



Phase 1A Archaeological Documentary Study

**Capital Project HWR1132B:
South Beach Reconstruction and Drainage Improvements
Staten Island, Richmond County, New York**

Prepared for:

The New York City Department of Design and Construction



and

The New York City Department of Transportation



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A. INTRODUCTION

The New York City Department of Transportation (NYCDOT), as Lead Agency on behalf of the New York City Design + Construction (DDC), is proposing capital project HWR1132B, the South Beach Street Reconstruction and Drainage Improvements project in the South Beach neighborhood of Staten Island (see **Figure 1**). The proposed project would improve streets to current NYCDOT standards while installing new street drainage, and upgrading and replacing existing sanitary sewers and water mains within a proposed project area that is generally bounded by McLean Street to the north, Hurlbert Street to the west, Patterson Avenue to the south, and Hickory Avenue to the east. West of Quintard Street, the project improvements would also include a portion of Hurlbert Street and an additional portion of Reid Avenue (see **Figures 2 and 3**). The specific locations of the proposed street improvements are described in greater detail in the following section.

In many neighborhoods along the southern shore of Staten Island, private development has historically outpaced the installation of the necessary critical infrastructure like storm sewers. This has resulted in inadequate local infrastructure to serve neighborhood needs, which has caused substantial street and property flooding during rain and storm events, including during Hurricane Sandy. When completed, the reconstructed streets and new infrastructure would serve to reduce flooding, improve drainage, and allow the neighborhood to recover more quickly from major storm events.

The proposed project is being funded by NYCDOT, in cooperation with the New York City Department of Environmental Protection (DEP) and with the design and administrative support of DDC. The implementation of the proposed project would require the acquisition of private land along Scott Avenue, Norway Avenue, and Olympia Boulevard. The land proposed for this acquisition is primarily portions of front yards (along with any appurtenances) of residential and commercial properties and one community facility property. The acquisition of private land is a discretionary action and, as such, the proposed project is subject to City Environmental Quality Review (CEQR). Pursuant to the CEQR process, the New York City Landmarks Preservation Commission (LPC) reviewed the project site. In a comment letter dated September 26, 2013, LPC determined that the project site may possess archaeological significance associated with the occupation of the project site between the precontact period and the 19th century. This Phase 1A Archaeological Documentary Study has been prepared to clarify LPC's initial findings.

B. PROPOSED PROJECT DESCRIPTION

The streetbeds that comprise the proposed project area are described in **Table 1** and the limits of the proposed project are shown on **Figures 2 and 3**.

Table 1
Proposed Project Area Road Segments

Street Name	Limits (Begin)	Limits (End)
Bionia Avenue	McClean Avenue	Olympia Boulevard
Jerome Avenue	McClean Avenue	Olympia Boulevard
Kensington Avenue	McClean Avenue	Olympia Boulevard
Lamport Boulevard	McClean Avenue	Olympia Boulevard
Mallory Avenue	McClean Avenue	Olympia Boulevard
Norway Avenue	McClean Avenue	Olympia Boulevard
Olympia Boulevard	Quintard Street	Hickory Avenue
McClean Avenue	Norway Avenue	Hickory Avenue
Foch Avenue	Norway Avenue	Hickory Avenue
Reid Avenue	Hurlbert Street	Norway Avenue
Oberlin Street	Reid Avenue	Cameron Avenue
Parkinson Avenue	Reid Avenue	Cameron Avenue
Vulcan Street	Nugent Avenue	Patterson Avenue
Winfield Street	Nugent Avenue	Patterson Avenue
Cameron Avenue	Norway Avenue	Quintard Street
Scott Avenue	Norway Avenue	Quintard Street
Appleby Avenue	Norway Avenue	Quintard Street
Nugent Avenue	Norway Avenue	Quintard Street
Hurlbert Street	Quintard Street	Ruth Place
Patterson Avenue	Quintard Street	Vulcan Street

As described above, the proposed project would improve reconstruct streets to current NYCDOT design standards and install new stormwater management drainage while upgrading existing sewers and water supply infrastructure. Specifically, it comprises the following major components:

- Reconstruction of approximately 23,232 linear feet (4.4 miles) of streets, with the reconstruction of new curbs and sidewalks, and installation of street lighting and widening of the street where necessary to accommodate the proposed design improvements;
- Approximately 14,256 linear feet (2.7 miles) of new storm sewers (the drainage outlet for the collected stormwater would be the existing outfall to Raritan Bay at Quintard Street);
- Approximately 14,256 linear feet (2.7 miles) of replacement sanitary sewers; and
- Approximately 15,840 linear feet (3.0 miles) of replacement water mains.

To implement the proposed project it is necessary to acquire some privately owned land (i.e., portions of the front and side yards) along the proposed project street corridors and located within the right-of-way of the mapped City street. The proposed acquisition of this property would be to widen and improve the City street and infrastructure.

C. RESEARCH GOALS AND METHODOLOGY

The following Phase 1A Archaeological Documentary Study of the South Beach Reconstruction and Drainage Improvements project site has been designed to satisfy the requirements of the LPC, while also following the guidelines of the New York Archaeological Council (NYAC). The study documents the development history of the proposed project site as well as its potential to yield archaeological resources, including both precontact and historic cultural resources. In addition, this report documents the current conditions of the project site and previous cultural resource investigations that have taken place in the vicinity.

This Phase 1A Archaeological Documentary Study has four major goals: (1) to determine the likelihood that the project site was occupied during the precontact (i.e., Native American) and/or historic periods; (2) to determine the effect of subsequent development and landscape alteration on any potential

archaeological resources that may have been located at the project site; (3) to make a determination of the project site's potential archaeological sensitivity; and (4) to make recommendations for further archaeological analysis, if necessary. The steps taken to fulfill these goals are explained in greater detail below.

The first goal of this documentary study is to determine the likelihood that the project locations were inhabited during the precontact or historic periods and identify any activities that may have taken place on the project site that would have resulted in the deposition of archaeological resources. In order to determine the likelihood of the project site's occupation during the precontact and historic periods, documentary research was completed to establish a chronology of the project site's development, landscape alteration, and to identify any individuals who may have owned the land or worked and/or resided there, and to determine if buildings were present on the project locations in the past. Data was gathered from various published and unpublished primary and secondary resources, such as historic maps, topographical analyses (both modern and historic), historic photographs, newspaper articles, local histories, and previously conducted archaeological surveys. These published and unpublished resources were consulted at various repositories, including the Main Research Branch of the New York Public Library (including the Local History and Map Divisions). File searches were conducted at LPC, the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP), and the New York State Museum (NYSM). Online textual archives, such as Google Books and the Internet Archive Open Access Texts, were also accessed.

The second goal of this Phase 1A study is to determine the likelihood that archaeological resources could have survived intact on the project site after development and landscape alteration (i.e., erosion, grading, filling, etc.). Potential disturbance associated with paving and utility installation was also considered. Historic maps documenting structures on the project location were analyzed and historic and current topographical maps were compared to determine the extent to which the project locations have been disturbed. After identifying the likelihood that archaeological resources were deposited on the project site and the likelihood that they could remain intact given subsequent development and landscape alteration, a sensitivity determination was made for the project locations for both precontact and historic period resources. As described by NYAC in their Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State, published in 1994 and subsequently adopted by OPRHP:

An estimate of the archaeological sensitivity of a given area provides the archaeologist with a tool with which to design appropriate field procedures for the investigation of that area. These sensitivity projections are generally based upon the following factors: statements of locational preferences or tendencies for particular settlement systems, characteristics of the local environment which provide essential or desirable resources (e.g. proximity to perennial water sources, well-drained soils, floral and faunal resources, raw materials, and/or trade and transportation routes), the density of known archaeological and historical resources within the general area, and the extent of known disturbances which can potentially affect the integrity of sites and the recovery of material from them (NYAC 1994: 2).

As stipulated by the NYAC standards, sensitivity assessments should be categorized as low, moderate, or high to reflect "the likelihood that cultural resources are present within the project area" (NYAC 1994: 10). For the purposes of this study, those terms are defined as follows:

- Low: Areas of low sensitivity are those where the original topography would suggest that Native American sites would not be present (i.e., locations at great distances from fresh and salt water resources), locations where no historic activity occurred before the installation of

municipal water and sewer networks, or those locations determined to be sufficiently disturbed so that archaeological resources are not likely to remain intact.

- Moderate: Areas with topographical features that would suggest Native American occupation, documented historic period activity, and with some disturbance, but not sufficient disturbance to eliminate the possibility that archaeological resources are intact on the project site.
- High: Areas with topographical features that would suggest Native American occupation, documented historic period activity, and minimal or no documented disturbance.

According to NYAC standards, Phase 1B testing is generally warranted for areas determined to have moderate sensitivity or higher. Archaeological testing is designed to determine the presence or absence of archaeological resources that could be impacted by a proposed project. Should they exist on the project locations, such archaeological resources could provide new insight into the precontact occupation of the South Beach area of Staten Island, the transition from Native American to European settlement, or the historic period occupation of the project site.

D. PREVIOUS CULTURAL RESOURCES INVESTIGATIONS IN THE VICINITY

SOUTH BEACH WATERSHED (HISTORICAL PERSPECTIVES, INC., 2005)

In 2005, Historical Perspectives, Inc. (HPI) completed a Phase 1A Archaeological Documentary Study of the South Beach Watershed, which includes the project site. The Phase 1A was prepared as part of a project being implemented by DEP to install new Best Management Practices (BMP) to assist with the discharge of stormwater runoff into wetland areas. The study specifically focused on the archaeological sensitivity of the five BMP sites and the locations of new outfalls, none of which were located within the project site, although one was in the immediate vicinity. With respect to precontact archaeological resources, HPI stated that previous archaeological investigations of the area (i.e., PanAmerican 2005) had determined that former wetland areas were not sensitive for precontact archaeological resources while upland areas adjacent to historic ponds were considered to be sensitive. The Phase 1A study also concluded that the area was sensitive for historic period archaeological resources in close proximity to the locations of historic roads, including former Old Town Road, now Olympia Boulevard. Phase 1B archaeological testing was recommended for areas of archaeological sensitivity.

OCEAN BREEZE PARK (CHRYSLIS ARCHAEOLOGICAL CONSULTANTS, 2008)

In 2008, Chrysalis Archaeological Consultants prepared a Phase 1A Archaeological Study of Ocean Breeze Park, which is located immediately southwest of the project site across Quintard Street. The study determined that because a minimum of 6 feet of fill was situated across the park, “the potential for recovery of Native American materials at Ocean Breeze Park...[was]...minimal” (Chrysalis Archaeological Consultants 2008: 42). In addition, the study determined that there was also a low potential for the recovery of archaeological resources associated with the historic period occupation of the area because of tidal inundation and a relatively late date of development. It was recommended that archaeological monitoring “be considered in some areas of deep excavation to help determine if a pre-tidal marshland shoreline existed” (ibid: 44). It is unknown if such monitoring ever occurred.

A. GEOLOGY AND TOPOGRAPHY

The geographic province in which the project area is situated is known as the Atlantic Coastal Plain (Isachsen et al 2000). The vicinity of the project area is characterized by former swamp and marsh deposits to the south and east, the Harbor Hill Terminal Moraine to the west, and an elevated formation of Staten Island Serpentine further to the west, which underlies the highest elevations on Staten Island (Soren 1988). Manhattan Schist underlies the Serpentine. The project area lies within an outwash plain of fine to coarse sand and gravel formed during the flow of meltwater from the receding Wisconsin period glacier (see below) (Soren 1988).

The island's physical setting was shaped by massive glaciers of up to 1,000 feet thick that retreated from the area towards the end of the Pleistocene. There were four major glaciations that began approximately 17,000 years ago and lasted until roughly 12,000 years ago when the Wisconsin period—the last glacial period—came to an end. During the Wisconsin ice age, a glacial moraine traveled southwest across Staten Island, resulting in the separation of the Atlantic Coastal Plain from the remainder of Staten Island, which is characterized by hard bedrock rather than glacial deposits (Reeds 1925).

The glacial movements also brought about the creation of hundreds of sand hills, or kames, throughout the New York City region, some of which reached heights of more than one hundred feet. These hills were contrasted by many small streams, rivers, and lakes that were fed by the glacial runoff. The project site was included within an extensive survey of Staten Island that was completed between 1906 and 1903 by the Richmond County Topographical Bureau. The project site was also included within an area mapped in 1908 (see **Figure 4**). That map indicates that the project site historically featured varying topography, with the elevation generally increasing to the northeast. While the topography sloped gently, steeper slopes were present south of what is now McLean Avenue east of Norway Avenue. West of Norway Avenue, the topography was flatter, with several small hills and peaks breaking up the terrain. Towards the southern end of the project site, in the vicinity of the marshland, the elevations were the lowest and much of the project site was within 5 feet of sea level.¹

This map was produced before the construction or standardization of most of the streetbeds within the project site. In addition, as described below, portions of the project site were formerly occupied by swampland that has since been filled. While those areas that have been filled are at a higher elevation than was depicted on the 1908 topographical survey, much of the remaining topography is similar to that depicted on the 1908 map. While it is clear that grading and filling has occurred in discrete locations around the project site, it appears that large-scale changes to the topography of the site (i.e., the leveling of hills) have not occurred.

¹ The elevations presented in the 1908 Topographic Survey are relative to a datum based on “Richmond High Water.” It is therefore assumed that this datum is consistent with sea level. Other maps may use elevations relative to the National Geodetic Vertical Datum of 1929 (NGVD29), an approximation of mean sea level. The Richmond Borough Datum is 3.192 feet above the NGVD29. Therefore, there may be a margin of error of more than 3 feet when comparing historic and modern topographic information depending on which datum each map is based.

B. HYDROLOGY

The project site is situated near the southeastern coast of Staten Island and is approximately 2,500 feet northwest of the Lower New York Bay at its closest point. As depicted on the 1908 topographical survey of Staten Island, the coastline in the vicinity of the project site was historically inundated by tidal marsh and swampland, portions of which still exist within Ocean Breeze Park and the adjacent South Beach Wetlands. The marshes were originally more extensive, and portions of the southern extent of the project site in the vicinity of modern Vulcan and Winfield Streets and Patterson Avenue were partially occupied by salt marsh and bogs. This marshland may historically have been known as “Bloodgood’s Swamp,” after local resident William Bloodgood (Davis 1896).

The area to the west of modern Quintard Street was also marshland that was drained by a narrow creek that crossed through the western portion of the project site. Historically known as Perrine’s Creek, the stream continued south into the marshes from its source, a small pond to the north of the project site known as “Woodside Lake” or “Van Wageman’s Pond” (Davis 1896). At the intersection of modern Hurlbert Street and Reid Avenue was a small marshy swamp near the confluence of three brooks that merged near the marsh and continued to the south into the marshes west of Quintard Street.

As temperatures increased and the ice melted, sea levels rose by approximately 300 feet. The coastlines were subsequently inundated by glacial melt-water and receded 60 to 90 feet, eventually separating Staten Island from the mainland (Louis Berger & Associates, Inc. 2001).

C. SOILS

The *New York City Soil Reconnaissance Survey*, published by the National Resource Conservation Service (2005), indicates that the soils within the project site and in the immediate vicinity belong to the Branford-Pompton soil complex. This complex is unique to southern Staten Island and is typically located in undisturbed areas with slopes ranging between 0 and 8 percent. The complex is described as being located in “nearly level to gently sloping areas of outwash plains...a mixture of well drained and moderately well drained soils formed in red outwash materials” (New York City Soil Survey Staff 2005: 17). Summaries of the components of these soil complexes are provided in **Table 2**, below.

Table 2
Project Area Soils

Series Name	Soil Horizon Depth (in inches)	Color	Texture, Inclusions	Slope (%)	Drainage	Landform
Branford	Ap: 0 to 8	Dark Grayish Brown (10YR4/2)	Silt loam, loam, very fine sandy loam, or fine sandy loam	0 to 8	Well drained	Outwash Plains and Terraces
	Bw1: 8 to 16	Dark Yellowish Brown (10YR4/4)				
	Bw2: 16 to 29	Strong Brown (7.5YR4/6)				
	BC: 29 to 32	Brown (7.5YR4/4)				
	C: 32 to 72	Reddish Brown (5YR4/6)				
Pompton	Ap: 0 to 10	Very Dark Grayish Brown (10YR3/2)	Silt loam and sandy loam	0 to 8	Moderately well-drained and somewhat poorly-drained	Glacial Outwash
	Bw1: 10 to 20	Brown (7.5YR5/4)				
	Bw2: 20 to 40	Strong Brown (7.5YR4/6)				
	C: 40 to 72	Strong Brown (7.5YR4/6)				
Sources: New York City Soil Survey Staff (2005): <i>New York City Reconnaissance Soil Survey</i> . United States Department of Agriculture, Natural Resources Conservation Service, Staten Island, NY.						

D. PALEOENVIRONMENT

Due to the extended glacial period that left the Northeast blanketed in thick ice sheets for thousands of years, the area was not inhabited by humans until approximately 11,000 years ago. As temperatures increased, a variety of flora and fauna spread through the region. At this time, large open forests of spruce, fir, pine, and other tree species expanded across the Northeast, interspersed with open meadows and marshland. A wide variety of animal life could also be found, including large mammals such as mammoth, mastodon, caribou, musk ox, moose, as well as smaller mammals such as fox, beaver, hare, and many kinds of marine animals.

Climate changes continued to re-shape the environment of the Northeast as time progressed. As the climate grew increasingly warmer, jack pine, fir, spruce, and birch trees were replaced with hardwood forests of red and white pine, oak, and beech (Ritchie 1980). Furthermore, a decrease in glacial runoff resulted in the creation of small bodies of water such as lakes as well as, later on, low-lying marshes and swampy areas. By the time of the Early Archaic period, beginning approximately 10,000 BP, there was “considerable environmental diversity, with a mosaic of wetlands, oak stands, and a variety of other plant resources...[making it]...an attractive and hospitable quarter for both human and animal populations” (Cantwell and Wall 2001: 53). Warmer temperatures forced the herds of large mammals to travel north before eventually dying out. The new surroundings attracted other animals such as rabbit, turkey, waterfowl, bear, turtles, and white-tailed deer. The expanded water courses became home to a variety of marine life, including many varieties of fish, clams, oysters, scallops, seals, and porpoises, among others (ibid).

E. CURRENT CONDITIONS

The majority of the project site is occupied by active streetbeds. In some areas, the streets as currently built are narrower than the mapped width of each street. Therefore, some portions of the project site adjacent to the built streetbeds contain small portions of the front or side yards (along with any appurtenances) of residential and commercial properties and one community facility property. Some of these yard areas are occupied by grassy chain link or picket fences, curbs, steps, steps, and/or walls. As described previously, the topography of the streetbeds varies, with some being relatively flat and others featuring slopes and hills. The streetbeds feature manholes and are lined with utility poles, confirming the presence of both subsurface and overhead utility lines.

A. PRECONTACT CONTEXT

Archaeologists have divided the time between the arrival of the first humans in northeastern North America and the arrival of Europeans more than 10,000 years later into three periods: Paleo-Indian (11,000-10,000 BP), Archaic (10,000-2,700 BP), and Woodland (2,700 BP–AD 1500). These divisions are based on certain changes in environmental conditions, technological advancements, and cultural adaptations, which are observable in the archaeological record.

As mentioned in **Chapter 2**, human populations did not inhabit the Northeast until the glaciers retreated some 11,000 years ago. These new occupants included Native American populations referred to by archaeologists as Paleo-Indians, the forbearers of the Delaware—also called the Lenape Indians—who would inhabit the land in later years. Archaeological evidence suggests that the Paleo-Indians were likely highly mobile hunters and gatherers who utilized a distinct style of lithic technology, typified by fluted points. They appear to have lived in small groups of fewer than 50 individuals (Dincauze 2000) and did not maintain permanent campsites. In addition, most of the Paleo-Indian sites that have been investigated were located near water sources. Because of the close proximity of Paleo-Indian sites to the coastline, few have been preserved in the New York City area.

The Archaic period has been sub-divided into three chronological segments, based on trends identified in the archaeological record which reflect not only the ecological transformations that occurred during this period, but the cultural changes as well. These have been termed the Early Archaic (10,000–8,000 BP), the Middle Archaic (8,000–6,000 BP), and the Late Archaic (6,000–2,700 BP) (Cantwell and Wall 2001). The Late Archaic is sometimes further divided to include the Terminal Archaic (3,000-2,700 BP). The abundance of food resources that arose during this period allowed the Archaic Native Americans to occupy individual sites on a permanent or semi-permanent basis, unlike their nomadic Paleo-Indian predecessors. Fishing technology was developed during the Middle Archaic in response to an increasing dependence on the area's marine resources. Tools continued to be crafted in part from foreign lithic materials, indicating that there was consistent trade among Native American groups from various regions in North America throughout the Archaic period. Few Early and Middle Archaic archaeological sites have been identified in New York City, although numerous Late Archaic sites have been identified in the area.

The Woodland period represents a cultural revolution of sorts for the Northeast. During this time, Native Americans began to alter their way of life, focusing on a settled, agricultural lifestyle rather than one of nomadic hunting and gathering. Social rituals become visible in the archaeological record at this time. Composite tools, bows and arrows, domesticated dogs, and elaborately decorated pottery were introduced to Native American culture at this time and burial sites grew increasingly complex. Woodland-era sites across North America indicate that there was an overall shift toward full-time agriculture and permanently settled villages. Archaic sites in New York City, however, suggest that the Native Americans there continued to hunt and forage on a part-time basis. This was most likely due to the incredibly diverse environmental niches that could be found across the region throughout the Woodland period (Cantwell and Wall 2001; Grumet 1995).

The Woodland period ended with the arrival of the first Europeans in the early 1500s. At that time, a division of the Munsee Indians known as the Raritan occupied southern Staten Island (Bolton 1975).

They entered the area towards the end of the Woodland period (Boesch 1994). In 1524, Giovanni de Verrazano became the first European to view New York. However, Henry Hudson's expedition to New York in 1609 marked the true beginning of European occupation in the area. Hudson is rumored to have stopped at a spring, now known as Hudson's Spring, located near the corner of modern Vanderbilt Avenue and Shore Road, approximately 2 miles to the north of the project site (Davis 1896). Hudson's arrival also marked the beginning of violent encounters with the Native Americans.

Shortly after Hudson's men explored Staten Island, a skirmish ensued with the local Indians, resulting in the death of one of Hudson's crewmen. Because of this incident, the Native Americans of Staten Island were extremely wary of Europeans. It was not until 1638 that a successful European colony, that of Olde Dorpe (or "Old Town") could be established on the island. Violence between the Native Americans and the Europeans would cause this village to be burned down and rebuilt several times throughout the Contact Period.

With the introduction of European culture into the indigenous society, the way of life once maintained by the Native Americans was thoroughly and rapidly altered. European guns, cloth, kettles, glass beads, and alcohol soon became incorporated into the Native American economy. The Native Americans began to suffer from the side-effects of European colonization: disease, alcoholism, and warfare. As land in other parts of New York City was sold off to the Europeans, many displaced Native Americans relocated to Staten Island to the point where "the Raritan consisted of a heterogonous assortment" of Native Americans from all over the New York Metropolitan Area (Grumet 1981: 45).

Native Americans at first maintained the village sites they had established near water sources. As their trade with European settlers intensified, they became increasingly sedentary. However, as the European population grew and required more land, the relationship between the two groups turned sour. Fierce wars broke out between the Dutch and the Indians. This was most intense during the early 1640s when Dutch Director-General William Kieft ordered many ferocious and unprovoked attacks on the Native population. While the Kieft war ended with a treaty signed in 1645, the Raritans did not agree to peace until 1649 (Grumet 1981).

The warfare was somewhat abated when Kieft was replaced by Peter Stuyvesant, who brought some stability to the area. However, the "Peach War" of 1655 caused more inter-cultural violence on Staten Island. After that war ended, the land was re-sold to the Dutch in 1657. The Native Americans were no match for the growing numbers of armed European settlers, and the natives agreed to sell what was left of their land on Staten Island in 1670, although some Native American villages remained until the early 20th century (Grumet 1981). In the land transaction recorded in 1670, the Native Americans sold all of their holdings on Staten Island in exchange for "four hundred fathom of wampum, thirty match coats, eight coats of dozens made up, thirty shirts, thirty kettles, twenty gunnes, a ffirkin of powder, sixty barres of lead, thirty axes, thirty howes, [and] fifty knives" (Bolton 1975: 73). There are several Contact period archaeological sites that have been identified in New York City, including the Ward's Point site in southwestern Staten Island (Grumet 1995).

B. PREVIOUSLY IDENTIFIED NATIVE AMERICAN ARCHAEOLOGICAL SITES

The majority of the project site is included within an area of moderate sensitivity for precontact sites as identified by LPC (Boesch 1994) and is included within an area of generalized archaeological sensitivity as mapped by OPRHP's online Geographic Information System.¹ Site file searches at LPC, OPRHP, and NYSM indicate that at least four precontact archaeological sites have been identified within or in the

¹ Accessible through: <http://pwa.parks.ny.gov/nr/>

immediate vicinity of the project site (see **Table 3**). The majority of the sites represented precontact camps and shell middens. Several of these sites were discovered in the early 20th century by avocational archaeologists and were reported by authors such as Arthur C. Parker (1922) and Reginald P. Bolton (1922). Unfortunately, few of these sites were well-documented and little is known about the precontact sites' exact locations, extent, or artifact collections.

Table 3
Previously Identified Precontact Archaeological Sites

Site Name and Number	Approximate Distance from Project Site	Time Period	Site Type and Information	Other Reference(s)
NYSM: 8477	0.19 miles (1,000 feet)	Precontact	Camp	
NYSM: 8478	Overlaps with a portion of the project site	Precontact	Traces of Occupation	
NYSM: 8479	0.66 miles (3,500 feet)	Precontact	Camp	
<i>Arrochar Site</i> NYSM: 4611 Boesch: 75	0.5 miles (2,300 feet)	Precontact	Lenape camp site with shell middens, featuring lithic tools (grooved axes and points) and pottery	Parker (1922) Bolton (1922, 1934)
<i>South Beach/Fresh Kills</i> Boesch: 111	0.5 miles (2,300 feet)	Precontact	Unknown	
<i>Walton-Stillwell House Site</i> NYSM: 750 OPRHP: A08501.000027 Boesch: 76	0.57 miles (3,000 feet)	Woodland through 17th century	Historic house foundations (dating to circa 1668) and precontact refuse middens containing pottery and lithics.	Parker (1922)
Source: Site files of LPC (Boesch 1994), SHPO, and NYSM.				

The map of Native American sites included in Parker's (1922) *The Archaeological History of New York* depicts the Arrochar site approximately 2,500 feet east of the project site. The files of the NYSM indicate that this site was in the vicinity of the former Arrochar Station, the southern terminus of the Staten Island Rapid Transit train line that formerly ran along the eastern coast of Staten Island along what is now Railroad Avenue. The station was formerly located on Richmond Avenue, now McLean Road. Bolton refers to the site only as "an ancient settlement" (1922: 235). Parker (1922) describes the site as being a Lenape camp site that was "much older than many other" (1922: 684). Parker noted that there were likely other sites in the neighborhood that were not discovered or reported. Artifacts from the site include grooved axes, lithic points, pottery, and shell middens (ibid). The settlement was accessed via a trail that ran along the line of what is now Hylan Boulevard (Bolton 1922).

Three of these sites—NYSM Sites 8477, 8478, and 8479—were within or in the immediate vicinity of the project site. However, little information about these sites has been recorded, other than that two were campsites and the third featured "traces of occupation." These sites may have been associated with the Arrochar site, as Parker noted there were other sites likely to be in the immediate area. Leng and Davis (1930) also suggested that the area was likely used by Native Americans for agricultural purposes.

The site of the Walton-Stillwell house was archaeologically investigated by Albert Anderson and Donald R. Sainz in the early 1960s. The site featured precontact and contact period components associated with a 17th century structure constructed as part of the original Old Town settlement of Staten Island (discussed in greater detail in the following chapter). The home was originally situated on a bluff near the shore of Lower New York Bay, west of Fort Wadsworth and more than half a mile east of the project site. Anderson and Sainz published a single article about the site in *The New Bulletin* of the Staten Island

Institute of Arts and Sciences in 1965. The article features a map detailing five test pits to the south and southwest of the former Walton-Stillwell house.

The Native American material recovered during the investigations allegedly included “over two hundred fragments of Indian vessels...with a variety of designs” likely dating to before European settlement in the mid-17th century (Anderson and Sainz 1965: 92). Other material included a bear tooth, lithic points, net sinkers, a bone fish hook, a grooved axe. The surviving materials recovered as part of this investigation—currently in the collection of the Staten Island Historical Society—were recently reanalyzed by Richard Veit, PhD., of Monmouth University.¹ Dr. Veit determined that the site represents a Late Woodland through Contact period Native American occupation and a subsequent 17th century occupation associated with the Old Town settlement (Veit 2014). Dr. Veit identified the lithic artifacts as quartz and chert flakes and bifaces. There were also numerous faunal remains, including deer and fish bones, a turtle shell fragment, and a fox tooth in addition to the aforementioned bear tooth.

¹ Dr. Veit presented his findings at a meeting of the New York State Archaeological Association, Metropolitan Chapter in March 2014 and generously provided AKRF with a copy of his draft paper entitled “Searching for Cornelius Melyn on Staten Island: Reanalysis and Interpretation of a Curious 17th-Century Artifact Assemblage.”

A. HISTORICAL CONTEXT OF THE SOUTH BEACH AREA

New York was “discovered” by Giovanni de Verrazano in 1524 and explored by Henry Hudson in 1609, thus marking the beginning of European occupation in the area. Queens quickly became the home of the European fur trade in the New World. In 1621, the States-General in the Netherlands chartered the Dutch West India Company (WIC) to consolidate Dutch activities in the New World. It was at this time that the WIC began to purchase large tracts of land from the Native Americans. In exchange for furs, entrepreneurs and government officials supplied Native Americans with a wide range of goods.

As discussed in **Chapter 3**, the negative relationship between the Dutch and the Native Americans had prevented the formation of a successful European settlement. “Oude Dorp” (or “Old Town”) became the first successful permanent settlement on Staten Island after it was established in 1661 (Leng and Davis 1930).¹ The settlement of Old Town was in the general vicinity of the South Beach neighborhood and one of the oldest roads to be built in the area—historically known as Old Town Road—ran through the project site along the modern lines of Reid Avenue, Norway Avenue, and Olympia Boulevard. The “rectangular bend in Old Town Road near St. Mary’s Cemetery” represents the location of the historic Old Town settlement (ibid: 104). This portion of Old Town Road is now located within the project site streetbeds as part of Olympia Boulevard, and Norway and Reid Avenues.² These roads are among the first to be constructed in Staten Island in the 17th century (ibid). Late-17th century maps—such as the 1781 Taylor and Skinner map and the so-called Hessian maps of 1770 and 1780-1783³—depict Old Town Road as having a more irregular, winding path. It is unknown if the street was reconstructed by the early 19th century, taking on the angular turns that are still present in the modern streetbeds, or if the maps were inaccurate in their depictions of the road’s path.

Dutch settlers flocked to Old Town as its “flat fields were an invitation to agricultural pursuits” that was also in close proximity to “the salt meadow [and] the lower bay with its wealth of fish; the forest-clad hills offered pasturage” to the “earnest and capable” Dutch and French settlers who lived there (Leng and Davis 1930: 104-105). In 1676, the entire settlement of Old Town included just seven homes (Davis 1896). All but three of these homes had been abandoned as a result of the ground being “too worn out and barren” (Leng and Davis 1930: 123).

Even after the settlement of Old Town, peaceful relations between the Native American and Europeans were not established until after the British had seized the colony in 1664. A large English population grew throughout New Netherlands, and soon they outnumbered the Dutch, making it easy for them to take possession of the colony in 1664. Although the Dutch were able to re-take the colony, by then known as

¹ The general site of the settlement of Old Town has been assigned New York State Historic Site Identification Number 08501.000027.

² A portion of Old Town Road east of modern Norway Avenue is identified on the 1874 Beers map as “Fingerboard Road,” not to be confused with another street by that name which still exists to the northeast.

³ These maps served as the basis for Loring McMillen’s 1933 map of Staten Island during the Revolutionary War.

New York, in 1673, they traded it back in 1674 for “the far more lucrative colony of Surinam” (Cantwell and Wall 2001: 181). New York would remain under British control for the next one hundred years.

The exodus of the bulk of the Native American population beginning in 1670 made it easier for Staten Island to become a thriving part of the New York economy. Without a substantial Indian presence, there were no longer any obstacles blocking the settlement of the island and Richmond County was officially established in 1683. Under British rule, Staten Island’s open farmland and vast coastline became essential for the production of agricultural products and collection of marine resources for export in the city. The colony’s progress was both halted and facilitated in the mid-18th century during the French and Indian War, which concluded in 1763. Although the region experienced the economic side effects of being at war, thousands of British armed forces were stationed throughout the New York City area, bringing money to the region while at the same time increasing its population. During this time, New Yorkers were not completely loyal to the English crown and goods were secretly (and illegally) traded to French colonies via Staten Island’s more secluded ports (Burrows and Wallace 1999).

Despite their treacherous conduct during the French and Indian War, most colonial New Yorkers remained loyal to the British during the Revolutionary War. Staten Island proved to be a key asset during the latter confrontation. In 1776, unsuccessful peace negotiations were held at Captain Christopher Billopp’s former house (now known as the “Conference House”) at the southern tip of Staten Island. The British continued to use Staten Island as a rudimentary home base due to its strategic location (Historical Records Survey 1942). It was sufficiently close to both New York and New Jersey that British soldiers could easily be dispatched in the event of an impending battle. Reminiscent of the activities of the Raritan Indians, the island’s tall hills provided views essential to tracking ships approaching the city. However, the British troops stationed in New York City caused a great deal of trouble by burning farms and homes and stealing from private citizens. This resulted in horrible and brutal living conditions for many of Staten Island’s civilians.

Despite New York City’s loyalty to the British during the war, after the American victory the conversion to the new American government was relatively smooth. Land which had been previously owned by British loyalists was divided and sold, which brought about a surge in population and development in the outer boroughs, a trend which continued through the 19th century. In 1788, the island was officially divided into four townships, Castleton, Northfield, Southfield, and Westfield. A fifth town, Middletown, was established in 1860 from portions of Southfield and Castleton. Historic records most often refer to the project site as being in Southfield.

In the early 19th century, Staten Island’s population continued to grow. Between 1840 and 1880, the population of Staten Island nearly quadrupled. The main line of the Staten Island Railroad was constructed in the 1850s, allowing people to travel easily between the northern and southern reaches of the island (Leng and Davis 1930). As a result, previously inaccessible areas became attractive residential areas and the population of Staten Island grew. This surge was caused in part by the increasing population density in Manhattan, which drove many people to the outer boroughs. The region’s prosperity caused the counties in the New York City region to become increasingly codependent, both economically and culturally. It was therefore suggested that the counties around New York Harbor be consolidated under the name New York City. Although there was some resistance from some Staten Island residents, it officially became a borough of New York City on New Year’s Day, 1898 (Burrows and Wallace 1999).

As part of the city proper, Staten Island flourished throughout the 20th century. Increased mass transit connected all the boroughs and allowed more people to live outside of Manhattan while still having access to the city’s varied resources. The South Beach area of Staten Island quickly became a successful summer resort community. The remainder of the 20th century saw continued growth and increasing population density throughout Staten Island.

B. SAINT MARY’S CEMETERY

Saint Mary’s Cemetery currently occupies two parcels of land: Block 3236, Lot 1—northeast of the intersection of Kramer Street and Parkinson Avenue, north of the project site—and Block 3223, Lot 1, which is adjacent to and north of the project site northeast of the intersection of Reid Avenue and Quintard Street. The northern section of the Roman Catholic cemetery, which is not adjacent to the project site, was founded in 1862 (Inskeep 2000). In her history of Staten Island’s cemeteries, Patricia M. Salmon (2006) states that the section immediately adjacent to the project site was opened in the 1920s. However, the southern section is identified as Saint Mary’s cemetery on historic maps as early as Robinson’s 1907 atlas of Staten Island. The cemetery is no longer actively selling burial plots, although existing plot owners may still use the cemetery for interments (*ibid*).

The streetbeds lining the western, eastern, and southern sides of the newer section (Quintard Street, Parkinson Avenue, and Reid Street, respectively) are depicted on the 1874 Beers atlas, which was published prior to the expansion of the cemetery. Reid Street was formerly known as Old Town Road and is one of the earliest roads to have been constructed in the neighborhood. The roads adjacent to the cemetery have been widened since the second half of the 20th century. However, the lot boundaries of the modern cemetery are almost exactly the same as those depicted on the 1908 topographical survey of Richmond County. Therefore, it appears that the roads have been widened to the west, east, and south of the cemetery and that the modern streetbeds do not include any land that was formerly part of the cemetery’s expansion area. In addition, no land acquisition is proposed in the vicinity of the project site streetbeds surrounding Saint Mary’s Cemetery. There is therefore no evidence that the streetbeds of Reid Avenue, Parkinson Avenue, or Quintard Street would have ever been used for human burials associated with Saint Mary’s Cemetery.

C. THE DEVELOPMENT OF THE PROJECT SITE STREETBEDS

Few early maps of Staten Island exist that accurately depict development within the vicinity of the project site. Most 18th and early-19th century maps simply depict the island’s major roads and settlements, indicating the settlement of Old Town in the approximate vicinity of the project site. A map produced in the early 20th century by Staten Island historian Loring McMillen in 1933 combines information from three 18th century maps produced by Taylor and Skinner in 1781, and maps prepared by Hessian soldiers in 1777 and between 1780 and 1783. The map, which is not a formal survey and does not accurately depict site conditions, depicts Old Town Road winding through the area. Subsequent maps show that in the vicinity of the project site, this road ran along Olympic Boulevard as far west as Norway Avenue, where it turned north and continued along the line of Norway Avenue before turning west and continuing along what is now Reid Avenue. A farm occupied by A. Martin is depicted along the southern side of the road in the vicinity of the project site. A second home, the owner of which is not identified, appears to be located to the northwest, in the vicinity of what may now be McLean Avenue west of Norway Avenue.

EARLY 19TH CENTURY ROADS

One of the earliest maps of the area that was based on an accurate survey is a coastal chart of Staten Island completed by Charles Renard between 1835 and 1836. That map depicts the project site as largely undeveloped. Old Town Road is the only roadway that crossed the project site at that time. Only two structures appear in the vicinity of the project site on that map. The first is to the south of what is now Olympia Boulevard in the vicinity of the Martin home as depicted on 18th century maps. The second structure was located to the northeast of the turn in the road near what is now the intersection of Norway and Reid Avenues. The latter home is also depicted on an 1844 coastal survey produced by F.R. Hassler (see **Figure 5**). The former Martin home, however, is not depicted on that map, although at least three

homes were located along the northern side of Old Town Road; however, they appear to have been east of the project site. The remainder of the project site is depicted as undeveloped farmland and marsh.

The 1849 Sidney map depicts buildings in similar locations as the older coastal surveys, but it also provides information about the land owners. The home on the southern side of Old Town Road—seen on the 1835-36 coastal survey but not on the 1844 survey—was identified as the home of L. Parkinson. Leonard Parkinson (1799 to 1853) was a member of an old Staten Island family and owned and resided in the former Billopp mansion at the southern tip of Staten Island while owning additional land in the vicinity of the project site (Leng and Davis 1930).

As depicted on the 1849 map, the homes near the northeast corner of McLean and Norway Avenues and south of McLean Avenue west of Norway were both owned by D. Smith. The latter home was reached by a small driveway or road that may be a precursor to modern McLean Avenue. Butler's 1853 map of Staten Island does not depict the home at the corner of McLean and Norway Avenues, but indicates that the home at the intersection of McLean Avenue and Lamport Road was owned by W.W. Van Waganan. The home of L. Parkinson was located to the south of Olympia Road, surrounded by an orchard or wooded area. An additional orchard was located on the property to the east and on a large property to the west, southwest of the intersection of Olympia Boulevard and Norway Avenue.

A coastal survey created by H.L. Whiting in 1856 depicts the former Parkinson home as a large estate with multiple buildings situated on a large plot of land south of Olympia Avenue and west of Bionia Avenue. That map also depicts the dirt road/driveway along the line of what is now McLean Avenue—partially seen on the 1853 Butler map—and depicts what may be three structures: two small ones in the locations of homes seen on previous maps and a third, larger structure to the north of McLean Avenue. Once again, the remainder of the project site was depicted on that map as undeveloped farmland and marsh. However, a precursor to modern Parkinson Avenue is depicted extending north of what is now Reid Avenue on that map, reflecting the expansion of Staten Island's roads. No new developments were depicted on Walling's 1860 map of the area, which identifies the owners of the homes near the project site as "L. Parkinson's Est." and "Mrs. S. Smith."

AGRICULTURAL USE IN THE LATE 19TH CENTURY

The 1874 Beers atlas of Staten Island depicts little change, reflecting the South Beach neighborhood's slow development relative to that of other Staten Island neighborhoods (see **Figure 6**). The presence of the dense tracts of marsh swampland in the vicinity of the project site and large, family-owned farms likely contributed to its slow development. Only one building is depicted within the vicinity of the project site on that map. The building, located to the south of McLean Avenue—then called Richmond Avenue—in the vicinity of what is now Lamport Boulevard, appears to be the southernmost of the homes shown on previous maps as being owned by the Smith family. By 1874, that land had been incorporated into the large real estate holdings of R.W. Cameron, who by that time had purchased a large portion of the project site. Sir Roderick Cameron a past president of the Richmond County Agricultural Association and associated with the Australian Steamship Line (Leng and Davis 1930). The Cameron home on Fingerboard Road, to the north of the project site, "was park-like, including a natural lake of considerable size and beauty" (ibid: 873). The Cameron estate included the portion of the project site bounded by McLean Avenue, Olympia Boulevard, Norway Avenue, and an area between what is now Jerome and Kensington Avenues, as well as much of the marshland west of Quintard Street. According to the 1874 map, the former Smith home was still in use as a farm house.

The 1874 map shows that the remainder of the project site had been divided into smaller farmer farms. West of Quintard Street and north of Reid Avenue, the former stream and wetland area was part of the undeveloped farm of W.W. McFarland. West of Norway Avenue and south of McLean Avenue were several tracts of farmland owned by William Butler Duncan. Duncan was a member of an old Staten

Island family and owned additional property in the Grymes Hill neighborhood to the north of the project site (Leng and Davis 1930). Finally, west of the Cameron farm was owned by John Livingston Flake. For decades, the Flake family owned a large amount of land to the east of the project site, including one of the earliest homes in the area. The Flake home was described as “one of the ornaments of the village’ of Old Town (ibid: 896).

Cameron’s land holdings in the area had expanded to the east by the publication of the 1887 Beers atlas, covering a portion of the former Flake farm a large portion of the project site. The farm house south of McLean Avenue was still standing at that time and additional structures had been constructed on the property. The only other structure in the vicinity of the project site as shown on that map was to the south of Olympia Boulevard near the line of what is now Jerome Avenue. The former Duncan farm properties, still undeveloped, had been purchased by J. Scott.

The 1907 Robinson atlas is among the first to depict the expansion of Saint Mary’s Cemetery into the area surrounding the project site. The map also reflects the proposal, but not necessarily the construction of, Cameron, Scott, and Appleby Avenues to the west of Quintard Street. That area was still undeveloped farm land owned by the estate of John Scott and B. Willensky. The former Cameron farm house and four associated stables/barns and outbuildings was still standing to the south of McLean Avenue, identified on that map as a “private road” that was an extension of Richmond Avenue to the east. After R.W. Cameron’s death, his vast land holdings had been divided among his heirs and the map lists the “Heirs of Mrs. A.F. Cameron” and the “Heirs of Sir Roderick Cameron” as the property owners. No other structures appear to have been located within the project site streetbeds, although additional structures had been developed on the estate of John Scott immediately south of Olympia Boulevard in the vicinity of the project site.

The 1908 Topographical Survey depicts the project site in a similar manner as the 1907 Robinson atlas, but provides a great deal of additional information. West of Quintard Street, the project site streetbeds along Hulbert Street and Reid Avenue were inundated by marshland and several brooks. The streetbeds south of Reid Avenue and west of Norway Avenue were not yet built, and the land now occupied by the roadways was either cultivated or vacant or covered with tidal marsh. A wire fence separated the former Willensky and Scott farms north of modern Nugent Avenue. A dirt wagon road extended west along the line of Olympia Boulevard west of Norway Avenue and another continued to the southeast, cutting across portions of Vulcan Street, Winfield Street, and the western terminus of Olympia Boulevard. Two frame structures were present in this area: one near the northwest corner of Appleby and Norway Avenues and another within the streetbed of Winfield Street north of Olympia Boulevard. Neither of these structures is shown on the 1907 Bromley atlas. Finally, a “scavenger’s dump” was noted along the shoreline of the marsh near what is now the western terminus of Nugent Avenue.

To the west of Norway Avenue, the former Cameron farm was covered with pastures and cultivated land, which were separated by a wire fence that ran through what is now the streetbed of Foch Avenue. The former wood frame and stone Cameron farm house is depicted on the map, as are a large barn and two small outbuildings. Numerous buildings are also depicted on the former Scott property, south of the project site.

The 1917 Bromley atlas depicts some changes to the project site and vicinity. Like much of Staten Island at that time, the farmland and large estates in the vicinity of the project site were being divided into building lots in advance of large-scale residential development. The 1917 map reflects the construction of Cameron and Scott Avenues within the western portion of the project site. The block between the two streets was divided into lots, some of which were developed with wood frame homes. The remaining areas of the project site were still included with the farm and estate of the late John Scott. Reid Avenue, formerly Old Town Road, did not extend west of Quintard Street at that time. Within Scott’s farm to the west of the road’s terminus, a wood frame structure is depicted on the 1917 map within what is now the

streetbed of Reid Avenue west of Quintard Street. A second building, seen previously on the 1908 Topographical Survey, was located on the Scott estate within or adjacent to the streetbed of Winfield Street north of Olympia Boulevard, to which it was connected by a dirt road. The former home on the estate of the heirs of A.F. Cameron is depicted on the 1917 map, along with a 1.5-story barn and two outbuildings. The remainder of the Cameron estate was intact and undeveloped. This area was depicted as undeveloped farmland on a 1924 aerial photograph of New York City.¹

STREET DEVELOPMENT IN THE 20TH CENTURY

The first Sanborn maps that depict this portion of Staten Island were published in 1938. By that time, all of the project site streetbeds were mapped and most were fully constructed. Portions of Hulbert Street, Reid Avenue, Patterson Avenue, and Vulcan and Winfield Streets are identified as unpaved and/or not opened. All of the project site streetbeds contained water lines at that time, with the exception of portions of the unpaved/unopened streets mentioned previously. In addition, the triangular intersection of McLean, Reid, and Norway Avenues was not yet constructed. This had been constructed by the publication of the 1951 Sanborn map of the area, which continued to depict portions of Hulbert Street, Reid Avenue, Patterson Avenue, and Vulcan and Winfield Streets as not fully built. A 1951 aerial photograph of the area indicates that portions of the unopened streets may still have been occupied by marshes.¹ Portions of Vulcan and Winfield Streets and Patterson Avenue were not fully constructed until after 1996.

¹ Accessible through: <http://gis.nyc.gov/doitt/nycitymap/>

A. SENSITIVITY ASSESSMENT

As part of the background research for this Phase 1A Archaeological Documentary Study, various primary and secondary resources were analyzed, including historic maps and atlases, historic photographs and lithographs, newspaper articles, and local histories. The information provided by these sources was analyzed to reach the following conclusions.

DISTURBANCE ASSESSMENT

The locations of the project site streetbeds have all been disturbed as a result of the construction of the streets and grading and paving associated with street maintenance. The development of the project site streetbeds is summarized below in **Table 4**. In addition, all of the project site streetbeds have been disturbed during the installation of utilities, including water and sewer lines and connections between those lines and adjacent structures. However, portions of some of the streetbeds do not contain utility lines and may therefore be undisturbed. It is assumed that the locations of any existing utilities are disturbed from the ground surface to a depth of 2 feet below the bottom of the utility line and to a lateral distance of up to 2 feet beyond the outer sides of each utility line, representing the trench that was likely dug as part of the line's installation. Any location where no utilities are present or where there is a space of 5 feet or more between the outer edges of existing utilities should be considered to be undisturbed. Those locations beneath the disturbed portions of existing utility trenches are also considered undisturbed.

Table 4
Summary of Streetbed Development

Street Name	Cross Streets		Development Summary
	Begin	End	
Bionia Avenue	McClean Avenue	Olympia Boulevard	Included within the farm of Sir Roderick Cameron; almost entirely undeveloped pasture and cultivated land until after 1924. By 1938, the roads were constructed, although the 1938 Sanborn map notes that Lamport Boulevard was unpaved.
Jerome Avenue			
Kensington Avenue			
Lamport Boulevard			
Mallory Avenue			
Foch Avenue	Norway Avenue	Hickory Avenue	Originally part of Old Town Road, one of the oldest roads in Staten Island, constructed in the 17th century. The modern streetbed is wider than that of historic Old Town Road.
Norway Avenue	McClean Avenue	Olympia Boulevard	
Olympia Boulevard	Quintard Street	Hickory Avenue	East of Norway Avenue, was also part of Old Town Road. The modern streetbed is wider than that of historic Old Town Road. To the west of Norway Avenue, the roadbed passed through cultivated farmland and undeveloped land and was crossed by dirt wagon roads.
McClean Avenue	Norway Avenue	Hickory Avenue	Was originally a private dirt road that led to the former Cameron farmhouse and connected Old Town Road with historic Richmond Avenue to the east. The road appears to have been widened to the north to include areas that were previously occupied by undeveloped pastures and farmland.

Table 4 (cont'd)
Summary of Streetbed Development

Street Name	Cross Streets		Development Summary
	Begin	End	
Reid Avenue	Hurlbert Street	Norway Avenue	Section running between Quintard Street and Norway Avenue was part of Old Town Road. That portion of the road appears to have been widened to the south to include former cultivated farmland. West of Quintard Street, the property was included within an undeveloped wetland area within the Cameron farm and was crossed by streams that have since been filled. The streetbed was not fully constructed until the second half of the 20th century.
Hurlbert Street	Quintard Street	Ruth Place	Occupied by same marshland, streams, and farmland as Reid Avenue to the east; developed at the same time.
Oberlin Street	Reid Avenue	Cameron Avenue	Included within the former farm of W.B. Duncan, later owned by John Scott. Occupied by cultivated farmland until after 1917. Appears on the 1924 aerial photograph as dirt roads.
Parkinson Avenue			
Cameron Avenue	Norway Avenue	Quintard Street	Included within the former farms of W.B. Duncan and R. Cameron, later owned by John Scott and B. Willensky. Occupied by cultivated farmland until after 1907, when the Cameron, Scott, and Appleby streets were mapped but not built. The 1917 Bromley atlas is the first to depict all four streets as fully constructed, although the 1924 aerial photograph depicts them as dirt or partially paved roads or undeveloped farmland.
Scott Avenue			
Appleby Avenue			
Nugent Avenue	Norway Avenue	Quintard Street	Formerly part of the John Scott farm. Occupied by cultivated farmland until after 1917. Appears to be a dirt road on the 1924 aerial photograph. 1908 Topographical Survey depicts a "scavenger's dump" at its western end near Quintard Street.
Winfield Street	Nugent Avenue	Patterson Avenue	Area to the north of Olympia Boulevard included within the former John Scott farm; depicted as dirt roads on the 1924 aerial photograph. Area to the south of Olympia Boulevard was occupied by marshland, dirt roads, or vacant land until the end of the 20th century.
Vulcan Street			
Patterson Avenue	Quintard Street	Vulcan Street	Occupied by marshland, dirt roads, or vacant land until the end of the 20th century.

PRECONTACT SENSITIVITY ASSESSMENT

The precontact sensitivity of project sites in New York City is generally evaluated by a site's proximity to level slopes, water courses, well-drained soils, and previously-identified precontact archaeological sites. The project site was historically a relatively flat upland area in the immediate vicinity of a large expanse of swampland, creeks, and ponds. The project site would therefore have been an ideal site for camping or hunting and gathering, or seasonal occupation. Numerous Native American archaeological sites have been identified in the immediate vicinity the project site, including at least one of which overlapped with the project site.

The project site has experienced substantial disturbance as a result of the construction, grading, and paving of streets, and the installation of utilities. The portions of streetbeds that have been disturbed for utility installation are determined to have no sensitivity for precontact archaeological resources. Similarly, those portions of the project site that were historically inundated by marshland are also not expected to contain intact archaeological deposits that would be impacted by the proposed project. However, the portions of the streetbeds and adjacent undeveloped properties that have not been disturbed for the installation of utilities are determined to have moderate sensitivity for archaeological resources associated with the Native American occupation of the South Beach area.

HISTORIC SENSITIVITY ASSESSMENT

The project site is sensitive for two classes of historic archaeological resources: (1) the remains of a circa 17th century historic roadway and (2) the remains of four homesteads documented on historic maps. The

17th century settlement of Old Town, the first successful settlement on Staten Island, is located near the project site. The modern streetbeds of portions of Reid and McLean Avenues, Norway Avenue, and Olympia Boulevard run along the line of the former Old Town Road, and one of the first roads built on the island. If intact portions of the historic roadway are present beneath the modern roadway in the project site, they could provide a unique opportunity to document the materials and design of this important early roadway. This portion of the project site is therefore considered to have moderate sensitivity for historic resources (see **Figure 7**). The remainder of the project site streetbeds is considered to have low sensitivity for archaeological resources dating to the historic period.

In total, four map-documented structures were observed on historic maps within the project site streetbeds. These structures are summarized in **Table 5**.

Table 5

Summary of Map-Documented Structures Within the Project Site Streetbeds

Building	Location (Figure 7)	Maps
Smith/Cameron Farmhouse and associated outbuildings	Lamport Street south of McLean Avenue	First depicted on 1849 Sidney map; continue to be shown on maps and aerial photographs until the construction of Lamport Road between 1924 and 1938. Shown on earlier maps as belonging to D. Smith and Mrs. S Smith and on subsequent maps as belonging to the Cameron family.
Farmhouse	Northeast of the triangular intersection of McLean, Reid, and Norway Avenues	Possibly depicted in the vicinity of the former Fountain home on 18th century maps, which depict Old Town Road in a more primitive state. Structure is depicted on 1835-36 Renard survey, 1844 Hassler Coastal Survey, 1849 Sidney map, 1856 Whiting Coastal Survey, 1860 Walling map. Also shown as the property of D. and Mrs. S. Smith. Not shown on the 1874 Beers atlas or subsequent maps.
Unidentified Wood Frame Building	Reid Avenue west of Quintard Street	Shown only on the 1917 Bromley atlas.
Building on the John Scott Farm	Winfield Street north of Olympia Boulevard	Shown only on the 1908 topographical survey and the 1917 Bromley atlas.

Current surveys of utilities within the streetbeds in the locations of these structures do not indicate that these areas have been fully disturbed. Therefore, the locations of the map documented structures are determined to have moderate sensitivity for archaeological resources dating to the historic period.

B. RECOMMENDATIONS

The undisturbed portions of the project site (i.e., those locations where no utility lines are present or where there are gaps of more than 5 feet between existing utilities) are determined to have moderate sensitivity for precontact archaeological resources. The four locations where map-documented structures were located are determined to have moderate sensitivity for historic period archaeological resources. Finally, undisturbed portions of Olympia Boulevard and Reid and McLean Avenues are considered to have potential sensitivity associated with the historic roadbed of Old Town Road. These areas of archaeological sensitivity have been identified on **Figure 7**.

Archaeological monitoring during construction is recommended for those undisturbed areas that would be impacted as a result of the construction of the proposed project. However, because the project plans have not yet been finalized, it cannot yet be determined where archaeological resources may be impacted as a result of the proposed project and, therefore, where archaeological monitoring will be necessary. When project plans are finalized, they should be reviewed by a qualified archaeologist to determine those locations where monitoring is necessary. As described previously, the installation of utilities and the construction of the streets themselves has resulted in some disturbance to the project site streetbeds. The determination of whether or not monitoring will be necessary will depend on the depth of existing utilities

and the depth of proposed impacts based on the type project element being constructed. A summary of expected depths of disturbance is provided in **Table 6** below.

Table 6
Summary of Potential Disturbance Based on Project Element

Project Elements	Sensitivity Assessment Summary	Recommendation
Sidewalk and curb replacement	No sensitivity to a depth of 2 feet below existing sidewalk or curb, TO BE CONFIRMED	Monitoring if impacts will extend more than 2 feet below existing sidewalk or curb
Street Resurfacing	No sensitivity to a depth of 2 feet below existing street TO BE CONFIRMED	Monitoring if impacts will extend more than 2 feet below existing street
Sewers and water lines replacement and installation	No sensitivity to a depth of 2 feet below or on either side of an existing sewer, water, or utility line or between existing sewer, water main, or utility lines if they are located within 5 feet of each other TO BE CONFIRMED	Monitoring if impacts will extend more than 2 feet below or on either side of an existing sewer, water, or utility line or between existing sewer, water main, or utility lines if they are located more than 5 feet of each other

Prior to the completion of the monitoring, an Archaeological Monitoring Plan should be prepared to document the steps that will be taken during the monitoring effort to document and protect any archaeological resources observed during construction, including potential human remains. No archaeological monitoring is recommended for those areas that have been identified as previously disturbed. The Archaeological Monitoring Plan should be submitted to LPC and SHPO for review and approval before the start of construction.

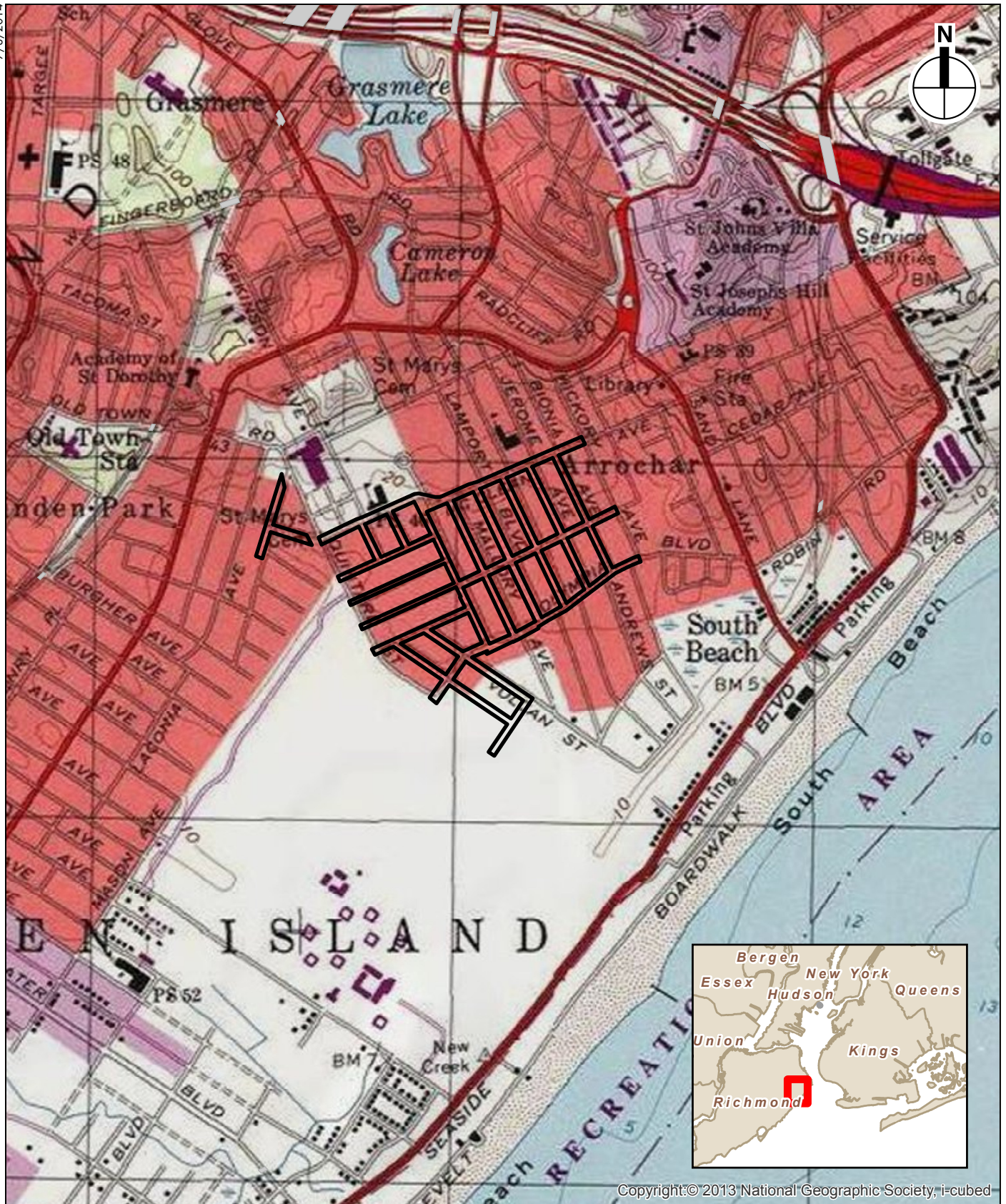
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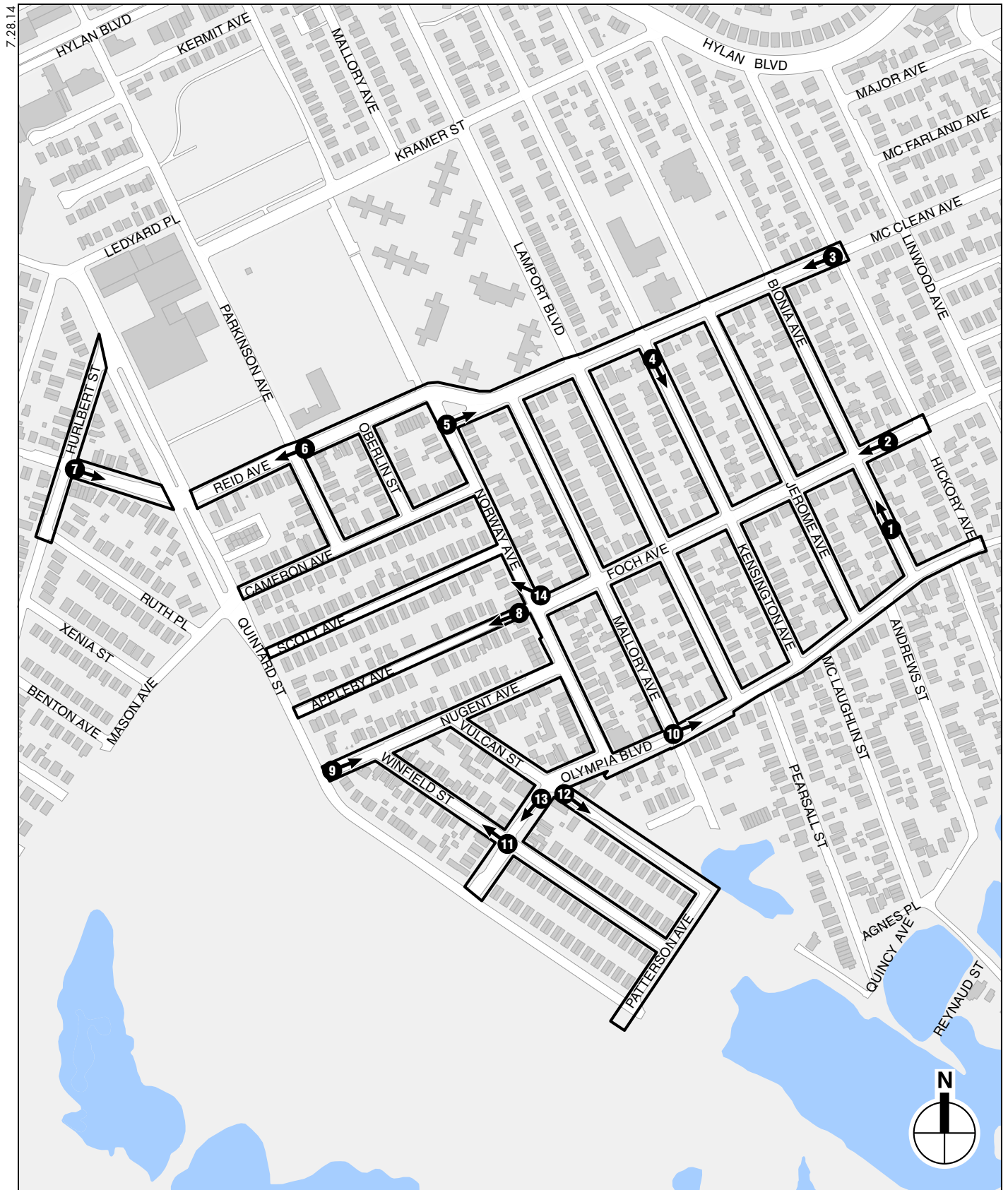
Figures



 Project Area Street Corridors

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USGS 7.5 Minute Topographic Map
The Narrows Quad
Figure 1




-  Project Area Street Corridors
-  Photograph View Direction and Reference Number

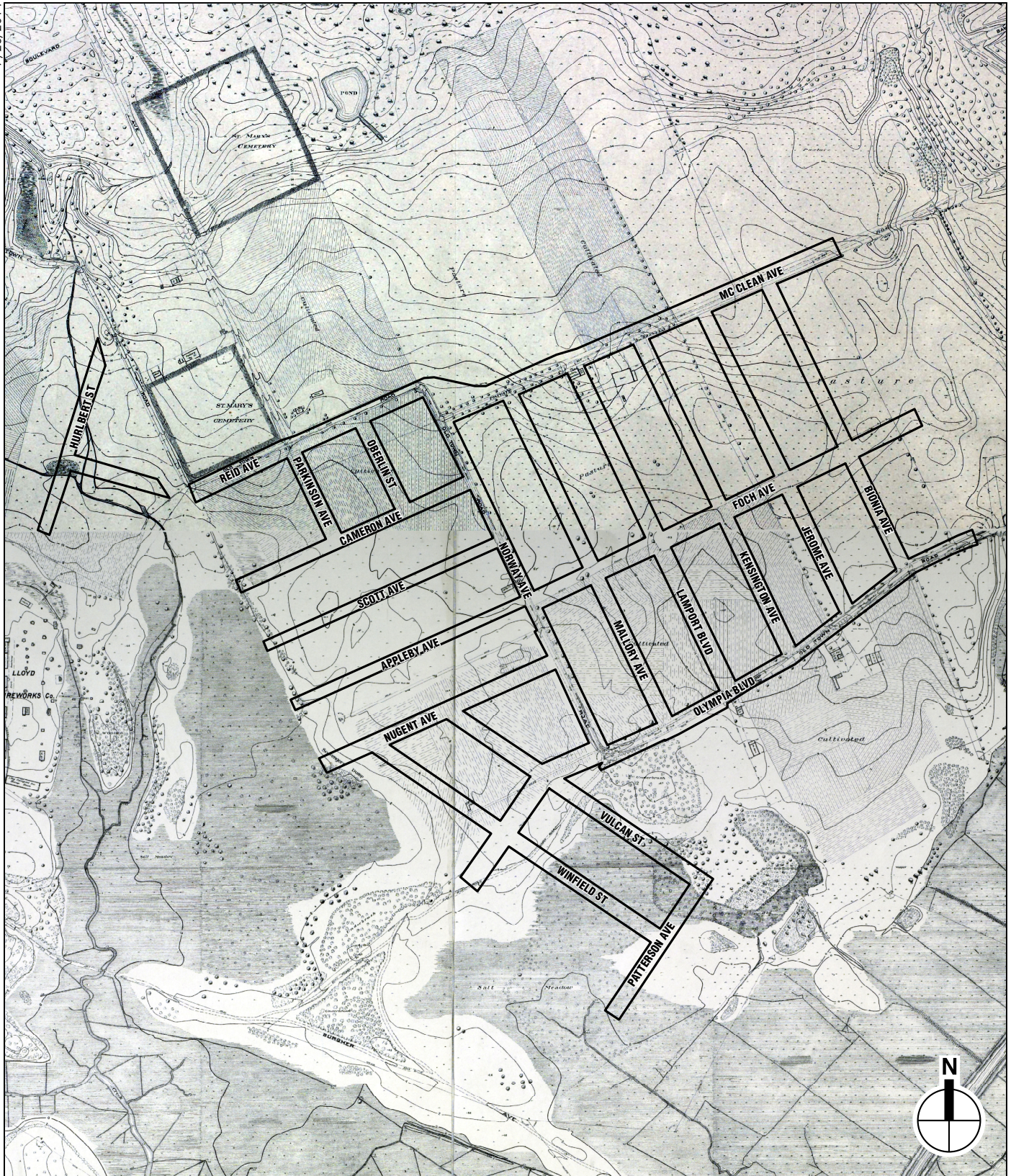
Project Area Location Map




 Project Area Street Corridors

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7/28/2014



 *Project Area Street Corridors*

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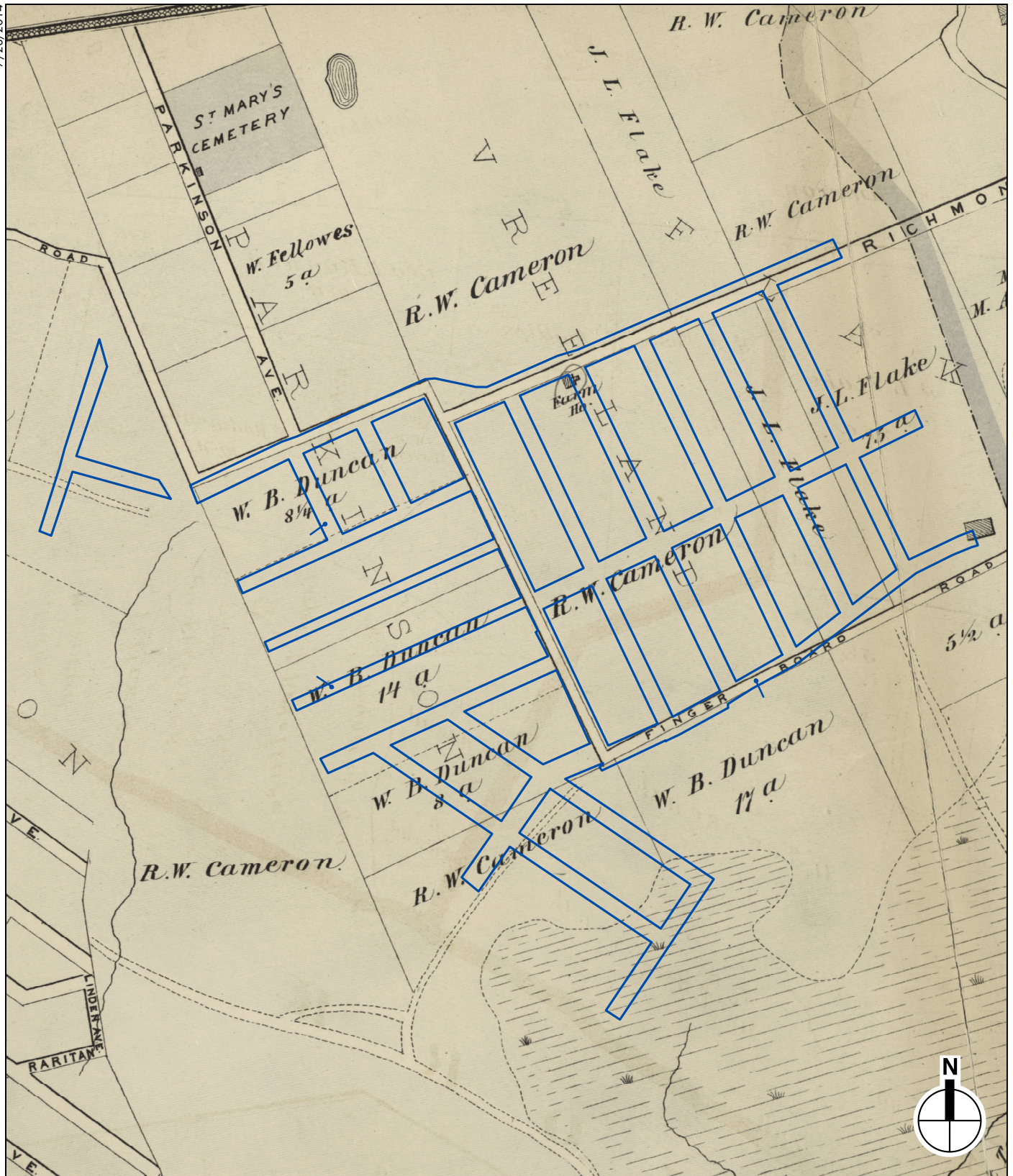
NOTE: This map was georeferenced to align the modern and historic streetbeds.
 Due to inaccuracies in the original map, the Project Area Street Corridors may appear to be incorrectly aligned in some places.

1908 Topographical Survey
Figure 4



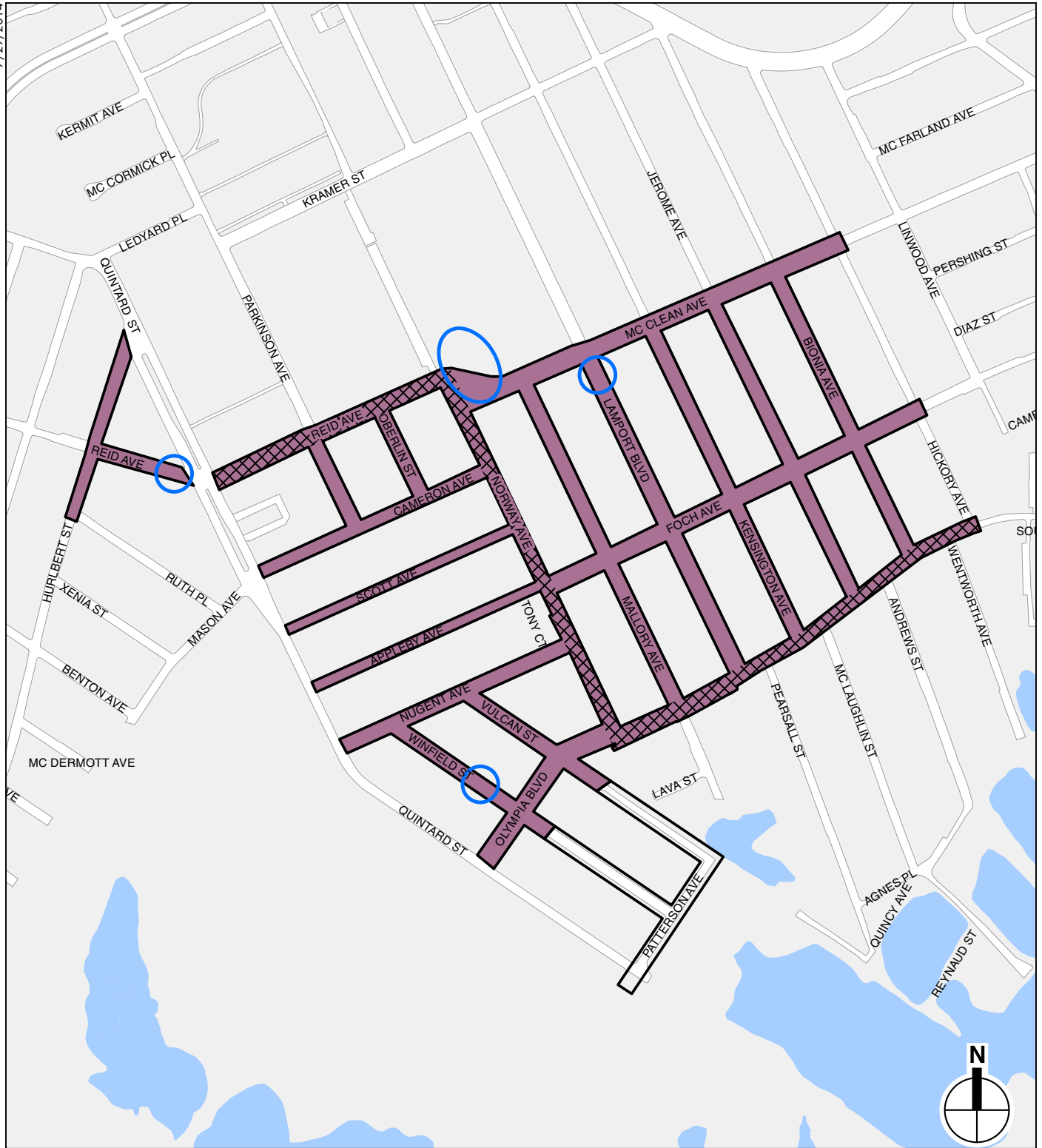
 *Project Area Street Corridors*

NOTE: This map was georeferenced to align the modern and historic streetbeds.
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Project Area Street Corridors

NOTE: This map was georeferenced to align the modern and historic streetbeds. Due to inaccuracies in the original map, the Project Area Street Corridors may appear to be incorrectly aligned in some places.




 Project Area Street Corridors

 Undisturbed Areas Below Street Bed -
Moderate Sensitivity for Precontact
Archaeological Resources

 Undisturbed Areas Below Street Bed -
Moderate Sensitivity for Historic Map-
Documented Structures

 Undisturbed Areas Below Modern Street Bed -
Moderate Sensitivity for 17th Century Road Surface

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Areas of
Archaeological Sensitivity
Figure 7

Photographs



Bionia Avenue facing north toward Foch Avenue 1



Foch Avenue facing west toward Jerome Avenue 2



McClean Avenue facing west toward Jerome Avenue 3



Kensington Avenue facing south toward Foch Avenue 4



Reid Avenue facing east onto McClean Avenue 5



Reid Avenue facing west toward Quintard Street 6



Reid Avenue facing east toward Quintard Street 7



Appleby Avenue facing west toward Quintard Street 8



Nugent Avenue east toward Vulcan Street 9



Olympia Boulevard facing east toward McLaughlin Street 10



Northwest Corner Winfield Street and Olympia Boulevard 11



Vulcan Street facing southeast toward Patterson Avenue 12



Winfield Street at Olympia Boulevard facing southwest toward Quintard Street 13



Southwest Corner Scott Avenue and Norway Avenue 14