Archaeological Documentary Study

Reconstruction of Michaelis-Bayswater Park

702 Bay 32nd Street

Queens County, New York

Prepared For:

New York City Department of Parks and Recreation **July 2020**

Prepared By:

Jean E. Howson

NV5 Cultural Resource Unit

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MANAGEMENT SUMMARY

Project: MICHAELIS-BAYSWATER PARK RECONSTRUCTION

LPC Project Review Number: 77DPR026Q (NYC PARKS DEPARTMENT)

Phase of Survey: Archaeological Documentary Study

Location: 701 BAY 32 STREET BBL: 4157450001

County: Queens

Survey Area - Number of Acres Surveyed: 30

USGS 7.5 Minute Quadrangle Map: Far Rockaway

Results of Archaeological Survey

Number & name of precontact sites identified: 0

Number & name of historic sites identified: 0

Number & name of sites recommended for Phase IB/Avoidance: 0

Report Authors(s): Jean E. Howson, NV5, Inc.

Date of Report: July 2020

ABSTRACT

An Archaeological Documentary Study was undertaken for the New York City Department of Parks and Recreation for the Michaelis-Bayswater Park Reconstruction Project in Far Rockaway, Queens County, New York. The study included an analysis of the environmental setting, a review of the historic background of the property, and an assessment of prior disturbances.

The project area comprises approximately 30 acres, much of which was within Jamaica Bay or marshlands bordering the bay in historic times and was filled beginning in the early 20th century. Particular attention was paid to the easternmost section of the park, which was an area mapped historically as fast land, but which also has seen the most prior disturbance from park development.

The closest previously-recorded precontact archaeological site in the vicinity is known only from 19th-century reports of a large shell midden located immediately east of the park and a local collector's report of finds in the area, including mention of a possible burial. Previous archaeological surveys nearby and adjacent to the park failed to identify archaeological sites. The project area was within an estate developed by John C. Norton in approximately 1830. The dwelling on the estate was located outside of the project area, but the property extended to the north and west into the present park. Early to mid-20th-century development within the park (all since demolished) included several houses along perimeter streets, a boat building yard, outbuildings associated with the Ashton Hotel (the former Norton estate), and post-WW II pre-fabricated military Quonset huts, used for veterans housing.

Proposed actions include demolition of existing park facilities, grading, infrastructure upgrades, and construction of new facilities with new subsurface disturbances typically up to two feet. Most mature trees will be preserved. Within the APE, precontact period archaeological potential is considered to be minimal due to prior disturbances from cutting and filling and especially from construction of the existing park facilities in 1968. It is unlikely that 19th-century shaft features would be extant within the park, due to distance from the Norton house. Landscaping features associated with the early development and later 19th century changes to the property are not likely to have survived development of the park in the 20th century.

Because previous disturbances have severely reduced the archaeological potential within the APE, no Phase IB archaeological testing was recommended.

Table of Contents

Figures

Photographs

Photographs, continued.

11. View to northwest, with concrete wall at right and comfort station in background.
12. View to north of paved playground.
13. View to west from corner of park at Beach Channel Drive and Bay 32nd Street.
14. View to southwest showing concrete walls and picnic area.
15. View to southeast from sidewalk along Bay 32nd Street showing undulating landscape.
16. View to south along Bay 32nd Street at Ocean Crest Boulevard.
17. View to southwest through park toward comfort station from Bay 32nd Street.
18. View to northwest from north of handball courts, with Bay 32nd Street at right.
19. View to west from north of handball courts, toward ballfields.
20. View to southwest at entrance opposite Falcon Avenue showing recent park improvements.
21. View to west across park from opposite Dwight Avenue.
22. View to south along shoreline on the west side of the park.
23. View to north along shoreline on the west side of the park.
24. View to east of shoreline on the north side of Norton Basin.
25. View to south behind tennis courts.
26. View to south from east ball field.
27. View to southwest across west ballfield

Appendices

A. Project Plans

B. 1968 Park Plans

C. Soil Boring Data

1. Introduction and Project Information

The New York City Department of Parks and Recreation (DPR), is proposing the reconstruction of Michaelis-Bayswater Park, located on the southeastern coast of Jamaica Bay in Queens, in the Bayswater neighborhood. The project area includes the entire park. The street address is 701 Bay 32nd Street, and tax parcels are Block 15745, Lot 1; Block 15952, Lots 25 and 27; Block 15953, Lots 25, 27, 31, 40, and 43; and Block 15954, Lots 25, 27, 28, 30, 31, 131, 33, 51, and 52. The project area is bounded by Beach Channel Drive, Beach 35th Street, Bay 32nd Street, Dwight Avenue, Norton Avenue, and Norton Basin, comprising approximately 30 acres of land (Figures 1, 2, and 3).

Michaelis-Bayswater Park was built by the city in 1968 and has undergone subsequent additions to the facilities and renovations. The purpose of the present project is to implement resilient design features aimed to mitigate future storm surges and frequent flooding caused by sea level rise and high tides. Actions will include redesign and reconfiguration of many of the existing park amenities. Grading and elevations will be a critical component of the reconstruction. All surfaces of the park and associated wetlands will be graded and clean imported fill will be placed at target elevations. Park surfaces will be laid out and constructed, park features will be added, and planting will occur according to specifications.

See Appendix A for project plans, including topographic survey; removals; layout; and grading. Appendix B contains the park plans from 1968 showing many of the existing features in the most built-up portion of the park.

The primary targets of this project are enhancing the site's ability to resist high frequency flooding, while seamlessly integrating these enhancements with recreational features/spaces.

- Integrating landscape based feature(s) that protect the neighborhood and park from frequent flooding (caused by sea level rise, high tides, and storm surge)
- Improving circulation within the park - as well as between the park and its neighborhood
- Improving how the park sheds stormwater -- through a combination of grading, raingardens, and positive drainage system
- Enhancing the naturalized shoreline by removing invasive species and through stabilizing eroded banks
- Providing accessible paths to the water's edge (a loop path and two boardwalks are proposed)
- Designing the park to function as a 'community' park by providing recreational amenities that appeal to a wide audience and by enabling the site to function as a platform for community events

The secondary targets of this project are enhancing/improving recreational assets. Proposed site-related improvements include the following:

- Reconstructing the natural turf athletic fields and providing a 'loop' path along its perimeter
- Reconstructing an expanded capacity standard comfort station and providing a new Maintenance and Operations facility with fenced 'yard'
- Constructing a kayak launch
- Reconstructing the playground and spray shower
- Reconstructing picnic and seating areas

- Providing safe entry points with welcoming entrances –and improving overall circulation within the park and connections to neighboring street grid – including improving the pedestrian connection between the park's recreational core and the A-train station.
- Providing more seating for passive recreational use
- Reconstructing the tennis courts away from the shoreline edge
- Reconstructing the handball and expanding/reconstructing basketball courts
- Constructing a staging area for the wenger wagon
- Constructing an adult fitness area
- Improving site security by providing clear site-lines into the park from the street/sidewalk
- Improving site drainage
- Restoring important ecological assets -- including maritime beach/dune plantings and wetland plant communities
- Improving all infrastructural elements of the park (upgrading park facilities, and electrical/water service)

As part of their CEQR review process for the project (Project Number 77DPR026Q), the New York City Landmarks Preservation Commission (LPC) has called for preparation of an Archaeological Documentary Study in order to assess the potential for archaeological resources within the project area. Specifically, LPC cited archaeological sensitivity models and historic maps indicating potential for the recovery of remains from Native American occupation and burials on the project site. This report has been prepared in accordance with the with LPC 2018 *Guidelines for Archaeological Work in New York City*.

This report was prepared by Jean E. Howson, Principal Archaeologist, NV5, with the assistance of Leonard G. Bianchi, Principal Archaeologist, and Richard L. Porter, Historian. Jason R. Nargiz prepared the historic maps and overlays.

2. Environmental Information

The project site is located within the Atlantic Coastal Plain physiographic province, consisting of the terminal moraines and outwash deposits beyond the terminus of a large ice sheet that covered a majority of the northern United States approximately 18,000 years ago. The Coastal Plain slopes to the southeast, with the submerged portion, the continental shelf, extending 100 miles offshore. The project area is within the outwash plain subarea and consists of a low sandy plain that extends southward from the Harbor Hill moraine, with deposits of sands and gravels gradually sloping to the sea. The surficial geology of glacial outwash sand and gravel is underlain by the unconsolidated sediments of the Monmouth Group, Matawan Group, and Magothy Formation (for overviews of geology and paleoenvironment, see Boesch 1997; Hayward et. al 2003; Historical Perspectives 2008; MFS 2020).

Conditions were probably tundra-like in western Long island in the period following the glacial retreat after approximately 18,000 years ago. The area was inland, as sea level was as much as 300 feet below that of today. By circa 11,500 years ago, megafauna and caribou would have been hunted by early human arrivals to the area. As the climate came to resemble that of the present and a sea level rose, upland forests and freshwater marshes, along with the developing bay with its salt marshes, provided rich habitats for flora and fauna. Shellfish, including oysters, soft and hard shell clams, scallops, and marine snails, were one of the most important subsistence resources (Boesch 1997; Hayward et al. 2003). The Norton Basin area of Jamaica Bay used to extend through Far Rockaway and connect to what

is now identified as Reynolds Channel through marshland that once encompassed the majority of the project site (MFS 2020). Norton Basin once had extensive subtidal estuarine shallows and intertidal salt marsh habitat. The character of the area was radically altered by extensive dredging associated with the development of the Edgemere Landfill, which now extends into the bay just to the west of the park, beginning in 1938.

The recent evolution of the landform on which Michaelis-Bayswater Park is situated is shown on maps and aerial photographs from the early 19th century through the present time (Figures 4 through 14). The park sits largely on made land. Historically, the project area included a small area of fast land, along its eastern edge, with the remainder lying under the bay or within the marsh.

Soil units currently mapped within the project area (Figure 15) are as follows:

> FoA - Fortress sand, 0 to 3 percent slopes. This unit is mapped along the shoreline portions of the park. The parent material consists of sandy dredge spoils.
>
> MVA - Marinepark-Verrazano complex, 0 to 3 percent slopes. Described as loamy human-transported material over sandy beach sand and/or outwash and/or dredge spoils. This soil unit is mapped as a rectangle within the park interior used for ballfields.
>
> UBAI - Urban land-Bigapple, non-dredge material complex, 0 to 3 percent slopes, low impervious surface. This soil unit is mapped in the eastern, most developed section of the park and likely corresponds to the historic fast land.
>
> UVAI - Urban land-Verrazano complex, 0 to 3 percent slopes, low impervious surface. This soil is mapped along the south edge of the project area along Norton Avenue.

A wetlands delineation was conducted for the park project in December 2018 (Normandeau 2019). Existing upland vegetation cover was identified as mixed forest and shrub, brackish meadow, and old field communities. Wetland cover included low marsh, high marsh, and salt shrub communities as well as areas dominated by the invasive common reed. Mudflats and unvegetated sandy beaches were exposed along the shoreline at low tide. Low marsh was present in the intertidal zone along most of the shoreline in the study area and was vegetated by a monoculture of saltwater cordgrass.

Soil borings and permeability tests were conducted in the park in 2019 as part of a geotechnical engineering study for the proposed improvements (MFS 2020). Four structural borings for the proposed comfort station and maintenance buildings (B-1, B-5, B-9, and B-11); thirteen borings in the vicinity of the proposed playground, sports courts, and other miscellaneous park improvements (B-2 through B-4, B-6 through B-8, B-10, and B-12 through B-17). These borings ranged in depth from 20 to 44 feet. Six green infrastructure borings (GI-1 through GI-6) were also drilled, to depths of 9 feet. Locations of Borings B-1 through B-17 are shown on Figure 16; see Appendix C of this report for detailed maps and the geotechnical boring logs.

The soil layers identified in the borings consisted, from top to bottom, of topsoil or paving; fill; silt (in Boring B-4); peat; clay; and sand. These strata are summarized from the MFS geotechnical report as follows:

Topsoil ranging from 4 inches to 12 inches was encountered in most of the borings. Exceptions were borings B-3 and B-14, where topsoil was absent and fill was found at the surface; and B-13C and B-17, where the surface was paved.

The fill layer across the site was typically fine to coarse sands with varying amounts of gravel, silt, and clay. Trace organics and various debris including asphalt, glass, ceramic, concrete, shells, and rubber fragments were also observed in the fill material. The fill ranged in thickness from approximately 2 feet to 13 feet. In borings B-13A and B-13B, in a playground area, large concrete obstructions were encountered at a depth of 3 feet below existing grade in the fill. (The concrete was likely debris contained in the fill but originally may have been from a structure that once stood in this part of the site.)

In Boring B-4, in a baseball field in the north-central area of the park, a 2.2-foot thick layer of grey silt with fine to medium sand, little clay, and trace organics was identified directly below the fill stratum.

Very soft to stiff peat with varying amounts of fine sands were encountered beneath the fill in borings B-3, B-14, GI-3, and GI-6. The peat layer was interlayered with sand and clay layers, ranging in thickness from 0.7 feet to 2.5 feet, in Borings B-4, B-6, B-12, and B-15.

Very soft to stiff clay with varying amounts of organics, sand, gravel, and shell fragments were encountered directly below the fill strata in borings B-1, B-2, B-16, GI-4, and GI-5. In borings B-4, B- 12, and B-15, the clay/organic clay layers were encountered directly below the peat or silt layers, ranging in thickness from 2.5 feet in boring B-4 to 17 feet in boring B-15. In borings B-5, B-7, B-8, and B-14, the clay/organic clay layers were directly below the uppermost sand strata, ranging in thickness from 0.3 feet to 6.5 feet, and in boring B-1, a second clay layer was encountered below the sand and extended to the termination depth of the boring.

Very loose to very dense fine to coarse sand with varying amounts of gravel, silt, clay, and trace organics was encountered in all borings except GI-1 and GI-3 through GI-6, which were too shallow. Sand appeared directly below the fill in borings B-5 through B-13, B-15, and GI-2, and was below the clay/organic clay and peat layers in borings B-2 through B-4, B-14, and B-16. In Boring B-1, an 18.5-foot thick sand layer was encountered between upper and lower clay layers. Finally, in Boring B-15; a 1-foot thick sand layer lay below the fill strata and a second sand layer was below the clay/organic clay.

The borings and soil data back up the historic map data, showing fill overlying historic marsh and shoreline. Although the pre-fill shoreline was mapped variably, likely depending on whether marsh was differentiated, the section of the park that stands on historic fast land is essentially the easternmost triangle near the intersection of Beach Channel Drive and Bay 32nd Street. Figure 17 shows the shoreline and marsh areas as depicted on the 1899 Coast Survey map, overlain on a current aerial photograph.

Boring B-3, the furthest west of the borings, encountered the peat layer below 11 feet of fill, followed by sand and clay and then another peat layer at 21 feet below the surface. This suggests successive marsh formations.

The easternmost portion of the project area, roughly within the area mapped as fast land and along the near shore, was investigated with the borings shown in Table 1. The area with the shallowest fill is the

most heavily landscaped portion of the park. It is also an area that may have been cut down when the western area was being filled, in the decades prior to the 1968 park construction.

Table 1. Depth of Fill in Eastern Part of the Project Area

Boring	Depth of fill (feet)	Underlain by
B-4	11.33	silt, then clay
B-6	6.00	sand
B-7	4.00	sand
B-13 A, B and C	4.00	sand
B-10	2.00	sand
B-11	2.00	sand
B-9	2.00	sand
B-17	6.00	sand
B-12	6.00	sand, then peat, clay, sand
GI-3	8.42	peat
B-14	4.00	peat, then sand
GI-6	8.67	peat
B-15	8.00	lens of sand, then lens of peat, then clay

3. Previous Surveys and Identified Archaeological Sites

There are no known archaeological sites within the project area. However, the sensitivity survey for Queens conducted by Boesch for the Landmarks Preservation Commission (Boesch 1997) mapped the entire south and eastern shoreline of Jamaica Bay as archaeologically sensitive for precontact sites. In particular, Boesh's site #52 is mapped along the shoreline immediately to the north of Michaelis-Bayswater Park. This site (which Boesch identifies as New York State Museum [NYSM] #4050), is described as a "large shell midden at Bayswater in Far Rockaway on the former property of Judge Healy" with Woodland points and pottery reportedly recovered and a possible burial. The Healy estate is shown on the 1891 Wolverton Atlas (Figure 8)—it actually was located immediately to the east, rather than north, of Michaelis-Bayswater Park. It also should be noted that NYSM site #4050 actually corresponds to Boesch's mapped site #50, which is approximately 1.5 miles to the northeast of the park. NYSM #4050 represents a site recorded vaguely by Arthur C. Parker, who in his 1920 survey of New York archaeology marked the general location as a campsite on his map of Nassau County (Parker 1922: Plate 191 and p. 625).

Boesch cites two sources of information for site #52. Bellot, in his 1917 History of the Rockaways, mentions the Healy property as "the former site of the largest of the shell banks" and goes on to state

that the shell bank "was enormous and must have contained many thousand tons of clam shells. It was located at Bayswater on Judge Healy's property, but was carted away and used for filling in purposes and road making" (Bellot 1917:88, 90). The second source of information is a 1988 interview conducted with a local collector during a Phase IA survey by Historical Perspectives for another project on the Rockaway peninsula: "According to Steve Feldman, an active Indian relic collector, the extreme eastern shore of Jamaica Bay (Bayswater) is still yielding Woodland Period ceramics, projectile points, and a possible burial" (Historical Perspectives 1988:12). Cece Saunders of Historical Perspectives was contacted regarding this 1988 interview, and upon reviewing her notes was able to confirm that this is the only information provided by Mr. Feldman (Saunders, personal communication, 2020).

William Pettit, in his 1901 history of the Rockaways, mentioned a site with artifacts and "seven giant Indian skeletons" in Bayswater (cited in Hayward et al. 2003:4-19). Based on Pettit's description, Hayward et al. place this site east of Westbourne Avenue, approximately 800' north of Michaelis-Bayswater Park.

Early archaeological surveys of New York by Parker (1922), cited above, and Bolton (1920, 1922, 1971) identified sites mainly on the northern and western shores of Jamaica Bay, especially along streams feeding the bay. As noted, Parker also identified a campsite on the east side of the bay, approximately 1.5 miles northeast of the project area.

There have been numerous cultural resource management archaeological surveys in and near the project area. The closest, adjacent to and partially within Michaelis-Bayswater Park, was a Phase I survey conducted by Louis Berger & Associates in 1992 and 1994 for the Liberty Pipeline Project. It included an alignment along Beach Channel Drive and Bay 32nd Street along the perimeter of the park, as well as a small triangular (50' by 100') work station within the park itself, at the intersection of Beach Channel Drive and Beach 35th Street. The Phase IA report noted that this work station was the site of a 15'-square office building with a surrounding porch (shown on the 1912 Sanborn insurance map), which was subsequently replaced by a dwelling (shown on the 1933 Sanborn). The Phase IA also noted that the pipeline alignment in Beach Channel Drive passed near several outbuildings associated with the 19th-20th-century Norton house. These historic properties are discussed in Section 4 below.

The Liberty Pipeline Phase IA recommended field reconnaissance and Phase IB testing in areas found to be sensitive for archaeological resources. The 1994 report of Phase IB investigations was not included in the digital report collection of the Landmarks Preservation Commission at the time of this writing, nor was it available from the New York Office of Parks, Recreation, and Historic Preservation on CRIS. Inquiries were made to the firm that conducted the study (Luhman, personal communication, 2020). The report has been archived by that firm and was not accessible due to the COVID 19 shutdown. Likewise, other possible repositories were closed during the time of the present survey. The report therefore has not been reviewed. A later study noted that the Berger studies did not identify any new archaeological sites (Historical Perspectives 2018). The Berger Project Manager, Jonathan Lothrop (now at the New York State Museum) recalls a recommendation for no further work following the IB (Lothrop, personal communication, 2020). It is not known whether any testing was conducted within or adjacent to the present project area.

The Historical Perspectives (1988) Phase IA survey cited for Boesch site #52 (see above) was performed for a U.S. Truck Body site on the north shore of the Rockaway Penninsula 2 miles west of Michaelis-

Bayswater Park. The survey concluded that the physical and environmental resources of the location were not sufficient to support a habitation site, and the marshy setting would not have provided a likely shellfish processing site. The authors note that the environmental conditions on the peninsula were less attractive for habitation, far less fertile and protected, than conditions on the northern and eastern shores of Jamaica Bay (Historical Perspectives 1988:25). As noted above, the survey cited a local collector who mentioned a woodland site and possible burial on the extreme eastern shore, presumably in the vicinity of the Healy property adjacent to Michaelis Bayswater Park.

The Arverne area, located south and west of Michaelis-Bayswater Park on the ocean side of the Rockaway Penninsula, was addressed in another early survey by Historical Perspectives (1989). The survey concluded that the post-glacial barrier beach would have been an unlikely location for precontact habitation or resource procurement that would result in archaeological deposits, and in fact no in-situ precontact sites are known for the area.

Historical Perspectives (2008) also completed a Phase IA survey for a sewer outfall at Chandler Street, located just under a mile to the northeast of Michaelis-Bayswater Park. The conclusions of that survey are pertinent to the present project, as they address a setting very similar to that covering the majority of Michaelis-Bayswater Park land, the portion that sits on fill:

> …the pre-2Oth-century APE was a somewhat inhospitable environment, basically an area of periodically inundated mudflats and marshes, with the mouth of a creek at its center….the APE was given a rating of VERY LOW potential for hosting a precontact shell midden. Although a large shell midden once existed about 4,500 feet west of the APE [this is the one that presumably was on the former Healy property], the pre-fill APE environment was unlike that location or other documented precontact shell middens. Furthermore, there is no visible evidence of a shell midden in the deeply eroded sections of APE.
>
> In addition, the Precontact Era discussion concluded that there is also a VERY LOW potential for deeply buried precontact archaeological remains submerged below the water table. Since ca. 2,000 years ago, sea levels have risen approximately 14 feet, creating the tidal mudflats, marsh, and creek mouth which existed on the pre-2Oth-centuly APE. Although it is certain that the environment of the APE and its vicinity was altered with the post-glacial sea level rise, whether or not the APE would have been an attractive location for human occupation and exploitation is purely speculative and cannot be determined with any level of certainty (Historical Perspectives 2008:12).

A fourth survey by Historical Perspectives (2018) covered an area of downtown Far Rockaway a half-mile to the east of Michaelis-Bayswater Park. The project involved design and reconstruction of streets and sidewalks and utilities installation. Because the project area was not along a waterway and had undergone extensive prior disturbance, the survey concluded that it had no remaining archaeological sensitivity.

Panamerican Consultants (Hayward et al. 2003, 2006) conducted a Phase IA survey and subsequent Phase IB testing covering several locations for the Jamaica Bay Ecosystem Restoration Project. The IA provided a general paleoenvironmental assessment for the area (see Section 2 above). One of the locations subjected to testing was in Bayswater State Park, located north of the present project area at Motts Point. The Phase 1A survey found this location to be sensitive based on the previously recorded finds of precontact remains in the vicinity and the environmental setting with uplands adjacent to filled

former marshlands—a similar setting to that of Michaelis-Bayswater Park—which may have been attractive for resource procurement campsites. The Motts Point location was considered to have potential for sub-marsh prehistoric sites and submerged historic sites as well. Testing or monitoring of upland and filled marshland locations was recommended. Upland locations were avoided, but Phase IB testing, reported in 2006, was conducted in order to address the potential for sub-marsh precontact resources. Mechanical trenching to depths of 6 to 9 feet was used to expose marsh deposits "in the form of organic peats and below-fill culturally sterile clays, fine silts, and coarse sand horizons" (Hayward et al. 2006:3-1). Five such trenches were excavated at Bayswater State Park, and a surface survey of the shoreline was also conducted. The trenches failed to recover any material from the organic or sand deposits beneath the fill layers, and the surface survey identified only remnants of 20th-century seawall, bulkhead, and pilings.

In 2011, JMA conducted an Archaeological Overview and Assessment of the Gateway National Recreation Area Jamaica Bay Unit (Baldwin et al. 2011). This study included locations immediately to the west of the present project area and discussed the overall environmental setting and current state of archaeological research. The report notes that early 20th-century surveys identified precontact sites on tidal creeks and streams within the Jamaica Bay Unit. However, the general assessment is summarized as follows:

> Beginning with railroad and other construction in the late 1800s and accelerating after 1900, dredging, channeling, and landfilling dramatically transformed the islands, hassocks, and marshes of Jamaica Bay. …[T]he extensive construction, dredging and landfilling activities that occurred throughout the bay prior to 1960 have probably obliterated the vast majority of its prehistoric and historic archeological sites. The possibility exists that former land surfaces have survived beneath the landfills or waters in certain areas (Baldwin et al. 2011:i).

The JMA conclusion as to shoreline resources is most pertinent to the present evaluation of Michaelis-Bayswater Park—like the Panamerican study for Bayswater State Park, the JMA study for the Jamaica Bay Unit pointed to the potential for precontact sites buried beneath landfill:

> The current shoreline configuration of Jamaica Bay has a low probability of containing prehistoric sites. The previously reported sites within the Jamaica Bay Unit are likely buried beneath feet of fill deposited on the islands and in surrounding marsh areas. There is, however, the potential for archeological sites beneath filled in marshy areas. The nature of the development of a marsh involves the landward upward shoreline transgression of vegetation and that movement may have buried sites previously situated along the shoreline.
>
> It is the opinion of JMA that buried/inundated archeological sites may be present along the old shorelines of the existing islands, and in areas where former streams were located.

4. Historic Background

Precontact Period

What is now coastal New York was inhabited by Native Americans for thousands of years, from the Paleoindian Period through and including the time of settlement by Europeans beginning in the 17th century. The following brief summary is based on Boesch's 1997 overview of Queens and pertinent

synopses in previous archaeological survey reports (Historical Perspectives 2008; Hayward et al. 2003; Baldwin et al. 2011). Based on paleoenvironmental and archaeological data, the earliest arrivals, about 12,000 years ago, probably lived in small nomadic bands, gathering plant resources and hunting caribou and megafauna on the inland, tundra-like lands that are now coastal due to ensuing sea level rise. Paleoindian occupation of what is now New York City is known mainly from surface finds on Staten Island. There have also been finds in Suffolk and Nassau Counties. A fluted point was recovered in Bayside, Queens (written mistakenly as "Bayswater" in Boesch 1997, but actually on land overlooking Little Neck Bay on the north shore of Queens; see note in Historical Perspectives 2008:6). Another fluted point was found at the Wilkins Site, also near the north shore of Queens (near Powell's Cove) (Boesch et al. 2000). It is thought that PaleoIndian sites in the greater New York area were submerged as sea levels rose. In the ensuing Archaic Period, from about 10,000 years ago to about 3,700 years ago, sea level continued to rise, probably continuing to inundate traces of habitation from the Early and Middle Archaic. The climate gradually came to resemble that of the historic period (by about 4,000 years ago), and flora and fauna that people could depend on for food became more varied. Archaic inhabitants of the Middle Atlantic region hunted deer and turkeys and utilized the plants associated with deciduous forests of oak, hickory, chestnut, beech, and elm. Swamps and mud flats formed, providing environments for waterfowl and shellfish. Plant processing and woodworking artifacts are found at Archaic sites in the region, and site types include fishing and hunting camps, rock shelters, shellfish collecting and processing stations, quarries and lithic workshop sites, mortuary sites, and semi-permanent villages.

The Woodland Period, from about 3,700 to 500 years ago, is represented by more sites in coastal New York compared to earlier periods. Woodland peoples were increasingly sedentary, with permanent or semi-permanent villages (usually located on the second terrace above water along streams and bays) as well as temporary campsites inland. They hunted deer, turkey, raccoon, muskrat, birds and waterfowl, fished, and processed enormous quantities of shellfish. Domestication of plants probably occurred in the Middle Woodland, and by the Late Woodland horticulture was part of the subsistence base, though its relative importance is debated. Pottery was adopted in the Early Woodland, with ceramic vessels gradually replacing the steatite bowls of the Archaic.

Contact, Colonial and Federal Periods

When historical accounts began, the general area of southwestern Long Island was occupied by Munsee-dialect speakers of the broader group of Delaware (or Lenape) Indians. The name Rockaway comes from *Rackeaway* or *Rahawacke*, "sandy place" (Grumet 1981:41). *Rechqua Akie* was the main settlement of the Rockaway Indian subgroup. Grumet places this village in Far Rockaway, and Historical Perspectives suggests that the village may correspond to the NYSM site #4050 recorded by Parker, but Bolton places Rechqua Akie at present-day Rockville Center or Near Rockaway, and Thompson's History of Long Island also states that the greater part of the Rockaway Indian population was at Near Rockaway (Thompson 1839; Bolton 1922:313-314; Grumet 1981:47; Historical Perspectives 2018:6). The name "Near Rockaway" was changed in 1869 to East Rockaway.[1] Though no villages are documented near the project area, shell heaps were formerly located along the eastern shore of Jamaica Bay in Bayswater just north and east of Michaelis-Bayswater Park, as noted in Section 3.

[1] To confuse matters, at least one historic map, a coast survey from 1861, labels the center of Far Rockaway as "Near Rockaway," apparently in error.

Bellot, in his History of the Rockaways (1917), notes that a 1642 meeting at which Native American sachems met with Dutch leaders to complain of grievances took place "in the woods near Rockaway" — this is apparently the first mention in historical records of the area. Violence ensued when no agreement was reached, but the Indians convinced Dutchmen David DeVries and Jacob Olfertsen to come out to Rockaway for another meeting in the spring of 1643. The Dutch representatives reported that they saw 300 people living there in 30 wigwams, and that the chief hosted them overnight, regaling them with oysters and fish. Relations were apparently calmer during the late 1640s through the end of the Dutch period (Bellot 1917:9), and settlement of what is now Queens and Hempstead would increase greatly during the English colonial period. The Rockaway Indians paid an annual rent of 5 bushels of winter wheat to the English governor for occupancy of the Rockaway peninsula, but they sold their interest in the land to John Palmer in 1685. This sale included the present project area. Governor Dongan confirmed the sale, and though the town of Hempstead disputed it, Palmer secured his title and sold 8,000 acres to Richard Cornell in 1687. Portions of the property were sold off in tracts to other early Queens and Long Island families over the course of the 18th century, and in 1809 sixteen of Richard Cornell's great-grandsons partitioned the remaining 2,000 acres into 46 lots (Bellot 1917:20).

The Norton Period

A number of the subdivided Cornell properties were acquired by the very well-connected John L. Norton (1774-1854) of Hempstead in 1830. Norton was the first to recognize and promote the Rockaways as a summer resort, and following the Cholera epidemic of 1832 he was instrumental in establishing the Rockaway Association and their construction of the Marine Pavilion, a fine hotel on the Atlantic shore (Supreme Court Appellate Division – Second Department 1896; Bellot 1917:83). Norton's own house was located northwest of the Pavilion, immediately adjacent to the southeast side of the present project area. The Norton house and the Marine Pavilion are both shown on the 1835 U.S. Coast Survey Map of the south shore of Long Island (Renard 1835) (Figure 4).

Samuel R.B. Norton, John L. Norton's son, came to own large landholdings in Far Rockaway, and in 1842 he placed them under the control of a trust acting in the interest of his wife Ann Norton (1807-1892) (Queens County Deed 57 164). Samuel Norton was listed in the U.S. Census of New York in 1840 and again in 1850 and 1860, when he was identified as a farmer in the Town of Hempstead along with Ann and their son Franklin (14 years old in 1850) (US Census of NY 1840, 1850, 1860). The "S. Norton" house was shown on the 1852 map of Kings and Queens Counties (Conner 1852) (Figure 6). In 1862 Ann Norton was given full title to the family's lands, which, having apparently been resurveyed, were described as including a 54-acre farm on Jamaica Bay (Queens County Deeds 195 45 and 48). Samuel and Ann were both listed as residents of Hemptstead in the 1870 census, and their house was depicted on the Beers map of 1873 (Figure 7) (US Census of New York 1870; Beers 1873). Samuel R.B. Norton died intestate in 1877 (Queens County Letter of Administration O 108).

Franklin C. Norton (1838-1915) was a large landowner and one of the leading developers of Far Rockaway. The Norton house was listed as belonging to "F. Norton" on the 1891 Wolverton Atlas of Queens County (Figure 8). The house sat just across Beach Channel Drive from present-day Michaelis-Bayswater Park, to the west of Bay 32nd Street. In 1894, the other Norton heirs conveyed to Franklin C. Norton their rights to several properties, including the tract of land on which the house stood, bounded on the southeast by the railroad, northeast by Bay 32nd Street (to a point "between Ocean Crest Boulevard and Falcon Ave.," which was then the shoreline of Jamaica Bay), northwest by the Bay, and

southwest by Norton's Creek (Queens County Deed 968 169). Franklin [C.] Norton was listed as a "Landlord" on Channel Avenue (now Bay 32nd Street) in Queens in the US Census of New York for 1900. The 1901 and 1907 atlases of Queens (Ullitz 1901, 1907) showed that he had a hotel on his property, with outbuildings to the rear extending into the project area (Figure 10a). The house itself had likely been expanded and converted into the hotel. The 1901 Sanborn-Perris Map labels the hotel as occupied by a caretaker. There was no development of the property that lay to the west of Norton Creek, presently the southern portion of Michaelis-Bayswater Park, as of 1907 (Figure 10b).

By 1909, the hotel was named the Ashton, still owned by Norton (Bromley and Bromley 1909). Additional buildings were shown to the rear of the hotel. Within the present park boundary, the Sanborn map of 1912 shows the "Edgemere Boat Wks." on the north side of Norton Basin, in the location of an outbuilding that had been shown on the 1909 map. One newspaper citation has been found for the boat works, from November 1911, when the Brooklyn Daily Eagle announced the christening and launch of a "power yacht" from the works, presumably built on site. An office building stood at the far south end of the present park at the intersection of Beach Channel Drive and Beach 35th Street in 1912 (this building was noted in the Berger 1992 Liberty Pipeline Phase IA survey cited above) (Sanborn Map Company 1912). Both the boat works and the office stood on presumed Norton property. Franklin C. Norton, died in 1915 (Queens County Will 99 214; "Franklin C. Norton Dies" 1915).

The Queens atlas of 1919 and the insurance map of 1922 (Ullitz 1919; Sanborn Map Company 1912/1922) show the Ashton House, with numerous outbuildings to the rear, including the boat works (Figure 11). On the latter map, the hotel is at center right, and the Edgemere Boat Works is at the upper left. Several houses had been built within the project area by 1922, one across from Ocean Avenue (now Falcon Avenue) and a cluster of five at the north end of Beach 35th Street. A row of stores stood within the southern end the project area at the intersection of Far Rockaway Boulevard (Beach Channel Drive) and Beach 35th Street. A photograph of "The Ashton" from this time period is reproduced in Figure 18. The hotel would be demolished in the late 1920s.

The City Park Period

Michaelis-Bayswater Park was 40 years in the making. In 1925, the City of New York had asserted that it owned the property on which the park now sits as part of the shore lands transferred to the City by the State. The Best Renting Company, however, having purchased the property by that year, also claimed it. The New York State Court of appeals, in a 1928 ruling that cited the original 17th-century grant to Palmer, upheld private ownership of the waterfront, and therefore ruled that the property belonged to the private owners (New York City Department of Parks and Recreation n.d).

> Having lost its claim to the property, the City bought the initial 15.4 acres from the Best Renting Company on October 14, 1931, for $120,000 and transferred the land to [the Parks Department] on the same day. Of that, 11.4 acres were underwater. Although workers cleared the site, facilities remained meager. The park offered only a stretch of waterfront and a backstop for baseball -- the infield and outfield were non-existent.

Aerial photographs document filling over time to create the larger land area occupied by the park of today. The 1924 photograph (Figure 12) shows that by that time substantial filling had taken placed in the former marshlands in the northern half of the park. It is likely this massive filling was preparatory to which forms the north boundary of the park (Sanborn Map Company 1912/1922). The streets and lots

anticipated residential development and extension of the street grid westward. The 1922 insurance map shows paper streets and housing lots laid out to the north and south of the alignment of Dwight Street, within the park were never developed, and in fact the marshland covering the northeast corner of the park would remain unfilled until the 1960s.

The 1954 aerial photograph (Figure 13) shows the development that had occurred on the lots on the south side of Norton Basin between 1924 and mid-century, especially along Beach 38th Street and Beach 36th Street. Almost all of the houses would be demolished between 1966 and 1980, as shown on subsequent aerials (Environmental Planning and Management 2019).

The 1954 aerial also shows rows of structures in the northern part of the park. These appear to have been removed by 1962, when the next aerial photograph was flown (Environmental Planning and Management 2019). These structures are here tentatively identified as pre-fabricated military Quonset huts, semicircular in cross section based on the shadows visible in the aerial (New York City Housing Authority 2009; Schulz 2017). The huts were probably brought here as part of a post-war veterans housing program proposed by Robert Moses:

> When veterans returned to NYC from WWII, they were met with a Depression-era housing shortage that resulted from a nearly 15-year lack of new development. To immediately address the issue, "master builder" Robert Moses (who by this time was reigning over the city's public housing projects) proposed erecting Quonset huts on vacant land in Brooklyn and Queens. These curved, corrugated steel "shacks" were used in the Pacific as barracks and offices, as they were lightweight and quick and easy to assemble. …the city agreed to use more than 500 Federal surplus huts as temporary public housing on land along the Belt Parkway in the South Brooklyn neighborhoods of Canarsie and Jamaica Bay, as well as in Jackson Heights, Middle Village, and Corona in Queens. Moses' idea, however, did not go according to plan. The huts took longer than expected to arrive and builders were unaware of the work involved of retrofitting them as living spaces. Veterans were not happy with the conditions, complaining of a lack of heat in the winter (despite the potbellied stoves that were installed in the living rooms) and leaks (Schulz 2017).

However, four roughly circular patterns located to the south of the huts (and apparently within the facility's perimeter fence) may be the bases of communications towers, suggesting that the facility may have served a purpose other than simply veterans housing. A building, possibly an office or storage building, that appears to have been built on slab stood adjacent to the east of the Quonset huts. Soil borings (B-3 and B-4) conducted in the area of the Quonset facility indicate fill here extending to a depth of 11 feet, underlain by silt (see Appendix C).

After removal of the Quonset huts and communication towers, a road appears to have followed the perimeter of the area where they had stood. This area of the present-day park may have been in use as a staging area for the substantial landfilling that was taking place immediately adjacent to the west and north. The rectangular slab from the 1950s building on the site is still apparent in the 1966 aerial (Figure 14).

A number of houses were built along the streets that extended into the southern portion of the present park by the mid-20th century, as shown on the 1954 and 1966 aerials. Most of these would be demolished by 1980.

The City expanded the park and substantially upgraded the recreational facilities in the late 1960s. The new park was named to honor community member Jules Michaelis, who had been instrumental in the development (New York City Department of Parks and Recreation n.d.). 1968 park plans are included in Appendix B of this report. Subsequent refurbishment took place in 1996, and most recently a 2017 renovation included a skate park built on the site of a former hockey rink in the northern part of the park along Bay 32nd Street as well as a renovated entrance and plaza area next to the skate park; game tables; and new seating, bike racks, and plantings. Infrastructure serving park facilities includes buried sewer, electric, and water lines.

5. Field Reconnaissance

A field visit was conducted by Leonard G. Bianchi and Jean Howson on May 22, 2020 (see Photographs 1 through 21; additional Photographs 22 through 26 from a 2018 reconnaissance were provided by the design team). The main focus of field reconnaissance was to examine conditions in the portion of the park that was represented as fast land on early maps, as this is considered the most sensitive area for both precontact and early historic period resources. The flat, filled land in the northernmost, western, and southernmost parts of the park (see Photographs 7, 9, 10, 19, 21, and 25 through 27) were considered unlikely to have visible indications of what would likely be deeply buried former surfaces. The entire shoreline was not walked. The portions of shoreline that were observed were strewn with small pieces of modern debris.

The New York City Department of Parks and Recreation (2018) Michaelis-Bayswater Park South Salt Marsh Restoration Project is under way along the south shore of Norton Basin (Photographs 1 through 3; Figure 19). That project has involved removal of debris and invasive plants, minimal grading, planting of native low marsh and high marsh species, and provision for continued informal public access in the form of a natural surface trail (CEQR #18DPR004Q).

The park area within the historically-mapped fast land is heavily landscaped and contains numerous concrete structures such as walls, steps, pools, fountains, and a sprinkler feature (Photographs 11 through 18, 20). Markers and manholes for numerous utility lines cross this portion of the interior of the park. The perimeter areas near the easternmost corner of the park present an undulating landscape, which was created in 1968. Planting beds are maintained within this area. Numerous mature trees that appear to date from that period, which are to be preserved, are also present within this area, and along the walkways further into the interior.

In addition to buried park utility lines (water, storm and sanitary sewer, electrical), a 108”x48” sewer line in a 39-foot wide DEP access corridor runs through the park from the Falcon Street entrance to an outfall on the north side of Norton Basin. The sewer line was installed in conjunction with the 1968 park rebuild. Gas, sewer, and water lines run beneath sidewalks and streets surrounding the park.

No surface indications of archaeological resources relating to either precontact occupation or the 19th-century Norton occupation were observed. Debris along the shore may relate to the 20th-century boat works on the Norton property (Photograph 24). In general, artifacts scattered on the surface in the filled areas and along the shoreline indicate the fill that is known to be present from the historic maps and borings data. For example, a surface scatter of bottle glass, ceramics, and construction material (brick, concrete, and window glass) was noted in the area of Photographs 6 and 7, just east of the concrete

headwall at the east end of Norton Basin. The material, characteristic of a landfill deposit, was within the corridor of a large culvert that extends from the east end of the Norton Basin shoreline to Beach Channel Drive. The pre-fill channel was known as Norton's Creek.

6. Assessment of Archaeological Potential

Precontact period resources

The potential for encountering intact precontact period archaeological resources within the project area is considered to be low due to the history of the landform, which is largely filled-in former marsh; and historic-period disturbances, mainly from park construction within the area that was mapped historically as fast land. This former upland is discussed first.

The location of Michaelis-Bayswater Park, and in particular that portion of the park that was mapped historically as fast land, would have been attractive for precontact occupation. It contains dry land overlooking the marshes bordering Jamaica Bay, and was near a historically-documented Contact Period village, probably located further inland. Prior to the inundation of the eastern shores of the bay and formation of the marshes that were present historically, dry land may have extended across the entire footprint of the park.

The easternmost, fast-land portion of Michaelis-Bayswater Park has undergone extensive landscaping and disturbances from installation of various hardscape features and construction of park facilities and infrastructure. Even before the 1968 park construction, beginning in the 1920s, filling took place over most of the present park property. In that period, the upland portion may have been cut down, although no documentary evidence of such action has been found.

The 1968 park design included significant cutting and filling as well as construction involving subsurface disturbances (see plan sheets in Appendix B). Not all of the features depicted on the 1968 plans are extant – the northern concrete step feature, for example, was either never built or was replaced in a later renovation. The field reconnaissance confirmed the artificial landscape around the perimeter of the main facilities, with mounds and planting beds creating an undulating effect. Mature trees now stand within these areas. The hardscape is substantial and includes concrete walls, pavements, a large stepped feature, and pools and fountains, most dating to the 1968 park or to later renovations. The comfort station stands on the west side of the former fast-land area.

It is also important to note that as early as 1830, historic development began on the small area of upland within the present-day park, as discussed in Section 4 above and in the following section on historic period archaeological potential. Removal of shell middens is likely, and the Nortons' use of their property would have centered on the best-drained ground just north of the house, including for possible early, unmapped outbuildings. Thus, long before the city acquired the land and began altering the landscape, there would have been disturbances to the high ground and possibly to traces of earlier occupation.

Plans for the reconstruction of the park in this area include removal of the above-grade portions of concrete walls, of paving and concrete steps and curbs, and of the comfort station. New features will include completely redesigned playground and picnic areas, which are to have a less robust environmental profile. Soil removal will typically be to depths of no more than 2 feet, however, and in

many locations filling will occur. Most mature trees are to be preserved. As an example, Figure 20 shows existing and proposed plans for a central part of the playground area. Note that elevations overall will change little in this intensively regraded area.

Turning to the filled marsh and bay areas that lie north, west, and south of the former upland area, any traces of occupation would be buried beneath both fill and former marsh strata. The depth of fill along the water on the north side of Norton Basin is 6 to 8 feet (Borings 8 and 16). As noted in Section 2, the furthest west of the borings (Boring 3) encountered the peat layer below 11 feet of fill, followed by sand and clay and then another peat layer at 21 feet below the surface, suggesting successive marsh formations. The marsh areas outlined on Figure 17 are those that were mapped in 1899 (Figure 9). Earlier topographic maps (see Figures 4 and 5) show different configurations, and this is not only a matter of cartography but likely reflects the fact that marsh and shoreline did shift and continue to shift over time.

As discussed in Section 3 above, two previous archaeological assessments of Jamaica Bay by Panamerican Consultants and JMA (Hayward et al. 2003, 2006; Baldwin et al. 2011) suggested that testing or monitoring would be appropriate where potential exists for archaeological deposits that were inundated, covered by marsh and later filled. Consideration was therefore given to possible testing at Michaelis-Bayswater Park. The testing conducted at Bayswater State Park by Panamerican in 2006 failed to identify any archaeological resources, and though visibility in the test trenches was hampered it is most likely that no remains were in fact present beneath the marsh and fill. A third archaeological study, for a shoreline site in Far Rockaway (Historical Perspectives 2008) assessed potential as very low for "an area of periodically inundated mudflats and marshes" similar to the entire western, northern, and southern portions of Michaelis-Bayswater Park. Although the presence of archaeological deposits in the filled area dating from before the Woodland Period is possible, proposed project actions are unlikely to penetrate to depths that would encounter such deposits. The proposed loop path will not penetrate the fill. The pilings for the two boardwalks will extend into the fill and may penetrate it, but are unlikely to disturb deposits lying beneath the former marsh stratum.

In summary, based on the preceding discussion, although the location may well have been attractive for precontact (or contact-period) Native American habitation or resource procurement, the potential for precontact archaeological resources is assessed as very low throughout the Area of Potential Effect (APE) within Michaelis-Bayswater Park. This is because the planned subsurface actions will impact either formerly disturbed locations or layers of fill and former marsh.

Historic period resources

The historic archaeological sensitivity of the park would be associated with the Norton period. The post-World War II use of the grounds for apparent veterans housing, while fascinating, would be better studied through oral history with children who may have lived in the Quonset homes and documentary research. As noted in Section 4, John L. Norton probably built his house circa 1830. It stood adjacent to the present-day park on its southeast side, in the location of the Beach Channel Shopping Center across Beach Channel Drive. The park covers the land just to the north and west of the house. The orientation of the original house is not known – it may have faced west toward the bay. The first map that shows it on a road is the 1873 Beers Atlas (Figure 7), and by that time it probably faced the road, with the rear grounds extending into the present park. Archaeological resources associated with the Norton residence

may have been extant to the north of the house, but shaft features such as privies likely would not have been more than 100 feet from the dwelling, possibly sited beneath the wide roadway of present-day Beach Channel Drive but not within the present park itself. If the house once faced toward the bay, the area to its north probably would have been landscaped, possibly cultivated or used for formal gardens. When the Norton house faced south, it is possible this area contained gardens, barns, sheds, or other outbuildings. In the 20th century, three sheds, a garage, and a boat house associated with the Norton House/Ashton Hotel were sited within the area of the park that are now covered by tennis courts, paved walks, grass and shoreline vegetation. These structures were apparently built after this location, originally swampy based on topographic maps, was stabilized with fill soil sometime between 1907 and 1912.

As noted above, the area north of the Norton house within the park may have been cut down when the adjacent marsh was being filled in the early 20th century. Such actions, along with the construction and subsequent demolition of the Nortons' 20th-century sheds, garage, and boathouse, are likely to have disturbed evidence of the earlier historic period. Important information is not likely to be gleaned from buried debris from the demolition of the 20th-century structures. Later, the construction of Michaelis-Bayswater Park in 1968 entailed additional ground disturbance, again affecting any buried deposits from the 19th century.

It is very likely that remains associated with the Edgemere Boat Works, which was established on the north side of Norton Basin circa 1909, are extant—some concrete debris visible on the surface may be from the boat works. However, again, such remains are not considered likely to provide significant new information on local history, though further documentary research might be productive.

In summary, though remnants of 20th-century structures are likely to be extant below ground within portions of the park, the potential for intact deposits representing the earlier Norton occupation, dating to 1830, is considered very low. This is due both to the distance of the main dwelling (and associated shaft features) from the park grounds, and to subsequent subsurface disturbances that would have disturbed more ephemeral archaeological evidence that could address important questions about how the Nortons used the grounds surrounding their house over time.

7. Recommendations

The information compiled for this Archaeological Documentary Study indicates a potential for precontact or contact-period Native American use of the project area, and shows that the location was part of a historic period estate developed by John L. Norton in circa 1830. However, due to a record of 20th century subsurface disturbance, the fact that much of the park is built on fill, and a limited vertical APE, it is concluded that the proposed reconstruction of Michaelis-Bayswater Park is unlikely to impact intact archaeological resources associated with either period of occupation. No archaeological testing is recommended.

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FIGURES

Figure 1. Project location shown on U.S.G.S. Far Rockaway and Lawrence, NY Quadrangles (2019).

Figure 2. Project location shown on street map.

Figure 3. Project location shown on aerial photograph (Nearmap image).

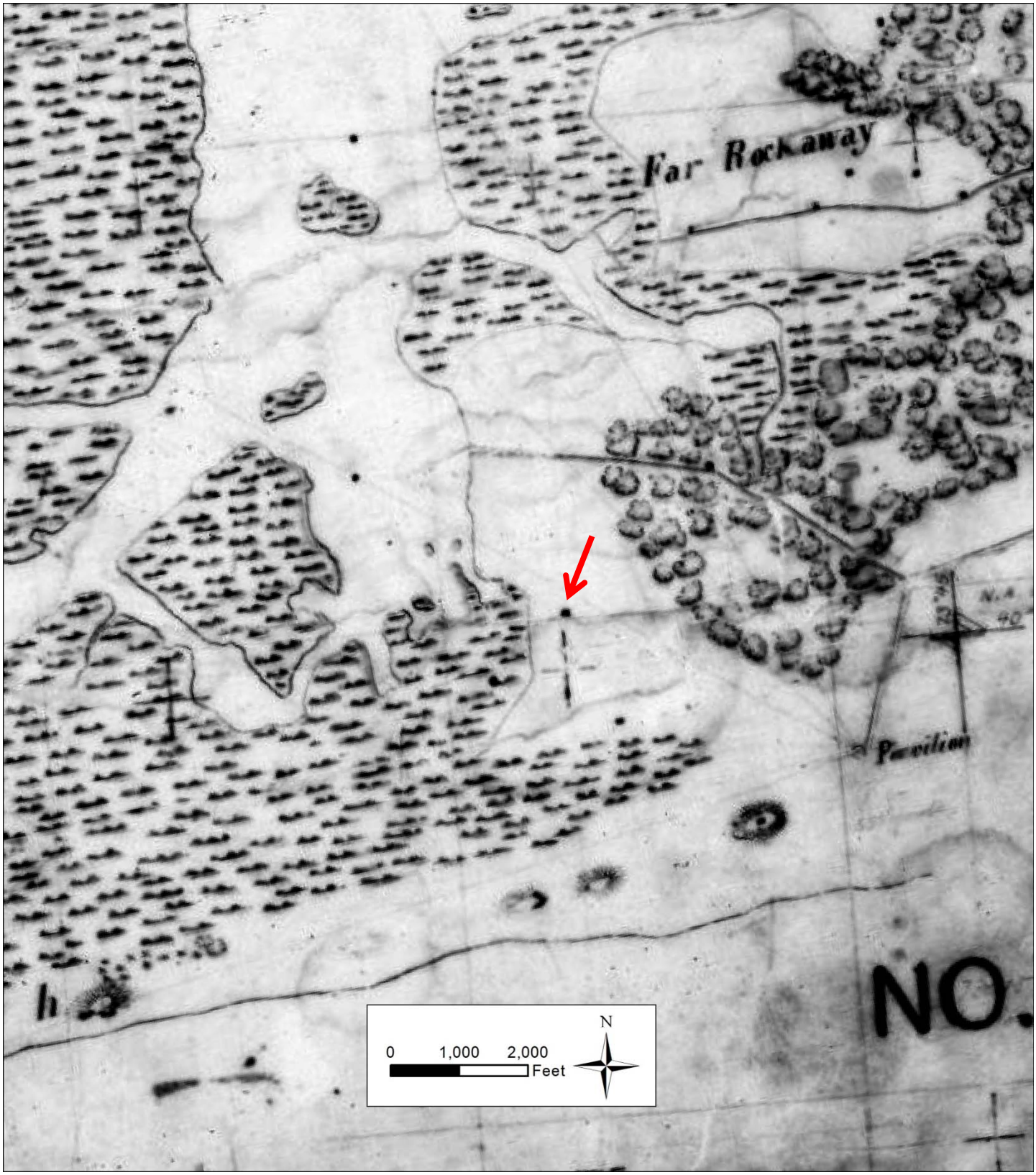


Figure 4. Detail from the 1835 Coast Survey (Renard 1835). The arrow points to the Northon house.

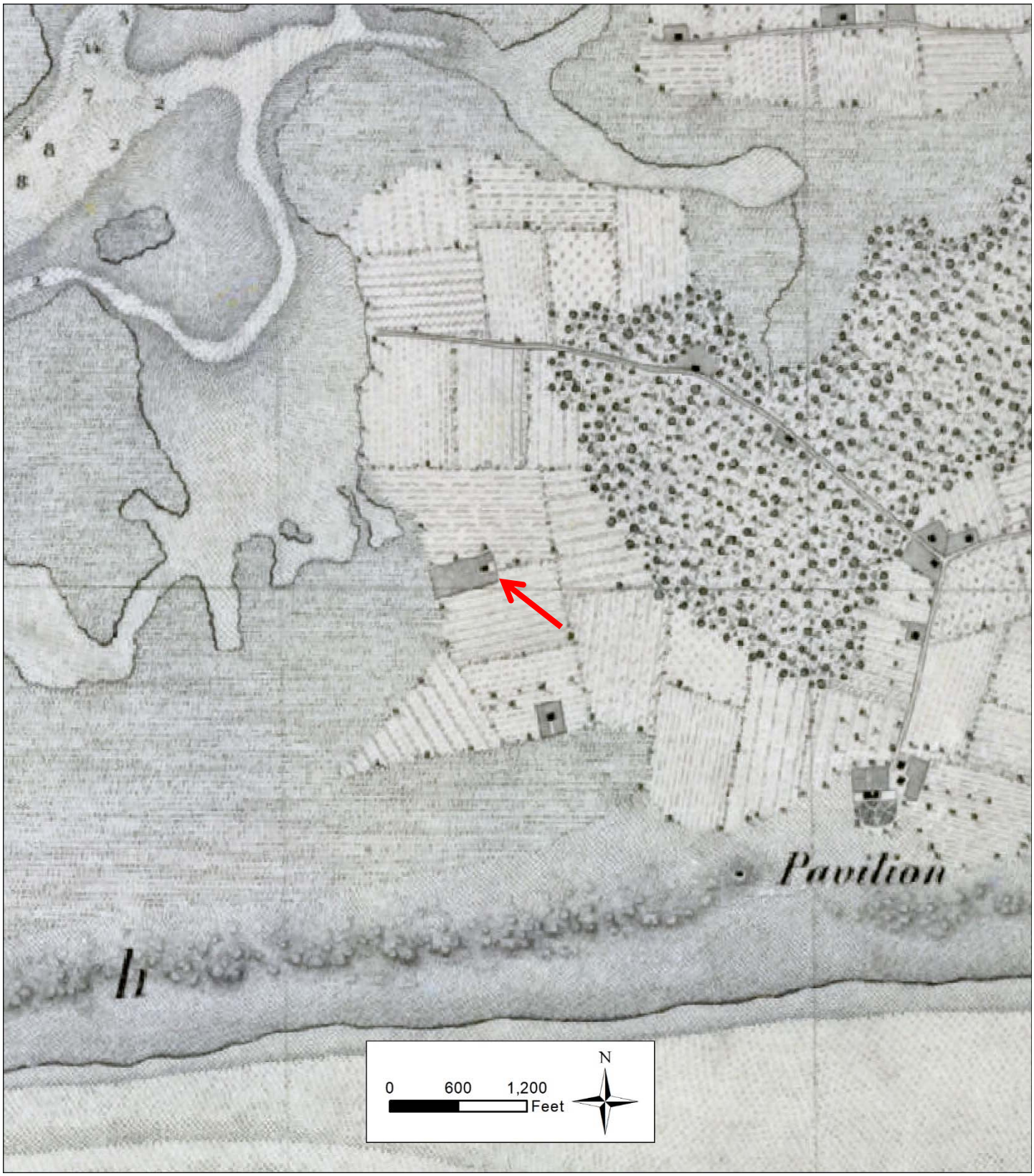


Figure 5. Detail from the 1845 Hassler map. The arrow points to the Norton house.

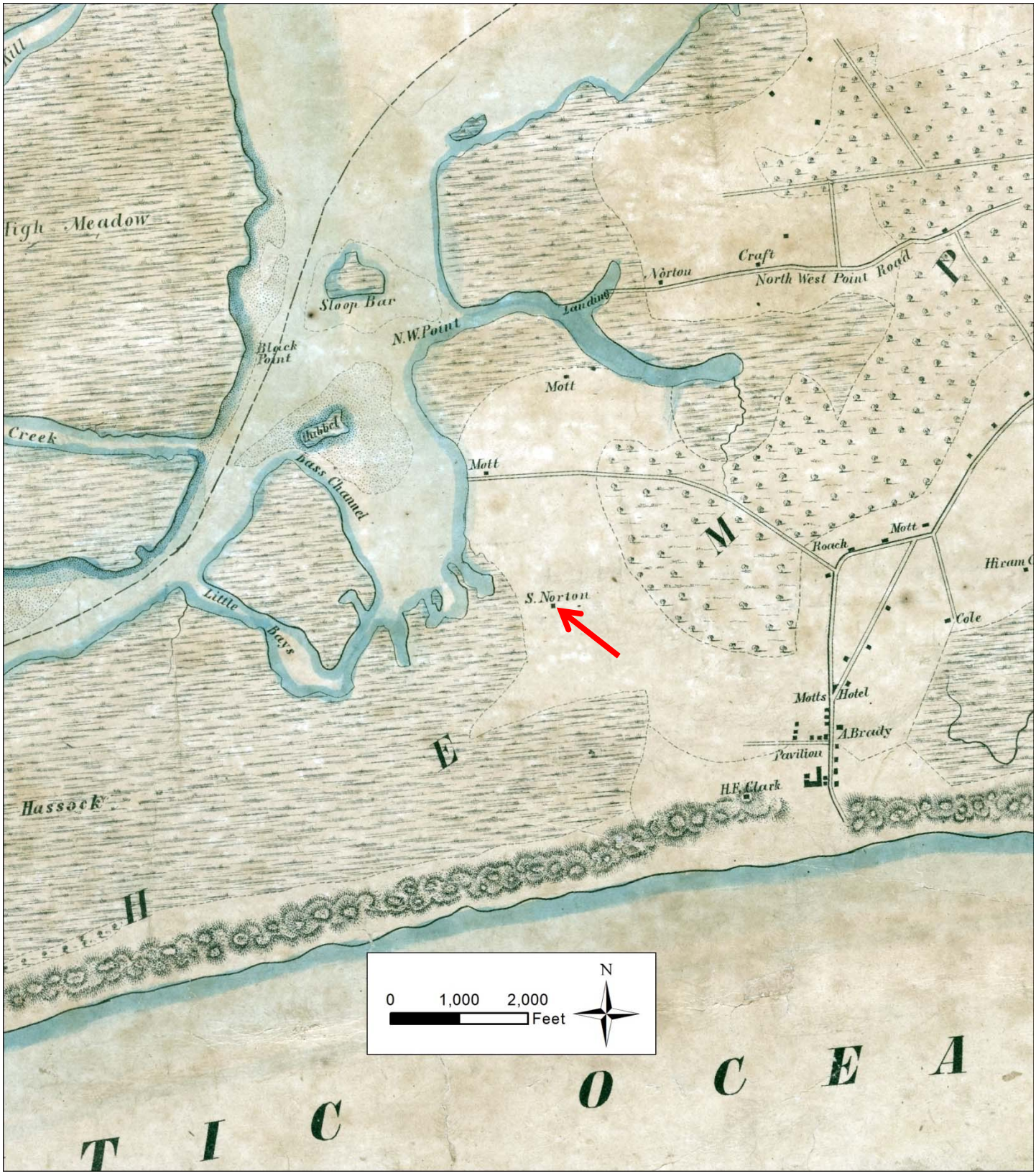


Figure 6. Detail from the 1852 Conner map. The arrow points to the Norton house.

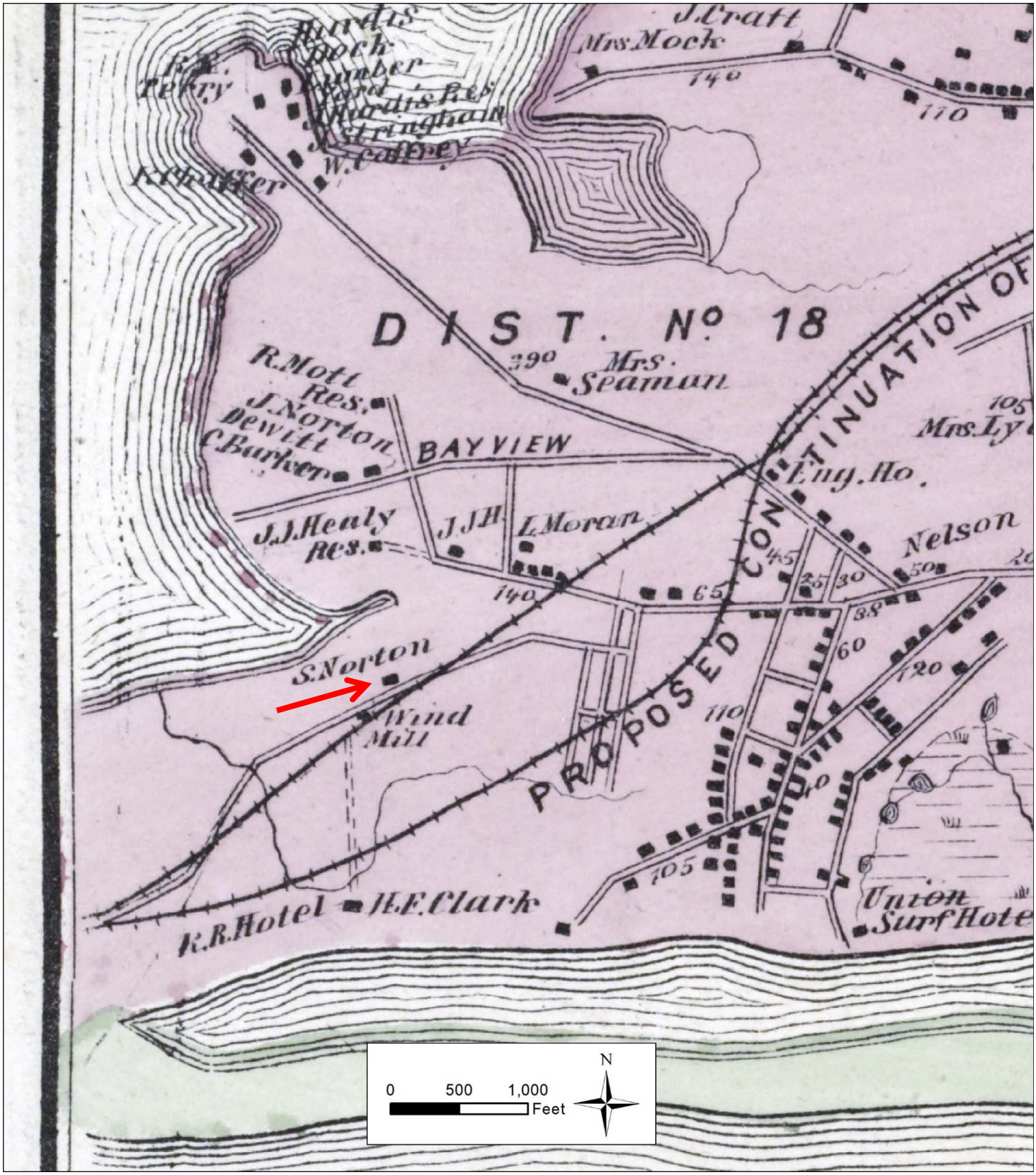


Figure 7. Detail from the 1873 Beers Atlas. The arrow points to the Norton house. Note Judge Healy's house to its north.

Figure 8. Detail from the 1891 Wolverton Atlas, with project area outlined in red.

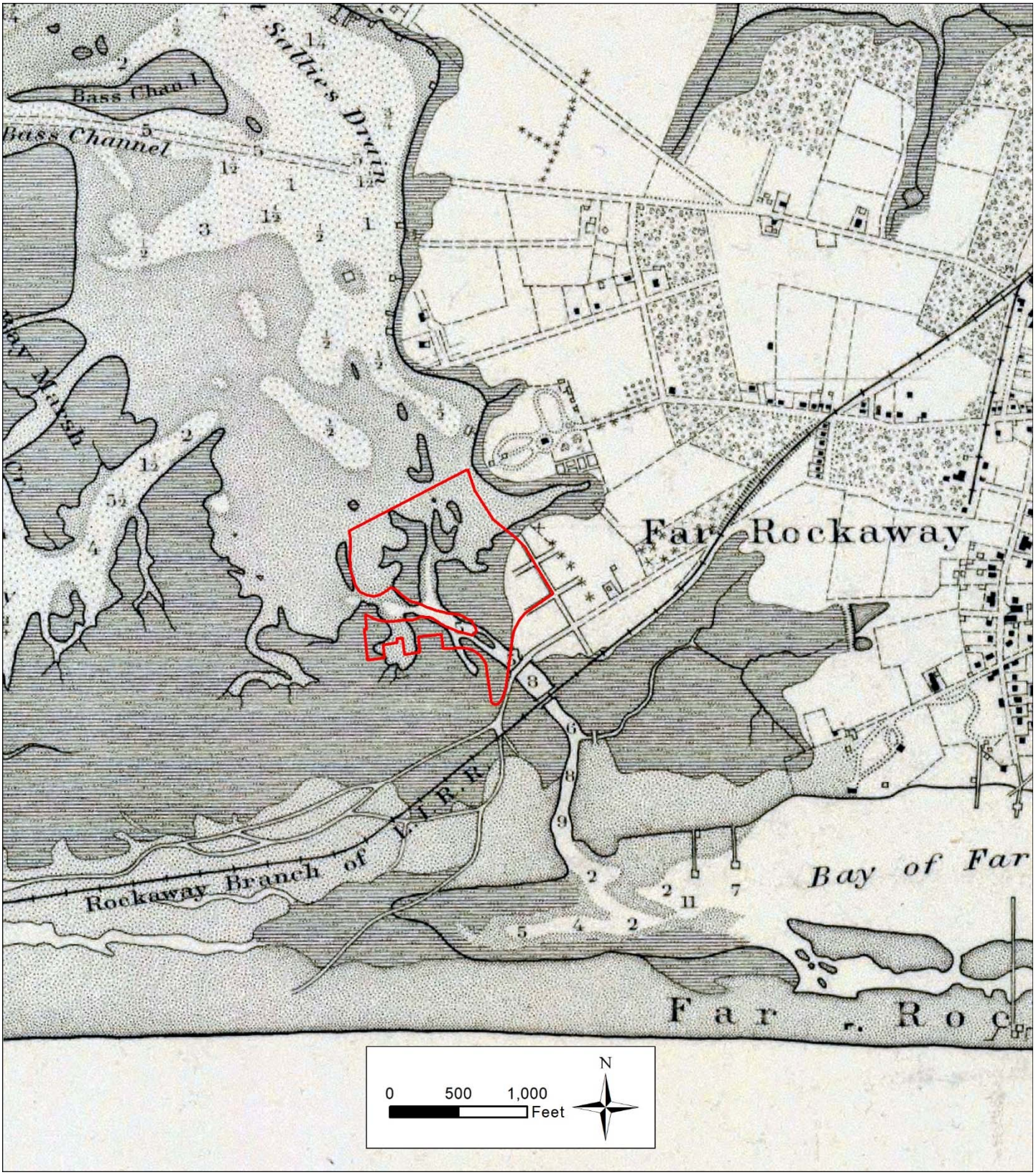


Figure 9. Detail from the 1899 U.S. Coast Survey. The project area is outlined in red. The Norton house is not shown, although it was standing at the time of this survey.

Figure 10a. Detail from 1907 Atlas of Queens (Ullitz 1907). The project area boundary is shown in red.

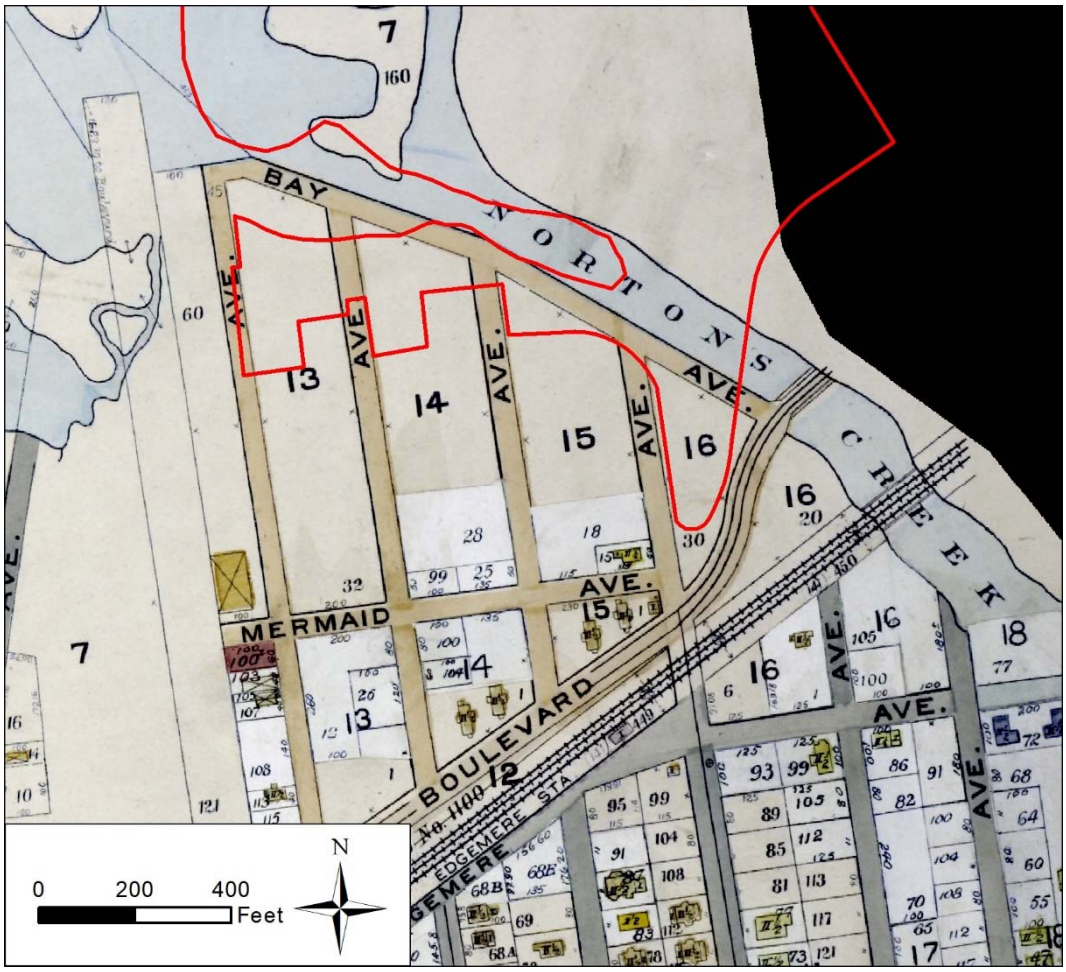


Figure 10b. Detail from 1907 Atlas of Queens (Ullitz 1907). The project area boundary is shown in red.

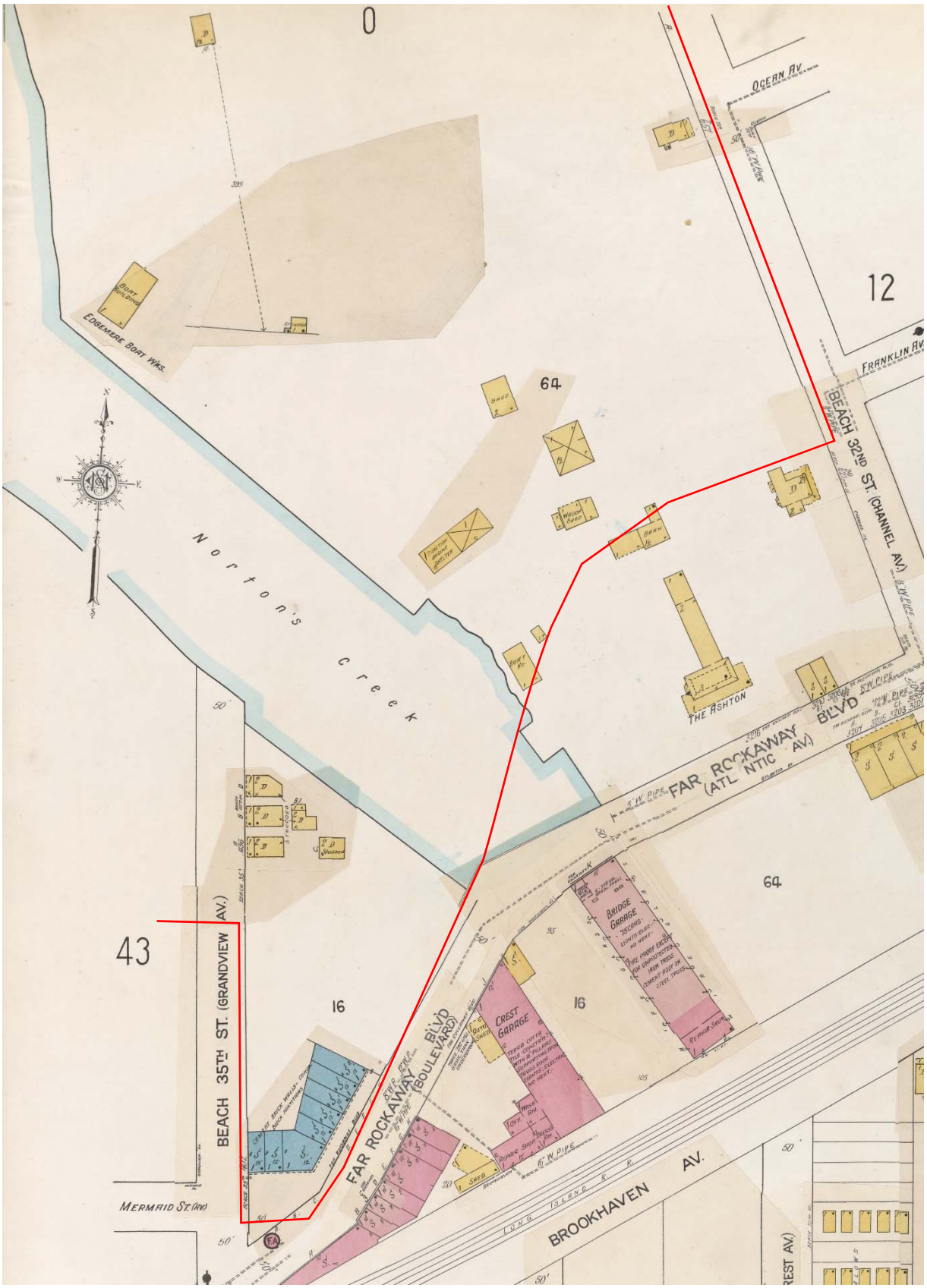


Figure 11. 1922 Sanborn Insurance Map, updated from 1912. The project area boundary is shown in red.

Figure 12. 1924 aerial photograph, with project area outlined in red.

Figure 13. 1954 aerial photograph, with project area outlined in red.

Figure 14. 1966 aerial photograph, with project area outlined in red.

Figure 15. Project Area Soils. Source: Web Soil Survey 2020.

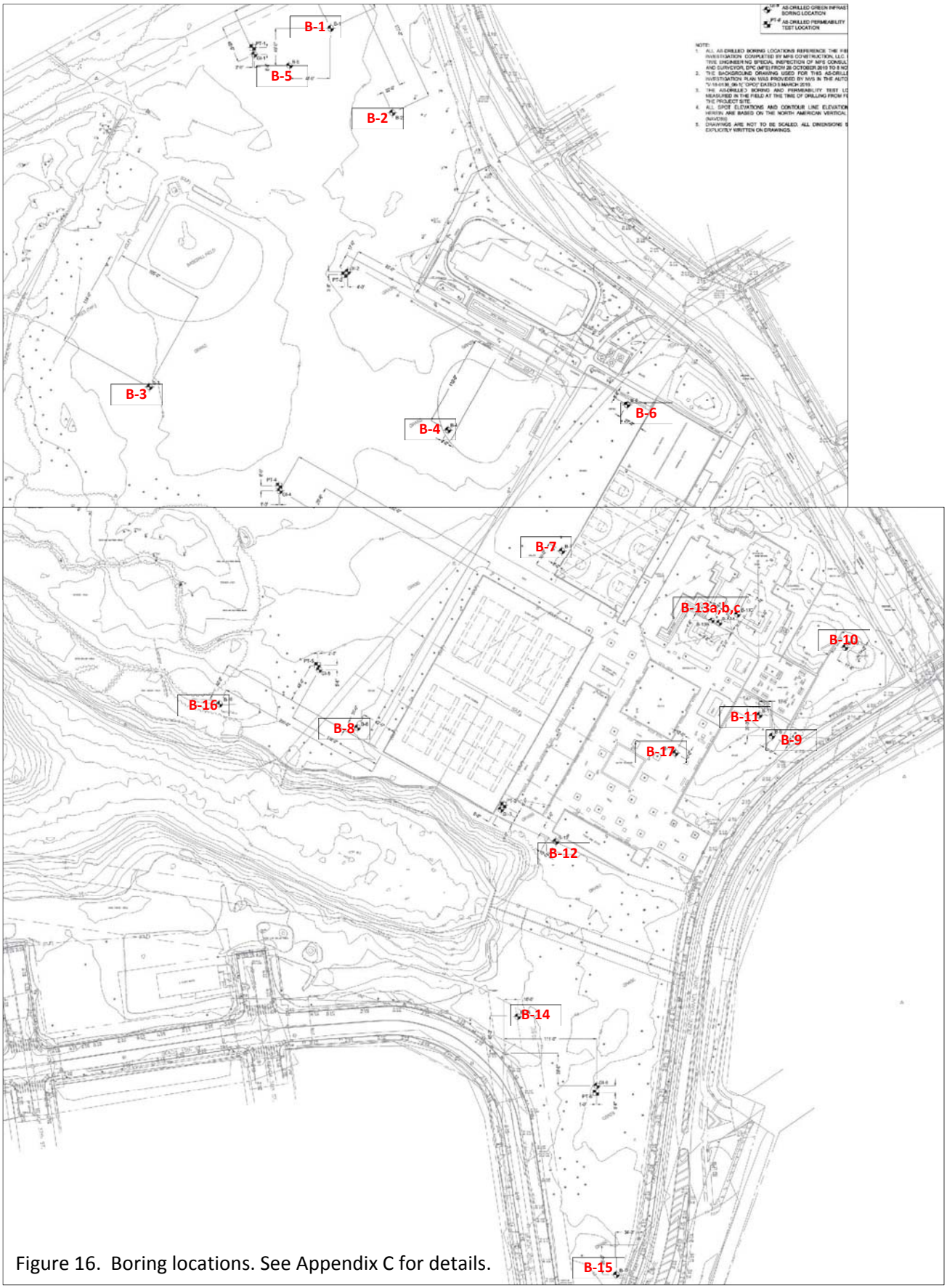


Figure 16. Boring locations. See Appendix C for details.

Figure 17. Shoreline and marshlands as shown on the 1899 coast survey overlain on a current aerial photograph. The irregular marshy areas outlined in green and the channels between them would have shifted over time. The channel of Norton's Creek can be seen extending southeast from present-day Norton's Basin. It is now in culvert through the southern portion of Michaelis-Bayswater Park.

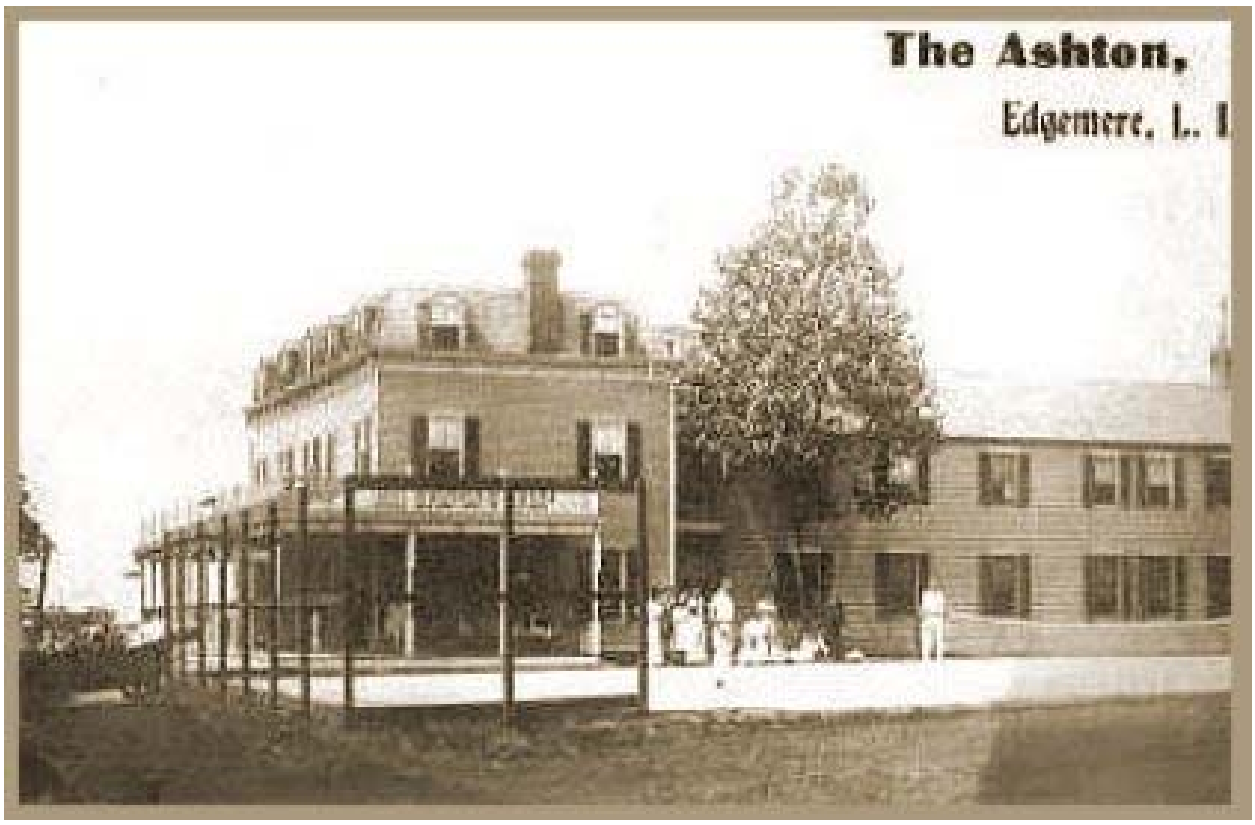


Figure 18. Postcard of the Ashton Hotel circa 1920. Farrockaway.com.

Figure 19. Map showing the area of the Michaelis-Bayswater Park South Salt Marsh Restoration Project, 2017.

Figure 20. Comparison of existing and proposed play area. Details from topographic plan and Playground Grading Plan Enlargement, Plan Sheet L408.

PHOTOGRAPHS

Key to photograph locations.

Photograph 1. View to northwest from north end of Beach 37th Street. May 2020.

Photograph 2. View to northwest from north end of Beach 36th Street. May 2020.

Photograph 3. View to east-northeast at north end of Beach 36th Street. May 2020.

Photograph 4. View to north across basin showing fill profile in Michaelis-Bayswater Park. May 2020.

Photograph 5. View to west-northwest up the basin. May 2020.

Photograph 6. View to south toward Norton Avenue – note manhole covers. May 2020.

Photograph 7. View to south, section of park between Beach Channel Drive and Beach 35th Street. May 2020.

Photograph 8. View to northeast in Michaelis-Bayswater Park. May 2020.

Photograph 9. View to northwest toward tennis courts. May 2020.

Photograph 10. View to northeast with comfort station at left in the background. May 2020.

Photograph 11. View to northwest, with concrete wall at right and comfort station in background. May 2020.

Photograph 12. View to north of paved playground. Sculptures and sprinkler feature are in the background.

Photograph 13. View to west from corner of park at Beach Channel Drive and Bay 32nd Street. Note landscaping feature at right. May 2020.

Photograph 14. View to southwest showing concrete walls and picnic area. May 2020.

Photograph 15. View to southeast from sidewalk along Bay 32nd Street showing undulating landscape, part of the 1968 design. May 2020.

Photograph 16. View to south along Bay 32nd Street at Ocean Crest Boulevard., May 2020.

Photograph 17. View to southwest through park toward comfort station from Bay 32nd Street. May 2020.

Photograph 18. View to northwest from north of handball courts, with Bay 32nd Street at right. May 2020.

Photograqph 19. View to west from north of handball courts, toward ballfields. May 2020.

Photograph 20. View to southwest at entrance opposite Falcon Avenue showing recent park improvements. May 2020.

Photograph 21. View to west across park from opposite Dwight Avenue. May 2020.

Photograph 22. View to south along shoreline on the west side of the park. December 2018.

Photograph 23. View to north along shoreline on the west side of the park. December 2018.

Photograph 24. View to east of shoreline on the north side of Norton Basin. December 2018.

Photograph 25. View to south behind tennis courts. October 2018.

Photograph 26. View to south from east ball field. October 2018.

Photograph 27. View to southwest across west ballfield. October 2018.

APPENDICES

APPENDIX A

Project Plans

PROJECT LOCATION

SITE LOCATION MAP N.T.S.

N

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS - CORONA PARK
FLUSHING, NEW YORK 11368

NYC Parks

NANCY PRINCE, RLA, ASLA CHIEF OF LANDSCAPE ARCHITECTURE DATE

THÉRÈSE BRADDICK DEPUTY COMMISSIONER DATE

MITCHELL J. SILVER, FAICP, HON. ASLA COMMISSIONER DATE

04/16/2020
80% SET
AS SUBMITTED TO PARKS

CONTRACT DRAWINGS FOR

RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE

BOROUGH OF QUEENS
CONTRACT NO. Q007-120M

LIST OF DRAWINGS

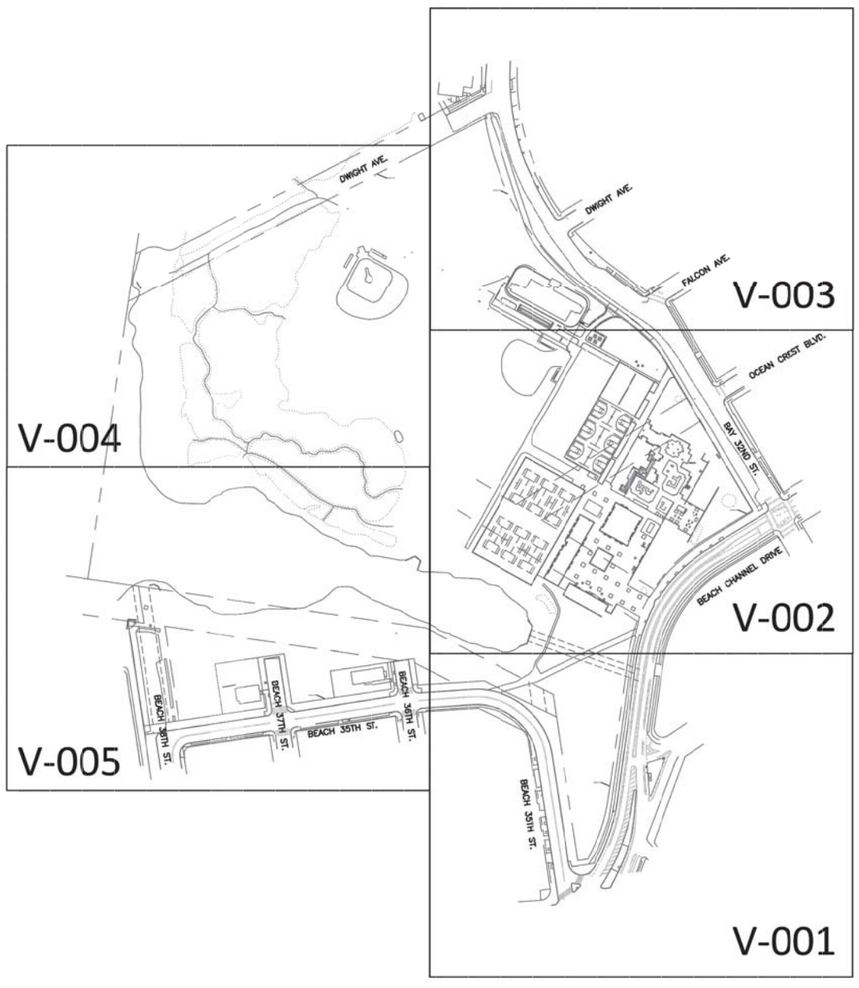
SEE SHEET 2

LIST OF STANDARD DETAIL SHEETS APPLICABLE BUT NOT INCLUDED

SHEET TITLE	DET. SHEET NO.	REV. DATE
CONSTRUCTION SIGN	TYLA /146-R9 - #1	05/07/2018
DRAINAGE DETAILS - No. 1	TYLA /146-R9 - #2	05/07/2018
DRAINAGE DETAILS - No. 2	TYLA /146-R9 - #3	05/07/2018
STORMWATER MANAGEMENT DETAILS	TYLA /146-R9 - #4	05/07/2018
PARKS LEAF MANHOLE AND CATCH BASIN COVERS	TYLA /146-R9 - #5	05/07/2018
WATER SUPPLY DETAILS - NO 2	TYLA /146-R9 - #7	05/07/2018
DRINKING FOUNTIAN - TYPE F	TYLA /146-R9 - #13	05/07/2018
BOTTLE FILLER	TYLA /146-R9 - #14	05/07/2018
PAVEMENT DETAILS - NO 1	TYLA /146-R9 - #15	05/07/2018
PAVEMENT DETAILS - NO 2	TYLA /146-R9 - #16	05/07/2018
CURBS AND PIERS	TYLA /146-R9 - #17	05/07/2018
FLAGPOLE FOUNDATION	TYLA /146-R9 - #20	05/07/2018
CONCRETE AND STEEL GAME TABLE	TYLA /146-R9 - #21	05/07/2018
GAME TABLE LAYOUT AND BIKE RACK	TYLA /146-R9 - #22	05/07/2018
BENCH, 1964 WORLD'S FAIR	TYLA /146-R9 - #27	05/07/2018
PICNIC TABLE - FIXED	TYLA /146-R9 - #28	05/07/2018
CHAIN LINK FENCE - DETAILS	TYLA /146-R9 - #29	05/07/2018
CHAIN LINK FENCE - SINGLE GATE	TYLA /146-R9 - #31	05/07/2018
STEEL FENCE DETAILS	TYLA /146-R9 - #33	05/07/2018
2'-6" HT. / 3'-0" HT. STEEL FENCE & WICKET FENCE	TYLA /146-R9 - #34	05/07/2018
4'-0" HT. STEEL FENCE	TYLA /146-R9 - #35	05/07/2018
STEEL GUIDE RAIL - BOLLARD DETAILS	TYLA /146-R9 - #38	05/07/2018
TIMBER BARRIER RAIL - BOLLARD DETAILS	TYLA /146-R9 - #39	05/07/2018
HOODED BASEBALL BACKSTOP	TYLA /146-R9 - #40	05/07/2018
ATHLETIC FIELD DETAILS	TYLA /146-R9 - #41	05/07/2018
BALLFIELD LAYOUTS - NATURAL TURF	TYLA /146-R9 - #42	05/07/2018
BALLFIELD DETAILS	TYLA /146-R9 - #43	05/07/2018
BASKETBALL BACKBOARD - POLYCARBONATE	TYLA /146-R9 - #44A	05/07/2018
BASKETBALL BACKSTOP - DOUBLE POST	TYLA /146-R9 - #45	05/07/2018
BASKETBALL COURT LAYOUTS	TYLA /146-R9 - #45A	05/07/2018
TENNIS COURT LAYOUT AND DETAILS	TYLA /146-R9 - #47	05/07/2018
HANDBALL COURT AND BACKSTOP DETAILS	TYLA /146-R9 - #48	05/07/2018

SHEET TITLE	DET. SHEET NO.	REV. DATE
PLAY SWING - 10'-0" HIGH	TYLA /146-R9 - #54	05/07/2018
SWING - 8'-0" HIGH	TYLA /146-R9 - #55	05/07/2018
SAFETY SURFACING DETAILS	TYLA /146-R9 - #57	05/07/2018
PLANTING DETAILS	TYLA /146-R9 - #58	05/07/2018
TREE PROTECTION AND SEDIMENT CONTROL	TYLA /146-R9 - #59	05/07/2018
HANDBALL COURT AND BACKSTOP DETAILS	TYLA /146-R9 - #48	05/07/2018

Q007-120M



SURVEY KEY SHEET

UTILITY NOTES

NV5 USED FIELD SURVEY INFORMATION, EXISTING UTILITY MAPS, VISUAL, & AUDIBLE INSPECTION TO LOCATE AND IDENTIFY SURFACE EVIDENCE OF THE UNDERGROUND UTILITIES DEPICTED ON THIS PLAN. THIS SURVEY IS IN ACCORDANCE WITH ASCE STANDARDS; IT CONSTITUTES AN ASCE LEVEL C SURVEY. NV5 MAKES NO GUARANTEES THAT THE DEPICTED UNDERGROUND UTILITIES INCLUDE ALL THE UTILITIES IN THE AREA, EITHER OPERATIONAL OR ABANDONED. FURTHER, THE SURVEYOR DOES NOT WARRANT THAT THE DEPICTED UNDERGROUND UTILITIES ARE IN THE EXACT LOCATION INDICATED, THOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AND TECHNIQUES AVAILABLE. UNLESS OTHERWISE NOTED, THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF EXCAVATION BY CALLING 811, THE NATIONAL "CALL-BEFORE-YOU-DIG" NUMBER.

IN THE FIELD, NV5 REPRESENTS SURFACE EVIDENCE OF UNDERGROUND UTILITIES WITH COLORS THAT CORRESPOND TO THE APWA COLOR CODES. ALTHOUGH THIS PLAN IS IN B&W, THE NOTES BELOW INDICATE THE APWA COLOR CODES.

U0. UTILITY MARKOUT: NO TICKET PLACED

U1. ELECTRIC LINES, E.G. POWER LINES, CABLES, CONDUIT, LIGHTING AND OVERHEAD LINES, WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- PSEG LONG ISLAND VILLAGE EDGEMERE, TOWN QUEENS MAP NO. 01011, DATED 07/21/2015.

U2. FUEL LINES, E.G. GAS, OIL AND STEAM, WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- NATIONAL GRID PROVIDED DISTRIBUTION PLOTS.

U3. COMMUNICATION LINES , E.G. SIGNALS CABLE, CATV, FDNY AND TELEPHONE, WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- THERE WAS NO PLAINLY-VISIBLE EVIDENCE OF COMMUNICATION LINES OUTSIDE OF THE ELECTRIC CONDUITS.

U4. WATER LINES, E.G. POTABLE WATER, WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- NYCDEP WATER MAPPING MAP PRINTED 8/10/2018.

U5. OTHER WATER LINES, E.G. RECLAIMED WATER, IRRIGATION AND SLURRY, WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- U6.DRAINAGE LINE, E.G. SANITARY SEWER STORM SEWER, COMBINED SEWER AND INTERCEPTOR LINE, WERE GENERATED FROM THE FOLLOWING DOCUMENTS & METHODS:
- NYCDEP SEWER MAPPING MAP PRINTED 8/10/2018.
- FINAL MAP OF STORM SEWER AND APPURTENANCES IN BEACH CHANNEL DRIVE AND FALCON AVENUE MAP DATED 9/14/1977.
- INSPECT REPORT FROM NATIONAL WATER MAIN CLEANING CO. SUBMITTED ON 5/24/2019. 928 BROAD ST. UTICA, NY 13501

U7. TRANSIT LINES WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- THE PROJECT AREA IS MORE THAN 250 FROM KNOWN NYCTA FACILITIES, RIGHTS-OF-WAY, AND/OR TRACKS.

U8. TUNNELS WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- THERE IS NO EVIDENCE OF ANY TUNNELS IN THE PROJECT AREA.

U9. MISCELLANEOUS STRUCTURES WERE GENERATED FROM THE FOLLOWING DOCUMENTS:

- THERE WAS NO PLAINLY-VISIBLE EVIDENCE OF SUBSURFACE STRUCTURES OR TANKS.

U10. MISCELLANEOUS UTILITY NOTES:

- UTILITY INFORMATION IN SKATE PARK AREA FROM SURVEY PROVIDED BY THE CITY OF NEW YORK PARKS AND RECREATION "THE RECONSTRUCTION OF MICHAELIS BAYSWATER PARK, LOCATED AT BAY 32ND STREET BETWEEN BEACH CHANNEL DRIVE AND DWIGHT AVENUE, BOROUGH OF QUEENS" DATED 12/23/15. SURVEY DATE 11/19/15.

GENERAL NOTES

THIS SURVEY IS BASED UPON FIELD INVESTIGATIONS AND SURVEYS CONDUCTED BY NV5 ENDING ON APRIL 16TH, 2019 BY AND/OR UNDER THE DIRECT SUPERVISION OF THE SIGNED LICENSED SURVEYOR.

1. THE HORIZONTAL DATUM IS THE NORTH AMERICAN DATUM OF 1983 (CORS - EPOCH 2011) -- NAD83(2011) THE PROJECTION IS NEW YORK - LONG ISLAND (3104).
2. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. THE NYC DOB WILL ONLY ACCEPT SURVEYS IN THE NAVD88 FOR APPLICATIONS MADE AFTER JAN 6TH, 2014 AS PER LOCAL LAW 96/13. AT THIS LOCATION NAVD88 = QBHD +1.620
4. PROJECT CONTROL WAS DETERMINED USING LEICA DUAL-FREQUENCY GPS RECEIVERS ON MAY 8TH, 2018 FROM RTK CORRECTIONS VIA LEICASMARTNET. STARNET 9.0 WAS THE SOFTWARE USED TO SIMULTANEOUSLY ADJUST GPS VALUES WITH CONVENTIONAL MEASUREMENTS IN LEAST-SQUARES SOLUTION. GEOID12B WAS THE MODEL USED TO DETERMINE LOCAL GEOID SEPARATION VALUES. THE REFERENCE MONUMENTS WERE:
   a. NYBK (RTCM #54) CORS ESTABLISHED BY SMARTNET NORTH AMERICA AND ADJUSTED BY NGS.
   - N 40° 42' 12.32106
   - W 73° 58'44.25939"
   - NAVD88 ORTHOMETRIC HEIGHT: -15.224
5. ALL UNITS SHOWN HEREON ARE US SURVEY FEET, IN WHOLE OR DECIMAL VALUES. 1 METER = 39.37/12 SURVEY FEET

REFERENCE DOCUMENTS

V. FINAL MAP OF THE BOROUGH OF QUEENS; SECTION 22B; DATED JULY 15TH, 1925
VI. MAP NO 2015 DATED JULY 14TH 1959;
VII. MAP NO 4929 DATED MARCH 19TH, 1998

TRUE NORTH

ABBREVIATIONS

CF	CONSTRUCTION FENCE
CLF	CHAIN LINK FENCE
PRF	PIPE RAIL FENCE
SPF	STEEL PICKET FENCE
GR	GUIDE RAIL
WIF	WROUGHT IRON FENCE
CC	CONCRETE CURB
GC	GRANITE CURB
AS	ASPHALT CURB
TC	TOP OF CURB
BC	BOTTOM OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TS	TOP OF STAIR
BS	BOTTOM OF STAIR
(R)	AS PER RECORD
CONC	CONCRETE
RET	RETAINING

LINETYPE LEGEND

- RAILROAD
- FENCE POST
- WOOD BEAM RAIL
- POWER RAIL
- VINYL FENCE
- ROAD GUIDE RAIL
- (F) — FUEL LINE
- FO — FIBER OPTIC LINE
- (C) — COMMUNICATION LINE (UNKNOWN)
- FIRE — FIRE COMMUNICATION LINE
- FLM — FLAGGED LOW MARSH LINE
- FHM — FLAGGED HIGH MARSH LINE
- MLM — MAPPED LOW MARSH
- MHM — MAPPED HIGH MARSH
- HLM — HISTORIC LOW MARSH
- HHM — HISTORIC HIGH MARSH
- MHHW — MEAN HIGH HIGH WATER LINE
- MHW — MEAN HIGH WATER
- MLW — MEAN LOW WATER LINE
- MLLW — MEAN LOW LOW WATER LINE
- MSL — MEAN SEA LEVEL
- VEGETATION BOUNDARY/HEDGE LINE
- JERSEY BARRIER
- PIPE HAND RAIL
- PIPE HAND RAIL
- (7' SPF) — STEEL PICKET FENCE 7'-0"
- (5.5' SPF) — STEEL PICKET FENCE 5'-6"
- (4' SPF) — STEEL PICKET FENCE 4'-0"
- (2.5' SPF) — STEEL PICKET FENCE 2'-6"
- (20' CLF) — CHAIN LINK FENCE 20'-0"
- (16' CLF) — CHAIN LINK FENCE 16'-0"
- (12' CLF) — CHAIN LINK FENCE 12'-0"
- (8' CLF) — CHAIN LINK FENCE 8'-0"
- (4' CLF) — CHAIN LINK FENCE 4'-0"
- (CLF) — CHAIN LINK FENCE
- WROUGHT IRON FENCE
- FENCE
- FENCE
- (OE) — OVERHEAD ELECTRICAL LINE
- (ST) — STORM DRAIN PIPE
- (SA) — SANITATION DRAIN PIPE
- (D) — COMBINED DRAIN PIPE
- (CS) — COMBINED SEWER PIPE
- (W) — WATER SUPPLY PIPE
- (T) — TELECOMMUNICATIONS CONDUIT
- (E) — ELECTRICAL SUPPLY LINE
- (G) — GAS SUPPLY LINE
- PROPERTY LINE

LEGEND

- (MH) - UNKNOWN MANHOLE
- (D) - STORM DRAIN MANHOLE
- (E) - ELECTRIC MANHOLE
- (S) - SEWER MANHOLE
- (STM) - STEAM MANHOLE
- (W) - WATER MANHOLE
- (F) - FIRE MANHOLE
- (T) - TELEPHONE MANHOLE
- (TV) - TELEVISION MANHOLE
- (R) - RAILROAD MANHOLE
- AC - AIR CONDITIONING CONDENSER
- (G) - GAS VALVE
- (W) - WATER VALVE
- (Q) - QUICK COUPLER VALVE
- (V) - UNKNOWN VALVE
- (S) - SEWER CLEAN OUT VALVE
- (IV) - IRRIGATION VALVE
- - HANDICAP PARKING
- - ELECTRIC BOX
- - TELECOMMUNICATION BOX
- - TRAFFIC SIGNAL BOX
- (TV) - CABLE TV BOX
- (TB) - PUBLIC TELEPHONE
- (MB) - MAILBOX
- (FB) - FIRE BOX
- - CATCH BASIN
- - DRAIN
- - FIRE HYDRANT
- - DRINKING FOUNTAIN
- - PARKING METER
- - UTILITY POLE
- - STREET LIGHT
- - SECURITY/PARK LIGHT
- - STREET LIGHT W/ SIGNAL
- - FLOOD LIGHT DIRECTIONAL
- - FLOOD LIGHT
- - PEDESTRIAN SIGNAL
- - TREE (W/ DBH)
- - TWIN TREES
- - VEGETATED CLUMP
- - STUMP
- - TREE PIT
- - GAME TABLE
- - BENCH (VARIES)
- - PLAQUE
- - SPRAY SHOWER
- - MONITORING WELL
- - SPRINKLER HEAD
- - TRASH CAN
- - WETLAND FLAG
- - SPORTS LIGHTING
- - SIGN (DUAL & SINGLE)
- - FLAGPOLE
- - TRAFFIC INDICATOR
- - PICNIC TABLE
- - JERSEY BARRIER
- - MONUMENT
- - PLAY STRUCTURE (VARIES)

30' 0 15' 30' 60' 120'

GRAPHIC SCALE

SURVEYED FOR THE CITY OF NEW YORK - PARKS & RECREATION
DATE: 03/05/2019
FIELD WORK BY: NV5, INC.
DRAWN BY: ECZ
CHECKED BY: RLM
APPROVED BY: RLM

MAP FILE#: MAP FILE NUMBER

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

Valid only with seal and signature

J. R. Lemuel Morrison
NY Lic Surveyor #50404

PROJECT TITLE
BAYSWATER PARK
FAR ROCKAWAY
QUEENS, NY

DRAWING TITLE
TOPOGRAPHIC SURVEY

DESIGNED BY	DRAWN BY	CHECKED BY
JOHN STEVE SIMMONS	EDWARD CHARLES ZELTMANN	ROBERT LEMUEL MORRISON

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1"=30'-0"	V-100	Q007120M
	DATE 03/05/2019		SHEET No.3 OF 160 SHEETS

BLOCK 15745
LOT 1

MATCH LINE TO TOPOGRAPHIC SURVEY 2, SEE SHEET V102.00

MAICH LINE TO TOPOGRAPHIC SURVEY 5, SEE SHEET V105.00

30' 0 15' 30' 60' 120'

GRAPHIC SCALE

SURVEYED FOR THE CITY OF NEW YORK - PARKS & RECREATION
DATE: 03/05/2019
FIELD WORK BY: NV5, INC.
DRAWN BY: ECZ
CHECKED BY: RLM
APPROVED BY: RLM

MAP FILE#: MAP FILE NUMBER

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

Valid only with blue seal and signature

J. R. Lemuel Morrison
NY Lic Surveyor #50404

BLOCK 15745

LOT 1

PROJECT TITLE
BAYSWATER PARK
FAR ROCKAWAY
QUEENS, NY

DRAWING TITLE
TOPOGRAPHIC SURVEY 1

DESIGNED BY	DRAWN BY	CHECKED BY
JOHN STEVE SIMMONS	EDWARD CHARLES ZELTMANN	ROBERT LEMUEL MORRISON

B-SCAN

SCALE 1"=30'

DRAWING NO. V-001

CONTRACT NO. Q007120M

DATE 03/05/2019

SHEET No. 4 OF 160 SHEETS

MATCH LINE TO TOPOGRAPHIC SURVEY 3, SEE SHEET V103.00

MATCH LINE TO TOPOGRAPHIC SURVEY 5, SEE SHEET V105.00

MATCH LINE TO TOPOGRAPHIC SURVEY 1 , SEE SHEET V101.00

TRUE NORTH

SURVEYED FOR THE CITY OF NEW YORK - PARKS & RECREATION
DATE: 03/05/2019
FIELD WORK BY: NV5, INC.
DRAWN BY: ECZ
CHECKED BY: RLM
APPROVED BY: RLM

GRAPHIC SCALE 30' 0 15' 30' 60' 120'

MAP FILE#: MAP FILE NUMBER

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

Valid only with blue-ink and signature

J. R. Lemuel Morrison
NY Lic Surveyor #50404

BLOCK 15745
LOT 1

PROJECT TITLE
BAYSWATER PARK
FAR ROCKAWAY
QUEENS, NY

DRAWING TITLE
TOPOGRAPHIC SURVEY 2

DESIGNED BY	DRAWN BY	CHECKED BY
JOHN STEVE SIMMONS	EDWARD CHARLES ZELTMANN	ROBERT LEMUEL MORRISON

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1"=30'-0"	V-002	Q007120M
	DATE 03/05/2019		SHEET No.5 OF 160 SHEETS

TRUE NORTH

NOTE 1:
UTILITY INFORMATION IN SKATE PARK AREA FROM SURVEY PROVIDED BY THE CITY OF NEW YORK PARKS AND RECREATION "THE RECONSTRUCTION OF MICHAELIS BAYSWATER PARK, LOCATED AT BAY 32ND STREET BETWEEN BEACH CHANNEL DRIVE AND DWIGHT AVENUE, BOROUGH OF QUEENS" DATED 12/23/15. Survey date 11/19/15.

30' 0 15' 30' 60' 120'
GRAPHIC SCALE

SURVEYED FOR THE CITY OF NEW YORK - PARKS & RECREATION
DATE: 03/05/2019
FIELD WORK BY: NV5, INC.
DRAWN BY: ECZ
CHECKED BY: RLM
APPROVED BY: RLM

MAP FILE#: MAP FILE NUMBER

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL
Valid only with blue ink and signature
J. R. Lemuel Morrison
NY Lic Surveyor #50404

PROJECT TITLE
BAYSWATER PARK
FAR ROCKAWAY
QUEENS, NY

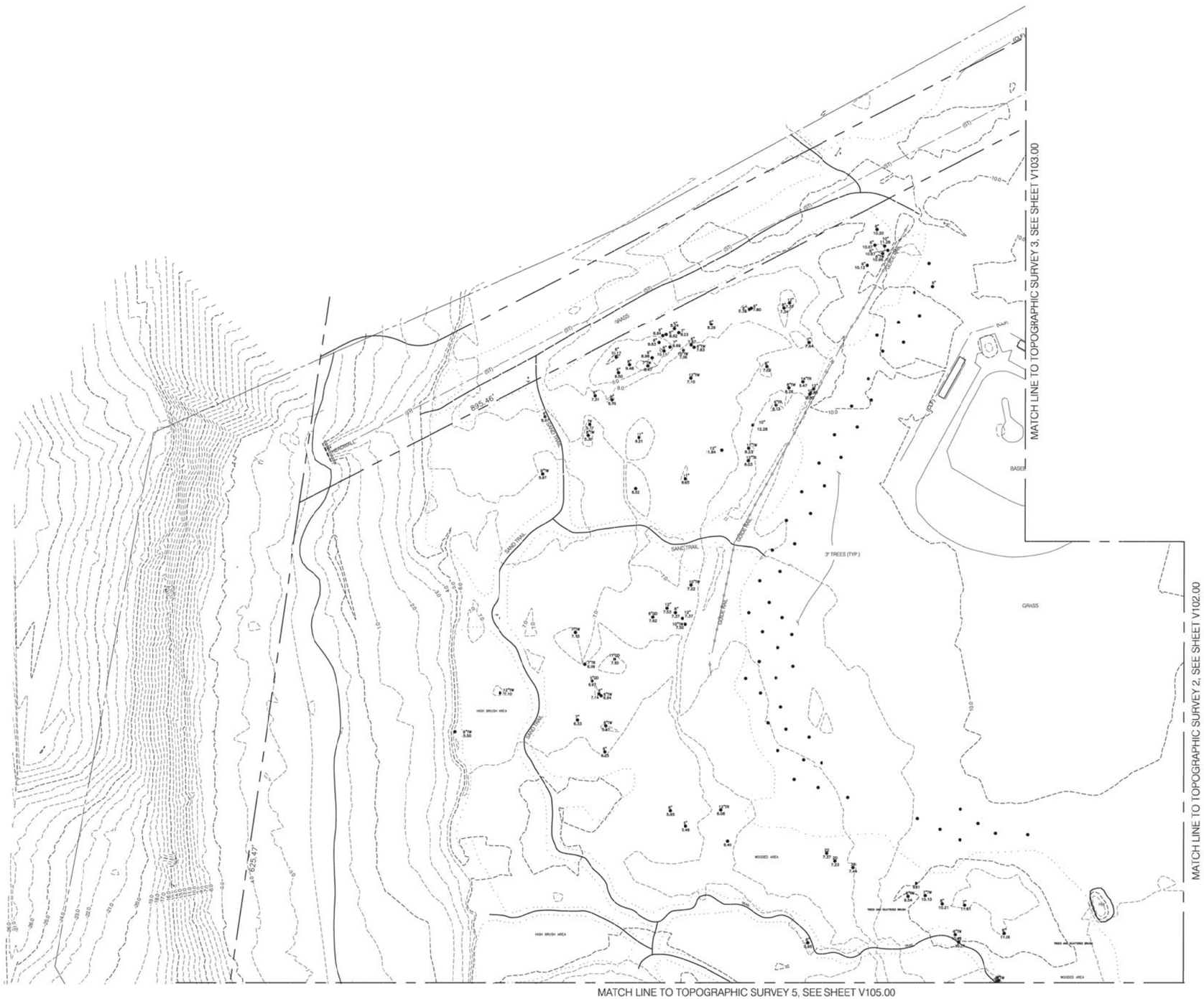
DRAWING TITLE
TOPOGRAPHIC SURVEY 3

DESIGNED BY	DRAWN BY	CHECKED BY
JOHN STEVE SIMMONS	EDWARD CHARLES ZELTMANN	ROBERT LEMUEL MORRISON

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1"=30'-0"	V-003	Q007120M
	DATE 03/05/2019		SHEET No. 6 OF 160 SHEETS

BLOCK
15745

LOT
1



30' 0 15' 30' 60' 120'

GRAPHIC SCALE

SURVEYED FOR THE CITY OF NEW YORK - PARKS & RECREATION
DATE: 03/05/2019
FIELD WORK BY: NV5, INC.
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NYC Parks

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J. R. Lemuel Morrison
NY Lic Surveyor #50404

BLOCK
15745

LOT
1

PROJECT TITLE
BAYSWATER PARK
FAR ROCKAWAY
QUEENS, NY

DRAWING TITLE
TOPOGRAPHIC SURVEY 4

DESIGNED BY	DRAWN BY	CHECKED BY
JOHN STEVE SIMMONS	EDWARD CHARLES ZELTMANN	ROBERT LEMUEL MORRISON

B-SCAN

SCALE 1"=30'-0"

DRAWING NO. V-004

DATE 03/05/2019

CONTRACT NO. Q007120M

SHEET No.7 OF 160 SHEETS

MATCH LINE TO TOPOGRAPHIC SURVEY 4, SEE SHEET V104.00

MATCH LINE TO TOPOGRAPHIC SURVEY 2, SEE SHEET V102.00

MATCH LINE TO TOPOGRAPHIC SURVEY 1, SEE SHEET V101.00

TRUE NORTH

30' 0 15' 30' 60' 120'

GRAPHIC SCALE

SURVEYED FOR THE CITY OF NEW YORK - PARKS & RECREATION
DATE: 03/05/2019
FIELD WORK BY: NV5, INC.
DRAWN BY: ECZ
CHECKED BY: RLM
APPROVED BY: RLM

MAP FILE#: MAP FILE NUMBER

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

Valid only with blue inked seal and signature

J. R. Lemuel Morrison
NY Lic Surveyor #50404

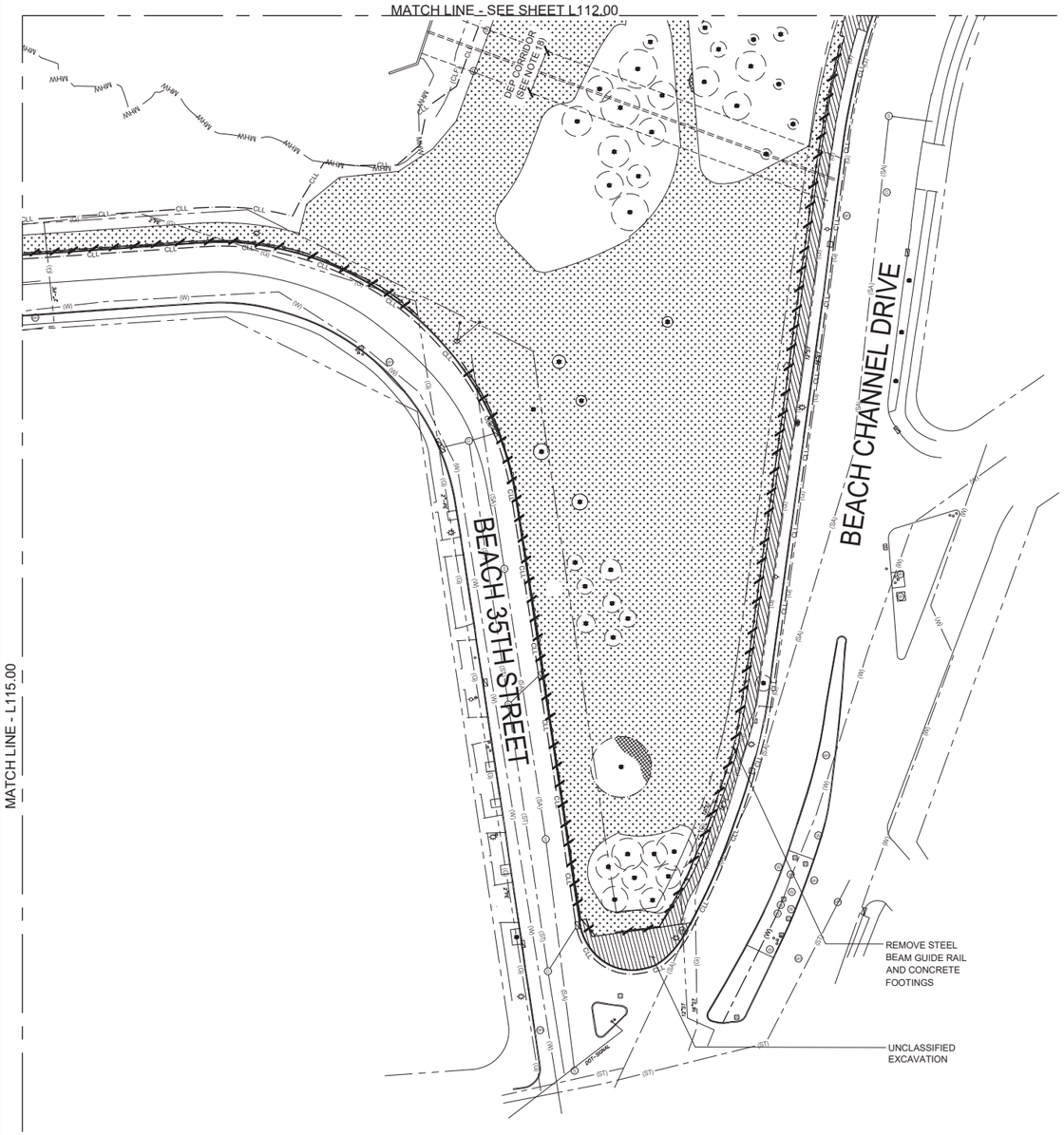
BLOCK 15745

LOT 1

PROJECT TITLE
BAYSWATER PARK
FAR ROCKAWAY
QUEENS, NY

DRAWING TITLE
TOPOGRAPHIC SURVEY 5

DESIGNED BY	DRAWN BY		CHECKED BY
JOHN STEVE SIMMONS	EDWARD CHARLES ZELTMANN		ROBERT LEMUEL MORRISON
B-SCAN	SCALE 1"=30'-0"	DRAWING NO. V-005	CONTRACT NO. Q007120M
	DATE 03/05/2019		SHEET No. 8 OF 160 SHEETS



REMOVAL SCHEDULE

REMOVAL TYPE	STANDARD PAY ITEM	PAYMENT IN TREE PROTECTION ZONE
REMOVE STEEL BEAM GUIDE RAIL AND CONCRETE FOOTINGS	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	HAND AND/OR PNEUMATIC EXCAVATION
REMOVE AND STORE CONCRETE SEAL AND DOLPHIN	REMOVE, STORE & REINSTALL CONCRETE SEAL & CONCRETE DOLPHINS	
REMOVE PLAY EQUIPMENT AND FOOTINGS	REMOVALS (N.T.E.)	
REMOVE WATER FEATURE	REMOVALS (N.T.E.)	
REMOVE SPRAY SHOWER	REMOVALS (N.T.E.)	
REMOVE CONCRETE WALLS AND TERRACING	REMOVE STEEL BAR REINFORCED CONCRETE	HAND AND/OR PNEUMATIC EXCAVATION
REMOVE CONCRETE CURB	REMOVE CONCRETE CURB	
REMOVE COAL RECYCLE BIN	REMOVALS (N.T.E.)	
REMOVE BASKETBALL BACKSTOP	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE TENNIS NET POST & CONCRETE FOOTING	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE FLAG POLE AND FOUNDATION	REMOVALS (N.T.E.) / REMOVE STEEL BAR REINFORCED CONCRETE	
REMOVE CHAIN LINK FENCE AND CONCRETE FOOTINGS	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	HAND AND/OR PNEUMATIC EXCAVATION
REMOVE BASEBALL FIELD UNDERDRAIN SYSTEM	UNCLASSIFIED EXCAVATION	
REMOVE SPORTS LIGHT FOUNDATION	REMOVE STEEL BAR REINFORCED CONCRETE	
CLEAR AND GRUB	CLEAR AND GRUB	HAND AND/OR PNEUMATIC EXCAVATION
REMOVE HANDBALL COURT WALL	REMOVE STEEL BAR REINFORCED CONCRETE	
REMOVE DRINKING FOUNTAIN	REMOVALS (N.T.E.)	
REMOVE BENCH AND CONCRETE FOOTINGS	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE GAME TABLE WITH ASSOCIATED SEATING AND CONCRETE FOOTINGS	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE SPORTS LIGHTING AND CONCRETE FOOTING	REMOVALS (N.T.E.) / REMOVE STEEL BAR REINFORCED CONCRETE	
REMOVE PARK SECURITY LIGHT AND CONCRETE FOOTING	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE TREE	TREE REMOVAL OVER 6" TO 12" DBH	
REMOVE CONCRETE WALL	REMOVE STEEL BAR REINFORCED CONCRETE	HAND AND/OR PNEUMATIC EXCAVATION
REMOVE CHAIN LINK FENCE AND CONCRETE CURB	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	HAND AND/OR PNEUMATIC EXCAVATION
REMOVE PICNIC TABLE AND CONCRETE FOOTINGS	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE GRILL AND CONCRETE FOOTING	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE MESH FOR CHAIN LINK FENCE (HANDBALL)	MESH FOR CHAIN LINK FENCE -1"	
REMOVE MESH FOR CHAIN LINK FENCE (BASEBALL)	MESH FOR CHAIN LINK FENCE-2"	
REMOVE CHAIN LINK FENCE, BACKSTOP, AND CONCRETE CURB	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
REMOVE TRASH CAN AND CONCRETE FOOTINGS	REMOVALS (N.T.E.) / UNCLASSIFIED EXCAVATION	
STRIP AND STORE TOPSOIL	STRIP, STORE & SPREAD TOPSOIL	
SAW CUT HANDBALL COURT WALL	SAW CUT CURB AND WALLS	
SAW CUT PAVEMENT	SAW CUT PAVEMENT	
SAW CUT CURB	SAW CUT CURB AND WALLS	
SAW CUT STEEL BEAM GUIDE RAIL	REMOVALS (N.T.E.)	
REMOVE COMFORT STATION	BUILDING REMOVALS/LEAD IN CONSTRUCTION/ASBESTOS REMOVAL	
REMOVE CATCH BASIN	UNCLASSIFIED EXCAVATION	
REMOVE CLAY PIPE	UNCLASSIFIED EXCAVATION	
MOW PHRAGMITES	INVASIVE REMOVAL - PHRAGMITES	

REMOVAL NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS, BOTH ABOVE AND BELOW THE SURFACE, PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER AND DPR IN WRITING PRIOR TO COMMENCING WORK.
2. IT IS MANDATORY, AS PER NYS INDUSTRIAL CODE RULE 53, FOR THE CONTRACTOR TO NOTIFY NEW YORK 811 AT LEAST FORTY-EIGHT (48) HOURS BEFORE COMMENCING EXCAVATION (ITEM, "UNCLASSIFIED EXCAVATION"). THE EMAIL ADDRESS IS EMAIL@NEWYORK811INC.COM AND THE WEB SITE IS HTTP://NEWYORK-811.COM (SEE ITEM "UNCLASSIFIED EXCAVATION").
3. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY DAMAGE AND/OR RESTORE ANY INTERRUPTION TO ANY UTILITY SERVICE THAT MAY BE CAUSED BY THE CONTRACTOR'S CONSTRUCTION OR EQUIPMENT, AT THE CONTRACTOR'S EXPENSE, WITH NO ADDITIONAL EXPENSE TO THE CITY OF NEW YORK.
4. ALL EXISTING SEWER, GAS, WATER, AND ELECTRIC UTILITY LINES, AS WELL AS STRUCTURES WITHIN THE CONTRACT AREA SHALL REMAIN, UNLESS REMOVAL OF SAME IS SPECIFICALLY NOTED. ALL STORM DRAINAGE PIPES TO BE ABANDONED OR REMOVED ARE NOTED ON THE PLANS. IF ABANDONED PIPES ARE ENCOUNTERED DURING EXCAVATION, THEN THE CONTRACTOR SHOULD REMOVE PIPE IN AREA OF EXCAVATION AND PLUG AT EACH END OF EXCAVATION. CONTRACTOR SHOULD ENSURE THAT THE PIPE REALLY IS ABANDONED BEFORE ATTEMPTING THIS OPERATION.
5. THE CONTRACTOR IS TO USE CARE DURING CONSTRUCTION TO AVOID DISTURBING OR DAMAGING ADJACENT ABOVE-GRADE OR SUBGRADE STRUCTURES, FACILITIES, CURBS, PAVEMENTS, AND PERIMETER FENCING. ANY DAMAGE RESULTING FROM THIS WORK WILL BE RESTORED TO THE SATISFACTION OF DPR AT THE CONTRACTOR'S EXPENSE.
6. WHERE NEW CONSTRUCTION ABUTS EXISTING PAVEMENTS, CURBS, OR WALLS, THE EXISTING MATERIALS SHALL BE CLEANLY SAWCUT TO PROVIDE A CLEAN, NEAT MATCH AND A SMOOTH, FLUSH TRANSITION, AS DIRECTED BY THE RESIDENT ENGINEER. ALL SAWCUTTING SHALL BE DONE TO NEAT, STRAIGHT, AND ACCURATE LINES. CONTRACTOR SHALL PROVIDE EXPANSION JOINTS (TIE ROD AND/OR SLIP JOINT) WHERE OLD AND NEW CURBS MEET.
7. THE CONTRACTOR SHALL REPLACE ANY EXISTING CURBS, FENCING, OR PAVEMENTS THAT WERE INTENDED TO REMAIN BUT ARE DAMAGED OR DISTURBED DURING CONSTRUCTION. IF REPLACEMENT IS NECESSARY, IT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF DPR AND THE RESIDENT ENGINEER.
8. THE CONTRACTOR SHALL TAKE EXTREME CARE TO PROTECT THE ROOT SYSTEMS OF EXISTING TREES. MATERIAL, EQUIPMENT, OR VEHICLES SHALL NOT BE STOCKPILED OR PARKED WITHIN THE DRIPLINE OF ANY TREE.
9. SEE TREE PROTECTION AND EROSION CONTROL PLANS FOR ADDITIONAL NOTES REGARDING PROTECTION, PRUNING AND DECOMPACTION OF EXISTING TREES.
10. THE CONTRACTOR SHALL ALWAYS EXCAVATE BY HAND OR PNEUMATICALLY WITHIN THE DRIPLINES OF EXISTING TREES, OR AS DIRECTED BY THE RESIDENT ENGINEER IN CONSULTATION WITH THE DIRECTOR OF LANDSCAPE CONSTRUCTION OR THEIR REPRESENTATIVE. NO ROOTS SHALL BE CUT WITHOUT THE WRITTEN AUTHORIZATION OF THE DIRECTOR OF LANDSCAPE CONSTRUCTION OR THEIR REPRESENTATIVE.
11. ALL FOOTINGS AND OTHER BELOW-GRADE STRUCTURES TO BE REMOVED SHALL BE EXCAVATED TO A DEPTH OF 4'-0" BELOW FINISHED GRADE AND BACKFILLED WITH APPROVED SUITABLE FILL MATERIAL.
12. THE CONTRACTOR SHALL DISPOSE OF ALL ITEMS AND MATERIALS REMOVED AND NOT SALVAGED, INCLUDING ALL EXCAVATED MATERIAL, OFF-SITE AND IN A LEGAL MANNER.
13. ALL MATERIALS TO BE SALVAGED FOR DPR MAINTENANCE & OPERATIONS (M&O) SHALL BE DELIVERED BY THE CONTRACTOR TO THE CHIEF OF OPERATIONS OF THE APPROPRIATE BOROUGH. ALL MATERIALS NOT NEEDED BY M&O SHALL BE REMOVED AS INDICATED IN REMOVALS ITEM.
14. THE CONTRACTOR SHALL REMOVE, EXCAVATE, AND DISPOSE OF ALL MATERIALS ACCORDING TO SPECIFICATION.
15. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN REMOVING CONCRETE OR ASPHALT WITHIN THE DRIPLINE OF EXISTING TREES - LIFTING RATHER THAN DRAGGING PIECES OF PAVING. TOOLS FOR THIS ACTIVITY SHALL BE APPROVED BY THE DIRECTOR OF LANDSCAPE CONSTRUCTION OR THEIR REPRESENTATIVE AND THE RESIDENT ENGINEER PRIOR TO THE START OF EXCAVATION.
16. SEE SHEETS L101.00 - L105.00 FOR TREE REMOVALS
17. REMOVE STAND ALONE RETAINING WALLS. IN AREAS WHERE REMOVE THE WHOLE STRUCTURAL IS NOT APPLICABLE, SAW CUT THE WALL 18 INCH BELOW PROPOSED GRADE. SEE SHEET L 501.00 SITE WORK DETAILS.
18. EXERCISE EXTREME CAUTION AND MINIMIZE THE USE OF HEAVY EQUIPMENT WITHIN LIMITS OF DEP CORRIDORS. ANY DAMAGE TO DEP INFRASTRUCTURE SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.
19. ALL PAVEMENT, SITE FURNISHINGS, AND LIGHT FIXTURES WITHIN THE CONTRACT LIMIT LINE SHALL BE REMOVED UNLESS OTHERWISE NOTED.
20. ALL CHAIN LINK FENCE REMOVAL SHOULD INCLUDE ANY GATES.
21. ABANDON ALL EXISTING CLAY PIPE DRAINS EXCEPT WHERE NOTED. CONCRETE PLUGS TO BE INSTALLED AT OPEN ENDS AS DIRECTED BY THE ENGINEER.
22. FOR PLUMBING REMOVALS SEE PLUMBING REMOVAL SITE PLANS.
23. FOR LIGHT POLE AND FLOOD FLIGHT REMOVALS SEE ELECTRICAL REMOVAL SITE PLANS

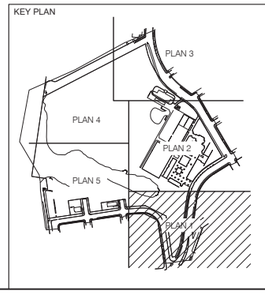
LEGEND

- CONTRACT LIMIT LINE
- REMOVAL TICK
- (ST) REMOVE CLAY PIPE
- S SAW CUT PAVEMENT
- (W) WATER LINE
- WATER MANHOLE
- MANHOLE (UNKNOWN)
- CLEAR AND GRUB
- MOW PHRAGMITES
- STRIP AND STORE TOPSOIL
- REMOVE CONCRETE WALLS AND TERRACING
- UNCLASSIFIED EXCAVATION
- REMOVE WATER FEATURE
- HAND/PNEUMATIC EXCAVATION
- L REMOVE PARK SECURITY LIGHT AND CONCRETE FOOTING
- B REMOVE BENCH AND CONCRETE FOOTINGS
- P REMOVE SPORTS LIGHT AND CONCRETE FOOTING
- D REMOVE DRINKING FOUNTAIN
- G REMOVE GAME TABLE, ASSOCIATED SEATING, AND CONCRETE FOOTINGS
- REMOVE CURB
- REMOVE CONCRETE WALL
- REMOVE STEEL BEAM GUIDE RAIL AND CONCRETE FOOTINGS
- REMOVE TIMBER GUIDE RAIL
- REMOVE CHAIN LINK FENCE AND CONCRETE CURBS
- REMOVE CHAIN LINK FENCE AND CONCRETE FOOTINGS
- S SAW CUT PAVEMENT
- SAW CUT WALL
- SAW CUT STEEL BEAM GUIDE RAIL
- EXISTING TREE, NUMBER REFERS TO TREE PROTECTION SCHEDULE
- CRITICAL ROOT ZONE (CRZ), WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION

TRUE NORTH

0 15' 30' 60'
Scale: 1" = 30'-0"

KEY PLAN



NV5
30 OLD SLIP, SUITE 401
NEW YORK, NEW YORK 10005
P: 212.741.8090 WWW.NV5.COM

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
SITE REMOVAL PLAN 1

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L111.00	Q007-120M

BLOCK 15745
LOT 1
DATE 04/16/2020
SHEET No 32 OF 160 SHEETS

MATCH LINE TO SITE REMOVAL PLAN 3, SEE SHEET L113.00

MATCH LINE - L114.00

MATCH LINE - L115.00

MATCH LINE - L111.00

STRIP AND STORE TOP SOIL WITHIN LIMITS OF EARTH MOVING, SEE GRADING PLANS SHEET L220.00 - L224.00

PROTECT EXISTING UNDER DRAIN TO REMAIN

EXISTING FLOOD LIGHT TO REMAIN AND PROTECT, SEE ELECTRICAL REMOVALS, SHEETE101.00-E102.00

REMOVE CHAIN LINK FENCE AND CONCRETE CURB

REMOVE BASKETBALL BACKSTOP, TYP.

DEP CORRIDOR (SEE NOTE 19)

EXISTING FLOOD LIGHT TO REMAIN AND PROTECT, SEE ELECTRICAL REMOVALS, SHEETE101.00-E102.00

REMOVE CHAIN LINK FENCE, GATES, AND CONCRETE CURB

REMOVE COMFORT STATION, SEE SHEET H101.00 FOR ASBESTOS REMOVAL AND LEAD IN CONSTRUCTION

REMOVE FLAG POLE AND FOUNDATION

REMOVE TENNIS NET POST AND CONCRETE FOOTING, TYP.

REMOVE WATER FEATURE

REMOVE AND SALVAGE TIMBER GUIDE RAIL

WALL TO REMAIN, PROTECT IN PLACE

REMOVE MESH FOR CHAIN LINK FENCE

SAW CUT HANDBALL COURT WALL

REMOVE HANDBALL COURT WALL

OCEAN CREST BLVD.

REMOVE CONCRETE WALL, TYP. SEE NOTE

REMOVE SPRAY SHOWER, TYP.

REMOVE CONCRETE WALLS AND TERRACING

REMOVE AND STORE CONCRETE SEAL AND DOLPHIN, SEE SHEET L212.00 FOR NEW LOCATION

UNCLASSIFIED EXCAVATION, SEE SHEETS C201.00- C203.00 FOR EXTENTS

REMOVE STEEL BEAM GUIDE RAIL AND CONCRETE FOOTINGS.

REMOVE CONCRETE WALL, TYP. SEE NOTE

BAY 32ND STREET

BEACH CHANNEL DRIVE

REMOVE PICNIC TABLE AND CONCRETE FOOTINGS, TYP.

REMOVE GRILL AND CONCRETE FOOTING, TYP.

REMOVE COAL RECYCLE BIN,TYP.

REMOVE PLAY EQUIPMENT AND FOOTINGS, TYP.

REMOVE CHAIN LINK FENCE AND CONCRETE FOOTINGS

REMOVE BENCH AND CONCRETE FOOTINGS, TYP.

EXISTING TREE TO REMAIN, TYP. (SEE TREE PROTECTION PLANS)

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

NOTES

1. SEE SHEET L111.00 FOR REMOVAL & PROTECTION NOTES.

LEGEND

- CONTRACT LIMIT LINE
- REMOVAL TICK
- (ST) REMOVE CLAY PIPE
- S SAW CUT PAVEMENT
- (W) WATER LINE
- WATER MANHOLE
- MANHOLE (UNKNOWN)
- CLEAR AND GRUB
- MOW PHRAGMITES
- STRIP AND STORE TOPSOIL
- REMOVE CONCRETE WALLS AND TERRACING
- UNCLASSIFIED EXCAVATION
- REMOVE WATER FEATURE
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- L REMOVE PARK SECURITY LIGHT AND CONCRETE FOOTING
- B REMOVE BENCH AND CONCRETE FOOTINGS
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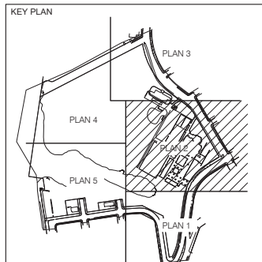
- D REMOVE DRINKING FOUNTAIN
- G REMOVE GAME TABLE, ASSOCIATED SEATING, AND CONCRETE FOOTINGS
- REMOVE CURB
- REMOVE CONCRETE WALL
- REMOVE STEEL BEAM GUIDE I AND CONCRETE FOOTINGS
- REMOVE TIMBER GUIDE RAIL
- REMOVE CHAIN LINK FENCE AND CONCRETE CURBS
- REMOVE CHAIN LINK FENCE A CONCRETE FOOTINGS
- S SAW CUT PAVEMENT
- SAW CUT WALL
- SAW CUT STEEL BEAM GUIDE RAIL
- 2 EXISTING TREE, NUMBER REFERS TO TREE PROTECTION SCHEDULE
- CRITICAL ROOT ZONE (CRZ), WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION

KEY PLAN



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SEAL

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LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

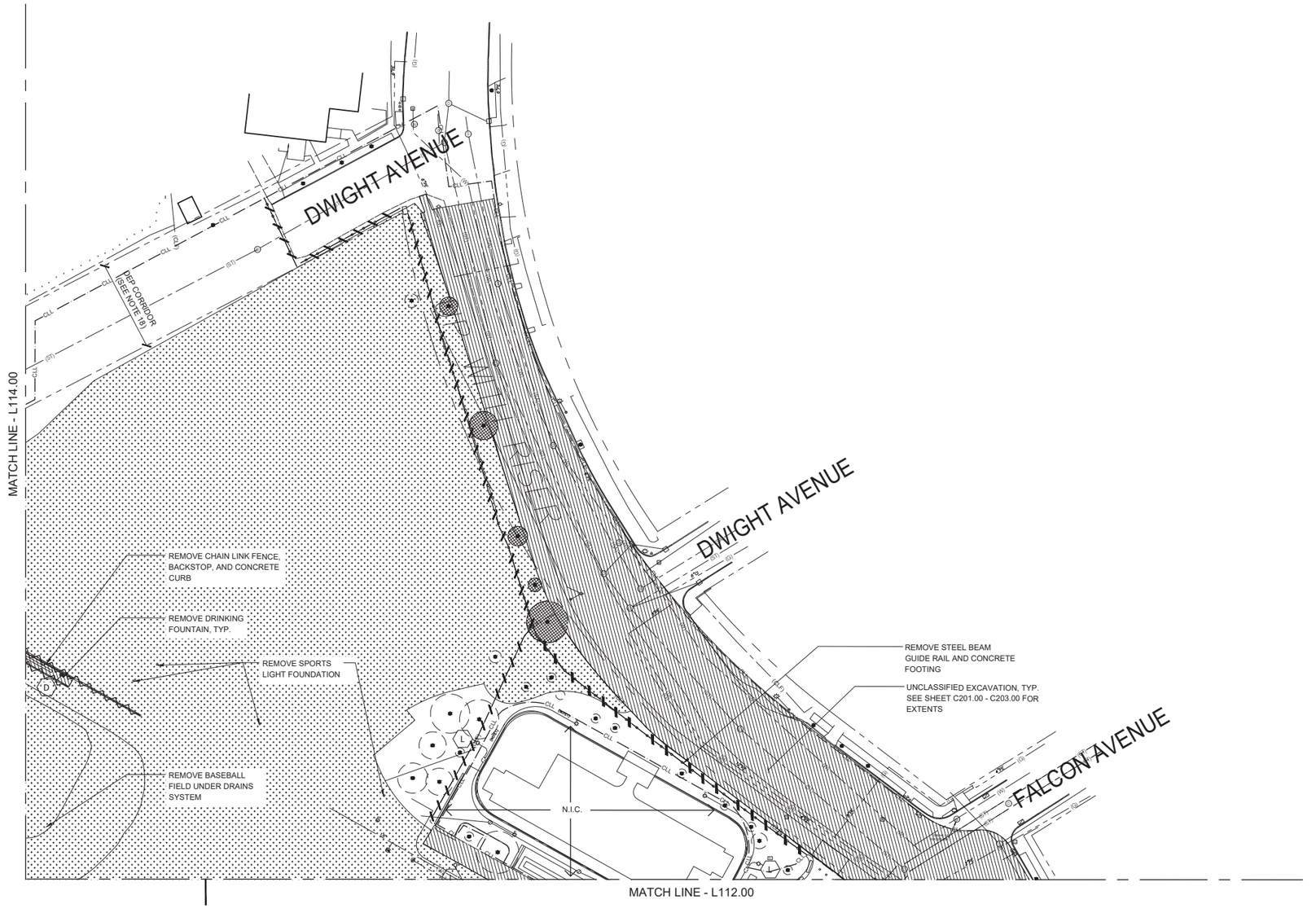
DRAWING TITLE
SITE REMOVAL PLAN 2

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L112.00	Q007-120M
	DATE 04/16/2020		

BLOCK 15745
LOT 1

SHEET No.33 OF 160 SHEETS



NOTES

1. SEE SHEET L111.00 FOR REMOVAL & PROTECTION NOTES.

LEGEND

- CONTRACT LIMIT LINE
- REMOVAL TICK
- (ST) REMOVE CLAY PIPE
- S SAW CUT PAVEMENT
- (W) WATER LINE
- WATER MANHOLE
- MANHOLE (UNKNOWN)
- CLEAR AND GRUB
- MOW PHRAGMITES
- STRIP AND STORE TOPSOIL
- REMOVE CONCRETE WALLS AND TERRACING
- UNCLASSIFIED EXCAVATION
- REMOVE WATER FEATURE
- HAND/PNEUMATIC EXCAVATION
- L REMOVE PARK SECURITY LIGHT AND CONCRETE FOOTING
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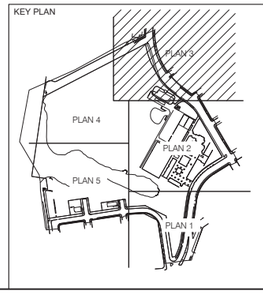
- G REMOVE GAME TABLE, ASSOCIATED SEATING, AND CONCRETE FOOTINGS
- REMOVE CURB
- REMOVE CONCRETE WALL
- REMOVE STEEL BEAM GUIDE RAIL AND CONCRETE FOOTINGS
- REMOVE TIMBER GUIDE RAIL
- REMOVE CHAIN LINK FENCE AND CONCRETE CURBS
- REMOVE CHAIN LINK FENCE AND CONCRETE FOOTINGS
- S SAW CUT PAVEMENT
- SAW CUT WALL
- SAW CUT STEEL BEAM GUIDE RAIL
- 2 EXISTING TREE, NUMBER REFERS TO TREE PROTECTION SCHEDULE
- CRITICAL ROOT ZONE (CRZ), WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

KEY PLAN



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PROJECT TITLE
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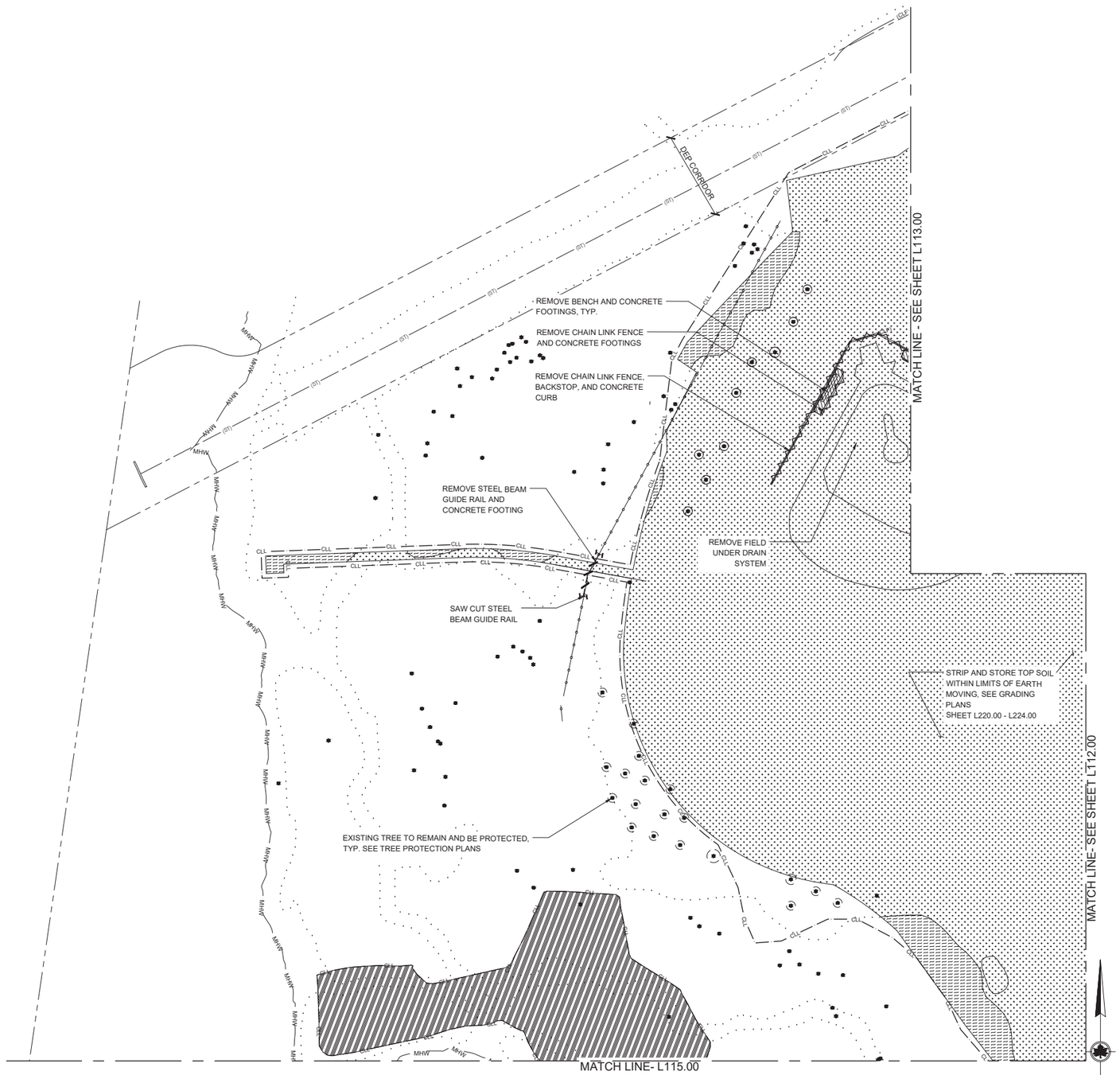
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
SITE REMOVAL PLAN 3

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L113.00	Q007-120M
	DATE 04/16/2020		SHEET No. 34 OF 160 SHEETS

BLOCK 15745
LOT 1



NOTES

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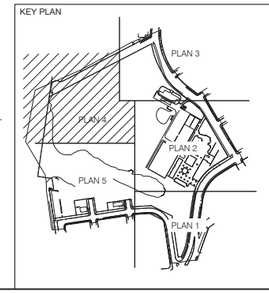
LEGEND

- CONTRACT LIMIT LINE
- REMOVAL TICK
- (ST) REMOVE CLAY PIPE
- S SAW CUT PAVEMENT
- (W) WATER LINE
- WATER MANHOLE
- MANHOLE (UNKNOWN)
- CLEAR AND GRUB
- MOW PHRAGMITES
- STRIP AND STORE TOPSOIL
- REMOVE CONCRETE WALLS AND TERRACING
- UNCLASSIFIED EXCAVATION
- REMOVE WATER FEATURE
- HAND/PNEUMATIC EXCAVATION
- L REMOVE PARK SECURITY LIGHT AND CONCRETE FOOTING
- B REMOVE BENCH AND CONCRETE FOOTINGS
- P REMOVE SPORTS LIGHT AND CONCRETE FOOTING
- D REMOVE DRINKING FOUNTAIN
- G REMOVE GAME TABLE, ASSOCIATED SEATING, AND CONCRETE FOOTINGS
- REMOVE CURB
- REMOVE CONCRETE WALL
- REMOVE STEEL BEAM GUIDE RAIL AND CONCRETE FOOTINGS
- REMOVE TIMBER GUIDE RAIL
- REMOVE CHAIN LINK FENCE AND CONCRETE CURBS
- REMOVE CHAIN LINK FENCE AND CONCRETE FOOTINGS
- S SAW CUT PAVEMENT
- SAW CUT WALL
- SAW CUT STEEL BEAM GUIDE RAIL
- 2 EXISTING TREE, NUMBER REFERS TO TREE PROTECTION SCHEDULE
- CRITICAL ROOT ZONE (CRZ), WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION

KEY PLAN



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NYC Parks

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OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
SITE REMOVAL PLAN 4

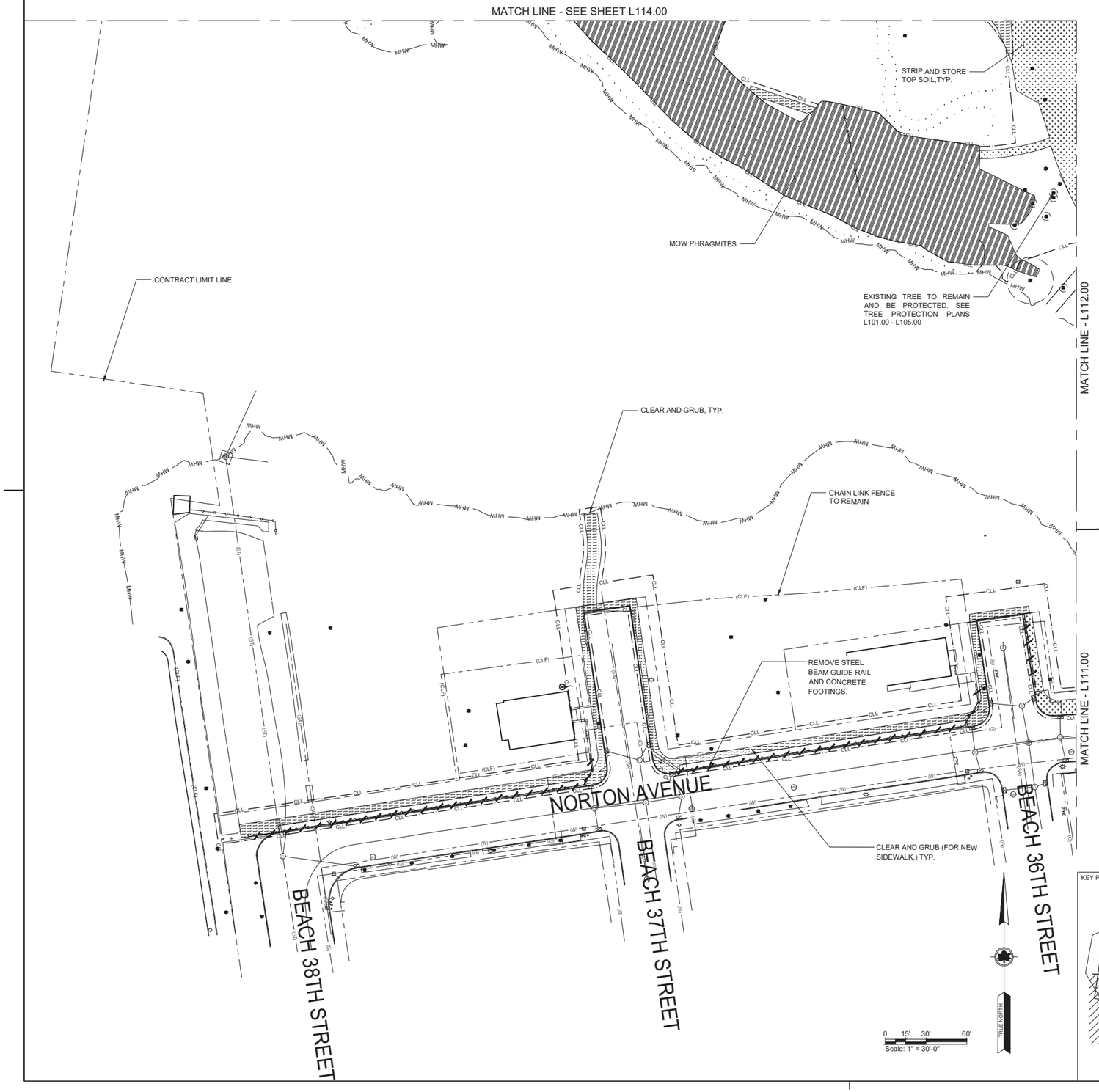
DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L114.00	Q007-120M
	DATE 04/16/2020		SHEET No35 OF 160 SHEETS

BLOCK 15745
LOT 1

NOTES

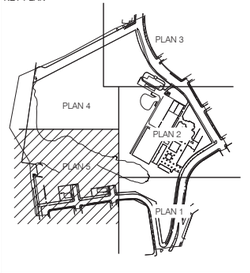
1. SEE SHEET L111.00 FOR REMOVAL & PROTECTION NOTES.



LEGEND

- CONTRACT LIMIT LINE
- REMOVAL TICK
- (ST) REMOVE CLAY PIPE
- S SAW CUT PAVEMENT
- (W) WATER LINE
- WATER MANHOLE
- MANHOLE (UNKNOWN)
- CLEAR AND GRUB
- MOW PHRAGMITES
- STRIP AND STORE TOPSOIL
- REMOVE CONCRETE WALLS AND TERRACING
- UNCLASSIFIED EXCAVATION
- REMOVE WATER FEATURE
- HAND/PNEUMATIC EXCAVATION
- L REMOVE PARK SECURITY LIGHT AND CONCRETE FOOTING
- B REMOVE BENCH AND CONCRETE FOOTINGS
- P REMOVE SPORTS LIGHT AND CONCRETE FOOTING
- D REMOVE DRINKING FOUNTAIN
- G REMOVE GAME TABLE, ASSOCIATED SEATING, AND CONCRETE FOOTINGS
- REMOVE CURB
- REMOVE CONCRETE WALL
- REMOVE STEEL BEAM GUIDE RAIL AND CONCRETE FOOTINGS
- REMOVE TIMBER GUIDE RAIL
- REMOVE CHAIN LINK FENCE AND CONCRETE CURBS
- REMOVE CHAIN LINK FENCE AND CONCRETE FOOTINGS
- S SAW CUT PAVEMENT
- SAW CUT WALL
- SAW CUT STEEL BEAM GUIDE RAIL
- 2 EXISTING TREE, NUMBER REFERS TO TREE PROTECTION SCHEDULE
- CRITICAL ROOT ZONE (CRZ), WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION

KEY PLAN



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FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

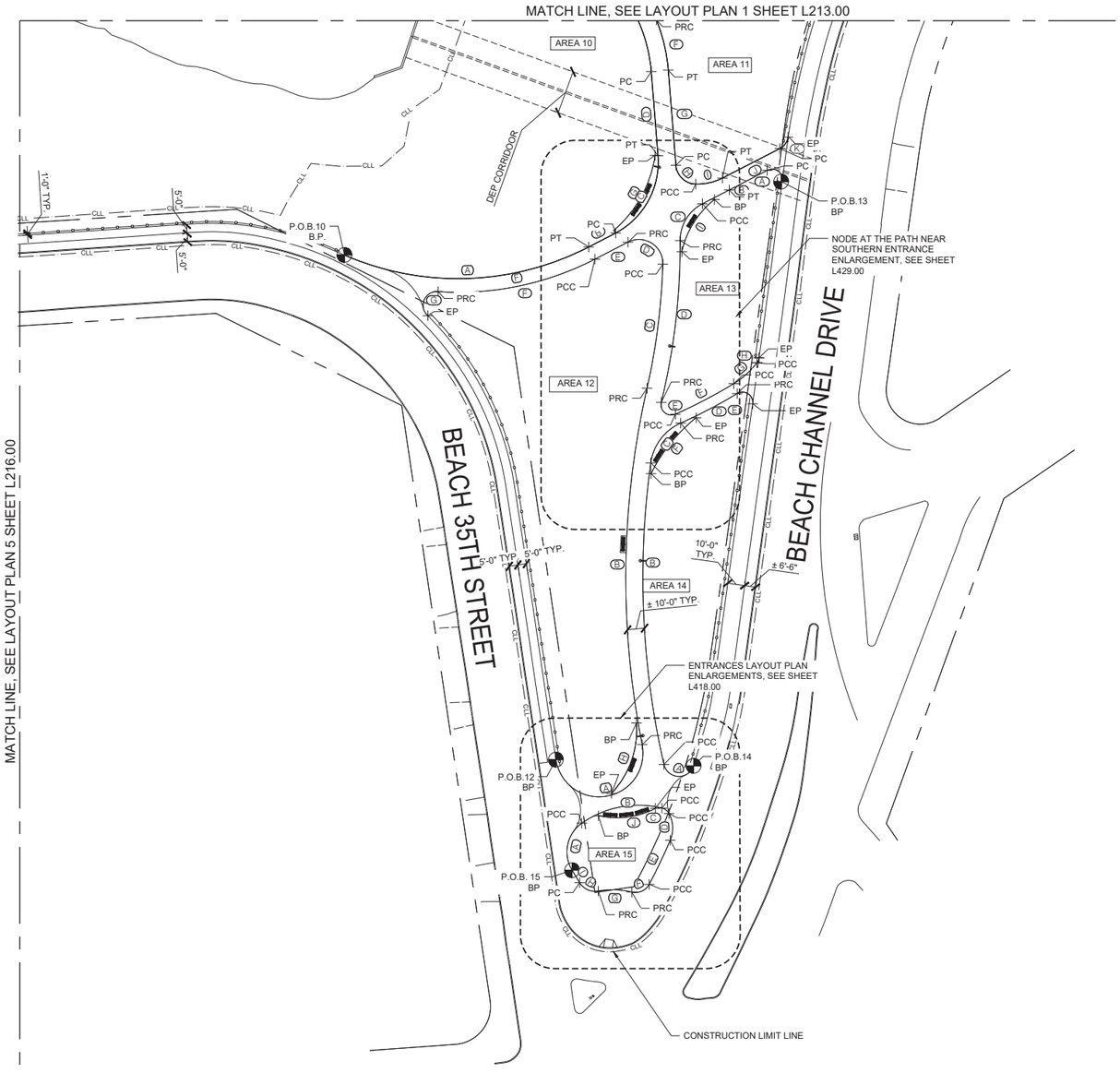
PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
SITE REMOVAL PLAN 5

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L115.00	Q007-120M

BLOCK 15745
LOT 1
DATE 04/16/2020



LAYOUT NOTES

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS, BOTH ABOVE AND BELOW THE SURFACE. ANY DISCREPANCIES BETWEEN INFORMATION SHOWN ON THE DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER AND PARKS IN WRITING PRIOR TO COMMENCING WORK.
2. LOCATIONS OF EXISTING TREES SHALL BE VERIFIED IN THE FIELD.
3. NO CHANGES SHALL BE MADE TO THE DESIGN OR LAYOUT WITHOUT THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT. LAY OUT THE WORK AS DIMENSIONED ON THE PLANS. WRITTEN DIMENSIONS SHALL GOVERN; DO NOT SCALE DISTANCES.
4. CONTRACTOR SHALL LAY OUT AND STAKE IN THE FIELD THE ALIGNMENT AT ALL PATHS, PAVEMENTS AND TRAILS FOR REVIEW BY THE LANDSCAPE ARCHITECT. ADJUSTMENTS MAY BE MADE ONLY AS DIRECTED BY THE LANDSCAPE ARCHITECT. CONTRACTOR MAY NOT PROCEED WITH CONSTRUCTION OF IMPROVEMENTS UNTIL HE HAS RECEIVED THE FINAL APPROVAL OF THE LAYOUT FROM THE LANDSCAPE ARCHITECT.
5. ALL NEW PAVEMENTS CURBS AND EXISTING PAVEMENTS AND CURBS TO REMAIN SHALL MEET IN SMOOTH FLUSH CONDITION UNLESS NOTED OTHERWISE. NEW CURBS, WALLS, AND PAVEMENTS SHALL BE BUILT TO A SMOOTH EVEN FINISH WITH A CONSISTENT TOP AND PROFILE WITHOUT WAVES OR IRREGULARITIES. ANY WORK NOT MEETING THIS QUALITY STANDARD SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. THE CONTRACTOR SHALL EXERCISE CARE DURING EXCAVATION OPERATIONS TO AVOID DISTURBING ADJACENT FACILITIES, SUBGRADE STRUCTURES AND TREES. ALL DAMAGE RESULTING FROM THE CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REPAIRED AT NO EXPENSE TO THE CITY AND DPR. ALL REPAIR WORK SHALL BE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND DPR. PLANTED AREAS DISTURBED BY CONTRACTOR'S WORK SHALL BE RESTORED AS DIRECTED BY THE LANDSCAPE ARCHITECT.
7. NO HEAVY MACHINERY, EQUIPMENT OR STOCKPILING OF MATERIAL IS PERMITTED WITHIN THE DRIP LINES OF EXISTING TREES.
8. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ALL EXISTING TREES AND THEIR ROOT SYSTEM. EXCAVATIONS WITHIN THE DRIP LINES OF TREES SHALL BE KEPT TO A MINIMUM AND SHALL BE COMPLETED BY HAND ONLY AND SHALL BE PERFORMED IN THE PRESENCE OF THE RESIDENT ENGINEER, AT NO ADDITIONAL EXPENSE TO THE CITY. NO ROOTS SHALL BE CUT WITHOUT THE WRITTEN AUTHORIZATION OF DIRECTOR OF LANDSCAPE CONSTRUCTION OR THEIR REPRESENTATIVE. BRIDGE CURBS SHALL BE CONSTRUCTED OR THE AMOUNT OF FOUNDATION MATERIAL SHALL BE REDUCED WHERE NECESSARY, AS DIRECTED BY ENGINEER (SEE GENERAL CONDITIONS, SPECIAL PROVISION, SECTION C, ARTICLE 14 "TREE WORK").
9. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING LONG LEAD ITEMS AND ORDERING THESE MATERIALS IN A TIMELY MANNER.
10. PARK SECURITY LIGHTS SHALL BE 1'- 6" O.C. FROM EDGE OF PAVEMENT.
11. STATION LINE AT STEPPING STONES SHOW APPROXIMATE ALIGNMENT. FOR MORE INFORMATION SEE L508.00 STEPPING STONE DETAIL.

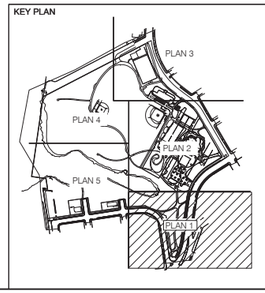
LEGEND

CLL	CONTRACT LIMIT LINE
	PROPERTY LINE
14+00	STATION LINE
	AREA BOUNDARY
BP	BASE POINT
EP	END POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF RETURN CURVATURE
PT	POINT OF TANGENCY
P.O.B.	POINT OF BEGINNING
STA.	STATION
OFF.	OFFSET
(A)	CURVE ID (SEE CURVE TABLES ON SHEETS L217.00 AND L218.00)
AREA 1	LAYOUT AREA
STA. 118+74.30 OFF. L 2472.52	CENTER POINT OF RADIUS
N: 157398.81 E: 1051177.69	NORTHTING & EASTING
	PARK SECURITY LIGHT
	SOLAR LIGHT

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE (NORTH)

KEY PLAN



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FLUSHING, NEW YORK 11368

SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
LAYOUT PLAN 1

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	CORY SEAMER

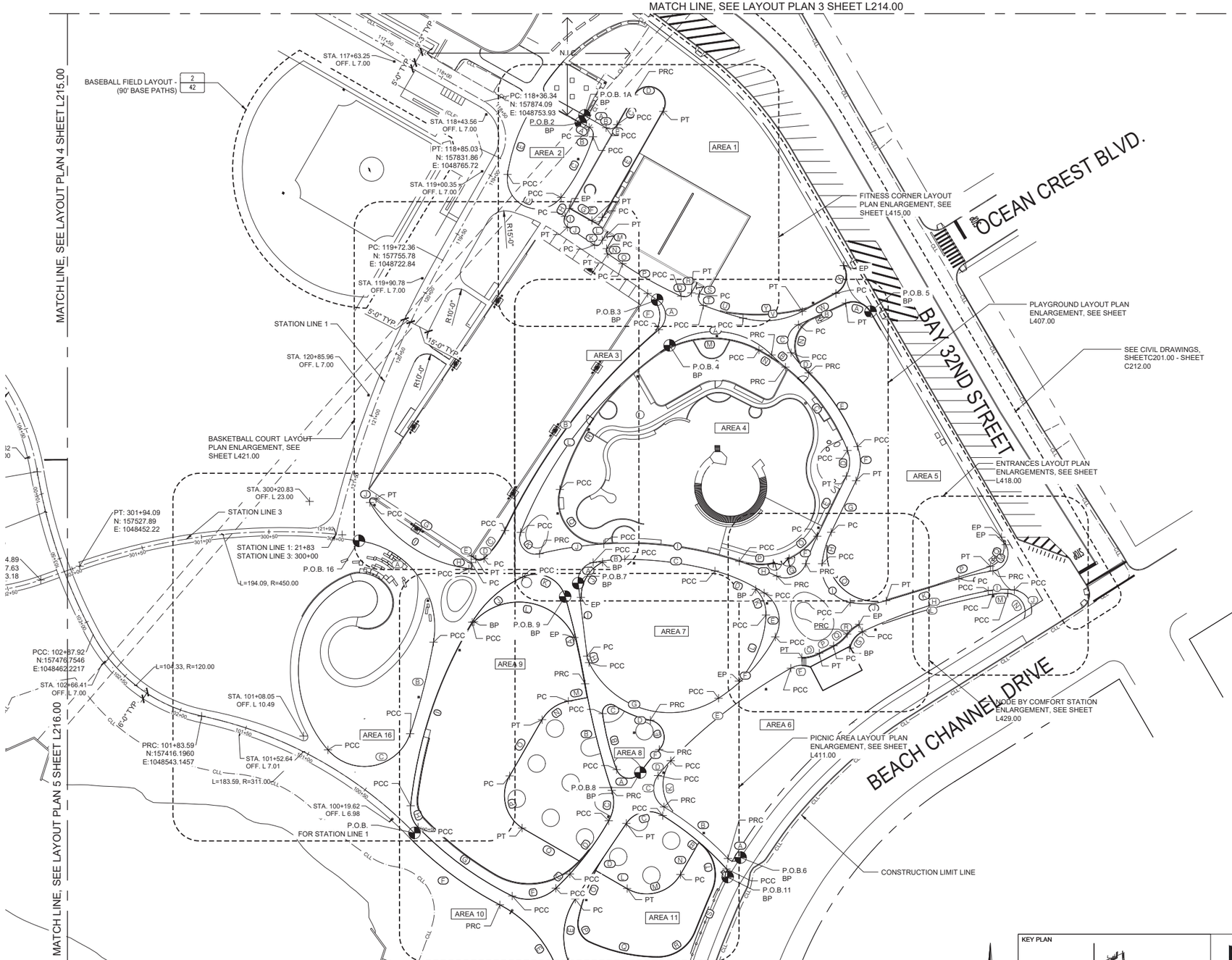
B-SCAN | SCALE 1" = 30'-0" | DRAWING NO. L212.00 | CONTRACT NO. Q007-120M

DATE 04/16/2020

BLOCK 15745

LOT 1

SHEET No.48 OF 160 SHEETS



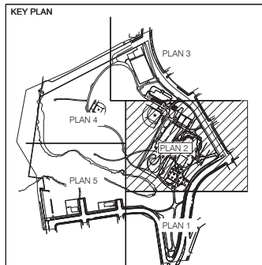
NOTES

1. SEE SHEET L212.00 FOR LAYOUT NOTES.

LEGEND

CLL	CONTRACT LIMIT LINE
	PROPERTY LINE
14+00	STATION LINE
	AREA BOUNDARY
BP	BASE POINT
EP	END POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF RETURN CURVATURE
PT	POINT OF TANGENCY
P.O.B.	POINT OF BEGINNING
STA.	STATION
OFF.	OFFSET
A	CURVE ID (SEE CURVE TABLES ON SHEETS L217.00 AND L218.00)
AREA 1	LAYOUT AREA
STA. 118+74.30 OFF. L 2472.52	CENTER POINT OF RADIUS
N: 157398.81 E: 1051177.69	NORTHTING & EASTING
	PARK SECURITY LIGHT
	SOLAR LIGHT

KEY PLAN



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SEAL

BLOCK 15745

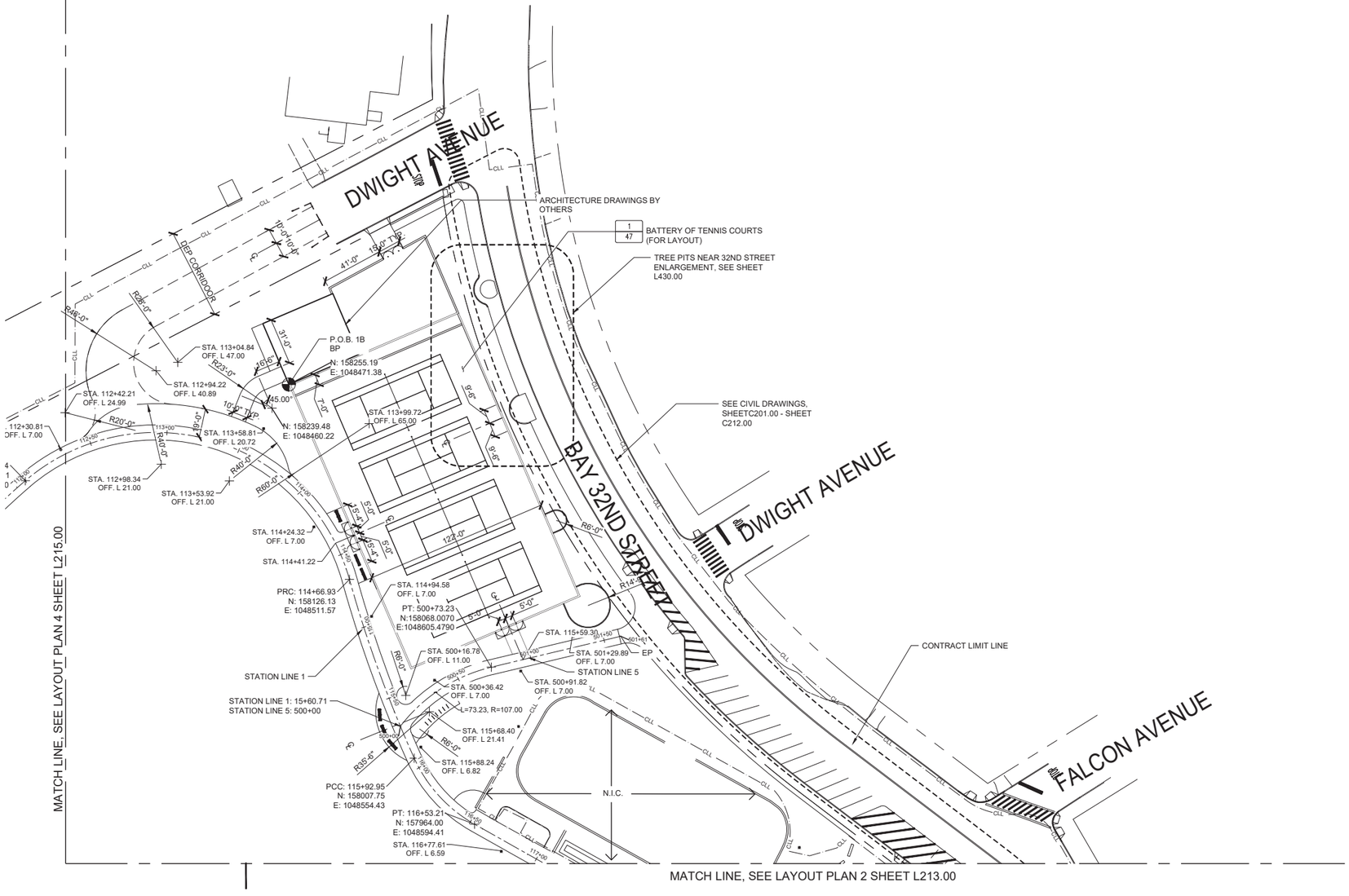
LOT 1

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
LAYOUT PLAN 2

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	CORY SEAMER

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L213.00	Q007-120M
	DATE 04/16/2020		SHEET No49 OF 160 SHEETS



NOTES

1. SEE SHEET L206 FOR LAYOUT NOTES.

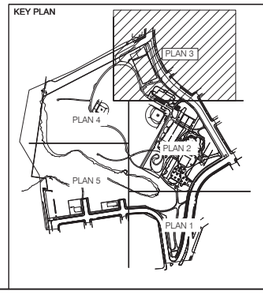
LEGEND

CLL	CONTRACT LIMIT LINE
	PROPERTY LINE
14+00	STATION LINE
	AREA BOUNDARY
BP	BASE POINT
EP	END POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF RETURN CURVATURE
PT	POINT OF TANGENCY
P.O.B.	POINT OF BEGINNING
STA.	STATION
OFF.	OFFSET
A	CURVE ID (SEE CURVE TABLES ON SHEETS L217.00 AND L218.00)
AREA 1	LAYOUT AREA
STA. 118+74.30 OFF. L 2472.52	CENTER POINT OF RADIUS
N: 157398.81 E: 1051177.69	NORTHTING & EASTING
	PARK SECURITY LIGHT
	SOLAR LIGHT

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

KEY PLAN



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SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
LAYOUT PLAN 3

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	CORY SEAMER

B-SCAN

SCALE: 1" = 30'-0"

DRAWING NO.: L214.00

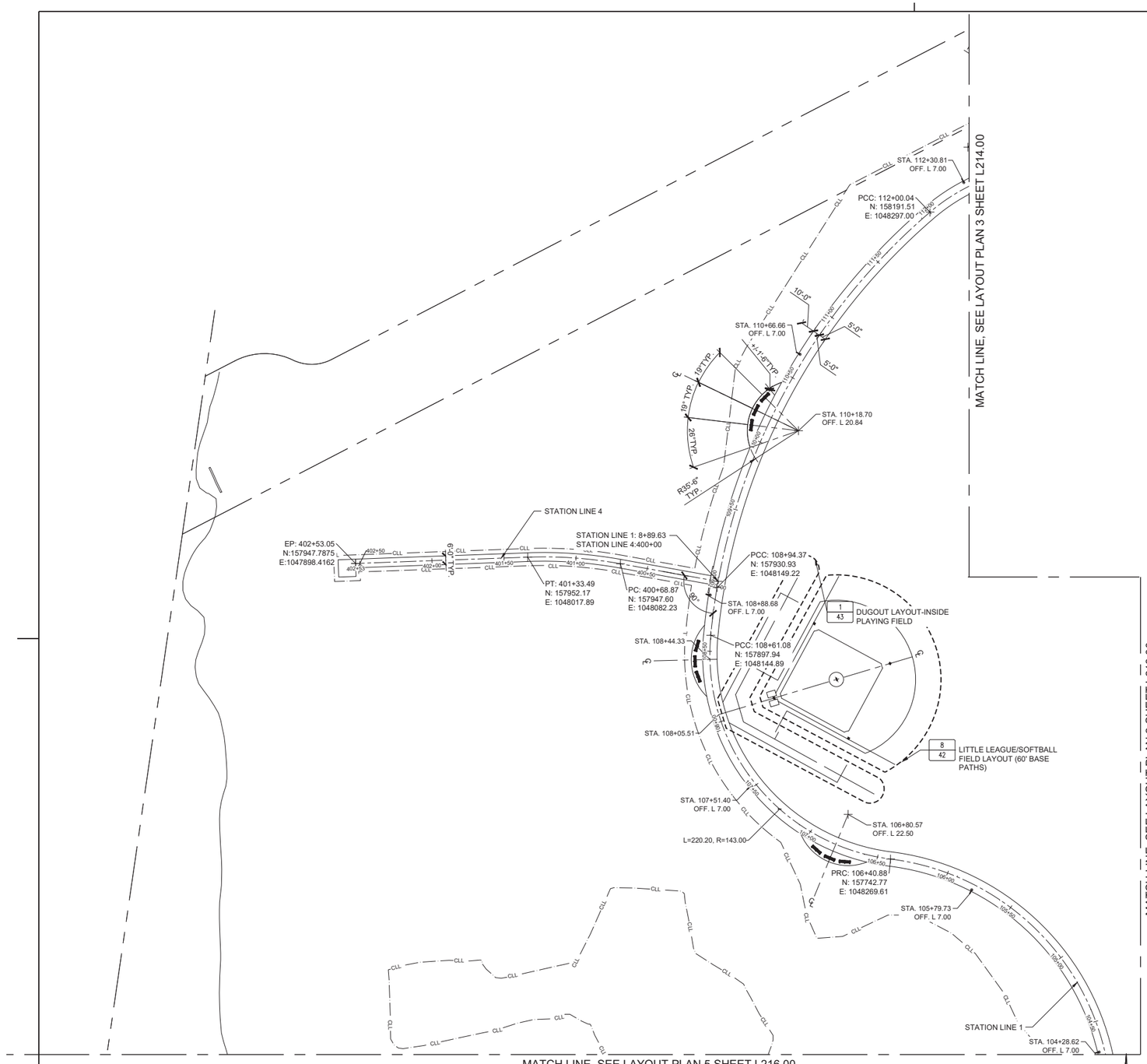
CONTRACT NO.: Q007-120M

DATE: 04/16/2020

BLOCK: 15745

LOT: 1

SHEET No50 OF 160 SHEETS



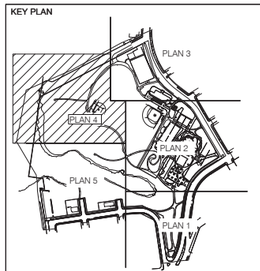
NOTES

1. SEE SHEET L206 FOR LAYOUT NOTES.

LEGEND

CLL	CONTRACT LIMIT LINE
	PROPERTY LINE
14+00	STATION LINE
	AREA BOUNDARY
BP	BASE POINT
EP	END POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF RETURN CURVATURE
PT	POINT OF TANGENCY
P.O.B.	POINT OF BEGINNING
STA.	STATION
OFF.	OFFSET
A	CURVE ID (SEE CURVE TABLES ON SHEETS L217.00 AND L218.00)
AREA 1	LAYOUT AREA
STA. 118+74.30 OFF. L 2472.52	CENTER POINT OF RADIUS
N: 157398.81 E: 1051177.69	NORTHTING & EASTING
	PARK SECURITY LIGHT
	SOLAR LIGHT

KEY PLAN



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SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
LAYOUT PLAN 4

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	CORY SEAMER

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L215.00	Q007-120M
BLOCK 15745	DATE 04/16/2020		SHEET No 51 OF 160 SHEETS
LOT 1			

MATCH LINE, SEE LAYOUT PLAN 4 SHEET L215.00

EP: 304+42.00
N:157552.5540
E:1048213.9142

PRC: 104+16.90
N:157598.2190
E:1048420.5648

L=128.98, R=395.00

PT: 301+94.09
N: 157527.89
E: 1048452.22

L=106.81, R=160.00

PC: 302+24.89
N: 157517.63
E: 1048423.18

PT: 303+31.70
N: 157517.02
E: 1048318.34

PCC: 102+87.92
N:157476.7546
E:1048462.2217

STA. 102+66.41
OFF. L 7.00

PRC: 101
N:15741
E:10485

MATCH LINE, SEE LAYOUT PLAN 2 SHEET L213.00

N: 157219.30
E: 1048015.50

N: 157190.94
E: 1048077.26

N: 157182.91
E: 1048206.05

R126'-0"

R68'-0"

PRC

21'-12"

10'-0"

3'-0" TYP.

3'-0" TYP.

5'-0" TYP.

5'-0" TYP.

6'-0" TYP.

MATCH LINE, SEE LAYOUT PLAN 1 SHEET L212.00

NORTON AVENUE

BEACH 38TH STREET

BEACH 37TH STREET

BEACH 36TH STREET

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

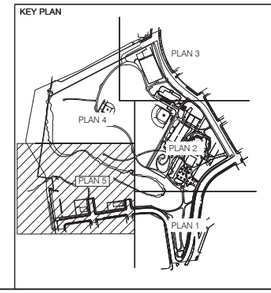
NOTES

1. SEE SHEET L206 FOR LAYOUT NOTES.

LEGEND

CLL	CONTRACT LIMIT LINE
	PROPERTY LINE
14+00	STATION LINE
	AREA BOUNDARY
BP	BASE POINT
EP	END POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF RETURN CURVATURE
PT	POINT OF TANGENCY
P.O.B.	POINT OF BEGINNING
STA.	STATION
OFF.	OFFSET
A	CURVE ID (SEE CURVE TABLES ON SHEETS L217.00 AND L218.00)
AREA 1	LAYOUT AREA
STA. 118+74.30 OFF. L 2472.52	CENTER POINT OF RADIUS
N: 157398.81 E: 1051177.69	NORTHTING & EASTING
	PARK SECURITY LIGHT
	SOLAR LIGHT

KEY PLAN



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SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
LAYOUT PLAN 5

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	YAJUN DONG	CORY SEAMER

B-SCAN

SCALE: 1" = 30'-0"

DRAWING NO.: L216.00

CONTRACT NO.: Q007-120M

DATE: 04/16/2020

BLOCK: 15745

LOT: 1

SHEET No 52 OF 160 SHEETS

GRADING NOTES

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING TOPOGRAPHIC INFORMATION. ANY DISCREPANCIES BETWEEN THE SURVEY AND EXISTING CONDITIONS, BETWEEN PLANS AND SPECIFICATIONS, OR BETWEEN DIFFERENT PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER AND DPR IN WRITING PRIOR TO COMMENCING WORK.
2. ALL PAVEMENTS SHALL BE INSTALLED TO SMOOTH EVEN GRADE WITH NO PATCHING, IRREGULARITIES, OR BIRDBATHS. ALL NEW PAVEMENTS SHALL MEET EXISTING PAVEMENTS AND GRADES FLUSH AND EVENLY. ALL CURBS SHALL BE INSTALLED TO SMOOTH EVEN GRADES AS INDICATED WITH NO PATCHING OR IRREGULARITIES.
3. THE CONTRACTOR SHALL USE EXTREME CARE TO PROTECT EXISTING TREES AND THEIR ROOTS. EXCEPT AS NOTED, ELEVATIONS AROUND EXISTING TREES SHALL REMAIN THE SAME. MODIFY TRENCHES OR CHANNELS TO AVOID REMAINING TREES AND THEIR ROOTS. ALL EXCAVATION WITHIN CRITICAL ROOT ZONES SHALL BE PERFORMED BY HAND OR PNEUMATICALLY UNLESS DIRECTED BY THE ENGINEER IN CONSULTATION WITH THE DIRECTOR OF LANDSCAPE CONSTRUCTION OR THEIR REPRESENTATIVE.
4. THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EARTHWORK OPERATIONS, TO AVOID DISTURBING ADJACENT FACILITIES AND OR SUBGRADE STRUCTURES. ALL DAMAGE RESULTING FROM CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REPAIRED AT NO EXPENSE TO PARKS & RECREATION OR THE CITY OF NEW YORK. ALL REPAIR WORK SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND/OR AGENCY HAVING JURISDICTION.
5. EXERCISE EXTREME CAUTION AND MINIMIZE USE OF HEAVY EQUIPMENT WITHIN LIMITS OF DEP CORRIDORS. ANY DAMAGE TO STRUCTURES SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

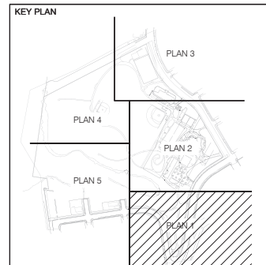
LEGEND

- PROPERTY LINE
- CLL — CONTRACT LIMIT LINE
- EXISTING CONTOUR
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED CONTOUR AT EXISTING CONTOUR
- MHW — MEAN HIGH WATER LINE
- EXISTING TREE
- CRITICAL ROOT ZONE (CRZ) WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION
- (0.00) EXISTING SPOT ELEVATION
- 0.00 SPOT ELEVATION
- MATCH MATCH EXISTING GRADE
- HP HIGH POINT
- TC TOP OF CURB
- BC BOTTOM OF CURB
- TS TOP OF STAIRS
- BS BOTTOM OF STAIRS
- TW TOP OF WALL
- BW BOTTOM OF WALL
- TR TOP OF RAMP
- BR BOTTOM OF RAMP
- RIM RIM ELEVATION
- EXISTING CATCH BASIN
- CATCH BASIN
- SURFACE FLOW DIRECTION
- EXISTING TREE LINE
- MANHOLE

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

KEY PLAN



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P: 212.741.8090 WWW.NIV5.COM

SEAL

BLOCK 15745

LOT 1

NYC Parks

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PARKS & RECREATION
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FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
GRADING PLAN 1

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	CORY SEAMER	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L220.00	Q007-120M
	DATE 04/16/2020		SHEET No 56 OF 160 SHEETS

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

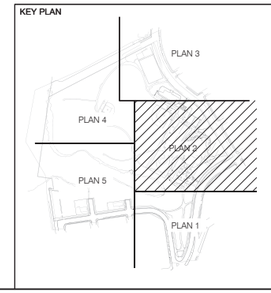
NOTES

1. SEE SHEET 211 FOR GRADING NOTES.

LEGEND

	PROPERTY LINE
CLL	CONTRACT LIMIT LINE
	EXISTING CONTOUR
	MAJOR CONTOUR
	MINOR CONTOUR
	PROPOSED CONTOUR AT EXISTING CONTOUR
MHW	MEAN HIGH WATER LINE
	EXISTING TREE
	CRITICAL ROOT ZONE (CRZ) WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION
(0.00)	EXISTING SPOT ELEVATION
0.00	SPOT ELEVATION
MATCH	MATCH EXISTING GRADE
HP	HIGH POINT
TC	TOP OF CURB
BC	BOTTOM OF CURB
TS	TOP OF STAIRS
BS	BOTTOM OF STAIRS
TW	TOP OF WALL
BW	BOTTOM OF WALL
TR	TOP OF RAMP
BR	BOTTOM OF RAMP
RIM	RIM ELEVATION
	EXISTING CATCH BASIN
	CATCH BASIN
	SURFACE FLOW DIRECTION
	EXISTING TREE LINE
	MANHOLE

KEY PLAN



NV5
37 GRAND ST. SUITE 401
NEW YORK, NEW YORK 10005
P: 212.741.8080 WWW.NV5.COM

NYC Parks

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
GRADING PLAN 2

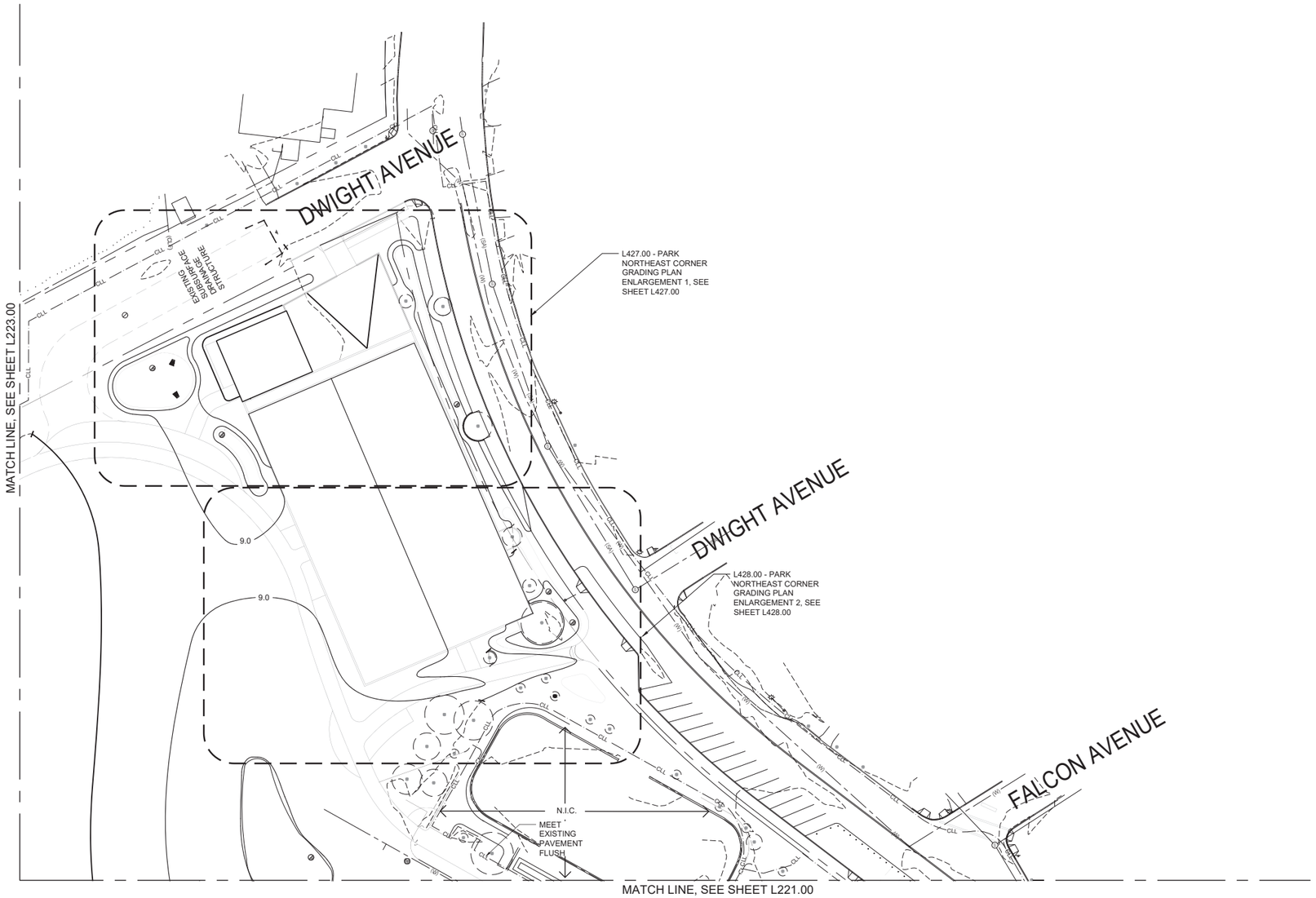
DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	CORY SEAMER	ALEXANDER BERRYMAN

B-SCAN

SCALE: 1" = 30'-0"
DRAWING NO.: L221.00
DATE: 04/16/2020
CONTRACT NO.: Q007-120M

BLOCK 15745
LOT 1

SHEET No. 57 OF 160 SHEETS



NOTES

1. SEE SHEET 211 FOR GRADING NOTES.

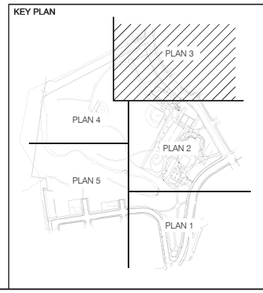
LEGEND

	PROPERTY LINE
CLL	CONTRACT LIMIT LINE
	EXISTING CONTOUR
	MAJOR CONTOUR
	MINOR CONTOUR
	PROPOSED CONTOUR AT EXISTING CONTOUR
MHW	MEAN HIGH WATER LINE
	EXISTING TREE
	CRITICAL ROOT ZONE (CRZ) WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION
(0.00)	EXISTING SPOT ELEVATION
0.00	SPOT ELEVATION
MATCH	MATCH EXISTING GRADE
HP	HIGH POINT
TC	TOP OF CURB
BC	BOTTOM OF CURB
TS	TOP OF STAIRS
BS	BOTTOM OF STAIRS
TW	TOP OF WALL
BW	BOTTOM OF WALL
TR	TOP OF RAMP
BR	BOTTOM OF RAMP
RIM	RIM ELEVATION
	EXISTING CATCH BASIN
	CATCH BASIN
	SURFACE FLOW DIRECTION
	EXISTING TREE LINE
	MANHOLE

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

KEY PLAN



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FLUSHING, NEW YORK 11368

SEAL

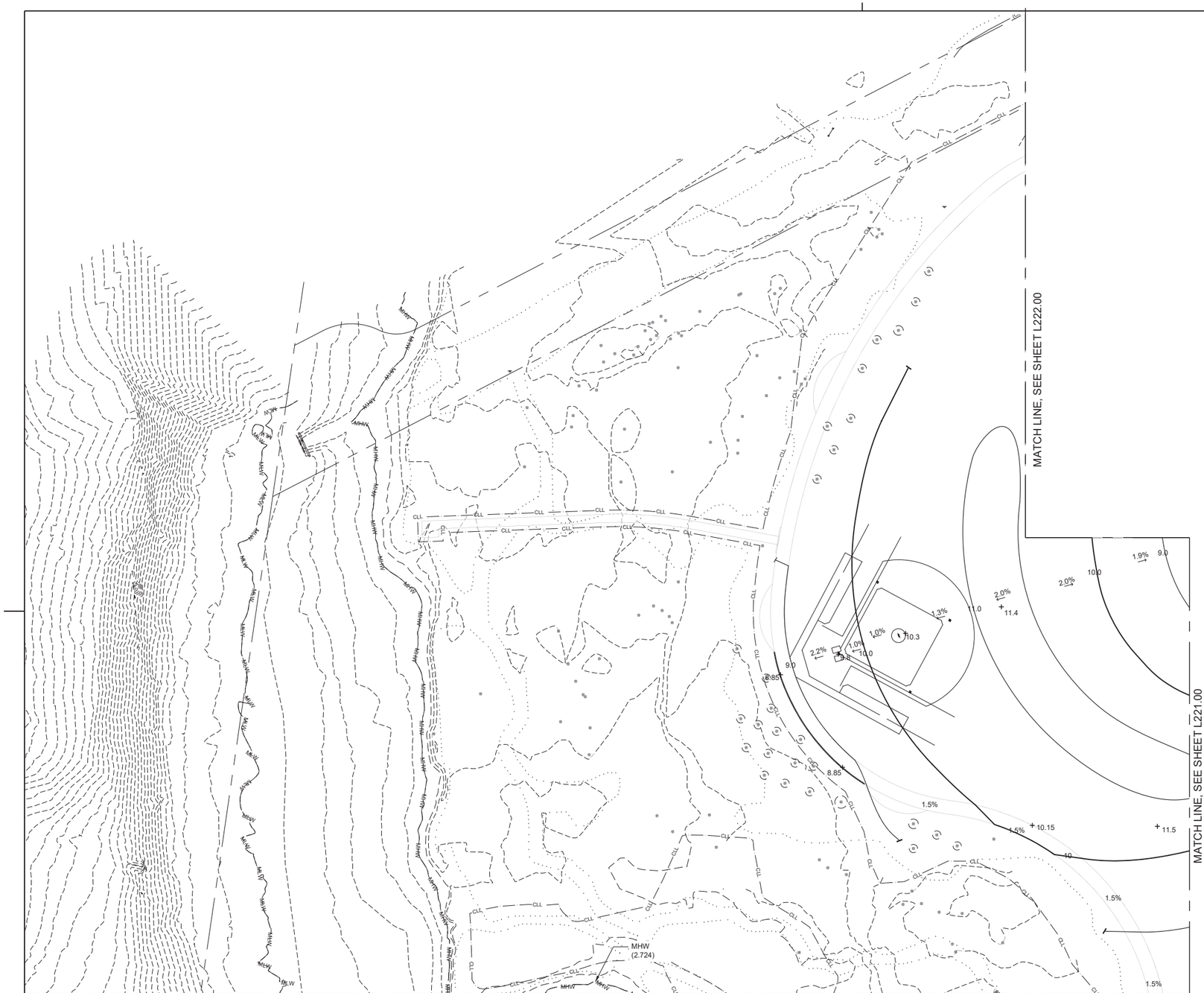
PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
GRADING PLAN 3

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	CORY SEAMER	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L222.00	Q007-120M

BLOCK 15745
LOT 1
DATE 04/16/2020



NOTES

1. SEE SHEET 211 FOR GRADING NOTES.

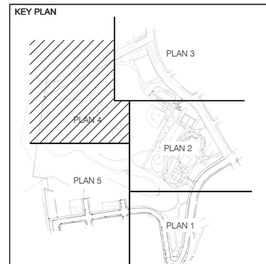
LEGEND

	PROPERTY LINE
CLL	CONTRACT LIMIT LINE
	EXISTING CONTOUR
	MAJOR CONTOUR
	MINOR CONTOUR
	PROPOSED CONTOUR AT EXISTING CONTOUR
MHW	MEAN HIGH WATER LINE
	EXISTING TREE
	CRITICAL ROOT ZONE (CRZ) WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION
(0.00)	EXISTING SPOT ELEVATION
0.00	SPOT ELEVATION
MATCH	MATCH EXISTING GRADE
HP	HIGH POINT
TC	TOP OF CURB
BC	BOTTOM OF CURB
TS	TOP OF STAIRS
BS	BOTTOM OF STAIRS
TW	TOP OF WALL
BW	BOTTOM OF WALL
TR	TOP OF RAMP
BR	BOTTOM OF RAMP
RIM	RIM ELEVATION
	EXISTING CATCH BASIN
	CATCH BASIN
	SURFACE FLOW DIRECTION
	EXISTING TREE LINE
	MANHOLE

TRUE NORTH

0 15' 30' 60'
Scale: 1" = 30'-0"

KEY PLAN



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SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
GRADING PLAN 4

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	CORY SEAMER	ALEXANDER BERRYMAN

B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	1" = 30'-0"	L223.00	Q007-120M
	DATE 04/16/2020		

BLOCK 15745
LOT 1

SHEET No 59 OF 160 SHEETS

MATCH LINE, SEE SHEET L223.00

MATCH LINE, SEE SHEET L222.00

MHW
(2.724)

NORTON AVENUE

BEACH 38TH STREET

BEACH 37TH STREET

CONTRACT LIMIT LINE

0 15' 30' 60'
Scale: 1" = 30'-0"

TRUE NORTH

NOTES

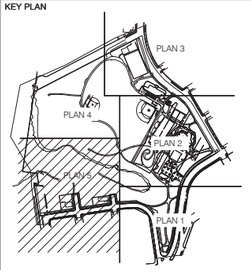
1. SEE SHEET 211 FOR GRADING NOTES.

LEGEND

- PROPERTY LINE
- CONTRACT LIMIT LINE
- EXISTING CONTOUR
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPOSED CONTOUR AT EXISTING CONTOUR
- MEAN HIGH WATER LINE
- EXISTING TREE
- CRITICAL ROOT ZONE (CRZ) WITHIN THIS AREA EXCAVATION SHALL BE BY HAND AND/OR PNEUMATIC EXCAVATION

(0.00)	EXISTING SPOT ELEVATION
0.00	SPOT ELEVATION
MATCH	MATCH EXISTING GRADE
HP	HIGH POINT
TC	TOP OF CURB
BC	BOTTOM OF CURB
TS	TOP OF STAIRS
BS	BOTTOM OF STAIRS
TW	TOP OF WALL
BW	BOTTOM OF WALL
TR	TOP OF RAMP
BR	BOTTOM OF RAMP
RIM	RIM ELEVATION
	EXISTING CATCH BASIN
	CATCH BASIN
	SURFACE FLOW DIRECTION
	EXISTING TREE LINE
	MANHOLE

KEY PLAN



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SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
GRADING PLAN 5

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	CORY SEAMER	ALEXANDER BERRYMAN

B-SCAN

SCALE: 1" = 30'-0"

DRAWING NO.: L224.00

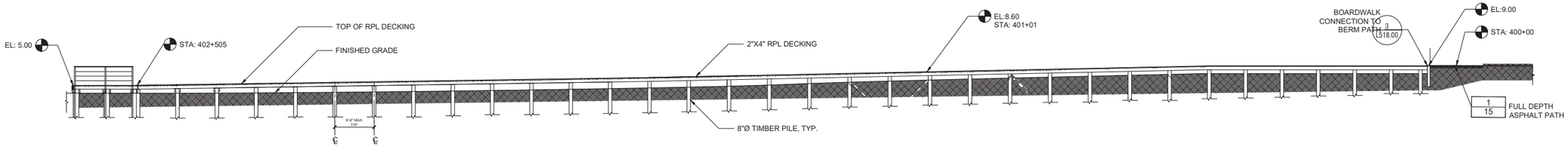
DATE: 04/16/2020

CONTRACT NO.: Q007-120M

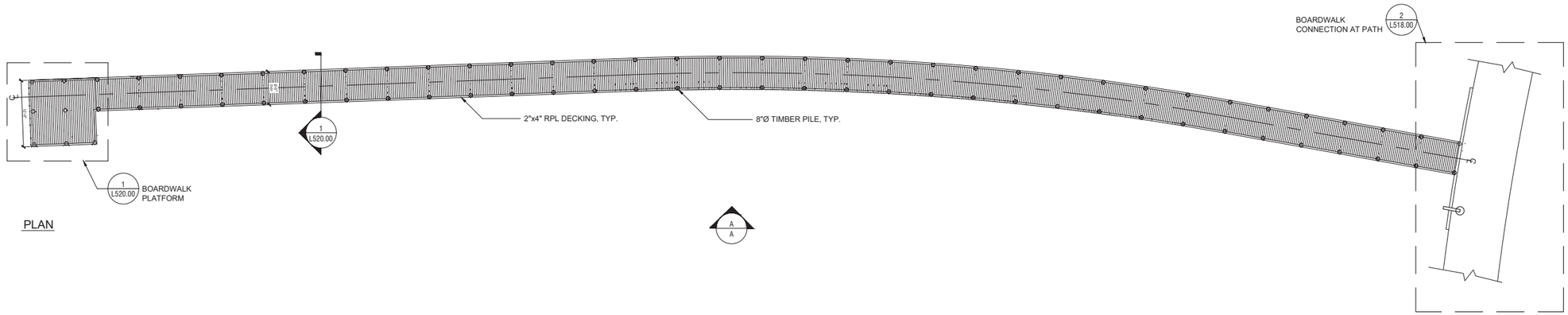
BLOCK: 15745

LOT: 1

SHEET No. 60 OF 160 SHEETS



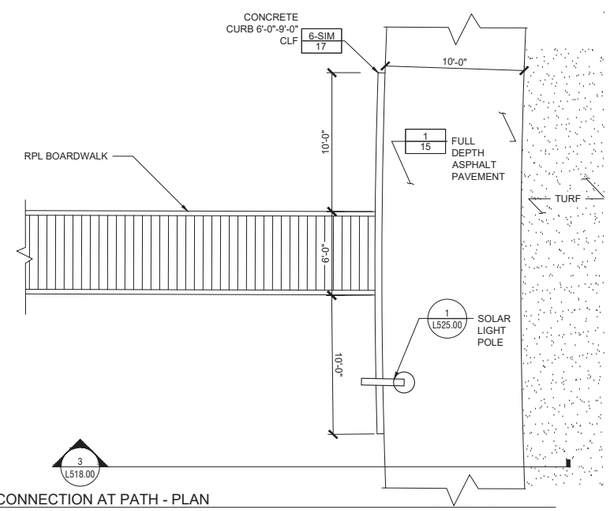
ELEVATION A-A



PLAN

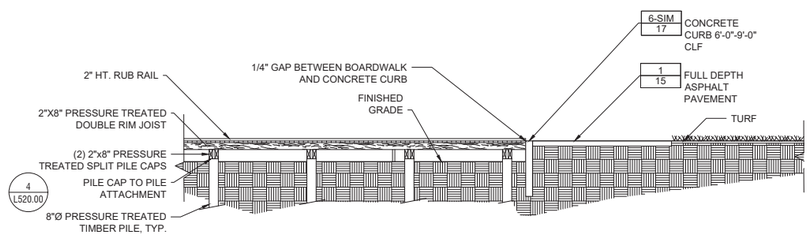
1 RPL BOARDWALK - NORTH
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
Scale: 1/8" = 1'-0"



2 BOARDWALK CONNECTION AT PATH - PLAN
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
Scale: 1/4" = 1'-0"



3 BOARDWALK CONNECTION AT PATH - SECTION
SCALE: 1/4" = 1'-0"

0 2' 4' 8'
Scale: 1/4" = 1'-0"

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SEAL

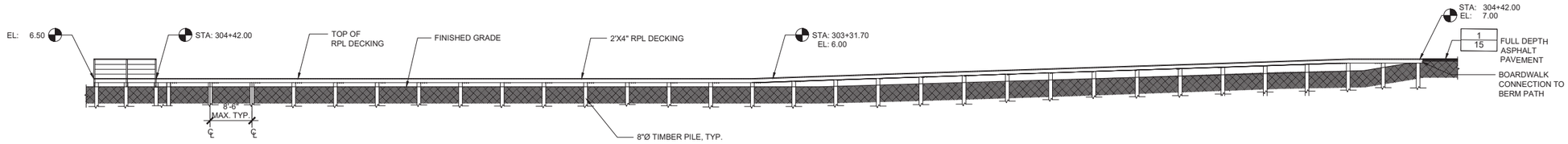
PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
RPL BOARDWALK NORTH DETAILS

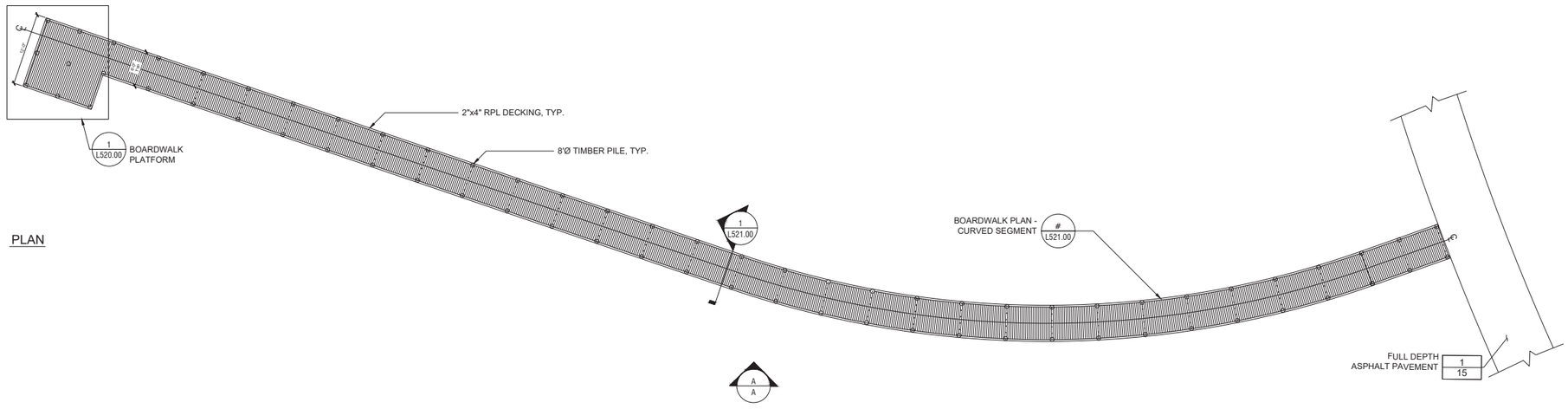
DESIGNED BY	DRAWN BY		CHECKED BY
TAKUMA ONO	EMMA GOODE		ALEXANDER BERRYMAN
B-SCAN	SCALE: AS NOTED	DRAWING NO.: L518.00	CONTRACT NO.: Q007-120M
	DATE: 04/16/2020		SHEET No: 119 OF 160 SHEETS

BLOCK
15745

LOT
1



ELEVATION A-A



PLAN

1 RPL BOARDWALK - SOUTH
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
Scale: 1/8" = 1'-0"

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FLUSHING, NEW YORK 11368

SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
RPL BOARDWALK SOUTH DETAILS

DESIGNED BY	DRAWN BY	CHECKED BY
TAKUMA ONO	EMMA GOODE	ALEXANDER BERRYMAN

B-SCAN

SCALE: AS NOTED

DRAWING NO.: L519.00

DATE: 04/16/2020

CONTRACT NO.: Q007-120M

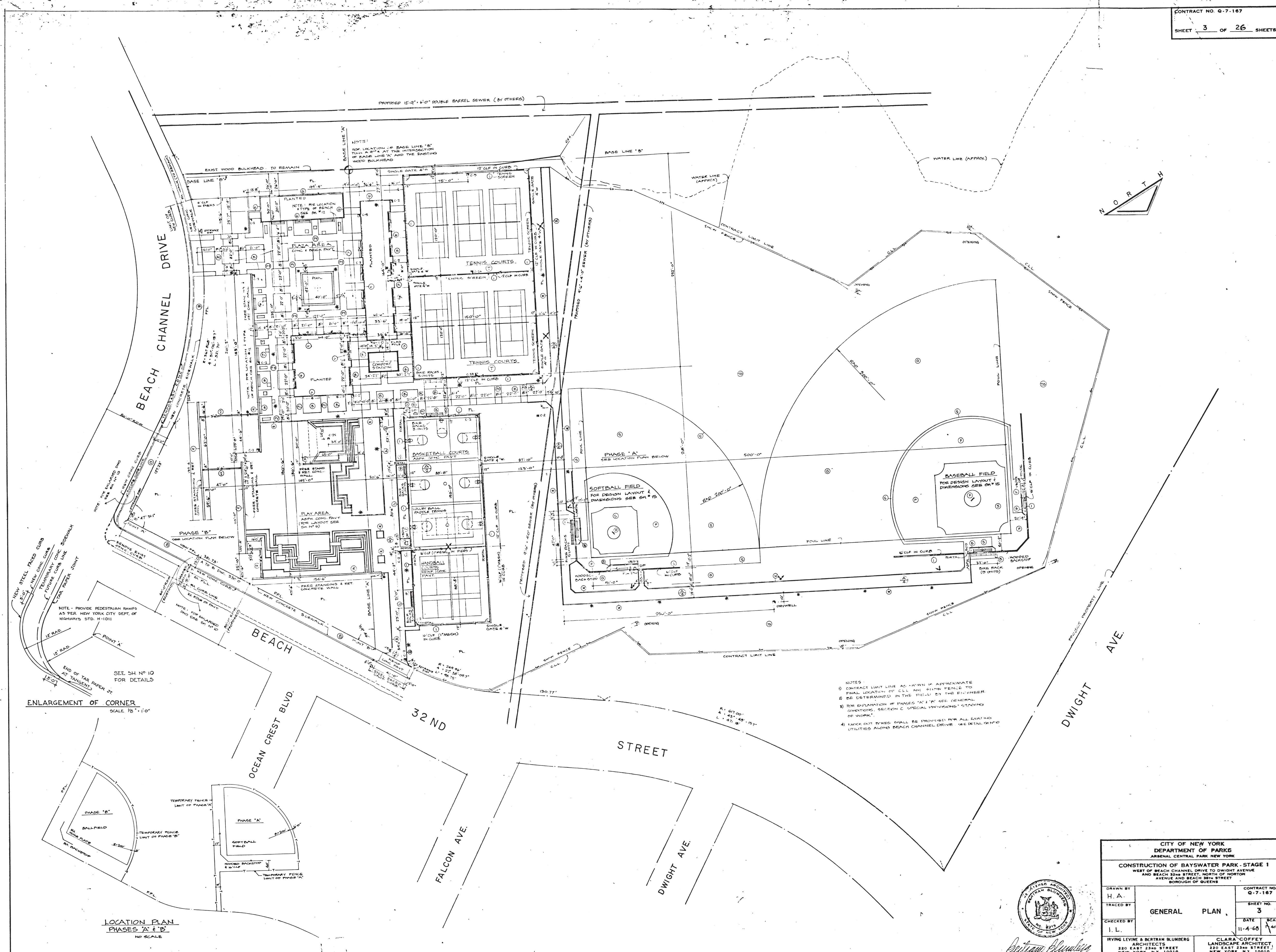
BLOCK 15745

LOT 1

SHEET No 119 OF 160 SHEETS

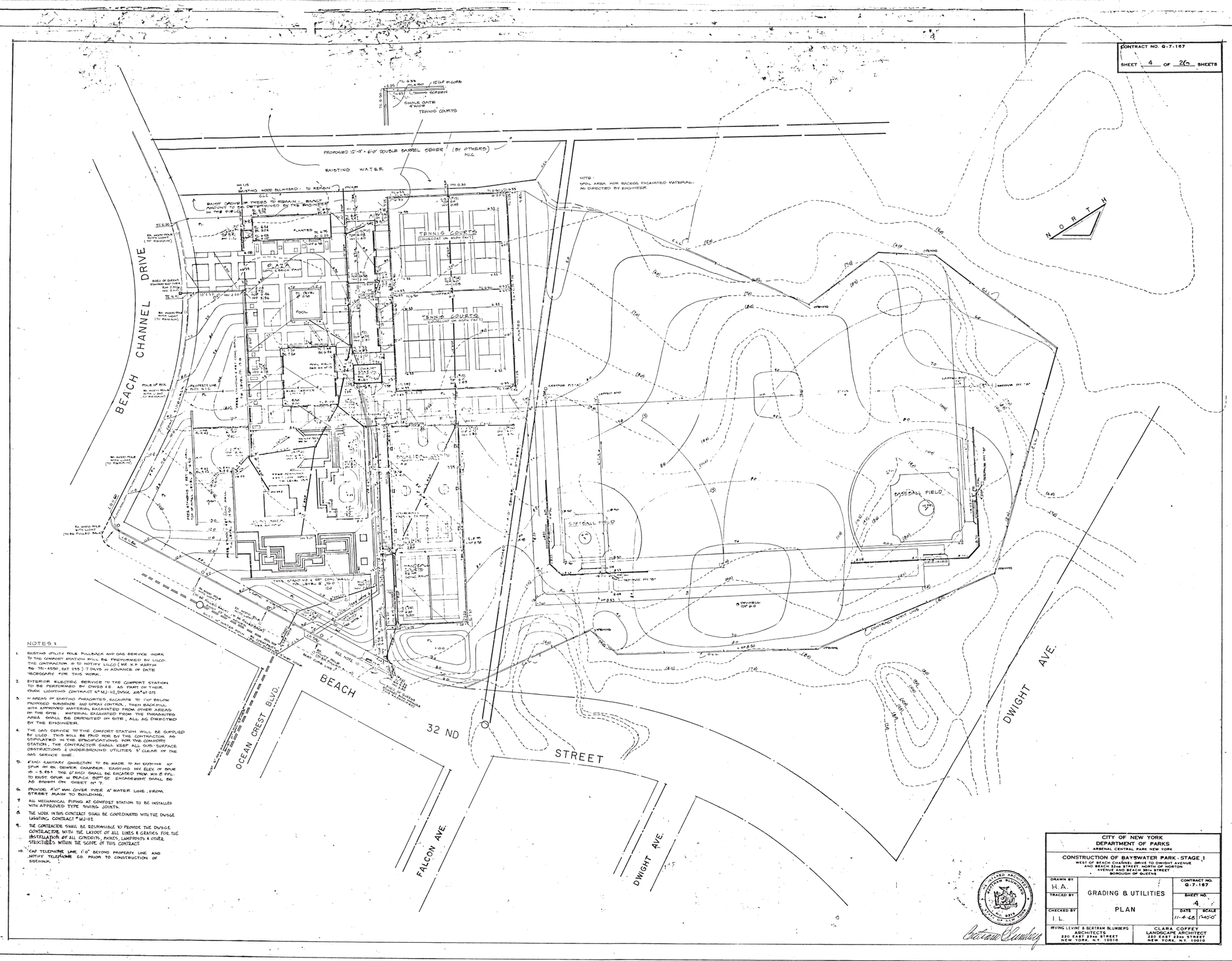
APPENDIX B

1968 Park Plans


CONTRACT NO. Q-7-167
SHEET 3 OF 26 SHEETS
NORTH
BEACH CHANNEL DRIVE
BEACH 32ND STREET
DWIGHT AVE.
OCEAN CREST BLVD.
FALCON AVE.
DWIGHT AVE.
TENNIS COURTS
TENNIS COURTS
BASKETBALL COURTS
HANDBALL
PLAY AREA
PLAZA AREA
POOL
PLANTED
PHASE "A"
PHASE "B"
SOFTBALL FIELD
BASEBALL FIELD
ENLARGEMENT OF CORNER
SCALE 1/8" = 1'-0"
SEE SH Nº 10 FOR DETAILS
LOCATION PLAN
PHASES "A" & "B"
NO SCALE
CITY OF NEW YORK
DEPARTMENT OF PARKS
ARSENAL CENTRAL PARK NEW YORK
CONSTRUCTION OF BAYSWATER PARK - STAGE 1
WEST OF BEACH CHANNEL DRIVE TO DWIGHT AVENUE AND BEACH 32ND STREET, NORTH OF NORTON AVENUE AND BEACH 36TH STREET
BOROUGH OF QUEENS
DRAWN BY H.A.
CHECKED BY I.L.
GENERAL PLAN
CONTRACT NO. Q-7-167
SHEET NO. 3
DATE 11-4-68
IRVING LEVINE & BERTRAM BLUMBERG ARCHITECTS
220 EAST 23RD STREET NEW YORK, N.Y. 10010
CLARA COFFEY LANDSCAPE ARCHITECT
220 EAST 23RD STREET NEW YORK, N.Y. 10010

CONTRACT NO. Q-7-167

SHEET 4 OF 26 SHEETS



NOTES:

1. EXISTING UTILITY POLE PULLBACK AND GAS SERVICE WORK TO THE COMFORT STATION WILL BE PERFORMED BY LILCO. THE CONTRACTOR IS TO NOTIFY LILCO (MR. K.P. MARTIN 516-701-4650, EXT 253) 7 DAYS IN ADVANCE OF DATE NECESSARY FOR THIS WORK.
2. EXTERIOR ELECTRIC SERVICE TO THE COMFORT STATION TO BE PERFORMED BY DWSGE AS PART OF THEIR PARK LIGHTING CONTRACT N° M.J.-112, DWSGE 308°67-275
3. IN AREAS OF EXISTING PARAPETED, EXCAVATE TO 1'0" BELOW PROPOSED SUBGRADE AND GRADE CONTROL, THEN BACKFILL WITH APPROVED MATERIAL EXCAVATED FROM OTHER AREAS ON THE SITE. MATERIAL EXCAVATED FROM THE PARAPETED AREA SHALL BE DEPOSITED ON SITE, ALL AS DIRECTED BY THE ENGINEER.
4. THE GAS SERVICE TO THE COMFORT STATION WILL BE SUPPLIED BY LILCO. THIS WILL BE PAID FOR BY THE CONTRACTOR AS STIPULATED IN THE SPECIFICATIONS FOR THE COMFORT STATION. THE CONTRACTOR SHALL KEEP ALL SUB-SURFACE OBSTRUCTIONS & UNDERGROUND UTILITIES 5' CLEAR OF THE GAS SERVICE LINE.
5. 4"INCH SANITARY CONNECTION TO BE MADE TO AN EXISTING 10" SPUR ON EX. SEWER CHAMBER. EXISTING INV ELEV OF SPUR 16 - 5.49 ±. THE 6" INCH SHALL BE ENCASED FROM MH & PPL TO EXIST. SPUR IN BEACH 32ND ST. ENCASEMENT SHALL BE AS SHOWN ON SHEET N° 7.
6. PROVIDE 4'6" MIN. COVER OVER 4" WATER LINE, FROM STREET MAIN TO BUILDING.
7. ALL MECHANICAL PIPING AT COMFORT STATION TO BE INSTALLED WITH APPROVED TYPE SWING JOINTS.
8. THE WORK IN THIS CONTRACT SHALL BE COORDINATED WITH THE DWSGE LIGHTING CONTRACT N° M.J.-112.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE DWSGE CONTRACTOR WITH THE LAYOUT OF ALL LINES & GRADES FOR THE INSTALLATION OF ALL CONDUITS, POLES, LAMPPOSTS & OTHER STRUCTURES WITHIN THE SCOPE OF THIS CONTRACT.
10. CAP TELEPHONE LINE 1'0" BEYOND PROPERTY LINE AND NOTIFY TELEPHONE CO. PRIOR TO CONSTRUCTION OF SIDEWALK.

CITY OF NEW YORK
DEPARTMENT OF PARKS
ARSENAL CENTRAL PARK NEW YORK

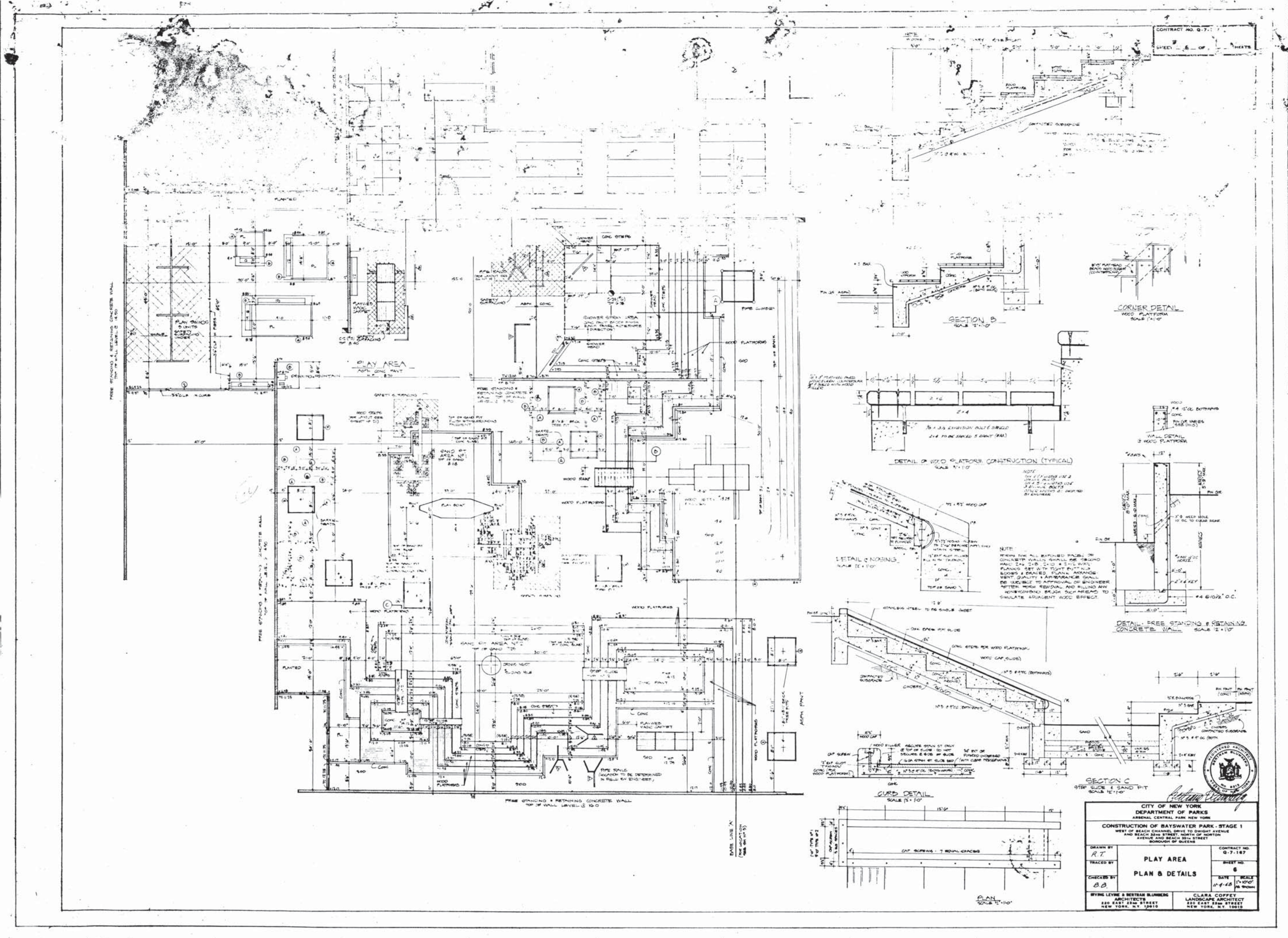
CONSTRUCTION OF BAYSWATER PARK - STAGE 1
WEST OF BEACH CHANNEL DRIVE TO DWIGHT AVENUE AND BEACH 32nd STREET, NORTH OF NORTON AVENUE TO BEACH 35th STREET
BOROUGH OF QUEENS

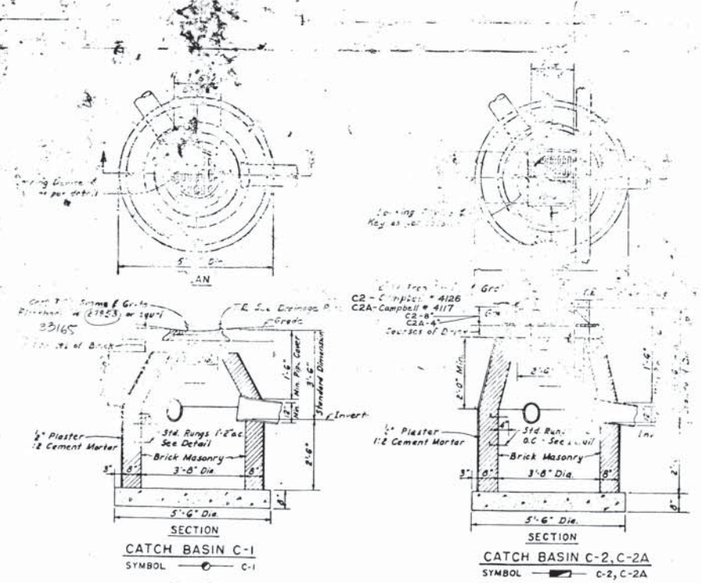
DRAWN BY H.A.	GRADING & UTILITIES PLAN	CONTRACT NO. Q-7-167
TRACED BY		SHEET NO. 4
CHECKED BY I.L.		DATE 11-4-68 SCALE 1"=40'

IRVING LEVINE & BERTRAM BLUMBERG ARCHITECTS
220 EAST 23rd STREET
NEW YORK, N.Y. 10010

CLARA COFFEY
LANDSCAPE ARCHITECT
220 EAST 23rd STREET
NEW YORK, N.Y. 10010

Bertram Blumberg


CONTRACT NO. Q-7-
PLAY AREA
SECTION B
CORNER DETAIL
WOOD PLATFORM
DETAIL OF WOOD PLATFORM CONSTRUCTION (TYPICAL)
WALL DETAIL
DETAIL @ NOSING
DETAIL - FREE STANDING & RETAINING CONCRETE WALL
FREE STANDING & RETAINING CONCRETE WALL
SECTION C
STEP SLIDE & SAND PIT
CURB DETAIL
PLAN
CITY OF NEW YORK
DEPARTMENT OF PARKS
ARSENAL CENTRAL PARK NEW YORK
CONSTRUCTION OF BAYSWATER PARK - STAGE 1
WEST OF BEACH CHANNEL DRIVE TO DWIGHT AVENUE
AND BEACH 32ND STREET, NORTH OF NORTON
AVENUE AND BEACH 35TH STREET
BOROUGH OF QUEENS
DRAWN BY
R.T.
TRACED BY
CHECKED BY
B.B.
PLAY AREA
PLAN & DETAILS
CONTRACT NO.
Q-7-167
SHEET NO.
6
DATE
11-4-68
SCALE
1"=10'-0"
AS SHOWN
IRVING LEVINE & BERTRAM BLUMBERG
ARCHITECTS
220 EAST 23RD STREET
NEW YORK, N.Y. 10010
CLARA COFFEY
LANDSCAPE ARCHITECT
220 EAST 23RD STREET
NEW YORK, N.Y. 10010



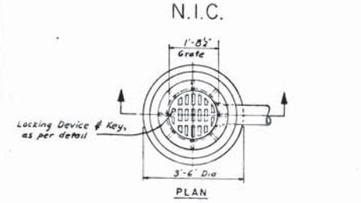
CATCH BASIN C-1

SYMBOL — C-1

N.I.C.

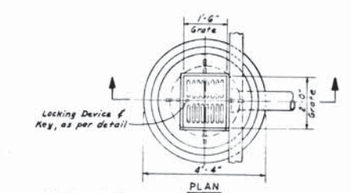
CATCH BASIN C-2, C-2A

SYMBOL — C-2, C-2A



DROP INLET D-1

N.I.C.



Note: For Drop Inlets D1 & D2, 10" pipe permitted on runs of 30 feet or less, otherwise use 18" dia. pipe as the minimum size.

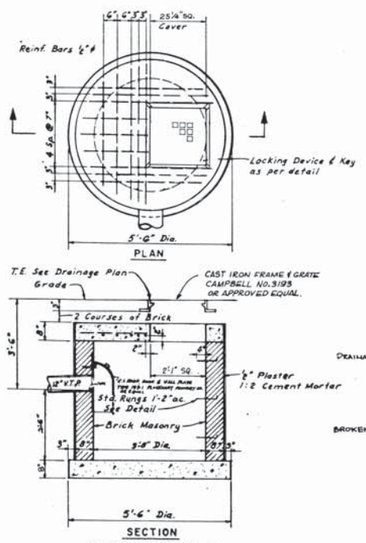
DROP INLET D-2

SYMBOL — D-2

N.I.C.

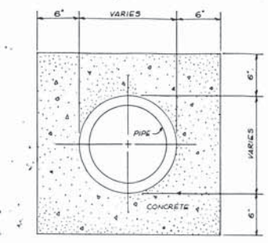
MANHOLE M-1

SYMBOL — M-1



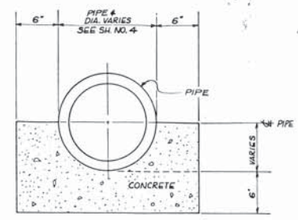
CATCH BASIN C-5

SYMBOL ⊘ C-5



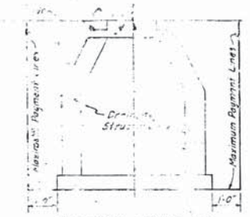
CONC. ENCASEMENT

SCALE: 1½"=1'-0"

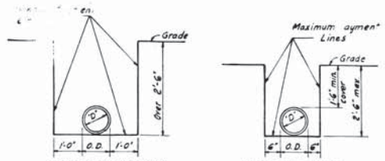


CONCRETE CRADLE

SCALE: 1½"=1'-0"



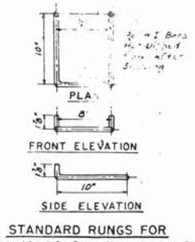
DRAINAGE STRUCTURES



OVER 2'-6" IN DEPTH

1'-6" MIN. COVER

MAXIMUM PAYMENT LINES FOR EXCAVATION

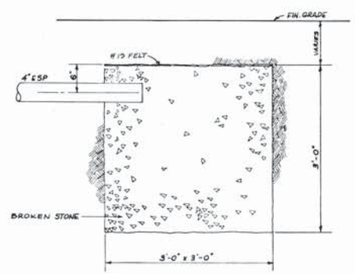


STANDARD RUNGS FOR MANHOLES & CATCH BASINS

SCALE: 1 1/2" = 1'-0"

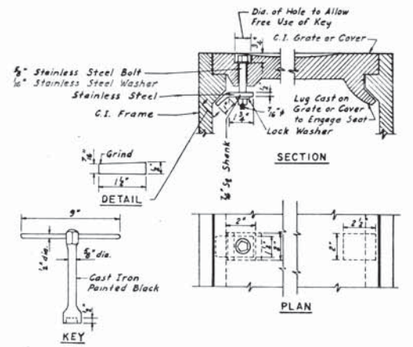
SEEPAGE PIT - A

SCALE: 1" = 1'-0"



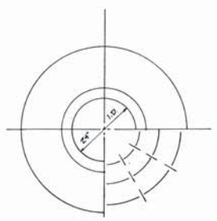
SEEPAGE PIT - B

SCALE: 1" = 1'-0"



STAINLESS STEEL LOCKING DEVICE AND KEY

SCALE 3" = 1'-0"



DRYWELL BASIN

SYMBOL ◐

DRAINAGE & IRRIGATION NOTES

1. Minimum cover for pipe to be 1'-6" computed from finished grade, except where otherwise noted on plan.
2. Maximum cover to be determined by drainage pitch requirements and the location of drains.
3. All Water Pipe to be pitched as indicated by arrows, without pockets, to drainage structures.
4. Exact locations of Structures to be as directed by the Engineer.
5. Provide pipe supports under water and drain pipes in unsettled fill as directed by the Engineer, paid under 1st Class Conc.
6. When laying pipe, wherever possible, avoid all trees, benches and footings. Where necessary provide pipe sleeves through walls, tree pits, or footings.
7. All connections to city water mains are to be made in accordance with permits issued by the Dept. of Water Supply, Gas, and Electricity.
8. The location of Drainage Basins to be at the low point of their respective areas as determined in the field. Locations on plan are diagrammatic and shall not be scaled.
9. For Drainage and Irrigation layout Plan see Sheet No. 4.
10. All Concrete shown to be "Plain Concrete.
11. See Sh. No. 7 for "Concrete Notes."

CITY OF NEW YORK
DEPARTMENT OF PARKS
ARSENAL, CENTRAL PARK NEW YORK

CONSTRUCTION OF BAYSWATER PARK - STAGE 1
WEST OF BEACH CHANNEL DRIVE TO DWIGHT AVENUE AND BEACH 32nd STREET, NORTH OF NORTON AVENUE AND BEACH 35th STREET
BOROUGH OF QUEENS

DRAWN BY: Lirso-		CONTRACT NO. Q-7-167
TRACED BY:	DRAINAGE DETAILS	SHEET NO. 7
CHECKED BY: B.B.		DATE 11-4-46 / SCALE AS SHOWN

IRVING LEVINE & BERTRAM BLUMBERG, ARCHITECTS, 220 EAST 23rd STREET, NEW YORK, N.Y. 10010

CLARA COFFEY, LANDSCAPE ARCHITECT, 220 EAST 23rd STREET, NEW YORK, N.Y. 10010

APPENDIX C

Borings Data

1 AS-DRILLED SUBSURFACE INVESTIGATION PLAN

Scale: 1" = 40'

0 40' 80'

NV5
90 OLD SLIP, SUITE 401
NEW YORK, NEW YORK, 10005
P: 212.74*.8080 WWW.NV5.COM

MFS ENGINEERS & SURVEYORS
MFS CONSULTING ENGINEERS & SURVEYOR, DPC
320 FIFTH AVENUE, SUITE #1102 NEW YORK, NY 10001
T: 212.943.697 www.MFSengineers.com
F: 866.517.7413
N.Y. CERTIFICATE OF AUTHORIZATION: 0007564

CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

PROJECT TITLE
RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
AS-DRILLED SUBSURFACE INVESTIGATION PLAN

DESIGNED BY MICHAEL L. MUDALEL	DRAWN BY WILLIAM BUTLER		CHECKED BY JACOB FRADKIN
B-SCAN	SCALE AS SHOWN	DRAWING NO. B101	CONTRACT NO. Q007-120M
	DATE 11/27/2019		SHEET No 9 OF160 SHEETS

BLOCK 15745
LOT 1

MAP FILE#: XXXXX

KEY MAP
Scale: 1"=600'

LEGEND	
B-##	AS-DRILLED BORNG LOCATION
GI-#	AS-DRILLED GREEN INFRASTRUCTURE BORING LOCATION
PT-#	AS-DRILLED PERMEABILITY TEST LOCATION

NOTE:
1. SEE SHEET 1 OF 2 FOR ALL NOTES

2 AS-DRILLED SUBSURFACE INVESTIGATION PLAN
Scale: 1" = 40'
0 40' 80'

MAP FILE#:

NV5
37 OLD SLIP, SUITE 401
NEW YORK, NEW YORK 10005
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MFS ENGINEERS & SURVEYORS
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F: 866.517.7413
N.Y. CERTIFICATE OF AUTHORIZATION: 0007564

NYC Parks
CITY OF NEW YORK
PARKS & RECREATION
OLMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

SEAL

BLOCK 15745

LOT 1

PROJECT TITLE
THE RECONSTRUCTION OF MICHAELIS-BAYSWATER PARK
LOCATED ALONG BEACH CHANNEL DRIVE, BAY 32ND STREET AND NORTON AVENUE
BOROUGH OF QUEENS

DRAWING TITLE
AS-DRILLED SUBSURFACE INVESTIGATION PLAN

DESIGNED BY	DRAWN BY		CHECKED BY
MICHAEL L. MUDALEL	WILLIAM BUTLER		JACOB FRADKIN
B-SCAN	SCALE	DRAWING NO.	CONTRACT NO.
	AS SHOWN	B102	Q007-120M
	DATE 11/27/2019		SHEET No. 10 OF 160 SHEETS

MFS Engineers & Surveyors
2780 Hamilton Blvd
South Plainfield, New Jersey 07080
Telephone: Telephone: (908) 922-4622
Fax: Fax: (866) 517-7413

BORING NUMBER B-1

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.33 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/28/19
COMPLETED 10/28/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 44 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 15 **DIST.** 13
UNDIST. 2 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 8
WEIGHT ---- **DROP** ----
AT END OF DRILLING 6.5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon & 3" Shelby Tube
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0					Class 7	0.50	Top 6" - Topsoil (Class 7) (FILL)	8.83	Mobilize to hole at 7:45 AM Start boring at 8:00 AM
	SS S-1	16	3-7-10-11 (17)				S-1: Bottom 10" - Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-1
	SS S-2	20	8-9-10-10 (19)				Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	18	3-4-6-5 (10)				Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-3
	SS S-4	20	3-4-4-3 (8)		Class 7		Moist/wet, tan f.-c. SAND, lt. f. Gravel , tr. Clay (Class 7) (FILL)		Take S-4 Auger casing to 8' below grade
	SS S-5	10	2-2-1-1 (3)				Wet, brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-5
10	SS S-6	18	1-1-1-1 (2)			11.00	S-6A: Top 12" - Wet, brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)	-1.67	Take S-6 Auger casing to 12' below grade
	ST U-1	24					S-6B: Bottom 6" - Wet, grey CLAY, lt. f.-m. Sand, tr. Organics (Class 6) (CH) Wet, grey CLAY, lt. f.-m. Sand, tr. Organics (Class 6) (CH) (P.P.=0.25TSF)		Take U-1
15	SS S-7	18	WOH-WOH-1-1		Class 6		Wet, grey CLAY, lt. f. Sand, tr. Organics (Class 6) (CH) (P.P.=0.25TSF)		Take S-7 Auger casing to 20' below grade
						18.00		-8.67	
20	SS S-8	10	1-1-2-1 (3)		Class 6		Wet, grey f.-c. SAND, tr. f. Gravel, tr. Silt (Class 6) (SP)		Take S-8 Auger casing to 25' below grade
25									

(Continued Next Page)

MFS Engineers & Surveyors
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South Plainfield, New Jersey 07080
Telephone: Telephone: (908) 922-4622
Fax: Fax: (866) 517-7413

BORING NUMBER B-1

CLIENT NV5 New York

PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park

MFS PROJECT NUMBER 1119079

PROJECT LOCATION Queens, NY

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
25	SS S-9	16	2-2-3-5 (5)		Class 6		Wet, brown c.-f. SAND, sm. f.-c. Gravel, tr. Silt (Class 6) (SP)		Take S-9 Auger casing to 30' below grade
						28.50		-19.17	
30	SS S-10	17	3-1-1-3 (2)		Class 6		Wet, orange-brown f. SAND, sm. Silt, lt. Clay (Class 6) (SM)		Take S-10 Auger casing to 33' below grade
35	SS S-11	16	2-3-4-7 (7)				Wet, grey f.-m. SAND, sm. Silt, tr. f. Gravel (shell fragments) (Class 6) (SM)		Take S-11 Auger casing to 38' below grade
						36.50		-27.17	
40	SS S-12	24	WOH-WOH-1-1		Class 6		Wet, grey CLAY, tr. f. Sand (shell fragments) (Class 6) (CH) (P.P.=0.5TSF)		Take S-12 Auger casing to 40' below grade
	ST U-2	22					Wet, grey CLAY, tr. f. Sand (shell fragments) (Class 6) (CH) (P.P.=1.5TSF)		Take U-2
						42.00		-32.67	
	SS S-13	24	2-2-4-6 (6)		Class 4		Wet, grey CLAY, tr. f. Sand (Class 4c) (CH) (P.P.=1.5TSF)		Take S-13 End of boring at 11:30 AM to 44' below grade Backfill hole with cuttings
						44.00		-34.67	

Bottom of borehole at 44.0 feet.

MFS Engineers & Surveyors
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BORING NUMBER B-2

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 8.45 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/28/19
COMPLETED 10/28/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 22 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 8 **DIST.** 8
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 6
WEIGHT ---- **DROP** ----
AT END OF DRILLING 6
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0					Class 7	0.67	Top 8" - Topsoil (Class 7) (FILL)	7.78	Mobilize to hole at 11:35 AM Start boring at 11:45 AM
	SS S-1	16	2-3-3-3 (6)				S-1: Bottom 8" - Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-1
	SS S-2	13	3-3-3-3 (6)				Moist, tan/brown f.-m. SAND, tr. Clay (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	4	2-1-1-1 (2)		Class 7		Moist, brown f.-c. SAND, lt. f. Gravel, lt. Silt, tr. Organics (Class 7) (FILL)		Take S-3
	SS S-4	2	1-2-12-14 (14)				Wet, dark brown c.-f. SAND, lt. Silt (rubber, glass, and ceramics fragments) (Class 7) (FILL)		Take S-4 Auger casing to 8' below grade
						8.00		0.45	
10	SS S-5	7	1-WOH-1-WOH		Class 6		Wet, dark brown CLAY, sm. c.-f. Sand, tr. Organics (wood fragments) (Class 6) (CH)		Take S-5
	SS S-6	12	WOH-WOH-1-1				Wet, dark brown CLAY, lt. f.-m. Sand, tr. Organics (Class 6) (CH) (P.P.=0.25TSF)		Take S-6 Auger casing to 15' below grade
						13.50		-5.05	
15	SS S-7	12	2-2-4-1 (6)		Class 6		Wet, grey f. SAND, sm. Silt, lt. Clay (Class 6) (SM)		Take S-7 Auger casing to 20' below grade
						18.50		-10.05	
20	SS S-8	14	1-1-4-6 (5)		Class 6		Wet, brown f.-c. SAND, sm. f. Gravel, tr. Silt (Class 6) (SP)		Take S-8 End of boring at 1:30 PM to 22' below grade Backfill hole with cuttings
						22.00		-13.55	

Bottom of borehole at 22.0 feet.

MFS Engineers & Surveyors
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BORING NUMBER B-3

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.80 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/29/19
COMPLETED 10/29/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 24 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 9 **DIST.** 9
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 7
WEIGHT ---- **DROP** ----
AT END OF DRILLING 6.5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	14	2-3-4-6 (7)		Class 7		Moist, brown/orange f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Mobilize to hole at 10:05 AM Start boring at 10:10 AM Take S-1
	SS S-2	12	4-4-4-2 (8)				Moist, brown/black f.-c. SAND and f.-c. Gravel, lt. Silt (asphalt, glass, and ceramic fragments) (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	6	WOH-1-1-1 (2)				Moist, brown/black f.-c. SAND, lt. f. Gravel, lt. Silt (Class 7) (FILL)		Take S-3
	SS S-4	16	3-3-2-2 (5)				Wet, light brown f.-c. SAND, tr. Silt, tr. f. Gravel (Class 7) (FILL)		Take S-4 Auger casing to 8' below grade
	SS S-5	12	1-1-1-2 (2)				Wet, brown f.-c. SAND, tr. Silt, tr. f. Gravel (Class 7) (FILL)		Take S-5
10	SS S-6	12	4-3-2-2 (5)			11.00	S-6A: Top 8" - Wet, brown f.-c. SAND, lt. f. Gravel, tr. Silt (Class 7) (FILL)	-1.20	Take S-6 Auger casing to 15' below grade
					Class 6		S-Bb: Bottom 4" - Wet, grey PEAT (Class 6) (PT)		
						13.50		-3.70	
15	SS S-7	11	3-6-7-5 (13)		Class 3		Wet, grey f. SAND, tr. Silt (Class 3b) (SP)		Take S-7 Auger casing to 20' below grade
						18.50		-8.70	
20	SS S-8	18	1-1-2-2 (3)		Class 6	21.00	S-8A: Top 9" - Wet, grey CLAY, tr. f. Sand (shell fragments) (Class 6) (CH) (P.P.=0.25TSF)	-11.20	Take S-8
					Class 6	22.00	S-8B: Bottom 9" - Wet, brown PEAT (Class 6) (PT) (P.P.=0.25TSF)	-12.20	
	SS S-9	14	2-2-2-2 (4)		Class 6		Wet, brown f.-c. SAND, lt. Silt, tr. Organics (Class 6) (SP-SM)		Take S-9 End of boring at 11:40 AM to 24' below grade Backfill hole with cuttings and holeplug
						24.00		-14.20	

Bottom of borehole at 24.0 feet.

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Fax: Fax: (866) 517-7413

BORING NUMBER B-4

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.74 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/29/19
COMPLETED 10/29/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 24 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 9 **DIST.** 9
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 7
WEIGHT ---- **DROP** ----
AT END OF DRILLING 6
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	20	2-3-9-9 (12)		Class 7	0.50	Top 6" - Topsoil (Class 7) (FILL)	9.24	Mobilize to hole at 11:45 AM Start boring at 11:50 AM Take S-1
							S-1: Bottom 14" - Moist, brown/orange f.-c. SAND and Silt, lt. f. Gravel (glass and ceramic fragments) (Class 7) (FILL)		
	SS S-2	16	7-6-7-6 (13)				Moist, tan f.-m. SAND, tr. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	13	2-3-4-4 (7)				Moist, tan f.-m. SAND, tr. Silt, tr. f. Gravel (Class 7) (FILL)		Take S-3
	SS S-4	16	3-3-3-3 (6)		Class 7		Wet, brown f.-c. SAND, lt. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-4 Auger casing to 8' below grade
	SS S-5	10	2-3-1-2 (4)				Wet, grey f.-c. SAND, lt. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-5
10	SS S-6	24	1-2-1-2 (3)				S-6A: Top 16" - Wet, grey c.-f. SAND, lt. f. Gravel, tr. Clay (Class 7) (FILL)		Take S-6 Auger casing to 15' below grade
						11.33		-1.59	
					Class 6		S-6B: Bottom 8" - Wet, grey SILT and f.-m. Sand, lt. Clay, tr. Organics (Class 6) (ML)		
						13.50		-3.76	
15					Class 6		S-7A: Top 10" - Wet, grey CLAY, tr. f. Sand (Class 6) (CH) (P.P.=0.5TSF)		Take S-7 Auger casing to 20' below grade
	SS S-7	18	WOH-1-2-6 (3)			16.00		-6.26	
					Class 6		S-7B: Bottom 8" - Wet, grey f. SAND, lt. Clay (Class 6) (SC)		
						18.50		-8.76	
20					Class 6		S-8A: Top 10" - Wet, grey f. SAND, tr. Silt (Class 6) (SP)		Take S-8
	SS S-8	14	2-3-2-3 (5)			21.00		-11.26	
					Class 6		S-8B: Bottom 4" - Wet, brown PEAT (Class 6) (PT) S-9A: Top 10" - Wet, brown PEAT (Class 6) (PT)		Take S-9
	SS S-9	16	3-3-4-4 (7)			23.00		-13.26	End of boring at 1:10 PM to 24' below grade
					Class 6	24.00	S-9B: Bottom 6" - Wet, brown c.-f. SAND, tr. f. Gravel, tr. Silt (Class 6) (SP)	-14.26	Backfill hole with cuttings and holeplug

Bottom of borehole at 24.0 feet.

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Fax: Fax: (866) 517-7413

BORING NUMBER B-5

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.65 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/30/19
COMPLETED 10/30/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 37 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 11 **DIST.** 11
UNDIST. 0 **CORE** ----
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 6.5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 6.5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	14	3-5-5-7 (10)		Class 7	0.33	Top 4" - Topsoil (Class 7) (FILL)	9.32	Mobilize to hole at 7:30 AM Start boring at 7:50 AM Take S-1
							S-1: Bottom 10" - Moist, tan f.-m. SAND, sm. f. Gravel, tr. Silt (Class 7) (FILL)		
	SS S-2	16	4-5-6-5 (11)				Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	12	2-1-2-2 (3)				Moist, tan/brown f.-c. SAND, lt. Silt, lt. f. Gravel (asphalt, glass, and ceramic fragments) (Class 7) (FILL)		Take S-3
	SS S-4	10	1-1-1-1 (2)		Class 7		▼ Wet, dark brown f.-c. SAND, sm. f. Gravel, lt. Silt (Class 7) (FILL)		Take S-4 Auger casing to 8' below grade
	SS S-5	2	1-1-1-1 (2)				Wet, dark brown f.-c. SAND, sm. f. Gravel, lt. Silt (Class 7) (FILL)		Take S-5
10	SS S-6	12	2-2-2-2 (4)				Wet, dark brown f.-c. SAND, lt. Silt, lt. f. Gravel, tr. Organics (Class 7) (FILL)		Take S-6 Auger casing to 15' below grade
						13.50		-3.85	
15					Class 6				
	SS S-7	18	3-3-1-4 (4)			16.00	S-7A: Top 12" - Wet, grey f.-c. SAND, tr. Silt (Class 6) (SP)	-6.35	Take S-7 Auger casing to 20' below grade
					Class 6	16.33	S-7B: Middle 4" - Wet, grey CLAY, tr. f. Sand (Class 6) (CH)	-6.68	
					Class 6		Bottom 4" - Wet, grey f.-c. SAND, tr. Silt (Class 6) (SP)		
20						18.50		-8.85	
	SS S-8	16	1-1-2-1 (3)		Class 6		Wet, brown f.-m. SAND, lt. Silt, lt. Organics, tr. Clay, tr. f. Gravel (Class 6) (SM)		Take S-8 Auger casing to 25' below grade
						23.50		-13.85	
25					Class 3				

(Continued Next Page)

MFS Engineers & Surveyors
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BORING NUMBER B-5

CLIENT NV5 New York

PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park

MFS PROJECT NUMBER 1119079

PROJECT LOCATION Queens, NY

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
25	SS S-9	11	3-6-11-13 (17)		Class 3		Wet, brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-9 Auger casing to 30' below grade
30	SS S-10	18	6-6-7-5 (13)		Class 3	31.00	S-10A: Top 12"- Wet, grey c.-f. SAND, tr. f. Gravel, tr. Silt (Class 3b) (SP) S-10B: Bottom 6" - Wet, orange/brown f.-m. SAND and Silt (Class 3b) (SM)	-21.35	Take S-10 Auger casing to 35' below grade
35	SS S-11	12	2-4-6-6 (10)			37.00	Wet, grey f. SAND, lt. Silt (shell fragments) (Class 3b) (SM)	-27.35	Take S-11 End of boring at 10:10 AM to 37' below grade Backfill with cuttings and holeplug

Bottom of borehole at 37.0 feet.

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BORING NUMBER B-6

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 8.94 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/31/19
COMPLETED 10/31/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 8 **DIST.** 8
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 7
WEIGHT ---- **DROP** ----
AT END OF DRILLING 5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0					Class 7	0.67	Top 8" - Topsoil (Class 7) (FILL)	8.27	Mobilize to hole at 8:10 AM Start boring at 8:40 AM
	SS S-1	14	1-3-7-4 (10)				S-1: Bottom 6" - Moist, dark brown f.-c. SAND, sm. f.-c. Gravel, lt. Silt (asphalt and glass fragments) (Class 7) (FILL)		Take S-1
	SS S-2	18	3-6-6-7 (12)		Class 6		S-2A: Top 7" - Moist, dark brown f.-c. SAND, sm. f.-c. Gravel, lt. Silt (asphalt and glass fragments) (Class 7) (FILL) S-2B: Bottom 11" - Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	12	2-3-4-3 (7)				▼ Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-3
	SS S-4	16	2-2-2-3 (4)		Class 6	6.00	▽ Wet, tan/grey f.-m. SAND, tr. Clay, tr. Organics, tr. f. Gravel (clay lump) (Class 6) (SP-SC)	2.94	Take S-4 Auger casing to 8' below grade
	SS S-5	10	3-4-2-2 (6)		Class 6	8.00	Wet, tan/grey f.-m. SAND, lt. f. Gravel, tr. Silt (Class 6) (SP)	0.94	Take S-5
10	SS S-6	20	2-2-2-2 (4)		Class 6	10.00	Wet, tan/grey f.-m. SAND, tr. Clay (clay lumps) (Class 6) (SP-SC)	-1.06	Take S-6 Auger casing to 15' below grade
						13.50		-4.56	
15	SS S-7	12	1-1-2-1 (3)		Class 6	16.00	S-7A: Top 9" - Wet, brown PEAT (Class 6) (PT)	-7.06	Take S-7 Auger casing to 18' below grade
					Class 6	17.50	S-7B: Bottom 3" - Wet, brown f.-m. SAND, lt. Silt (Class 6) (SM)	-8.56	
20	SS S-8	18	4-3-4-6 (7)		Class 6	20.00	Wet, grey f.-c. SAND, lt. f. Gravel, tr. Silt (Class 6) (SP)	-11.06	Take S-8 Finish boring at 9:50 AM to 20' below grade Backfill hole with soil cuttings and holeplug

Bottom of borehole at 20.0 feet.

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BORING NUMBER B-7

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 8.58 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/31/19
COMPLETED 10/31/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 9 **DIST.** 8
UNDIST. 1 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 4.8
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon & 3" Shelby Tube
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	18	2-3-3-5 (6)		Class 7	0.33	Top 4" - Topsoil (Class 7) (FILL)	8.25	Mobilize to hole at 9:55 AM Start boring at 10:05 AM Take S-1
							S-1: Bottom 14" - Moist, tan m.-f. SAND, lt. f. Gravel, tr. Silt (Class 7) (FILL)		
	SS S-2	16	4-4-5-3 (9)		Class 7		Moist, tan f.-m. SAND, tr. f.-c. Gravel, tr. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
						4.00		4.58	
5	SS S-3	19	2-3-2-4 (5)		Class 6		Wet, brown/grey f.-m. SAND, tr. Clay, tr. f. Gravel (clay lumps) (Class 6) (SP-SC)		Take S-3
	SS S-4	20	2-4-2-4 (6)				Wet, grey f.-m. SAND, lt. Clay, tr. f. Gravel (clay lumps) (Class 6) (SP-SC)		Take S-4 Auger casing to 8' below grade
						8.00		0.58	
	SS S-5	11	1-1-1-1 (2)		Class 6		Wet, grey f.-m. SAND, lt. Clay, tr. f. Gravel (clay lumps) (Class 6) (SC)		Take S-5
10						10.00		-1.42	
	SS S-6	20	WOH-WOH-1-1		Class 6	11.00	S-6A: Top 8" - Wet, grey c.-f. SAND, tr. Clay, tr. f. Gravel (clay lumps) (Class 6) (SP-SC)	-2.42	Take S-6 Auger casing to 12' below grade
							S-6B: Bottom 12" - Wet, grey CLAY, tr. f.-c. Sand (shell fragments) (Class 6) (CH)		
	ST U-1	24			Class 6		Wet, grey CLAY, tr. Organics, tr. f.-m. SAND (Class 6) (CH) (P.P.=0.25TSF)		Take U-1
15	SS S-7	16	1-1-2-3 (3)			15.00	S-7A: Top 8" - Wet, grey/brown CLAY, lt. f.-m. Sand, tr. Organics (Class 6) (CH)	-6.42	Take S-7 Auger casing to 18' below grade
					Class 6		S-7B: Bottom 8" - Wet, brown f.-m. SAND, sm. Silt, tr. Organics (Class 6) (SM)		
						17.00		-8.42	
	SS S-8	14	2-6-11-10 (17)		Class 3		Wet, orange-brown f.-c. SAND, tr. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-8 End of boring at 11:20 AM to 20' below grade Backfill hole with cuttings
20						20.00		-11.42	

Bottom of borehole at 20.0 feet.

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BORING NUMBER B-8

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 7.15 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/31/19
COMPLETED 10/31/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 8 **DIST.** 8
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 6
WEIGHT ---- **DROP** ----
AT END OF DRILLING 4.5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	16	1-4-6-7 (10)		Class 7	0.33	Top 4" - Topsoil (Class 7) (FILL)	6.82	Mobilize to hole at 11:25 AM Start boring at 11:30 AM Take S-1
							S-1: Bottom 12" - Moist, orange-brown f.-c. SAND, lt. f. Gravel, tr. Silt (Class 7) (FILL)		
	SS S-2	14	2-3-5-5 (8)		Class 7		Moist, dark brown f.-c. SAND, sm. f. Gravel, lt. Silt (asphalt, glass, and ceramics fragments) (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	1	1-2-1-2 (3)				▼ Moist, brown f.-c. SAND and f.-c. Gravel, lt. Silt (Class 7) (FILL)		Take S-3
						6.00 ▽		1.15	
	SS S-4	13	1-1-1-1 (2)		Class 6	7.00	S-4A: Top 5" - Wet, grey f.-m. SAND, lt. Silt, tr. f. Gravel (Class 6) (SM)	0.15	Take S-4 Auger casing to 8' below grade
					Class 6	8.00	S-4B: Bottom 8" - Wet, grey ORGANIC CLAY, tr. f. Sand (Class 6) (OH) (P.P.=0.5TSF)	-0.85	
10	SS S-5	11	1-1-WOH-1				Wet, grey CLAY, tr. Organics, tr. f. Sand (Class 6) (CH) (P.P.=*0.156TSF)		Take S-5
	SS S-6	4	WOH-WOH-WOH-2		Class 6		Wet, grey CLAY, sm. f.-c. Sand, tr. Organics (Class 6) (CH)		Take S-6 Auger casing to 15' below grade
						13.50		-6.35	
15	SS S-7	11	3-3-3-4 (6)		Class 6		Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-7 Auger casing to 18' below grade
						17.50		-10.35	
	SS S-8	15	4-5-8-7 (13)		Class 3		Wet, grey f.-m. SAND, tr. Silt (Class 3b) (SP)		Take S-8 End of boring at 1:00 PM to 20' below grade Backfill hole with soil cuttings and holeplug
20						20.00		-12.85	

Bottom of borehole at 20.0 feet.

* Pocket Pentrometer reading taken with adapter foot attachment in the field. Values shown have been corrected to an equivalent 1/4-inch diameter piston.

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BORING NUMBER B-9

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 11.14 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/1/19
COMPLETED 11/1/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 37 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 12 **DIST.** 11
UNDIST. 1 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 9.5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 8
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon & 3" Shelby Tube
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	18	1-3-5-5 (8)		Class 7	0.67	Top 8" - Topsoil (Class 7) (FILL)	10.47	Mobilize to hole at 8:05 AM Start boring at 8:15 AM Take S-1
					Class 7	2.00	S-1: Bottom 10" - Moist, brown f.-c. SAND, sm. Silt, tr. f. Gravel (Class 7) (FILL)	9.14	
	SS S-2	14	5-7-9-7 (16)		Class 3	4.00	Moist, brown/tan f.-c. SAND, sm. c.-f. Gravel, tr. Silt (Class 3b) (SW-SM)	7.14	Take S-2 Auger casing to 4' below grade
5	SS S-3	11	3-5-7-11 (12)				Moist, tan f.-c. SAND, lt. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-3
	SS S-4	13	17-14-12-22 (26)				Moist, tan f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-4 Auger casing to 8' below grade
10	SS S-5	14	6-19-21-22 (40)				Moist/wet, tan f.-c. SAND, lt. f. Gravel, tr. Silt (Class 3a) (SP)		Take S-5
	SS S-6	20	14-18-22-23 (40)				Wet, tan f.-c. SAND, lt. f.-c. Gravel, tr. Silt (Class 3a) (SP)		Take S-6 Auger casing to 15' below grade
15					Class 3				
	SS S-7	18	15-27-42-60 (69)				Wet, tan f.-c. SAND, sm. c.-f. Gravel, tr. Silt (Class 3a) (SP)		Take S-7 Auger casing to 20' below grade
20	SS S-8	12	4-9-13-21 (22)				Wet, tan, f.-c. SAND, lt. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-8 Auger casing to 25' below grade
25									

(Continued Next Page)

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BORING NUMBER B-9

CLIENT NV5 New York

PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park

MFS PROJECT NUMBER 1119079

PROJECT LOCATION Queens, NY

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
25	SS S-9	24	5-5-11-18 (16)		Class 3		Wet, tan f.-c. SAND, tr. Silt, tr. f. Gravel (Class 3b) (SP)		Take S-9 Auger casing to 30' below grade
						28.50		-17.36	
30	SS S-10	20	2-2-3-3 (5)		Class 6		Wet, brown f.-m. SAND, sm. Silt, lt. Clay (Class 6) (SM)		Take S-10 Auger casing to 33' below grade
	ST U-1	0				33.50	No Recovery	-22.36	Take U-1 Auger casing to 35' below grade
35	SS S-11	18	6-6-6-7 (12)		Class 3		Wet, grey f.-c. SAND, lt. Silt (shell fragments) (Class 3b) (SP-SM)		Take S-11 End of boring at 11:00 AM to 37' below grade Backfill with cuttings
						37.00		-25.86	

Bottom of borehole at 37.0 feet.

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BORING NUMBER B-10

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 14.59 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/1/19
COMPLETED 11/1/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 8 **DIST.** 8
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 13.5
WEIGHT ---- **DROP** ----
AT END OF DRILLING ----
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	16	1-2-3-4 (5)		Class 7	0.83	Top 10" - Topsoil (Class 7) (FILL)	13.76	Mobilize to hole at 11:05 AM Start boring at 11:15 AM Take S-1
					Class 7	2.00	S-1: Bottom 6" - Moist, brown f.-m. SAND, lt. Silt, lt. f. Gravel (Class 7) (FILL)	12.59	
	SS S-2	15	3-5-10-9 (15)		Class 3		Moist, orange-brown f.-m. SAND, lt. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-2 Auger casing to 4' below grade
5	SS S-3	12	3-6-8-11 (14)				Moist, orange-brown f.-c. SAND, lt. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-3
						6.00		8.59	
	SS S-4	14	14-13-21-23 (34)				Moist, tan f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3a) (SP)		Take S-4 Auger casing to 8' below grade
	SS S-5	16	8-16-26-27 (42)				Moist, tan f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3a) (SP)		Take S-5
10	SS S-6	18	22-24-25-29 (49)				Moist, tan f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3a) (SP)		Take S-6 Auger casing to 15' below grade
					Class 3		▽		
15	SS S-7	12	16-19-18-17 (37)				Wet, tan f.-c. SAND, lt. f.-c. Gravel, tr. Silt (Class 3a) (SP)		Take S-7 Auger casing to 18' below grade
	SS S-8	16	6-14-21-22 (35)				Wet, tan f.-c. SAND, lt. f.-c. Gravel, tr. Silt (Class 3a) (SP)		Take S-8 End of boring at 12:35 PM to 20' below grade
20						20.00		-5.41	Backfill hole with soil cuttings and holeplug

Bottom of borehole at 20.0 feet.

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BORING NUMBER B-11

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 11.52 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/4/19
COMPLETED 11/4/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 37 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 11 **DIST.** 11
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 10
WEIGHT ---- **DROP** ----
AT END OF DRILLING 10.2
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	12	2-3-5-6 (8)		Class 7	0.67	Top 8" - Topsoil (Class 7) (FILL)	10.85	Mobilize to hole at 7:50 AM Start boring at 8:00 AM Take S-1
					Class 7	2.00	S-1: Bottom 4" - Moist, brown f.-m. SAND, sm. Silt, tr. f. Gravel (Class 7) (FILL)	9.52	
	SS S-2	13	6-7-6-5 (13)		Class 3		Moist, brown f.-c. SAND, lt. f. Gravel, tr. Silt (Class 3b) (SW-SM)		Take S-2 Auger casing to 4' below grade
5	SS S-3	11	2-5-5-6 (10)			6.00	Moist, tan/brown f.-c. SAND, lt. f.-c. Gravel, tr. Silt (Class 3b) (SW-SM)	5.52	Take S-3
	SS S-4	15	6-6-8-9 (14)				Moist, tan f.-c. SAND, lt. f.-c. Gravel, tr. Silt (Class 3b) (SP)		Take S-4 Auger casing to 8' below grade
	SS S-5	14	3-6-8-14 (14)				Moist, tan f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-5
10	SS S-6	15	13-14-16-20 (30)				Wet, tan f.-c. SAND, sm. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-6 Auger casing to 15' below grade
15									
	SS S-7	18	14-22-30-41 (52)				Wet, tan f.-c. SAND and f.-c. Gravel, tr. Silt (Class 3a) (SP)		Take S-7 Auger casing to 20' below grade
						18.50		-6.98	
20	SS S-8	12	5-10-16-13 (26)		Class 3		Wet, tan c.-f. SAND, lt. f. Gravel, tr. Silt (Class 3b) (SW)		Take S-8 Auger casing to 25' below grade
						23.50		-11.98	
25					Class 3				

(Continued Next Page)

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BORING NUMBER B-11

CLIENT NV5 New York

PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park

MFS PROJECT NUMBER 1119079

PROJECT LOCATION Queens, NY

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
25	SS S-9	20	8-7-14-21 (21)		Class 3		Wet, tan f.-c. SAND, lt. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-9 Auger casing to 30' below grade
30	SS S-10	18	10-8-7-5 (15)				Wet, light brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 3b) (SP)		Take S-10 Auger casing to 35' below grade
						33.50		-21.98	
35	SS S-11	19	6-6-6-7 (12)		Class 3		Wet, grey f.-m. SAND, lt. Silt, tr. f. Gravel (shell fragments) (Class 3b) (SM)		Take S-11 End of boring at 10:45 AM to 37' below grade Backfill hole with cuttings
						37.00		-25.48	

Bottom of borehole at 37.0 feet.

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BORING NUMBER B-12

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 7.28 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/4/19
COMPLETED 11/4/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 8 **DIST.** 7
UNDIST. 1 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 4.5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 4
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon & 3" Shelby Tube
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	12	2-3-6-4 (9)		Class 7	0.50	Top 6" - Topsoil (Class 7) (FILL)	6.78	Mobilize to hole at 10:50 AM Start boring at 10:55 AM Take S-1
							S-1: Bottom 6" - Moist, dark brown f.-c. SAND, lt. f. Gravel, tr. Silt (asphalt fragments) (Class 7) (FILL)		
	SS S-2	2	3-2-2-3 (4)		Class 7		Moist, dark brown f.-m. SAND, tr. Silt (asphalt fragments) (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	16	2-4-3-3 (7)				Wet, grey/brown f.-m. SAND, tr. Silt, tr. f. Gravel (Class 7) (FILL)		Take S-3
						6.00		1.28	
	SS S-4	24	1-1-WOH-1		Class 6	7.33	S-4A: Top 16" - Wet, grey f.-m. SAND, lt. Silt (shell fragments) (Class 6) (SP-SM)	-0.05	Take S-4 Auger casing to 8' below grade
					Class 6	8.00	S-4B: Bottom 8" - Wet, brown PEAT (Class 6) (PT) (P.P.=0.25TSF)	-0.72	
10	ST U-1	24			Class 6		Wet, grey ORGANIC CLAY, tr. f. Sand (Class 6) (OH)		Take U-1
	SS S-5	22	WOH-WOH-2-6			11.33	S-5A: Top 16" - Grey ORGANIC CLAY, tr. f. Sand (shell fragments) (Class 6) (OH)	-4.05	Take S-5 Auger casing to 15' below grade
							S-5B: Bottom 6" - Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		
15	SS S-6	18	3-2-4-5 (6)		Class 6		Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-6 Auger casing to 18' below grade
	SS S-7	22	2-1-1-1 (2)				Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-7 (Clay observed in split spoon shoe)
20						20.00		-12.72	End of boring at 12:15 PM to 20' below grade Backfill hole with soil cuttings

Bottom of borehole at 20.0 feet.

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BORING NUMBER B-13A

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.62 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/5/19
COMPLETED 11/5/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 3 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 2 **DIST.** 2
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING ----
WEIGHT ---- **DROP** ----
AT END OF DRILLING ----
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0									
	SS S-1	12	1-2-2-6 (4)		Class 7	0.50	Top 6" - Topsoil (Class 7) (FILL)	9.12	Mobilize to hole at 7:30 AM Start boring at 7:40 AM Take S-1
					Class 7		Bottom 6" - Moist, brown f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		
	SS S-2	10	7-3-15/0"			3.00	Moist, brown f.-m. SAND, lt. f. Gravel, tr. Silt (glass fragments) (Class 7) (FILL)	6.62	Take S-2. Refusal at 3' below grade (Split spoon bouncing) Attempt to auger casing to 4' below grade Practical auger refusal at 3' below grade. Re-attempt boring at B-13B End of boring at 8:00 AM to 3' below grade Backfill hole with cuttings
							Bottom of borehole at 3.0 feet.		

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BORING NUMBER B-13B

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.74 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/5/19
COMPLETED 11/5/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 4 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 0 **DIST.** 0
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING ----
WEIGHT ---- **DROP** ----
AT END OF DRILLING ----
AFTER DRILLING ----
SAMPLER ---
FOREMAN Danny Ninevski
SAMPLER HAMMER ---
INSPECTOR William Butler
WEIGHT ---- **DROP** ----
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0							See Boring B-13A		Mobilize to hole at 8:10 AM Start boring at 8:20 AM Auger casing to 4' below grade Hard drilling at approximatley 3' below grade Concrete fragments in drill cuttings Advanced HSA to 4' below grade Knuckle on drill rig drive shaft broke End of boring at 9:20 AM to 4' below grade Backfill hole with cuttings
							Bottom of borehole at 4.0 feet.		

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BORING NUMBER B-13C

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.70 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/7/19
COMPLETED 11/7/19
SIZE AND TYPE OF BIT 2-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 2-1/4" I.D. HSA
NO. SAMPLES 6 **DIST.** 6
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 7.5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 4.67
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0						0.33	4" Asphalt	9.37	Mobilize to hole at 9:20 AM Start boring at 9:30 AM Advance split spoon through asphalt
							See Borings B-13A and B-13B		Auger casing to 4' below grade
						4.00		5.70	
5	SS S-1	8	3-3-2-2 (5)				Moist, orange-brown/tan f.-m. SAND, tr. Silt, tr. f. Gravel (Class 6) (SP-SM)		Take S-1
	SS S-2	16	3-4-4-3 (8)		Class 6		Moist/wet, orange-brown f.-m. SAND, tr. Silt, tr. f. Gravel (Class 6) (SP-SM)		Take S-2 Auger casing to 8' below grade
	SS S-3	16	1-1-6-9 (7)				Wet, orange-brown f.-m. SAND, lt. Silt, lt. f. Gravel (Class 6) (SP-SM)		Take S-3
10						10.00		-0.30	
	SS S-4	22	6-7-8-10 (15)				Wet, orange-brown f.-m. SAND, tr. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-4 Auger casing to 15' below grade
15					Class 3				
	SS S-5	24	6-8-13-14 (21)				Wet, orange-brown f.-m. SAND, tr. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-5 Auger casing to 18' below grade
	SS S-6	24	4-8-7-9 (15)				Wet, orange-brown f.-m. SAND, tr. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-6 End of boring at 10:30 AM to 20' below grade Backfill hole with soil cuttings and holeplug. Patch to grade with Ace-crete asphalt patch
20						20.00		-10.30	

Bottom of borehole at 20.0 feet.

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BORING NUMBER B-14

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 4.46 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/6/19
COMPLETED 11/6/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 9 **DIST.** 8
UNDIST. 1 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING ▽ 3
WEIGHT ---- **DROP** ----
AT END OF DRILLING ----
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon & 3" Shelby Tube
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	13	7-9-16-10 (25)		Class 7		Moist, brown/grey c.-f. GRAVEL and f.-c. Sand, lt. Silt (Class 7) (FILL)		Mobilize to hole at 7:55 AM Start boring at 8:10 AM Take S-1
	SS S-2	10	31-6-12-22 (18)				▽ Moist/wet, brown/grey f.-c. SAND, sm. f. Gravel, tr. Silt, tr. Clay (clay lump) (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade (hard drilling at 2' below grade)
						4.00		0.46	
5	SS S-3	14	3-1-WOH-1		Class 6		Wet, grey/brown PEAT, lt. f. Sand (Class 6) (PT)		Take S-3
						6.00		-1.54	
	SS S-4	10	WOH-WOH-WOH-2		Class 6		Wet, grey f.-c. SAND, tr. Clay, tr. f. Gravel (Class 6) (SP-SC)		Take S-4 Auger casing to 8' below grade
						8.00		-3.54	
10	SS S-5	19	WOH-3-3-5 (6)		Class 6		Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-5
	SS S-6	21	WOH-1-1-1 (2)				S-6A: Top 14" - Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-6 Auger casing to 12' below grade
						11.25		-6.79	
	ST U-1	0			Class 6		S-6B: Bottom 7" - Wet, grey CLAY, tr. f. Sand (shell fragments) (Class 6) (CL) No Recovery		Take U-1 Auger casing to 15' below grade
						13.50		-9.04	
15									
	SS S-7	12	1-1-1-WOH (2)		Class 6		Wet, grey f.-m. SAND, tr. Silt, tr. Clay (clay lump) (Class 6) (SP-SM)		Take S-7 Auger casing to 18' below grade
20	SS S-8	16	2-1-1-2 (2)				Wet, grey/brown f.-m. SAND, tr. Silt, tr. Clay, tr. Organics, tr. f. Gravel (clay lump) (Class 6) (SP-SM)		Take S-8 End of boring at 9:30 AM to 20' below grade Backfill hole with soil cuttings
						20.00		-15.54	

Bottom of borehole at 20.0 feet.

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BORING NUMBER B-15

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 6.30 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/6/19
COMPLETED 11/6/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 29 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 13 **DIST.** 12
UNDIST. 1 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 4
WEIGHT ---- **DROP** ----
AT END OF DRILLING 3
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon & 3" Shelby Tube
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0					Class 7	0.58	Top 7" - Topsoil (Class 7) (FILL)	5.72	Mobilize to hole at 9:35 AM Start boring at 9:40 AM
	SS S-1	14	2-3-3-3 (6)				S-1: Bottom 7" - Moist, brown f.-c. SAND, tr. Silt, tr. f. Gravel (Class 7) (FILL)		Take S-1
	SS S-2	17	3-4-5-4 (9)				Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	16	3-3-4-3 (7)		Class 7		Wet, orange-brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-3
	SS S-4	24	2-3-3-3 (6)				Wet, brown/orange-brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-4 Auger casing to 8' below grade
						8.00		-1.70	
	SS S-5	12	1-2-1-1 (3)		Class 6	9.00	S-5A: Top 8" - Wet, grey f.-m. SAND, lt. Clay, tr. Organics (clay lumps) (Class 6) (SP-SC)	-2.70	Take S-5 Auger casing to 10' below grade
10					Class 6	10.00	S-5B: Bottom 4" - Wet, brown PEAT (Class 6) (PT)	-3.70	
	ST U-1	24			Class 6		Wet, grey ORGANIC CLAY, tr. f. Sand (Class 6) (OH)		Take U-1
	SS S-6	16	1-1-1-1 (2)				Wet, grey ORGANIC CLAY, tr. f. Sand (Class 6) (OH) (P.P.=0.25TSF)		Take S-6
						14.00		-7.70	
15	SS S-7	16	1-1-2-1 (3)		Class 6		Wet, grey CLAY, tr. f. Sand (shell fragments) (Class 6) (CH)		Take S-7 Auger casing to 18' below grade
	SS S-8	12	1-WOH-1-WOH				Wet, grey CLAY, tr. f. Sand (Class 6) (CH) (P.P.=0.25TSF)		Take S-8
20	SS S-9	16	1-1-1-1 (2)				Wet, grey CLAY, tr. f. Sand, tr. Organics (shell fragments) (Class 6) (CH) (P.P.=0.25TSF)		Take S-9
	SS S-10	16	WOH-WOH-1-2				Wet, grey CLAY, tr. f. Sand, tr. Organics (shell fragments) (Class 6) (CH)		Take S-10 Auger casing to 25' below grade
						24.50		-18.20	
25									

(Continued Next Page)

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BORING NUMBER B-15

CLIENT NV5 New York **PROJECT NAME** NYCDPR - Reconstruction of Michaelis-Bayswater Park

MFS PROJECT NUMBER 1119079 **PROJECT LOCATION** Queens, NY

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
25									
	SS S-11	12	1-2-2-2 (4)		Class 6	27.00	Wet, brown ORGANIC CLAY, lt. f.-m. Sand (Class 6) (OH)	-20.70	Take S-11
	SS S-12	11	2-2-2-2 (4)		Class 6	29.00	Wet, brown f.-m. SAND, sm. Clay, tr. f. Gravel (Class 6) (SC)	-22.70	Take S-12 End of boring at 11:30 AM to 29' below grade Backfill with cuttings

Bottom of borehole at 29.0 feet.

MFS Engineers & Surveyors
2780 Hamilton Blvd
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BORING NUMBER B-16

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 4.05 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/6/19
COMPLETED 11/6/19
SIZE AND TYPE OF BIT 3-1/4" I.D. Hollow Stem Auger (HSA)
COMPLETION DEPTH 22 feet
ROCK DEPTH ----
CASING 3-1/4" I.D. HSA
NO. SAMPLES 8 **DIST.** 8
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 2
WEIGHT ---- **DROP** ----
AT END OF DRILLING 3.5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	14	3-5-5-5 (10)		Class 7	0.67	Top 8" - Topsoil (Class 7) (FILL)	3.38	Mobilize to hole at 11:45 AM Start boring at 11:55 AM Take S-1
							S-1: Bottom 6" - Moist, brown f.-c. SAND, sm. Silt, tr. f. Gravel (Class 7) (FILL)		
	SS S-2	10	5-5-3-2 (8)				Wet, brown f.-c. SAND, sm. f.-c. Gravel, lt. Silt (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	14	2-3-2-5 (5)		Class 7		Wet, brown f.-c. SAND, sm. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-3
	SS S-4	6	2-3-2-4 (5)			8.00	Wet, brown c.-f. SAND, sm. f. Gravel, tr. Silt (Class 7) (FILL)	-3.95	Take S-4 Auger casing to 8' below grade
10	SS S-5	12	1-WOH-1-1		Class 6	10.00	Wet, grey CLAY, tr. Organics, tr. f. Sand (Class 6) (CH) (P.P.=0.25TSF)	-5.95	Take S-5
	SS S-6	3	WOH-WOH-WOH-WOH				Wet, grey f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-6 Auger casing to 15' below grade
15					Class 6				
	SS S-7	14	1-1-1-2 (2)			16.00	S-7A: Top 11" - Wet, grey f.-m. SAND, tr. Clay (clay lump) (Class 6) (SP)	-11.95	Take S-7 Auger casing to 20' below grade
					Class 6	18.50	S-7B: Bottom 3" - Wet, grey CLAY, tr. f. Sand, tr. Organics (Class 6) (CH) (P.P.=0.25TSF)	-14.45	
20					Class 6				
	SS S-8	12	3-3-2-1 (5)				Wet, brown f.-m. SAND, tr. Silt (Class 6) (SP)		Take S-8 End of boring at 1:00 PM to 22' below grade Backfill hole with soil cuttings
						22.00		-17.95	

Bottom of borehole at 22.0 feet.

MFS Engineers & Surveyors
2780 Hamilton Blvd
South Plainfield, New Jersey 07080
Telephone: Telephone: (908) 922-4622
Fax: Fax: (866) 517-7413

BORING NUMBER B-17

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 8.70 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/7/19
COMPLETED 11/7/19
SIZE AND TYPE OF BIT 5-7/8" TCBB, 2-1/4" I.D. HSA
COMPLETION DEPTH 20 feet
ROCK DEPTH ----
CASING 2-1/4" I.D. Hollow Stem Auger (HSA)
NO. SAMPLES 8 **DIST.** 8
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 5.5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 3
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0						0.50	6" Concrete	8.20	Mobilize to hole at 7:20 AM Start boring at 7:35 AM Drill through concrete using 5-7/8-inch tri-cone button bit (TCBB)
	SS S-1	10	6-11-8 (19)				Moist, brown f.-c. SAND, sm. f.-c. Gravel, lt. Silt (Class 7) (FILL)		Take S-1
	SS S-2	10	6-8-8-7 (16)		Class 7		Moist, brown f.-c. SAND, sm. f.-c. Gravel, lt. Silt (asphalt fragments) (Class 7) (FILL)		Take S-2 Auger casing to 4' below grade
5	SS S-3	10	5-5-4-5 (9)			6.00	Moist/wet, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)	2.70	Take S-3
	SS S-4	10	3-4-4-3 (8)		Class 6	8.00	Wet, dark brown f.-c. SAND, lt. Clay, lt. f. Gravel (shell fragments, clay lumps) (Class 6) (SC)	0.70	Take S-4 Auger casing to 8' below grade
10	SS S-5	2	2-2-2-1 (4)				Wet, brown/white f.-c. SAND, lt. Silt (shell fragments) (Class 6) (SM)		Take S-5
	SS S-6	12	1-1-1-1 (2)		Class 6		Wet, brown f.-c. SAND, lt. Silt, lt. f. Gravel (Class 6) (SM)		Take S-6 Auger casing to 15' below grade
15						13.50		-4.80	
	SS S-7	12	5-6-8-12 (14)		Class 3		Wet, orange-brown f.-m. SAND, lt. Silt, tr. f. Gravel (Class 3b) (SP-SM)		Take S-7 Auger casing to 18' below grade
20	SS S-8	14	3-7-9-13 (16)			20.00	Wet, orange-brown f.-m. SAND, lt. Silt, tr. f. Gravel (Class 3b) (SP-SM)	-11.30	Take S-8 End of boring at 9:10 AM to 20' below grade Backfill hole with soil cuttings and holeplug and patch to grade with Ace-crete concrete mix

Bottom of borehole at 20.0 feet.

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BORING NUMBER GI-1

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.70 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/29/19
COMPLETED 10/29/19
SIZE AND TYPE OF BIT ---
COMPLETION DEPTH 9 feet
ROCK DEPTH ----
CASING ---
NO. SAMPLES 5 **DIST.** 5
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 8
WEIGHT ---- **DROP** ----
AT END OF DRILLING 8.3
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	8	3-2		Class 7	1.00	Topsoil (Class 7) (FILL)	8.70	Mobilize to hole at 7:15 AM Start boring at 7:25 AM
	SS S-2	17	3-5-5-6 (10)				Moist, tan f.-m. SAND, tr. Silt (Class 7) (FILL)		Take S-1 Take S-2
5	SS S-3	14	5-4-4-5 (8)		Class 7		Moist, tan f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-3
	SS S-4	19	4-3-4-4 (7)				Moist, tan f.-m. SAND, tr. Silt (Class 7) (FILL)		Take S-4
	SS S-5	14	4-2-3-9 (5)			9.00	Wet, brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)	0.70	Take S-5 End of boring at 7:40 AM to 9' below grade Backfill hole with holeplug

Bottom of borehole at 9.0 feet.

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BORING NUMBER GI-2

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 8.62 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 10/30/19
COMPLETED 10/30/19
SIZE AND TYPE OF BIT ---
COMPLETION DEPTH 9 feet
ROCK DEPTH ----
CASING ---
NO. SAMPLES 5 **DIST.** 5
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 6
WEIGHT ---- **DROP** ----
AT END OF DRILLING 6
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	11	3-2		Class 7	1.00	Topsoil (Class 7) (FILL)	7.62	Mobilize to hole at 10:20 AM Start boring at 10:30 AM
	SS S-2	16	5-4-4-6 (8)		Class 7		Moist, tan/brown/black f.-c. SAND, lt. f.-c. Gravel, lt. Silt (asphalt fragments) (Class 7) (FILL)		Take S-1 Take S-2
	SS S-3	12	4-7-5-5 (12)			5.00	Moist, tan f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)	3.62	Take S-3
5	SS S-4	14	3-3-2-2 (5)		Class 6	7.00	Moist/wet, tan/grey f.-m. SAND, sm. Clay, tr. f. Gravel (Class 6) (SC)	1.62	Take S-4
	SS S-5	20	4-3-3-2 (6)		Class 6	9.00	Wet, grey c.-f. SAND, sm. f. Gravel, tr. Silt (Class 6) (SP)	-0.38	Take S-5 End of boring at 10:40 AM to 9' below grade Backfill hole with holeplug

Bottom of borehole at 9.0 feet.

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BORING NUMBER GI-3

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 7.09 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/4/19
COMPLETED 11/4/19
SIZE AND TYPE OF BIT ---
COMPLETION DEPTH 9 feet
ROCK DEPTH ----
CASING ---
NO. SAMPLES 5 **DIST.** 5
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 3
WEIGHT ---- **DROP** ----
AT END OF DRILLING 4.5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	12	1-3		Class 7	0.50	Top 6" - Topsoil (Class 7) (FILL)	6.59	Mobilize to hole at 12:30 PM Start boring at 12:35 PM
							S-1: Bottom 6" - Moist, brown f.-c. SAND, lt. Silt (ceramic and asphalt fragments) (Class 7) (FILL)		Take S-1
	SS S-2	10	4-2-4-3 (6)						Take S-2
							Moist, orange-brown f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		
	SS S-3	12	2-2-2-6 (4)				Wet, brown/grey f.-c. SAND, tr. f. Gravel, tr. Silt (shell fragments) (Class 7) (FILL)		Take S-3
5					Class 7				
	SS S-4	16	3-3-3-4 (6)				Wet, brown/grey f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-4
	SS S-5	24	1-1-1-1 (2)				S-5A: Top 17" - Wet, brown/grey f.-m. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-5
						8.42		-1.33	End of boring at 12:45 PM to 9' below grade
					Class 6	9.00	S-5B: Bottom 7" - Wet, brown PEAT (Class 6) (PT)	-1.91	Backfill with holeplug

Bottom of borehole at 9.0 feet.

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BORING NUMBER GI-4

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 9.58 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/6/19
COMPLETED 11/6/19
SIZE AND TYPE OF BIT ---
COMPLETION DEPTH 9 feet
ROCK DEPTH ----
CASING ---
NO. SAMPLES 5 **DIST.** 5
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 7
WEIGHT ---- **DROP** ----
AT END OF DRILLING 5.8
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	8	3-6		Class 7	1.00	Topsoil (Class 7) (FILL)	8.58	Start boring at 1:10 PM Take S-1
	SS S-2	12	3-4-6-7 (10)				Moist, black/white/orange-brown c.-f. SAND, sm. f. Gravel, tr. Silt (asphalt fragments) (Class 7) (FILL)		Take S-2
5	SS S-3	0	4-5-4-3 (9)		Class 7		No Recovery		Take S-3
	SS S-4	10	2-1-1-1 (2)				Moist, tan f.-c. SAND, lt. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-4
						7.00		2.58	
	SS S-5	18	1-2-1-1 (3)		Class 6		Wet, grey CLAY, tr. Organics, tr. f. Sand (Class 7) (CH)		Take S-5 End of boring at 1:20 PM to 9' below grade Backfill with holeplug
						9.00		0.58	

Bottom of borehole at 9.0 feet.

MFS Engineers & Surveyors
2780 Hamilton Blvd
South Plainfield, New Jersey 07080
Telephone: Telephone: (908) 922-4622
Fax: Fax: (866) 517-7413

BORING NUMBER GI-5

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 6.91 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/7/19
COMPLETED 11/7/19
SIZE AND TYPE OF BIT ---
COMPLETION DEPTH 9 feet
ROCK DEPTH ----
CASING ---
NO. SAMPLES 5 **DIST.** 5
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 5
WEIGHT ---- **DROP** ----
AT END OF DRILLING 5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	8	5-6		Class 7	1.00	Topsoil (Class 7) (FILL)	5.91	Mobilize to hole at 10:30 AM Start boring at 10:40 AM
	SS S-2	24	6-5-5-5 (10)		Class 4		Moist, grey CLAY, sm. f.-c. Sand, tr. f. Gravel, tr. Organics (Class 4b) (CL)		Take S-1 Take S-2
5	SS S-3	24	5-4-3-2 (7)			5.00 ▼	Moist, grey CLAY and f.-m. Sand, tr. Organics (Class 4c) (CL)	1.91	Take S-3
	SS S-4	12	3-3-1-1 (4)		Class 6		Wet, brown PEAT and f.-m. Sand (Class 6) (PT)		Take S-4
	SS S-5	16	WOH-WOH-WOH-WOH			9.00	Wet, brown PEAT and f. Sand (Class 6) (PT)	-2.09	Take S-5 End of boringat 10:55 AM to 9' below grade Backfill hole with holeplug

Bottom of borehole at 9.0 feet.

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BORING NUMBER GI-6

CLIENT NV5 New York
PROJECT NAME NYCDPR - Reconstruction of Michaelis-Bayswater Park
MFS PROJECT NUMBER 1119079
PROJECT LOCATION Queens, NY

DRILLING AGENCY MFS Construction, LLC
SURFACE ELEVATION 7.14 feet+/-
DATUM NAVD88
DRILLING EQUIPMENT Trailer Mounted CME-45B
DATE STARTED 11/8/19
COMPLETED 11/8/19
SIZE AND TYPE OF BIT ---
COMPLETION DEPTH 9 feet
ROCK DEPTH ----
CASING ---
NO. SAMPLES 5 **DIST.** 5
UNDIST. 0 **CORE** 0
CASING HAMMER ----
GROUND WATER LEVELS (ft. BG):
AT TIME OF DRILLING 6
WEIGHT ---- **DROP** ----
AT END OF DRILLING 5
AFTER DRILLING ----
SAMPLER 2" O.D. Split Spoon
FOREMAN Danny Ninevski
SAMPLER HAMMER Auto
INSPECTOR William Butler
WEIGHT 140 pounds **DROP** 30 inches
CHECKED BY Michael Mudalel, PE

DEPTH (ft)	SAMPLE TYPE NUMBER	RECOVERY (in) (RQD%)	BLOW COUNTS / 6 INCHES (N VALUE)	GRAPHIC LOG	NYC BUILDING CODE	DEPTH BELOW SURFACE (ft)	MATERIAL DESCRIPTION	ELEVATION	REMARKS
0	SS S-1	8	2-23		Class 7	0.50	Top 6" - Topsoil (Class 7) (FILL)	6.64	Mobilize to hole at 7:20 AM Start boring at 7:25 AM Take S-1
					Class 7	1.50	Bottom 2" - Concrete fragments (Class 7) (FILL) 6" Concrete fragments (Class 7) (FILL)	5.64	
	SS S-2	6	53-7-7-6 (14)						Take S-2. Coarse-sized concrete in split spoon shoe
	SS S-3	12	6-5-7-10 (12)				Moist, brown f.-c. SAND, tr. f. Gravel, tr. Silt (Class 7) (FILL)		Take S-3
5					Class 7		Moist/wet, brown f.-m. SAND, tr. Silt (Class 7) (FILL)		
	SS S-4	16	7-7-7-6 (14)						Take S-4
	SS S-5	22	8-5-6-7 (11)				S-5A: Top 20" - Wet, brown f.-m. SAND, tr. Silt (Class 7) (FILL)		Take S-5 End of boring at 7:40 AM to 9' below grade Backfill hole with holeplug
						8.67		-1.53	
					Class 6	9.00	S-5B: Bottom 2" - Wet, brown PEAT (Class 6)	-1.86	

Bottom of borehole at 9.0 feet.

NV5

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