8: Lindsay Park Cooperative, View North.

Lincoln Savings Bank, Block 3076, Lot 6 (#3, Photos 9-12)

The Lincoln Savings Bank is a three-story commercial building at southeast corner of Broadway and Boerum Street. Constructed in phases between 1918 and 1938, the building's irregular shape follows the angle at the streets' intersection. The building, which is finished with brick, stone, and cast stone above a granite water table, has fire proof construction, concrete floors and a reinforced frame. The facades are framed by quoins and a scroll and arch cornice. An attic story extends along a portion of the building. The contrasting trim molds include a string course, lintel band, brackets sills, and panels above the first floor windows. Two primary entrances, one canted at the corner of Broadway and Boerum and the second facing Broadway have elaborate coffered double-leaf metal doors surrounded by foliated molds. The corner entrance has an inner metal surround featuring a clock centered above the doors and a tall transom covered with ornamental metal grille. The exterior foliated molds have an American eagle centered over the entrance and are capped by a dentilated entablature with a blank freeze. The corner façade is crowned by a frieze that reads "Lincoln Savings Bank Organized 1866." The entrance facing Broadway is topped by a dentilated entablature, crowned with a cartouche framed by S scrolls. A metal fan light with iron grille is set within a compound arch with contrasting spandrels and keystone, the whole of which is framed by corbelled brick pilasters and entablature with the bank's name carved on the frieze. Spiked iron lanterns flank the entrance. Exterior metal windows with decorative iron grilles cover the interior sash. A third entrance, with modern glass door protected by a metal and glass awning is at the bay connecting the bank building at the north and south commercial block of the Broadway façade. An iron fence extends along Broadway.

The Lincoln Savings Bank was originally organized as the German Savings Bank of Brooklyn in 1866. After America entered World War I, anti-German sentiment was strong. As a result, the German Savings Bank of Brooklyn changed its name in 1918 to a more patriotic sounding name, the Lincoln Savings Bank. The change coincided with construction of a new building at the bank's former location at the corner of Broadway and Boerum Street, completed the same year. In 1921, an addition was added to the building along Broadway. The building underwent alterations in 1938 and later the bank building was connected with the adjacent commercial block on Broadway. The bank merger with several local banks: the Sumner Savings Bank (1924), Church Lane Savings Bank (1930), and Fort Hamilton Savings Bank (1933). In 1983, it became the Lincoln Federal Savings Bank (New York Bank History 2009).

Although the architect(s) of the Lincoln Savings Bank are undetermined, the prominent Brooklyn architectural firm of Koch & Wagner designed other buildings for the bank. Arthur R. Koch and Charles C. Wagner formed their partnership in 1910 and continued until the retirement of Wagner in 1951. The firm designed industrial, commercial, and residential properties, primarily in Brooklyn and Queens. According to the Landmarks Preservation Commission report for the Ralph Bunche House, designed by the firm, both men were natives of Brooklyn, graduates of Pratt Institute, and served terms as president of the American Institute of Architects Brooklyn chapter. Both men maintained associations with various banking institutions and design many of their buildings (LPC 2005).

Not as grand or large as other bank buildings, the Lincoln Savings Bank provides local character to the monumental themes associated with the architecture of financial institutions. The bank and neighboring New York Telephone Company buildings (1899-1920) are all that remain of this triangular-shaped block, which is bounded by the elevated subway and the Lindsay Park Cooperatives. The Lincoln Savings Bank building is a subtle reminder of buildings replaced by post-World War II renewal in this section of Williamsburg. As the successor to the Williamsburg based German bank, the building is significant in the areas of architecture and commerce and is recommended eligible for listing on the State and National Registers.



Photo 9: Lincoln Savings Bank, View East.



Photo 10: Lincoln Savings Bank, Boerum Street Façade, View Southeast.



Photo 11: Lincoln Savings Bank, Broadway Façade, View East.



Photo 12: Broadway Entrance, Lincoln Savings Bank, View Northeast.

502 Broadway-305 Heyward Street, Block 2228, Lot 33 (#4; Photo 13)

Constructed around the turn of the twentieth century, the building at 502 Broadway is a yellow brick Romanesque style building, four stories in height, with neo-Renaissance embellishment. The building is crowned by a cornice with a frieze of alternating brackets and rosettes and dentil band. Belt courses form the divisions of the simplified tripartite scheme. The second and third stories are composed of compound arches with lintel band course and terra cotta spandrels and rectangular sash with flat keystone arches and classically inspired lintels. Consistent with the hierarchical fenestration, the windows at the fourth story are the simplest and smallest. The first story, which initially contained offices, was later fitted with storefronts, however subsequent alterations, such as loss of openings and brick infill have marred the building's elegance.

By the early years of the twentieth century The Empire Dairy Company, the largest milk distributer in Brooklyn, occupied most of the eastern half of the block. The firm built and occupied a number of buildings Williamsburg, many of which were the work of the firm of Theobald Engelhardt. The Engelhardt family maintained lengthy connected with building in Brooklyn. The building at 502 Broadway initially contained offices on the first floor and dwelling units above. A nearby building, also constructed of yellow brick and associated with The Empire Dairy Company, is visible to the west on Heyward Street. By 1935, The Empire Dairy Company no longer occupied the buildings at Heyward Street and the first story at 502 Broadway was converted to stores. Alterations, especially along the first story, and the introduction of modern materials greatly detracts from the architectural integrity of the building. As such, 502 Broadway is not recommended eligible for listing on the State and National Registers.



Photo 13: 502 Broadway, View Northwest.

Brooklyn Rapid Transit (BRT) Sub-Station No. 17, Block 2242, Lot 57 (#5, Photo 14)

The BRT Sub-Station No. 17 is a yellow brick building located near the corner of Harrison Avenue. Built in 1908, the building is of semi-fire proof construction with pilastered brick walls, exposed steel roof trusses, concrete floor, and a stone foundation. This utilitarian structure is three bays wide with a two-story-height central arched opening flanked by two-story openings, now consisting of modern metal doors and grills surrounded by buff-color brick infill. Decorative elements are limited to a keystone at the top of the central arch, sill cast stone sill courses, and a simply cornice below the parapet. The building initially had glass skylights set in its monitor. Although three stories in height, building appears to have been constructed in an open full height section.

By 1900, most of Brooklyn's rapid transit lines had been acquired by and were under the control of the Brooklyn Rail Transit Corporation and in 1906, the company controlled all of the lines. After consolidation of the lines, their operation transitioned to the "running of the lines as a unit," expansion and electrification of the lines followed. The BRT Sub-Station No. 17 had two rotary converters for the supply of power. Located a little over a block from the elevated line at Broadway and sited along the route of the surface trolley line that extended along Lorimer Street, the station represented the expansion and electrification measures undertaken by the BRT (Sanborn 1918; Feinman 2001). The BRT Sub-Station No. 17 association with the BRT and electrification of the lines during the early years of the twentieth century is one of the tangible reminders of this phase of Brooklyn's rapid transit history. Changes to the building's openings detract from the architectural integrity of the building, therefore, the BRT Sub-Station No. 17 is recommended not eligible for listing on the State and National Registers.



Photo 14: BRT Sub-Station No. 17, View West.

Eugenio Maria DeHostos School (IS 318), Block 2246, Lot 1 (#6; Photos 15-16)

The Eugenio Maria DeHostos School (IS 318), constructed in 1967, is a modern school building with an adjacent park (Arnold NYT 1967; DOB). The building, which occupies most of the block, is a rectangular building with an interior courtyard 2 and 3 stories in height. The school employs characteristics associated with schools of the period, low flat roof, modern application of materials, vertical bays of aluminum casement windows and colorful (green) spandrel panels, and angular forms. The articulation of multi-story framed, recessed bays outlined with a soft buff-color brick provides contrast to the horizontality of the overall massing and fenestration. One striking aspect of this building is the crisp and refreshing impact of the building, which does not appear to have been dulled by time.

One of a number of school projects undertaken during the renewal that continued through the 1960s, the new school coincided with construction of public and middle-income housing in the area. Named for Eugenio Maria DeHostos (1839-1903), a philosopher, educator, sociologist, essayist, and novelist who was an advocate for civil liberties of Puerto Ricans, Cubans, among others (Khiss NYT 1967). DeHostos was a native of Mayaguez, Puerto Rico, and lived New York from 1869-1874. He established educational systems in the Dominican Republic and Chile (Hostos Community College 2009).

Architect Arthur G. Paletta (1909-1984) was appointed New York City Department of Education Director of Architecture in 1963; the position superseded the post of Superintendent of School Buildings. Paletta studied at the Columbia University School of Architecture and worked for private architectural firms before serving under the Parks Department and the Triborough Bridge Authority. An article on his appointment as director includes of involvement with the preparation of the 1939 World's Fair, but no specifics are given. Paletta began in the city school system as an assistant architect and prior to the post of director was the Department of Education's chief architect. Little is known about his work, however the schools attributed to Paletta in the Office for Metropolitan History database span a ten-year period from 1961 to 1971. The schools, which are located in Manhattan, are three-to-four stories in height and follow the typical public school scheme of the time, notably, subdued rectangular-plan buildings with flat roofs, brick and glass curtain walls with plain spandrels of modern materials, generally influenced by the International style.



Photo 15: Eugenio Maria DeHostos (IS 318), View East.



Photo 16: Eugenio Maria DeHostos (IS 318), View West.

The Eugenio Maria DeHostos School (IS 318) is good and representative example of modern public school buildings constructed after during the renewal years following World War II. The building does appear to be somewhat interesting in its use of color, lacking from several of the other schools constructed during the same period. The school, which is a little more that forty years old, retains a high degree of architectural integrity, however, does not appear to be an exceptional example of its type. As such the building does not adequately meet the Criteria Considerations for buildings less than 50 years of age, and therefore, the Eugenio Maria DeHostos School (IS 318) is recommended not eligible for listing on the State and National Registers.

PS 168, *Bartlett School, Block* 2272, *Lot* 21 (#7; *Photos* 17-19)

Constructed in 1911, PS 168 is representative of Snyder era public schools constructed in New York City. The brick school building has medieval gothic influence with pinnacles, crenulated parapet, gothic and round arches, and a crenulated projecting entrance and two-story vestibule. The five-story building is an irregular rectangle in plan, with a water table, and embellished with tile and contrasting molds. The large banks of windows prove the maximum light and ventilation.

C. (Charles) B. J. Snyder (1860-1945) was Superintendent of School Buildings in the five boroughs after consolidation, a position he held from 1891 until 1923. He was born in Stillwater, New York, attended Cooper Union, and studied under William E. Bishop. Snyder was responsible for planning, design, and construction of all new and expanded schools. Under his tenure, Snyder incorporated ideals that he believed essential to the education and wellbeing of our youths. He espoused appropriateness and beauty in civic buildings and saw schools as a form of civic buildings. He incorporated a variety of styles, such as collegiate gothic, Romaneque Revival, Jacobean, various Renaissance styles, colonial, Beaux Arts, and Secessionist. According to the LPC designation report for Erasmus Hall High School, Snyder is considered responsible for the introduction of the Collegiate Gothic style to New York public school architecture (LPC 2003:5).

Snyder was equally concerned with heath and safety and worked to improve standards for his schools. The addition of more windows increased light and ventilation and the installation of terra cotta tiles on the floors improved fire resistance; he also added interior bathrooms and incorporated safe recess-recreations spaces. In 1896, he began the use of the H-plan, which added exterior wall space, and therefore light – Snyder felt that every classroom should have access to ample exterior light and ventilation—the H-plan also provided safe outdoor spaces. He developed mechanical systems for improved air circulation. Snyder's designs also added economy to the process of school construction through the use of steel skeleton framing for buildings over four stories, which lowered costs and increase window spans. Snyder remained in practice until about 1936 (LPC 2003:5).

PS 168 is a representative example of Snyder-era public schools constructed in New York City. During the period of Snyder's tenure, he is credited with design of over 140 elementary schools, ten junior high schools, and twenty hight schools, plus, as many additions and alterations (LPC 2003:5). In a line between that extends from Rutledge Street to Ellery Street, PS 168 is one of three extant schools from the period, which depict the architectural variation of Snyder's schools. PS 168 is significant in the areas of architecture and education as an intact and representative example of a public school designed by C.B.J. Snyder and is recommended eligible for listing on the State and National Registers.



Photo 17: PS 168, Bartlett School, View Northwest.



Photo 18: PS 168, Bartlett School, View Southwest.



Photo 19: Historic View PS 168, 1912, View South. Source: Brooklyn Public Library.

662 – 670 Broadway-86-94 Bartlett Street, Block 2273, Lots 6, 8, 9, 11 (#8; Photos 20-21)

This row of four buildings was constructed in 1931 with a store and two apartments at the first story and four apartment on each of the floors above. The buff-color brick stores and tenements are five stories in height and face the elevated subway at the corner of Bartlett. The buildings are classically inspired with a different window/lintel treatment at each story, culminating with arched windows at the fifth story. Each building is edged with brick pilasters and topped with a continuous bracketed cornice. Fire escapes span the center two bays of each building. Unfortunately, loss of the storefronts and conversion to two-family residential on each floor had caused the loss of the intermediate cornice between the first and second stories and inconsistent infill and alteration to the fenestration of the first story. The building, still an eye-catcher, no longer retains sufficient architectural integrity to adequately meet eligibility criteria, and therefore is recommended not eligible for listing on the State and National Registers.



Photo 20: 662-670 Broadway, View East.



Photo 21: 662 Broadway, 86-94 Bartlett Street, View East.

All Saints Church Complex, Rectory, School, and Convent, Block 2275, Lots 1 & 21 (#9; Photos 22-28)

The All Saints Church Complex includes five buildings that originally housed the church, the rectory, two school buildings, and a convent. The Gothic Revival style Roman Catholic church, built 1894-1896, is a cruciform plan church 190 x 90 feet with a chancel, central belfry and steeple nearly 200 feet tall, flanked by smaller polygonal medieval towers. The church is set on a granite foundation and constructed of brick with terra cotta trim. The church features buttresses, clerestory with medallion windows, dormers, and lancet arches. The symmetrically arranged building has a primary central entrance with two double leaf wood doors set in a gothic surround with foils and lancet transoms. Secondary entrances at each side have double-leaf doors within Gothic surrounds with bas relief spandrels, trefoils, and crockets. The rectory, which also dates from circa 1900, is an asymmetrical Gothic Revival townhouse with turret, Gothic portico, and Gothic trimmed dormers with crockets (Catholic Editing Co. 1914:536). The rectory is set on a stone foundation with a raised stoop. A school, built in 1954, which originally houses the parochial high school, has three stories above a basement (DOB). The brick building has a contrasting central bay and an entrance with a gothic surround. The earlier school, constructed in 1899, is in the adjacent building fronting Whipple Street (Catholic Editing Co. 1914:536). The building, originally three stories, is set on a stone foundation and features oversized arched openings, flat arches with scroll keystones, band courses, and cornice mold between the first and second stories. The building appears to have undergone conversion to residential use and has had balconies installed, changes made to the fenestration, replacement windows installed, and a fourth story added. The convent is located behind the church, facing Thornton Street. Constructed in 1954, the three-story building is brick with art deco embellishment (DOB).

All Saints was established as a daughter parish of the Most Holy Trinity Church located at 138 Montrose Avenue in Williamsburg. Founded in 1867, All Saints erected a modest church edifice on Thornton Street around this time. The church was founded by Monsignor Michael May, successor to Father Raffeiner as pastor of the church of the Holy Trinity and founder of the German parishes. The Monsignor saw a need for another Germany church between Holy Trinity and Saint Boniface and acquired the property at Throop Avenue and Thornton Street. Father Anthony Arnold, an assistant at Holy Trinity, became the first pastor. The congregation expanded so quickly, that a new larger church was required, the corner stone for which was set in 1894 and formally dedicated on Thanksgiving Day, 1896. The new church was able to accommodate 1,400 people. Monsignor May also started a school in 1867. The students were under the tutelage of the Sisters of Saint Dominic. Father Arnold served the parish for nearly 30 years. After Arnold's death in 1898, Monsignor George Kaupert succeeded him as pastorate at All Saints. Within one year, Kaupert initiated construction of a new school on Whipple Street for the growing congregation. He also undertook construction of a new rectory, designed to be in harmony with the architecture of the church (Catholic Editing Co. 1914:536).

All Saints Church is historically significant for its association with the large German population that settled in this area during the nineteenth century. The church is the most interesting architectural component of the complex and is a highly intact example of Gothic Revival church architecture. Surprisingly, even the wood doors (often the first to be replaced), elaborate hinges and hardware have been retained. As a result, All Saints Church is recommended eligible for listing on the State and National Registers under Criteria A and C for its historic and architectural significance.


Photo 22: All Saints Church, View North.



Photo 23: All Saints Church, View North.



Photo 24: Rectory and School (1950), View North.



Photo 25: All Saints Church School Buildings, View East.



Photo 26: All Saints School (1899), View Southeast.



Photo 27: Convent and All Saints Church, View West.



Photo 28: Aerial View All Saints Church Complex, View North.

PS 148, Block 1726, Lot 14 (#10; Photos 29-31)

Constructed circa 1905-1909, PS 148 (present-day PS 373K) is a Jacobean Revival style school, four stories in height. The H-plan building is sited mid-block and has similar, but not identical facades, facing Ellery and Hopkins Streets, with the primary façade on Ellery Street. The school features a brick façades, crowned by shaped parapets, pinnacles, and balustrades above a simply cornice and contrasting plain frieze band. Embellishment consists of quoins, drip molds, multi-light windows set in groups of four with small lights, and contrasting belt courses. The projecting bay at the Ellery Street entrance has pilasters with pairs of single-story engaged columns in a hierarchical arrangement: Doric at the first story, Ionic at the second story, and Corinthian at the third story. Heavy globed finials take the place of columns at the fourth story, all topped by a classical base crowned by pineapples that frame the parapet's decorative brickwork and contrasting scrolls.

C.(Charles)B.J. Snyder (1860-1945) was Superintendent of School Buildings in the five boroughs after consolidation, a position he held from 1891 until 1923. He was born in Stillwater, New York, attended Cooper Union, and studied under William E. Bishop. Snyder was responsible for planning, design, and construction of all new and expanded schools. Under his tenure, Snyder incorporated ideals that he believe essential to the education and wellbeing of our youths. He believed in appropriateness and beauty in civic buildings and saw schools as a form of civic buildings. He incorporated a variety of styles, such as collegiate gothic, Romanesque Revival, Jacobean, various Renaissance styles, colonial, Beaux Arts, and Secessionist. According to the LPC designation report for Erasmus Hall High School, Snyder in believed responsible for the introduction of the Collegiate Gothic style to New York public school architecture (LPC 2003:5).

Snyder was equally concerned with heath and safety, which resulted in improved standards for his schools. The addition of more windows increased light and ventilation, installed terra cotta tiles on the floors to improve fire resistance, added interior bathrooms, incorporated safe recess-recreations spaces. In 1896, he began the use of the H-plan, which added exterior wall space, and therefore light – Snyder felt that every classroom should have access to ample exterior light and ventilation—the H-plan also provided safe outdoor play spaces. He development mechanical systems for improved air circulation. He designs also added economy to the process of school construction through the use of steel skeleton framing for buildings over four stories, lowered costs and increase window spans. Snyder remained in practice until about 1936 (LPC 2003:5).

PS 148 exemplifies many of the features associated with innovations introduced by C.B.J. Snyder's tenure as Superintendent of School Buildings, such as the H-plan, Jacobean design motifs, and large banks of windows. Conceived as an aesthetically sensitive civic monument that is responsive to concerns for safety and utility, the school remains, with the exception of the installation of modern doors, a highly intact example of its type. PS 148 is significant under Criterion C in the area of architecture and Criterion A in the area of education as a building associated with C.B.J. Snyder's superintendence, consolidation and school construction in New York City, school design.



Photo 29: PS 148, Ellery Street Facade, View North.



Photo 30: Historic View PS 148, Ellery Street Façade, View North. Source Brooklyn Publish Library.



Photo 31: PS 148, Hopkins Street Façade, View Southeast.



Photo 32: 209-213 Harrison Avenue, View East.

209-213 Harrison Avenue, Block 2272, Lots 1, 2, 57 (#11; Photo 32)

This group of three brick commercial buildings with apartments is located at the intersection Harrison and Flushing Avenues. Constructed in 1923, the buildings are three stories in height and are embellished with decorative brickwork and terra cotta, crowned with shaped parapets. Each of the buildings was designed with stores at the first store and two apartments above. The buildings have replacement double-hung windows and modern storefronts have been installed along with modern awnings and signboards.

This group of buildings, although somewhat altered, remains a visible and attractive beacon on the landscape. The buildings, which are typical examples of their type, do not appear to retain adequate integrity to meet the significance criteria. As such the buildings at 209-213 Harrison Avenue are recommended not eligible for listing on the State and National Registers.

Charles Pfizer & Company Buildings, Bartlett Street and Flushing Avenue, Blocks 2268, Lot 1 & Block 1720, Lot 1 (#12; Photos 33-40)

The Charles Pfizer & Company Buildings consist of an office and research laboratory on the Bartlett Street and the main plant located on the opposite side of Flushing Avenue. Constructed in 1941, the office and research laboratory is an Art Moderne-inspired building, four stories in height. The building has fire proof construction with brick curtains walls and reinforced concrete floors and roof. The footprint of the office and laboratory follows the angle of Bartlett and Flushing Avenue expressed by the rounded corner of the façade. The arch of the building extends from a projecting rectangular tower with alternating tripartite windows and spandrel panels set in a stepped molding. The "Pfizer Quality" logo is prominently mounted above the windows. Aluminum hoods with rounded corners project above the tower entrance and adjacent bays. Bands of windows with contrasting sill and lintel courses accentuate the horizontal lines of the building. The original groups of casement windows have been replaced with one-over-one double hung sash. Corbelling between the window bays and soldier courses complete the scheme. The adjacent 1869 and 1849 historic buildings are no longer extant.

The main plant extends the length of the block between Tompkins Avenue and Marcy Avenue. Built over time through the addition of buildings and alterations, the plant eventually consumed the block from Flushing through to Hopkins Street. Construction the most comprehensive component was announced in 1945 and completed in 1947. This expansion consisted of the erection of a new laboratory and storage building at an estimated cost of \$1,550,000. The eight story building has a T-plan with frontage of 375 feet on Flushing Avenue and 100 feet on Hopkins Street. The engineer for the project was Andrew V. Bekay and the W. J. Barney Corporation was the general contractor. The new plant added substantially to the existing buildings, including the four-story building, constructed in 1940 at the corner of Flushing and Tompkins Avenue and an adjacent storage building on Hopkins building built in 1928. The buildings utilized the same features, reinforced concrete construction with brick curtain walls. The tallest, eight story section dominates the block with lower buildings at either end. A small garage separates the 1940s building from the 1947 building. Low concrete corner towers with matching treatment at the top of the central five bays. The adjacent block between Hopkins and Ellery Streets is plant parking lot.

Charles Pfizer & Company was founded in 1849 in Brooklyn by chemist Charles Pfizer (1824-1906) and his cousin Charles Erhart (1821-1891), a confectioner, a year after their arrival in America. A manufacturer of chemicals, including tartar, borax, and refined camphor, the company's first medicinal product was santonin, an intestinal worm remedy. According to the company history, by the turn of the twentieth century, Pfizer's main product was citric acid. "This versatile substance had many industrial applications. It was also widely used to flavor foods, soft drinks and medicines." It wasn't until 1917, however, that citric acid was made for the first time by fermenting sugar. Through the 1920s, Pfizer developed new methods of high-volume fermentation. In the 1930s, Pfizer developed deep-tank fermentation of citric acid from molasses, a method that increased quality while cutting production costs" (Pfizer Canada 2006).

Penicillin had been discover by Sir Alexander Fleming in London in response to the serious infections that plagued World War I Soldiers, but a reliable and effective method of production remained elusive. By the start of World War II, the demand for development of infection-fighting medicine resumed. Several U.S. companies worked to develop the much needed medicine and, in 1942, Pfizer, through its expertise in fermentation, become the first to produce penicillin in large volumes. The drug was soon available to treat Allied troops after the D-Day invasion,

and the world entered the age of modern medicine. According to company history, Pfizer was the world's largest producer of penicillin by 1945 (Pfizer Canada 2006).

Following World War II, Pfizer began systematic research to discover new methods of fighting disease. During the same period, Pfizer began its global expansion and in 1961, its new international headquarters had been established on East 42nd Street in Manhattan (Schumacher 2007). "In the early 1960s, Pfizer was the principal manufacturer of the new Salk-type oral polio vaccine. This vaccine was administered to nearly 60 million people and brought an end to the fear of contracting polio in North America. Now called simply "Pfizer Inc", the company continued to develop innovative medicines throughout the 1970s and 1980s" (Pfizer Canada 2006).

Pfizer's facilities in Brooklyn occupied several blocks on the Williamsburg-Bedford-Stuyvesant border east of Marcy Avenue between Hopkins and Wallabout Street. During the 1970s, the neighborhood surrounding the plant deteriorated. Pfizer continued to maintain the manufacturing plant in Brooklyn while trying to attract other manufacturers to the area (Schumacher 2007). Unsuccessful, in 2007 Pfizer formally announced its plans to permanently leave Brooklyn (Newman NYT 2007).

Pfizer became a leading company for the research and development major medicines of the twentieth century. The company that made its start in Brooklyn became the world's largest pharmaceutical firm (Newman NYT 2007). The company's contribution to the advancement of twentieth century medicine has had a world-wide impact. On a local level, their presence and impact on this area of Brooklyn has been immense. As remaining buildings of the Pfizer empire in Williamsburg, the Charles Pfizer & Company Buildings are significant under Criterion A in the areas of manufacturing and health through the company's innovative discovery and production of some of our most important medicines. The Charles Pfizer & Company Buildings are also representative examples of industrial plant architecture popular through the mid-twentieth century. As such, the Charles Pfizer & Company Buildings are recommended eligible for listing on the State and National Registers.



Photo 33: Charles Pfizer & Co. Buildings, Flushing Avenue, View Southwest.



Photo 34: Pfizer Office and Research Laboratory, View West.



Photo 35: Historic View Pfizer Office and Research Laboratory, 1949, View West. Source: Brooklyn Public Library.



Photo 36: Pfizer Quality Logo.



Photo 37: Pfizer Main Plant, Flushing Avenue Facade, View Southwest.



Photo 38: Pfizer Main Plant, View Southeast.



Photo 39: Pfizer Main Plant, View Northwest.



Photo 40: Historic View Charles Pfizer & Co. Complex 1949, View West.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Archaeology

As a function of the Environmental Impact Statement (EIS) for the proposed Broadway Triangle Redevelopment Project, an assessment for potential archaeological resources was undertaken. In accordance with City Environmental Quality Review (CEQR) guidelines, the initial task established the archaeological Area of Potential Effect (APE) that may be affected by the various components of the proposed action. The New York City Landmarks Preservation Commission (LPC) was contacted for a letter of determination regarding the potential archaeological sensitivity of the 35 projected and two potential development sites, totaling 114 tax lots, within the redevelopment area (Zachary Davis, Information Request dated December 16, 2008). LPC found that none of the projected or potential development sites are sensitive for archaeological resources (Santucci, Environmental Review letter dated 12/18/2008). Given that the Proposed Action will also be reviewed by the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) an Area of Potential Effect (APE) for archaeological resources was defined despite the LPC determination. As such, the archaeological APE was identified as the entire redevelopment area, encompassing all of the projected and potential development sites along with the blocks within which these sites are located. The NYSOPRHP was also contacted for a preliminary determination of the archaeological sensitivity of the redevelopment area (Zachary Davis, Information Request dated December 16, 2008). NYSOPRHP concurred with LPC's findings and concluded that there are no archaeological concerns regarding the redevelopment project (Cumming, Determination Letter dated 1/21/09).

Background research regarding the history of land use within the project area and its immediate vicinity was conducted. This research included examination of general histories and historic cartographic resources, and review of previously conducted archaeological studies and previously recorded archaeological sites within the vicinity. As a result of this investigation, Berger has determined that the archaeological APE is not sensitive for prehistoric or historic archaeological resources. Therefore, no further archaeological investigation in association with the proposed Broadway Triangle Redevelopment Project is required.

6.2 Historic Architecture

A survey of historic architecture properties within the architectural APE identified one previously identified historic property and 11 properties that appeared to be 50 years in age or greater (30 years in age or greater for New York City Landmarks) and that had potential to meet the eligibility criteria for inclusion in the State and National Registers of Historic Places. Of the properties identified and evaluated as part of this study, five historic properties were recommended eligible for listing in the State and national Registers.

It is anticipated that all or most of the projected development sites and some of the potential development sites would be redeveloped and, as a result, be the location of future development. Development on the projected and potential development sites under the proposed actions could have potential adverse impacts on historic properties from direct physical impacts—demolition and alteration of architectural resources, or accidental damage to significant public views of a resource; isolating a resource from its setting or relationship to the streetscape; altering the setting of a resource; introducing incompatible visual, audible, or atmospheric elements to a property's setting; or introducing shadows over a historic architectural resource with sun-sensitive features.

Potential Impacts

Of the eligible historic architectural properties identified in this study, none of the historic architectural properties are located on a potential or projected development sites and four historic properties are located on or in close enough proximity to the proposed actions' development sites, which could potentially lead to direct and/or indirect significant adverse impacts due to the proposed actions. Those structures are:

- > Lincoln Savings Bank, southeast corner of Broadway and Boerum Street
- > Bartlett School (PS 168) at 102 Throop Avenue;
- > All Saints Church, Throop Avenue between Thornton and Whipple Streets; and
- > Charles Pfizer & Co. Buildings.

Under the proposed redevelopment action, potential and projects site would be developed at a height and density consistent with the adjacent buildings and surrounding neighborhoods. As no foreseen direct physical impact is anticipated and indirect and visual impacts would be at a minimum, the proposed action would not have significant impacts to historic properties. In addition, the remaining historic properties identified in this report are located outside of the proposed rezoning and redevelopment area and are not within close proximity to potential or projected development sites and therefore, would not be impacted by the proposed action.

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APPENDIX A –

CORRESPONDENCE WITH LANDMARKS PRESERVATION COMMISSION



THE Louis Berger Group, INC.

199 Water Street, 23rd Floor, New York, New York 10038 Tel (212) 612-7970 Fax (212) 363-4341 www.louisberger.com

December 16, 2008

Ms. Gina Santucci Director of Environmental Review NYC Landmarks Preservation Commission 1 Centre Street, 9th Floor New York, NY 10007

Re: Proposed Broadway Triangle Redevelopment project

Dear Ms. Santucci

The Louis Berger Group, Inc. (Berger) has been retained by the New York City Department of Housing Preservation and Development (HPD) to prepare the CEQR environmental review documents related to several discretionary actions (collectively, the "Proposed Action)" in order to facilitate the redevelopment of a nine-block area known as Broadway Triangle (Figure 1), located in Williamsburg, Brooklyn, Community District 1 (the "Project Area"). The Proposed Action includes zoning map amendments to generally rezone the existing M1-2 Manufacturing District to Residential and Commercial Districts; zoning text amendments to establish Inclusionary Housing in the proposed R6A and R7A zoning districts; the disposition of City-owned properties; Urban Development Action Area Projects designation; the modification of an Urban Renewal Plan; and City Acquisition through eminent domain. The Proposed Action would encourage the development of affordable housing and the development of commercial uses and community facilities to serve the growing residential population in an area well-served by mass transit. The rezoning area is comprised of approximately 31 acres and is generally bounded by Flushing Avenue to the south, Throop Avenue to the east, Lynch Street to the north, and Union Avenue, Walton Street, and Harrison Avenue to the west.

In order to assess the environmental impacts of the development that could occur under the Proposed Action, HPD, acting as the lead agency, has developed a reasonable worst-case development scenario (RWCDS). This RWCDS identifies both "projected" and "potential" development sites that could be developed under the Proposed Action (Figure 2, Table 1). As identified by HPD, projected development sites include sites that are likely to be developed as a result of the Proposed Action. HPD has identified 35 projected development sites considered most likely to be developed by 2018 as a result of the Proposed Action. In addition, there are two potential development sites considered to have less development potential and which are less likely to be developed in the foreseeable future.

The environmental documentation is being prepared for conformance with applicable laws and regulations, including New York *City Environmental Quality Review* (CEQR) and follows the guidance of the CEQR Technical Manual (October, 2001) and the regulations of Article 8 of the State Environmental Conservation Law, *State Environmental Quality Review Act* (SEQRA), as found in 6 NYCRR Part 617. In addition, because HPD anticipates the use of federal funding from the U.S. Department of Housing and Urban Development (HUD) to facilitate the construction of affordable housing, the environmental review documentation also involves completing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). Therefore, the proposed project is to be reviewed under CEQR by the New York City Landmarks Preservation Commission (LPC) and the New York State Office of Parks, Recreation and Historic Preservation



(OPRHP) under Section 106 of the National Historic Preservation Act (NHPA).

For purposes of providing an assessment of the reasonable worst-case impacts that may occur as a result of the proposed actions, HPD has defined a reasonable worst-case development scenario. The RWCDS will provide a maximum development envelope in which the project can occur. The RWCDS contains both Projected and Potential Development sites. The sites more likely to experience redevelopment as a result of the Proposed Action were identified based primarily on size, location, and degree of utilization. These are designated as Projected Development Sites. Other sites with smaller footprints and less potential for redevelopment/conversion are identified as Potential Development Sites.

With previous rezoning projects, Berger has requested LPC's review of the RWCDS to advance the historic resource section of the environmental documentation. However, in this case, the project requires concurrent review from both LPC and OPRHP due to the project's federal funding. Under the CEQR technical manual (Section 711), if a project receives federal funds, then the requirements of the *National Historic Preservation Act* of 1966, as amended (NHPA), and implemented by procedures set forth in 36 CFR Part 800 (Protection of Historic Properties), apply. Therefore, Berger requests both LPC and OPRHP to coordinate their review of the RWCDS such that the LPC review of the RWCDS will: 1.) identify specific lots that require archaeological documentary studies to ascertain if such lots possess the potential to contain archaeological resources within the Projected and Potential development sites and; 2.) identify historic architectural resources within the RWCDS plus a 400 foot radius from the boundaries of the rezoning (see Figure 3). Photographs of the lots comprising each Projected and Potential development site are also included on the enclosed CD. For OPRHP, the RWCDS requires a review to determine if a Phase IA archaeological assessment is required.

We look forward to your timely review of this project and thank you in advance for your assistance. If you have any questions regarding this request, please do not hesitate to contact Berger's Principal Archaeologist Zachary Davis at (212) 612-7970 or via email at <u>zdavis@louisberger.com</u>.

Sincerely,

THE LOUIS BERGER GROUP, INC.

Zachary J. Davis, RPA Principal Archaeologist

Cc: Doug Mackey, NYS OPRHP Beth Cummings, NYS OPRHP Elizabeth Seward, NYC HPD Patrick Blanchfield, AICP, NYC HPD XE 4320 (file)



Source: City of New York Department of City Planning; MapPLUTO Release 07C.1.



Source: City of New York Department of City Planning; MapPLUTO Release 07C.1.



BROADWAY TRIANGLE - TABLE 1 – PROJECTED & POTENTIAL DEVELOPMENT SITES

Site	Block	Lot	Address
1	2274	16	134 Throop Avenue
	2274	1	2 Whipple Street
2	2274	5	16 Whipple Street
2	2274	6	Whipple Street
	2274	24	691 Flushing Avenue
3	2272	3	207 Harrison Street
4	2272	6	24 Bartlett Street
5	2272	9	30 Bartlett Street
5	2272	11	36 Bartlett Street
	2272	45	11 Whipple Street
	2272	46	9 Whipple Street
	2272	49	Whipple Street
6	2272	51	665 Flushing Avenue
Ŭ	2272	52	665 Flushing Avenue
	2272	53	663 Flushing Avenue
	2272	108	Bartlett Street
	2272	147	5 Whipple Street
7	2272	54	661 Flushing Avenue
	2272	55	659 Flushing Avenue
8	2269	52	31 Bartlett Street
9	2269	1	58 Gerry Street
	2269	14	Gerry Street
	2269	16	Gerry Street
	2269	17	74 Gerry Street
10	2269	18	76 Gerry Street
	2269	19	78 Gerry Street
	2269	23	86 Gerry Street
	2269	24	88 Gerry Street
	2269	40	55 Bartlett Street



BROADWAY TRIANGLE- TABLE 1 (CON'T) - PROJECTED & POTENTIAL DEVELOPMENT SITES

Site	Block	Lot	Address
	2269	25	90 Gerry Street
	2269	27	84 Throop Avenue
	2269	28	Throop Avenue
	2269	29	88 Throop Avenue
11	2269	30	90 Throop Avenue
	2269	31	Throop Avenue
	2269	33	69 Bartlett Street
	2269	35	65 Bartlett Street
	2269	36	63 Bartlett Street
	2269	39	57 Bartlett Street
12	2269	40	55 Bartlett Street
12	2269	41	53 Bartlett Street
	2269	42	51 Bartlett Street
	2269	43	47 Bartlett Street
	2269	45	43 Bartlett Street
13	2269	47	41 Bartlett Street
10	2269	48	39 Bartlett Street
	2269	49	37 Bartlett Street
	2269	50	35 Bartlett Street
14	2266	1	Harrison Avenue
	2266	9	366 Wallabout Street
	2266	14	376 Wallabout Street
	2266	15	378 Wallabout Street
15	2266	16	380 Wallabout Street
	2266	17	382 Wallabout Street
	2266	18	384 Wallabout Street
	2266	19	386 Wallabout Street
	2266	20	388 Wallabout Street
	2266	21	390 Wallabout Street
16	2266	22	392 Wallabout Street
	2266	23	394 Wallabout Street
	2266	24	Wallabout Street
	2266	25	398 Wallabout Street



BROADWAY TRIANGLE- TABLE 1 (CON'T) - PROJECTED & POTENTIAL DEVELOPMENT SITES

	Site	Block	Lot	Address
	17	2266	29	72 Throop Avenue
17	2266	30	74 Throop Avenue	
		2266	31	76 Throop Avenue
	18	2266	32	Throop Avenue
		2266	34	82 Throop Avenue
	2266	36	99 Gerry Street	
19	19	2266	37	97 Gerry Street
	2266	38	95 Gerry Street	
		2266	39	93 Gerry Street
	20	2266	40	91Gerry Street
		2266	41	Gerry Street
	21	2266	46	75 Gerry Street
	22	2250	4	161 Harrison Avenue
23		2250	10	86 Walton Street
	2250	11	88 Walton Street	
		2250	12	90 Walton Street
		2250	14	94 Walton Street
24	2250	46	291 Wallabout Street	
		2250	48	289 Wallabout Street
25	2250	25	116 Walton Street	
	25	2250	27	52 Throop Avenue
		2250	28	54 Throop Avenue
	2250	29	56 Throop Avenue	
26	2250	32	62 Throop Avenue	
	2250	33	66 Throop Avenue	
	2250	129	Throop Avenue	
27	2250	36	313 Wallabout Street	
	2250	37	311 Wallabout Street	
IAL	28	2250	38	307 Wallabout Street
TENT		2250	40	305 Wallabout Street
РО		2250	41	295 Wallabout Street



BROADWAY TRIANGLE- TABLE 1 (CON'T) - PROJECTED & POTENTIAL DEVELOPMENT SITES

S	Site	Block	Lot	Address
	20	2242	2	131 Harrison Street
29	25	2242	3	100 Harrison Street
30	30	2242	53	153 Lorimer Street
	50	2242	54	151 Lorimer Street
31 32 33	21	2242	46	167 Lorimer Street
	51	2242	47	165 Lorimer Street
	2242	22	196 Middleton Street	
	2238	49	120 Union Avenue	
;	34	2238	27	Lynch Street
;	35	2238	41	221 Middleton Street
36		2245	35	Union Avenue
		2245	40	148 Harrison Avenue
		2245	42	152 Harrison Avenue
		2245	43	154 Harrison Avenue
	36	2245	44	Harrison Avenue
		2245	47	79 Walton Street
		2245	48	77 Walton Street
		2245	136	Harrison Avenue
		2245	149	Walton Street
IAL	37	2250	6	159 Harrison Avenue
TENT		2250	7	157 Harrison Avenue
РО		2250	8	155 Harrison Avenue



SOURCE: City of New York Department of City Planning; MapPLUTO Release 07C.1.

Prepared by NYC Department of Housing Preservation & Development

Broadway Triangle: Reasonable Worst **Case Development Scenario**





Site 1







, Lot





Lot 24






Site 4













Lots 54 and 55







Site 8











Site 11











Site 15







Site 18

Site 19 & 20











Site 23





North

South













Site 29







Lots 46 and 47





Lot 22





o' Longbolla Theore Ave . B. 15 LOISDOUL IS LOUFT . evA noinU









THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION

1 Centre Street, 9N, New York, NY 10007 (212) 669-7700 www.nyc.gov/landmarks

ENVIRONMENTAL REVIEW

HOUSING PRESERVATION AND DEV./09HPD019K

12/12/2008

Project number

Date received

Project: BROADWAY TRIANGLE

Archeology review only. Architectural review will take place upon receipt of DEIS. The LPC is in receipt of the draft scope of work (SEIS) dated 10/15/08. The text is acceptable for historic resources and archaeology.

Properties with no archaeological significance:

134 THROOP AVENUE, BBL 3022740016 2 WHIPPLE STREET, BBL 3022740001 16 WHIPPLE STREET, BBL 3022740005 WHIPPLE STREET, BBL 3022740006 691 FLUSHING AVENUE, BBL 3022740024 207 HARRISON AVENUE, BBL 3022720003 24 BARTLETT STREET, BBL 3022720006 30 BARTLETT STREET, BBL 3022720009 36 BARTLETT STREET, BBL 3022720011 11 WHIPPLE STREET, BBL 3022720045 9 WHIPPLE STREET, BBL 3022720046 5 WHIPPLE STREET, BBL 3022720147 WHIPPLE STREET, BBL 3022720049 665 FLUSHING AVENUE, BBL 3022720051 665 FLUSHING AVENUE, BBL 3022720052 663 FLUSHING AVENUE, BBL 3022720053 BARTLETT STREET, BBL 3022720108 661 FLUSHING AVENUE, BBL 3022720054 659 FLUSHING AVENUE, BBL 3022720055 31 BARTLETT STREET, BBL 3022690052 58 GERRY STREET, BBL 3022690001 GERRY STREET, BBL 3022690014 GERRY STREET, BBL 3022690016 74 GERRY STREET, BBL 3022690017 76 GERRY STREET, BBL 3022690018 78 GERRY STREET, BBL 3022690019 55 BARTLETT STREET, BBL 3022690040 86 GERRY STREET, BBL 3022690023 88 GERRY STREET, BBL 3022690024 90 GERRY STREET, BBL 3022690025 84 THROOP AVENUE, BBL 3022690027 THROOP AVENUE, BBL 3022690028 88 THROOP AVENUE, BBL 3022690029 90 THROOP AVENUE, BBL 3022690030 THROOP AVENUE, BBL 3022690031 69 BARTLETT STREET, BBL 3022690033

65 BARTLETT STREET, BBL 3022690035 63 BARTLETT STREET, BBL 3022690036 57 BARTLETT STREET, BBL 3022690039 55 BARTLETT STREET, BBL 3022690040 53 BARTLETT STREET, BBL 3022690041 51 BARTLETT STREET, BBL 3022690042 47 BARTLETT STREET, BBL 3022690043 43 BARTLETT STREET, BBL 3022690045 41 BARTLETT STREET, BBL 3022690047 39 BARTLETT STREET, BBL 3022690048 37 BARTLETT STREET, BBL 3022690049 35 BARTLETT STREET, BBL 3022690050 HARRISON AVENUE, BBL 3022660001 366 WALLABOUT STREET, BBL 3022660009 376 WALLABOUT STREET, BBL 3022660014 378 WALLABOUT STREET, BBL 3022660015 380 WALLABOUT STREET, BBL 3022660016 382 WALLABOUT STREET, BBL 3022660017 384 WALLABOUT STREET, BBL 3022660018 386 WALLABOUT STREET, BBL 3022660019 388 WALLABOUT STREET, BBL 3022660020 390 WALLABOUT STREET, BBL 3022660021 392 WALLABOUT STREET, BBL 3022660022 394 WALLABOUT STREET, BBL 3022660023 WALLABOUT STREET, BBL 3022660024 398 WALLABOUT STREET, BBL 3022660025 72 THROOP AVENUE, BBL 3022660029 74 THROOP AVENUE, BBL 3022660030 76 THROOP AVENUE, BBL 3022660031 THROOP AVENUE, BBL 3022660032 82 THROOP AVENUE, BBL 3022660034 99 GERRY STREET, BBL 3022660036 97 GERRY STREET, BBL 3022660037 95 GERRY STREET, BBL 3022660038 93 GERRY STREET, BBL 3022660039 91 GERRY STREET, BBL 3022660040 GERRY STREET, BBL 3022660041 75 GERRY STREET, BBL 3022660046 161 HARRISON AVENUE, BBL 3022500004 86 WALTON STREET, BBL 3022500010 88 WALTON STREET, BBL 3022500011 90 WALTON STREET, BBL 3022500012 94 WALTON STREET, BBL 3022500014 291 WALLABOUT STREET, BBL 3022500046 289 WALLABOUT STREET, BBL 3022500048 52 THROOP AVENUE, BBL 3022500027 54 THROOP AVENUE, BBL 3022500028 56 THROOP AVENUE, BBL 3022500029 116 WALTON STREET, BBL 3022500025 THROOP AVENUE, BBL 3022500129 62 THROOP AVENUE, BBL 3022500032 66 THROOP AVENUE, BBL 3022500033 313 WALLABOUT STREET, BBL 3022500036

311 WALLABOUT STREET, BBL 3022500037 131 HARRISON AVENUE, BBL 3022420002 100 HARRISON AVENUE, BBL 3022420003 153 LORIMER STREET, BBL 3022420053 151 LORIMER STREET, BBL 3022420054 169 LORIMER STREET, BBL 3022420045 167 LORIMER STREET, BBL 3022420046 165 LORIMER STREET, BBL 3022420047 196 MIDDLETON STREET, BBL 3022420022 120 UNION AVENUE, BBL 3022380049 LYNCH STREET, BBL 3022380027 221 MIDDLETON STREET, BBL 3022380041 HARRISON AVENUE, BBL 3022450136 148 HARRISON AVENUE, BBL 3022450040 152 HARRISON AVENUE, BBL 3022450042 154 HARRISON AVENUE, BBL 3022450043 HARRISON AVENUE, BBL 3022450044 79 WALTON STREET, BBL 3022450047 77 WALTON STREET, BBL 3022450048 WALTON STREET, BBL 3022450149 UNION AVENUE, BBL 3022450035 159 HARRISON AVENUE, BBL 3022500006 157 HARRISON AVENUE, BBL 3022500007 155 HARRISON AVENUE, BBL 3022500008 307 WALLABOUT STREET, BBL 3022500038 305 WALLABOUT STREET, BBL 3022500040 295 WALLABOUT STREET, BBL 3022500041

SIGNATURE		DATE
Gina	Santa	cui

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THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION

1 Centre Street, 9N, New York, NY 10007 (212) 669-7700 www.nyc.gov/landmarks

ENVIRONMENTAL REVIEW

HOUSING PRESERVATION AND DEV./09HPD019K

1/7/2009

Project number

Date received

Project: BROADWAY TRIANGLE

There are no architectural concerns.

SIGNATURE

1/9/2009 DATE



25287_FSO_GS_01092009.doc

APPENDIX B –

CORRESPONDENCE WITH THE NEW YORK STATE OFFICE OF PARKS, RECREATION, AND HISTORIC PRESERVATION



David A. Paterson Governor

> Carol Ash Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services • Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

www.nysparks.com

January 21, 2009

Zachary J. Davis The Louis Berger Group, Inc. 199 Water Street, 23rd Floor New York, NY 10038

Re: HUD

Broadway Triangle Redevelopment Kings County 08PR06421

Dear Mr. Davis:

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

Kathy Howe, our Architectural Historian requests additional information on the surrounding areas of the project site. Her request is attached for your use. We are willing to coordinate our review with New York City's Landmarks Preservation Commission (LPC). Based upon our review of the proposed development sites, we have no concerns with their development.

If you have any questions or if you wish to discuss our comments I can be reached at (518) 237-8643, ext. 3282. Please refer to the Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Bed a.

Beth A. Cumming Historic Preservation Specialist – Technical Unit e-mail: <u>Beth.cumming@oprhp.state.ny.us</u>

enc: Request for Additional Information Buildings/Structures/Districts

REQUEST FOR ADDITIONAL INFORMATION BUILDINGS/STRUCTURES/DISTRICTS

PROJECT NUMBER 08PR06421

(Proposed Broadway Triangle Redevelopment Project/Bounded by Flushing Ave., Throo p Ave., Lynch St., /BROOKLYN)

In order for us to complete our evaluation of the historic signification of all buildings/structures/districts within or adjacent to your project area we will need the following additional information

Full project description showing area of potential effect.

Clear, original photographs of buildings/structures 50 years or older.

within or immediately adjacent to the project area ** key all photographs to a site map

Clear, original photographs of the surroundings looking out from the project site in all direction, keyed to a site map.

Date of construction.

Brief history of property.

Clear, original photographs of the following:

Other:

Please provide only the additional information checked above. If you have any question concerning this request for additional information, please call Kathy Howe at 518-237-8643. ext 3266

PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN RESPONDING TO THIS REQUEST



THE Louis Berger Group, INC.

199 Water Street, 23rd Floor, New York, New York 10038 USA Tel 212 612 7900 Fax 212 363 4341 www.louisberger.com

January 26, 2009

Ms. Beth Cumming Historic Site Restoration Coordinator New York State Office of Parks, Recreation and Historic Preservation Field Services Bureau Peebles Island, PO Box 189, Waterford, NY 12188-0189

RE: Broadway Triangle Redevelopment Kings County 08PR06421

Dear Beth:

As per your request of January 21, 2009, enclosed you will find photographs of the views from the project area looking out in a variety of directions. These photographs were taken from several points within the Broadway Triangle Rezoning project area and they have been located on a map (Figure 1) for your reference.

If you require any further information, please do not hesitate to contact either Deborah Van Steen at (973)407-1260 or myself at (212) 612-7970. Thank you and we look forward to your response.

Sincerely yours,

THE LOUIS BERGER GROUP, INC.

Zachary Davis, RPA Principal Archaeologist

cc: Kathy Howe, NY SHPO Elizabeth Seward, NYC HPD Patrick Blanchfield, NYC HPD Kellie Lewis, Berger Berger XE4320 (file)







Photo 1



Photo 2





Photo 3







Photo 5







Photo 7







Photo 9



Photo 10





Photo 11







Photo 13



Photo 14





Photo 15



Photo 16





Photo 17







Photo 19



Photo 20





Photo 21



Photo 22





Photo 23



Photo 24





Photo 25



Photo 26





Photo 27

APPENDIX C—

LIST OF PROJECTED AND POTENTIAL DEVELOPMENT SITES INCLUDING CORRESPONDING BLOCK AND LOTS