Phase IA Archaeological Documentary Study

500 Kent Avenue
Brooklyn, New York 11249
Block 2023, Lot 10

CEQR 21DCP139K
(formerly 77DCP706K)
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EXECUTIVE SUMMARY

Kent Member LLC, proposes to develop a new 23-story, 352-foot tall (roof height; 375-foot tall with bulkhead), commercial building at 500 Kent Avenue (Block 2023, Lot 10) in the South Williamsburg neighborhood of Brooklyn Community District (CD) 2 in Kings County, New York (Figures 1 and 2 and Appendix A). Lot 10, an irregularly-shaped corner lot which measures 115,244-square feet (sf) or 2.65 acres, is also known as 492 Kent Avenue. The Lot 10 project site, which currently is vacant and undeveloped, is bounded by Kent Avenue on the east, the terminus of Division Street on the north, Lot 1 on the south (the southern boundary of Lot 10 is approximately opposite the terminus of the former Rush Street), and Wallabout Channel on the west. The bulkhead line of the channel marks the property edge.

The project site formerly contained Con Edison’s Kent Avenue Powerhouse or Generating Station, a large, multiple-story industrial complex constructed in 1905 and 1936 to provide energy for the Brooklyn Rapid Transit (BRT) streetcars and elevated lines. The complex had a basement level that extended approximately 8-10 feet below grade, with the top of the slab at approximately elevation 5.5 feet (NAVD 88) (TEC Land Surveying 2013, Appendix B). Con Edison purchased the plant in 1959, and operated it until 1999. From 1999 until 2009, various environmental studies occurred on the property (H2M 1999, LMS 2000, Shaw Environmental 2007, 2009) and in 2009 the building was demolished. In 2008, the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) determined that the complex met eligibility requirements for the State/National Register of Historic Places (S/NRHP) under Criterion C (Howe 2008, Appendix C). Today, as the building has been demolished, the resource is no longer eligible for the S/NRHP.

Site hazardous materials contamination led Con Edison to enter into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) in July 2002. The VCA was amended (Amendment #2) in July 2010 (VCA #D2-0003-02-08, Amendment #2), to investigate and remediate the project site.

The former Kent Avenue Powerhouse basement slab and underlying foundations are still present within a large portion of the project site, albeit now covered with clean fill from the remediation efforts. Soil beneath the basement slab has neither been removed nor remediated. All soil outside of the basement slab perimeter has been removed down to the depth of the water table and replaced with clean fill (Shaw Environmental 2015).

Current project plans indicate the floor elevation of the new building cellar level will be approximately 15 feet below the current grade, at a depth of elevation 3.5 feet (NAVD 88) (Appendix A:7). Construction of the new cellar level and its foundations would necessitate removing the former power plant basement slabs and at least some of their underlying foundations. The top of the proposed new cellar level will be approximately 2 feet lower than the existing power plant basement slab, although the base of the new cellar floor, the new building pilings, pile caps, and other foundation elements will extend considerably deeper.

As part of the CEQR review, project materials were submitted to the New York City Landmarks Preservation Commission (LPC), which responded that:

LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from 18th Century burials possibly from Revolutionary War Prison ships in Wallabout Bay. Accordingly, the Commission recommends that an archaeological documentary study be performed for this site to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary (see CEQR Technical Manual 2014). (Santucci 2/26/2020).

Historical Perspectives, Inc. (HPI) has been contracted by the project sponsor to complete the requested Phase IA Archaeological Documentary Study for the project. This study was prepared to comply with the standards of the New York City Landmarks Preservation Commission (CEQR 2020, LPC 2018). The Area of Potential Effect (APE) is the area that could be affected by project development. For this study the APE for the property includes the entire project site.
This Phase IA Archaeological Documentary Study focused specifically on the LPC recommendation to clarify the potential for the existence and survival of potential eighteenth-century burials from Revolutionary War era prison ships. Archival sources indicated that the eastern shore of Wallabout Bay was the location of an unspecified number of prisoner burials, which were shallowly interred in the sandy soils at the base of the bluff that ran along the shoreline. Kent Avenue runs along the top of this former bluff. Prisoner burials also occurred along the western side of Wallabout Bay, in areas that later became part of the Brooklyn Navy Yard. Historic accounts indicated that many of the prisoner burials on the western side of the bay were encountered during construction activities or exposed along the shorelines. However, there have been no known instances of burials rediscovered along the eastern side of the bay within or in proximity to the project site. Archaeologists studying properties immediately to the north and south of the project site, with similar conditions, have posited that due to the swift currents and tidal actions in these locations, burials likely were dislodged and/or washed away prior to the landfiling that occurred many decades later (Church and Rutsch 1982:42; Dallal 2007:VI-2, 3).

In its predevelopment condition, the project site was largely under the water of Wallabout Bay, with only a narrow stretch of land along the eastern side of the property (roughly parallel to Kent Avenue) as firm ground. This area consisted of an elevated bluff that sloped down to the bay along a sandy shoreline. The project site was later landfilled to its present extent out to the bulkhead line, beginning in about 1849 and continuing for the next few decades. During this process, the original shoreline was covered over to create the artificial landform. It is unclear whether the original shoreline, where potential burials would have been located, was simply capped with fill, or also was subjected to grading or other earthmoving as part of the landfiling process.

From the mid-nineteenth century through 2009, there was a succession of industrial buildings constructed and demolished on the project site. The earliest buildings included those from coal yards, ice houses, and a sugar refinery. All of those buildings were demolished by the 1890s, when the BRT began construction of a series of power house or generating plant buildings, which had basements that extended deep into the landfilled areas. The BRT facility changed configurations several times, with the final layout of the plant in place by the 1930s. Con Edison operated the plant from 1959 through 1999, and the facility was demolished in 2009.

Remediation of the project site in 2013, after the power plant buildings were demolished, entailed removing all soil down to the top of the basement slab where the buildings were once located, and down to the water table in all other areas on the property. After the contaminated soil was removed, clean fill was placed on top of the former basement slabs to bring the site elevation back up to the approximate street level. As such, the only potentially natural soils on the project site would be located underneath the extant basement slabs.

The top of the basement slab across the property is at approximately elevation 5.5 feet (NAVD 88). Because previous soil borings did not extend beneath these slabs, the degree of disturbance to the original shoreline soils below the basements presently is unknown. It is assumed that the disturbance extends below the depth of the extant basement slabs, to account for the deeper foundations and support piles that would have supported the former buildings. However, the remote possibility remains that locations along the original shoreline where Revolutionary War era prisoner burials might have been placed could be extant and capped by the former building basements.

Current project plans indicate the floor elevation of the new building cellar level will be approximately 15 feet below the current grade, at a depth of elevation 3.5 feet (NAVD 88). Construction of the new cellar level and its foundations would necessitate removing the former power plant basement slabs and at least some of their underlying foundations. The top of the proposed new cellar level will be approximately 2 feet lower than the existing power plant basement slab, although the base of the new cellar floor, the new building pilings, pile caps, and other foundation elements will extend considerably deeper. As such, the proposed project will entail removing additional soil along the original Wallabout Bay shoreline where Revolutionary War prisoner burials could have been situated.

Based on the conclusions outlined above, HPI recommends that future geotechnical soil borings extending below the existing basement slab be reviewed by a professional archaeologist. These borings should be implemented with a continuous tube sampling of soil beneath the extant basement slab. The intent of this review would be to confirm the expected disturbance to the natural soil column along the former shoreline where potential Revolutionary War prisoner burials might have been located. Historic accounts noted that the burials were placed in natural sandy soils that were located at the base of the bluff overlooking the bay, although historic maps differed as to the precise location of the shoreline within the project site. Therefore, a sufficient number of geotechnical borings should be
placed along the eastern side of the project site to adequately sample the area that was once firm ground, extending from the boundary of the property with the Kent Avenue sidewalk west to the approximate center of the property. If the planned geotechnical soil borings show disturbance extending below the level of the proposed project cellar floor and its support components (including pile caps) along the eastern side of the project site, then it is likely that no further archaeological consideration will be necessary. If the soil borings do not indicate the expected deep disturbance along the eastern side of the project site, then it is possible that additional archaeological testing or monitoring may be warranted. The scope and work plan for any future archaeological field investigations should be developed in consultation with the LPC and prepared according to LPC guidelines (LPC 2018).
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I. INTRODUCTION

Kent Member LLC, proposes to develop a new 23-story, 352-foot tall (roof height; 375-foot tall with bulkhead), commercial building at 500 Kent Avenue (Block 2023, Lot 10) in the South Williamsburg neighborhood of Brooklyn Community District (CD) 2 in Kings County, New York (Figures 1 and 2 and Appendix A). Lot 10, an irregularly-shaped corner lot which measures 115,244-square feet (sf) or 2.65 acres, is also known as 492 Kent Avenue. The Lot 10 project site, which currently is vacant and undeveloped, is bounded by Kent Avenue on the east, the terminus of Division Street on the north, Lot 1 on the south (the southern boundary of Lot 10 is approximately opposite the terminus of the former Rush Street), and Wallabout Channel on the west. The bulkhead line of the channel marks the property edge.

The project site formerly contained Con Edison’s Kent Avenue Powerhouse or Generating Station, a large, multiple-story industrial complex constructed in 1905 and 1936 to provide energy for the Brooklyn Rapid Transit (BRT) streetcars and elevated lines. The complex had a basement level that extended approximately 8-10 feet below grade, with the top of the slab at approximately elevation 5.5 feet (NAVD 88) (TEC Land Surveying 2013, Appendix B). Con Edison purchased the plant in 1959, and operated it until 1999. From 1999 until 2009, various environmental studies occurred on the property (H2M 1999, LMS 2000, Shaw Environmental 2007, 2009) and in 2009 the building was demolished. In 2008, the New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP) determined that the complex met eligibility requirements for the State/National Register of Historic Places (S/NRHP) under Criterion C (Howe 2008, Appendix C). Today, as the building has been demolished, the resource is no longer eligible for the S/NRHP.

Site hazardous materials contamination led Con Edison to enter into a Voluntary Cleanup Agreement (VCA) with the New York State Department of Environmental Conservation (NYSDEC) in July 2002. The VCA was amended (Amendment #2) in July 2010 (VCA #D2-0003-02-08, Amendment #2), to investigate and remediate the project site. According to the Final Engineering Report (Shaw Environmental 2015) and summarized in a NYSDEC fact sheet for the project (Appendix D):

The remediation at the Site included the removal and disposal of approximately 13,700 tons of soil and debris down to the water table or confining concrete slab (approximately 5 – 13 feet below grade) in accordance with NYSDEC Restricted Residential Soil Cleanup Objectives (SCOs). Clean fill materials were brought in to replace the excavated soil and debris and establish the designed grades at the Site.

In the northern section of the Site, an old underground storage tank, used to store fuel oil, was registered and removed. The surrounding soils were also excavated.

The remedy also included a two-foot soil cover in the southwest corner of the Site (an area that is not conducive to excavation) to allow for restricted residential use of the Site. The soil cap was topped off with a layer of 3/4-inch stone.

The former Kent Avenue Powerhouse basement slab and underlying foundations are still present within a large portion of the project site, albeit now covered with clean fill from the remediation efforts. Soil beneath the basement slab has neither been removed nor remediated. All soil outside of the basement slab perimeter has been removed down to the depth of the water table and replaced with clean fill (Shaw Environmental 2015).

The approximately 684,242 gross square feet (gsf) Proposed Project would contain 598,442 gsf of office space and 21,233 gsf of retail space, built at 5.0 floor area ratio (FAR) with 576,220 zoning square feet (zsf) of floor area. It would also contain approximately 23,180 sf (0.53 acres) of publicly accessible waterfront public open space, including a shore public walkway and supplemental public access area. There would also be 40,574 sf (0.93 acres) of not formally public accessible open areas. Additionally, there would be 249 public parking spaces (64,567 gsf) and two loading berths.

Current project plans indicate the floor elevation of the new building cellar level will be approximately 15 feet below the current grade, at a depth of elevation 3.5 feet (NAVD 88) (Appendix A:7). Construction of the new cellar level and its foundations would necessitate removing the former power plant basement slabs and at least some of
their underlying foundations. The top of the proposed new cellar level will be approximately 2 feet lower than the existing power plant basement slab, although the base of the new cellar floor, the new building pilings, pile caps, and other foundation elements will extend considerably deeper.

To facilitate the proposed new construction project, Kent Member LLC is seeking the following discretionary approvals:

1. Zoning map amendment that would rezone the 2.65-acre Project Site from M3-1 to M1-5;
2. Waterfront bulk modification special permit pursuant to ZR 62-837 to modify various bulk requirements in sub-sections of ZR 62-341, including: (i) ZR 62-341(a)(2) - initial setback distance; (ii) 62-341(a)(4)(ii) - permitted obstruction lot coverage maximum for penthouses; (iii) ZR 62-341(c)(1) - maximum base height; (iv) ZR 62-341(c)(2) -maximum building height, (v) ZR 62-341(c)(5) - maximum width of walls facing shoreline; and
3. Public parking garage special permit pursuant to ZR 74-52 to allow a 249-space public parking garage.

The project also requires one non-discretionary ministerial action by the City Planning Commission (CPC):

1. Waterfront zoning certification pursuant to ZR 62-81 to demonstrate compliance with applicable waterfront zoning regulations.

As part of the CEQR review, project materials were submitted to the New York City Landmarks Preservation Commission (LPC), which responded that:

LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from 18th Century burials possibly from Revolutionary War Prison ships in Wallabout Bay. Accordingly, the Commission recommends that an archaeological documentary study be performed for this site to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary (see CEQR Technical Manual 2014). (Santucci 2/26/2020).

Historical Perspectives, Inc. (HPI) has been contracted by the project sponsor to complete the requested Phase IA Archaeological Documentary Study for the project. This study was prepared to comply with the standards of the New York City Landmarks Preservation Commission (CEQR 2020, LPC 2018). The Area of Potential Effect (APE) is the area that could be affected by project development. For this study the APE for the property includes the entire project site.

II. METHODOLOGY

The present study is focused specifically on the LPC recommendation to clarify the potential for the existence and survival of potential eighteenth-century burials from Revolutionary War era prison ships. Although a general historic period summary of the project site is presented, many archival resources normally consulted for archaeological studies in New York City were not relevant to this particular research question and so were not reviewed (e.g., tax records to establish historic residential occupancy).

- Primary and secondary sources concerning the general history of Brooklyn and specific events associated with the project site and vicinity, including the Revolutionary War prisoner burials and later landfilling activities, were reviewed.
- Historic maps were reviewed, to provide an overview of the topography and a chronology of land usage for the project site. A selection of these maps has been reproduced for this report.
- Numerous documents related to the environmental studies of and remediation programs for the project site were reviewed.
- Information about previously recorded archaeological sites and surveys in the area was compiled from data available at the NYSOPRHP through their Cultural Resources Information System (CRIS), the LPC, and the library of HPI. Particular attention was paid to prior archaeological surveys for projects in close proximity to the project site.
- Last, a site visit was conducted by HPI on August 24, 2024 (Photographs 1-9; Figure 2).
III. CURRENT CONDITIONS AND ENVIRONMENTAL SETTING

A. Current Conditions

As noted in the Introduction, the project site is a vacant 2.65-acre parcel located on the west side of Kent Avenue, between Division Avenue on the north and Lot 1 on the south. Wallabout Channel borders the project site on the west. The property is surrounded by chain link fencing on the north, east and west sides, with access gates on Kent Avenue and Division Avenue (Photographs 1 and 2). The Lot 1 boundary on the south contains a high concrete wall (Photograph 3). The parcel is covered primarily with gravel, with some areas of concrete along the west side of the property (Photographs 4-8). Currently, the lot is used to park school buses, private cars, and a few trucks and tractor trailers. There are several metal storage trailers on the property, along the Kent Avenue side of the lot. Other areas, along the west side of the property, are being used to store construction materials (Photograph 9).

B. Topography and Hydrology

In its natural condition, the project site was located largely under the waters of Wallabout Bay, with only the eastern side of the property on firm ground. Modern Kent Avenue on the east side of the project site follows the approximate route of the old Williamsburgh Road, which was located atop a bluff running along the shore of the bay (Colton 1839, Figure 8). The landform sloped downward from the roadway and bluff toward the shore of the bay. The depiction of the dividing line, between the firm ground on the east side of the project site and the submerged portion on the west side, varied across historic maps. Most maps showed that only a narrow strip of land in the APE adjacent to Kent Avenue was part of the slope (e.g. Fulton 1874, Figure 11), although other maps (e.g. Hyde 1898, Figure 13) showed the dividing line as further to the west.

By the last decades of the nineteenth century, when the first historic maps indicating elevations were published, the project site had already been completely landfilled out to the bulkhead line, creating an artificial landform. The construction of Kent Avenue also may have altered the original elevation of the natural bluff. At the end of the nineteenth century, the overall project site ranged from less than 10 feet above sea level (asl) on the west to between 10-20 feet asl on the east (Bien and Vermeule 1891). In 1887, Kent Avenue was shown to be 18 feet asl at the intersection of Division Street and 14 feet asl at the intersection of Rush Street (Sanborn 1887, Figure 12). The 1898 Hyde map (Figure 13) indicated the Kent Avenue intersection with Division Street was 17.59 feet asl and the intersection with Rush Street was 13.53 feet asl.

Figure 2, a topographical map from 2019, indicates that today the western edge of the project site, along the bulkhead line, ranges from approximately elevation 7.5-10.5 feet and the eastern edge along Kent Avenue ranges from approximately elevation 15.5-18.5 feet (NAVD 88). The project site slopes down gently from east to west. The southwest corner of the project site has been designated the temporary datum for the project, at elevation 15.77 (NAVD 88) (Figure 2).

C. Soils

According to the soil survey for New York City (Figure 3), the project site falls within soil mapping unit 101, known as “Pavement & buildings, wet substratum-Laguardia-Ebbets complex, 0 to 8 percent slopes” and described as:

Nearly level to gently sloping urbanized areas filled with a mixture of natural soil materials and construction debris over swamp, tidal marsh, or water; a mixture of anthropogenic soils which vary in coarse fragment content, with up to 80 percent impervious pavement and buildings covering the surface (U.S.D.A. 2005:12).

Over the course of the site investigation and remediation efforts described in the Introduction, three sets of soil borings were completed on the project site, outside of the boundaries of the former powerhouse (as it stood in 2009) on the north and the south. The locations of the soil borings and the available boring logs are included as Appendix E.
The following summarizes the three soil boring programs, although it should be reiterated that all soil above the former powerhouse basement slab and all soil down to the depth of the water table outside of the basement perimeter have since been removed, and so these results describe soils that largely are no longer present on the project site.

In 1999, 12 soil borings were completed to explore existing conditions in areas north and south of the then extant powerhouse building (LMS 2000; Appendix E). Each of the borings was advanced to the depth of the water table using a mobile drill rig. Soil samples were collected at four-foot intervals from the base of the test pits to either the completion depth of the boring or the depth that refusal was encountered. Soil boring logs reported levels of concrete and fill, with all borings terminated at 12 feet or less below grade (Ibid.).

In 2009 and after the former powerhouse was demolished, soil sampling for hazardous materials was completed at five loci within the southern portion of the project site (PBL-1, PBL-2, PBL-5, PBL-7, and PBL-8) (Shaw 2010; Appendix E). The 2010 report explains:

Since the purpose of the pre-design investigation was to approximate the lateral extent of the contamination in these five areas, the drilling program called for up to 16 soil borings to be drilled at each of the five locations. A center point for each of the five locations was marked with a steel rod. In a general north-south, and east-west direction (using the east side of Kent Avenue as north-south), four lines were drawn from each steel rod. At each location, marks were made at distances of 5, 10, 20, and 30 ft. from the steel rod along all four lines. The intent of the program was to start near the center of each of the five locations, and move outwards until the contamination was delineated.

In order to easily identify soil borings and associated samples, each soil boring was given a unique number. The boring number started with the location number, followed by a letter (N for north, E for east, etc.,) to designate the direction from the steel rod, followed by a number representing the distance, in ft. from the steel rod (Shaw 2010:6).

This series of soil borings extended to a maximum of 16 feet below ground surface (bgs), and many were ended at shallower depths. These borings encountered buried concrete slabs from the former power plant basement floors (e.g. Sanborn 1918, Figure 15; Sanborn 1935, Figure 16) that precluded further excavation (Shaw 2010:7).

In 2014 National Grid, in compliance with a Consent Order (W2-1090-06-06) with the NYSDEC, conducted an investigation within the southern portion of the Site to determine whether manufactured gas plant (MGP) contamination had migrated from the former Nassau Gas Works MGP located immediately south of the project site. The investigation was performed based on the NYSDEC-approved Revised Supplemental Remedial Investigation Work Plan, Former Kent Avenue Generating Station [Off-Site Area], Nassau Gas Works Manufactured Gas Plant (MGP) Site, dated March 6, 2009. Beginning May 8, 2014, a total of six soil borings were advanced up to 105 ft bgs. In addition, two monitoring well pairs comprising a deep and a shallow well were installed at two of the six boring locations. The drilling and well development activities were completed on May 30, 2014 (Shaw 2015b:15). No soil boring logs were provided for the 2014 soil boring program (a proposed site plan is included in Appendix E), but the Site Management Plan noted that alluvial deposits of gray to brown silty sands to medium sands were found below the fill strata (Shaw 2015a:5). It should be noted, however, that at least based on the site plan from 2014, the proposed soil boring locations were all in areas that were once under water; none appear to be within areas that were historically firm ground.

The present soils on the project site (excepting those beneath the former powerhouse basement slabs) consist of an artificial “cover system” installed in 2015. According to Roux (2018:2-3), the cover system, consists of four different configurations (bold type added for emphasis and clarity):

1. A deep cover system with a total thickness of between **4.5 to 11 feet**, consisting of compacted structural fill covered with a minimum of 4 inches of 3/4-inch stone. This deep cover system, located within the North and South Excavation Areas, has a demarcation layer (orange plastic fencing) placed directly on top of the concrete slab floor at the base of the remedial program excavation;
2. A deep cover with a total thickness of between **8 to 12 feet**, consisting of clean fill covered with a minimum of 4 inches of 3/4-inch stone. This deep cover system, located within the Former Generating
Station Building Foundation, does not have a demarcation layer on top of the concrete slab floor within the building foundation;

3. A soil cap located within the southwest portion of the Site that consists of 20 inches of compacted structural fill covered with a minimum of 4 inches of 3/4-inch stone. This cap has a demarcation layer (orange plastic fencing) at its base, directly covering contaminated soil/fill; and

4. A 4-foot-thick cover system consisting of clean fill, covered by structural fill, covered by a minimum of 4 inches of 3/4-inch stone. This clean fill directly covers contaminated soil/fill that was not removed during the remedial program, and there is no demarcation layer separating the clean fill from the contaminated soil/fill.

IV. BACKGROUND RESEARCH/HISTORICAL OVERVIEW

A. Previously Recorded Archaeological Sites and Surveys

The archaeological site file inventories from the New York State Museum (NYSM) and the NYSOPRHP indicate that no archaeological sites have been recorded on the project site. Four historic period archaeological sites have been recorded within a one-mile radius of the project site and are presented in the table, below.

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<th>NYSOPRHP Site Number</th>
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<th>Site Type/Time Period</th>
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<td>101 S. 5th Street Historical Archaeological Site</td>
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<td>Nineteenth century domestic resources</td>
</tr>
</tbody>
</table>

The project site has never been subjected to an archaeological survey. The NYSOPRHP indicates there have been 24 archaeological surveys filed within a one-mile radius of the project site (which includes parts of the lower East Side of Manhattan), with a number of them conducted at the former Brooklyn Navy Yard to the southwest of the project site. Numerous additional archaeological surveys within a one-mile radius area have been filed with the LPC as part of CEQR reviews. Due to the large number of previous archaeological surveys completed within this radius, and the fact that few of these reports documented the potential for Revolutionary War prisoner burials, which is the focus of this study, they will not be listed here.

That said, there are two Phase IA archaeological studies that have been completed for properties both immediately north and south of the project site that had similar conditions and also were noted as once having potential for the presence of Revolutionary War prisoner burials. Those two studies are summarized, below.

- Proposed Resource Recovery Facility Site, Brooklyn Navy Yard (Church and Rutsch 1982)

In 1982, Historic Conservation & Interpretation (HCI) conducted a Stage 1 Cultural Resources Study for a portion of the Brooklyn Navy Yard property located west of Kent Avenue and straddling the Wallabout Channel, immediately south of the project site, on a portion of Block 2023, Lot 1. Like the project site, this property originally contained firm ground on the east side of the property and inundated areas on the west side of the property. The parcel later was landfilled out to the bulkhead line and had a series of industrial buildings on it. HCI concluded that the areas that were formerly firm ground on the east side of the property, closest to Kent Avenue, could be sensitive for archaeological resources including potential Revolutionary War prisoner burials, if they had not been subsequently disturbed from later earthmoving activities. HCI recommended archaeological field testing in this portion of the property, but it is unclear whether that testing ever occurred (Church and Rutsch 1982:42).
In 2007, AKRF completed a Phase IA Archaeological Documentary Study for a project known as Rose Plaza on the River, located at 470-490 Kent Avenue on Block 2134, Lots 1 and 150 (Dallal 2007). Again, with similar conditions to the project site, this parcel was west of Kent Avenue and historically contained a strip of firm land on the east side of the property and an inundated portion under Wallabout Channel on the west side. The AKRF Phase IA report contained a detailed account of the practice of burying Revolutionary War prisoners along the Wallabout Bay shorelines, as well as the recovery of these burials within the Brooklyn Navy Yard in later years. The report had a lengthy discussion about the decreased potential for survival of such burials along the Kent Avenue waterfront or eastern shore of Wallabout Bay, which due to its comprehensiveness is worth including here:

A number of studies have been conducted with respect to the Revolutionary War period prison ships that were moored off Wallabout Bay, south of the current project area, during the war years. The original Johnson map (Figure 19) illustrates three areas where “Graves” were purported to be found. Geismar and Oberon reported that prison ship burials could be located “throughout the filled portions of the former Navy Yard, mainly in areas that once included the tidal mud flats of Wallabout Bay, west of the Navy Yard Annex site” southwest of the project area (1996: 10). They further stated that the Johnson/Haywood map (Figure 20 [of the AKRF report]) indicates that “the graves of Americans who died on prison ships during the Revolutionary War could be found in what are now industrial areas outside the former Navy Yard and Navy Yard Annex” (Ibid).

Despite this possibility, no historic documents, including newspapers, appear to have reported the discovery of human remains associated with the prison ships along the East River waterfront in any place other than Wallabout Bay and the Brooklyn Navy Yard. No human remains have been reported along the eastern shore of the Bay as far north as project area.

Given the strong current of the East River, it is likely that even if prisoners had been buried along the shore of the project site, they would have been “washed out by the waves at high tide” (Stiles 1867 I: 350), swept away by the currents, or dislodged by erosion. In addition, the narrow area of original shoreline within the project area was subsequently filled, graded, and impacted by the construction of the aforementioned 3- to 4-story story [sic] warehouse (with basement) and by the construction of the Mollenhauer Sugar Refinery in the late 19th century. Early 20th Century maps indicate that the refinery had buildings which were up to eight stories high in the area that would have once been the original East River shore. Furthermore, Sanborn Insurance maps dating to 1918 indicate that not only was there a refinery located in the area, but also a bone charring plant, a kiln, several horizontal steam tanks, a wash house, and a large tank for the storage of molasses.

Therefore, this study concludes that the project site has low potential for the recovery of undisturbed Revolutionary War-era burials (Dallal 2007:VI-2, 3).

Based on these conclusions, the AKRF study did not recommend any further archaeological work related to potential Revolutionary War era burials.

B. Historic Period Summary

As noted in the Methodology section, above, the following section focuses primarily on the project site’s history as it pertains to the potential for the presence and survival of Revolutionary War prisoner burials, which are the archaeological resources specifically identified in the LPC environmental review for further study.

The project site is at the far western edge of a 400-acre patent acquired by Hans Hansen Bergen from Governor Kieft in 1647 on the east side of Wallabout Bay, which was a portion of a larger tract Kieft had purchased from the local Native Americans in 1638 (Stiles 1867:88). In 1639 Bergen had married Sarah Rapelje, the daughter of another early Brooklyn landowner, Joris Janse de Rapelje, who owned the area now including the Brooklyn Navy Yard. After Bergen’s death, his widow married Theunis Gysbert Bogaert, who reconfirmed the patent in his own name and ensured that later owners of the land would be from the Bogaert (or Bogert) family. Stiles (1867:94) noted that in 1767 the farm belonged to Teunis Bogert, at which time he willed the property to his sons Adrian and Cornelius Bogert. In 1769 the farm was divided between the two brothers and the portion including the project site was assigned to Adrian Bogert. In 1775 Adrian Bogert sold the farm to Jacob Bloom (Stiles 1867:94).
One of the earliest detailed maps including the early Brooklyn settlement was published in 1767 by Ratzer (Figure 4). Although the Ratzer map did not indicate landowners along the East River shoreline, an update of the map by Stiles (1867:93) provided names of nineteenth-century owners atop the eighteenth-century topography. The project site was along the shoreline of a tract attributed on the map to Abraham Boerum, who had acquired the land in 1816 from Abraham A. Remsen. Remsen in turn had purchased it that same year from the heirs of Barent Bloom, Jacob Bloom’s son, who had acquired the property from his father in 1797 (Stiles 1867:94). The Ratzer map illustrated that there were two structures atop the bluff and a dock at the approximate line of present Division Street, east and north of the APE. At this time there had been no apparent landfilling within the project site, and the majority of the parcel was still under water, with the portion along the shoreline undeveloped with any structures. The 1782 British Headquarters Map (Stevens 1900, Figure 5) illustrated similar topographical and developmental conditions with regard to the project site and its vicinity.

The period of potential archaeological significance for the project site, as identified by LPC, is the Revolutionary War, when certain parts of the shores of Wallabout Bay were used by the occupying British forces as locations to bury prisoners of war, who had been held and perished on the notoriously squalid prison and hospital ships anchored around the bay during this time. Both the 1982 HCI archaeological report and the 2007 AKRF archaeological report described above, for the properties located south and north of the project site, respectively, devoted considerable discussion to the history of these burials and their subsequent likelihood for survival today.

Over the span of the British occupation of New York City during the Revolutionary War, there were at least 16 prison and hospital ships anchored around Wallabout Bay. Some of these ships were illustrated on a map made by General Jeremiah Johnson, whose family lived on the eastern side of Wallabout Bay during this period when he was a child and teenager, and who published his recollections of the period in the 1830s. The original map of the Wallabout Bay by Johnson was filed at the Brooklyn Navy Yard. Later, a number of others copied and reproduced the map in nineteenth-century publications, including Henry Stiles’ A History of the City of Brooklyn (Stiles 1867:93). A larger version of the map was published by George Hayward for Valentine’s Manual in 1858 (Figure 6).

Although the various reproductions of the original Johnson map differ slightly, there was a general consensus that there were three main locations around Wallabout Bay where burials occurred. Two locations were near the Remsen mill pond, on the west side of the bay in areas that later became part of the Brooklyn Navy Yard. The third location was along the east side of the bay, at the base of the bluff that now contains Kent Avenue (Figure 6). The 1858 reproduction of the Johnson map identifies a large swath along the east side of the bay labeled “Prisoners Graves,” including the area now containing the project site. A structure labeled “Bloom’s House” was situated just southeast of project site on top of the bluff. As noted above, Jacob Bloom purchased the Adrian Bogert farm and homestead in 1775. The property was conveyed to Abraham Boerum in 1816, whose name appeared on a number of historic maps indicating the farm holdings prior to implementation of the Brooklyn city street grid (e.g. Colton 1839, Figure 8; Fulton 1874, Figure 11).

The burials that took place along the Wallabout Bay shorelines were described by multiple sources as being very shallowly interred and therefore likely to be uncovered and washed away by storms and/or high tides. One footnote by Stiles (1867:350) indicated:

[The Reverend Thomas] Andros ([in his recollections,] p. 14 ) says : “The first object that met our view in the morning, was an appalling spectacle – a boat loaded with dead bodies, conveying them to the Long Island shore, where they were very slightly covered with sand. I sometimes used to stand and count the number of times the shovel was filled with sand to cover a dead body. And certain I am, that a few high tides, or torrents of rain, must have disinterred them.”

Another footnote by Stiles (1867:350) was longer. The location near the project site is bolded for emphasis:

General Johnson (Recollections of Brooklyn and New York in 1776) says: “It was no uncommon thing to see five or six dead bodies brought on shore in a single morning, when a small excavation would be dug at the foot of the hill, the bodies be cast in, and a man with a shovel would cover them, by shovelling sand down the hill upon them. Many were buried in a ravine of the hill; some
on the farm. The whole shore, from Rennie's Point to Mr. Remsen's door-yard, was a place of graves; as were also the slope of the hill, near the house (subsequently dug away by Mr. John Jackson, and whence he obtained the bones for the ‘Dry-bone Procession’); the shore from Mr. Remsen’s barn along the mill-pond, to Rapelje’s farm, and the sandy island between the floodgates and the mill-dam, while a few were buried on the shore on the east side of the Wallabout. Thus did Death reign here, from 1776 until the peace. The whole Wallabout was a sickly place during the war. The atmosphere seemed to be charged with foul air from the prison-ships, and with the effluvia of the dead bodies washed out of their graves by the tides. We believe that more than half of the dead buried on the outer side of the mill-pond, were washed out by the waves at high tide, during northeasterly winds. The bones of the dead lay exposed along the beach, drying and bleaching in the sun, and whitening the shore, till reached by the power of a succeeding storm; as the agitated waters receded, the bones receded with them into the deep. We have, ourselves, examined many of the skulls lying on the shore. From the teeth, they appeared to be the remains of men in the prime of life.”

Following the Revolutionary War, as the Brooklyn Navy Yard was being constructed and expanded, former prisoner burials often were encountered in areas once along the west side of Wallabout Bay. The 2007 AKRF archaeological report provided a detailed synopsis of subsequent construction episodes at the Navy Yard that revealed earlier burials, as well as efforts in the later eighteenth, nineteenth, and early twentieth centuries to rebury some of these bodies on the Navy Yard property and elsewhere in Brooklyn. Although General Johnson and others indicated that there had been some prisoner burials on the east side of Wallabout Bay in the project site vicinity, unlike at the Navy Yard there do not seem to have been any published accounts of later discovery of these shallow graves. Due to the faster currents of the East River on the east side of the Bay, AKRF and others have surmised that any bodies shallowly interred in these locations would have had a greater likelihood of washing away with the tides or other natural events (Dallal 2007:VI-2).

The project site remained largely in its natural condition through the first decades of the nineteenth century. Historic maps made by Martin in 1834, Colton in 1836, and the U.S.C.S. in 1837 (Figure 7) all showed that there had been little to no landfilling along the shoreline while the area was still divided into the large farm tracts. As mentioned above, there was a winding roadway located at the top of the bluff during this period called the Williamsburgh Road, which predated the present city grid. A map of the City of Brooklyn made by Colton in 1839 (Figure 8) and updated in 1849 showed the proposed new street grid overlaid onto the former farm tracts and farm roads. Landfilling on the project site appears not to have begun by this time.

During the 1840s, the project site experienced a number of changes. In 1845, the Williamsburgh Road, which marked the approximate eastern edge of the project site, was closed (Dikeman 1870:98). The following year, Abraham Boerum ceded land to the City of Brooklyn for what was to become the new Kent Avenue alignment (Liber 156:61). In 1847 Kent Avenue formally was opened, creating the present project site eastern boundary (Dikeman 1870:64). Finally, in 1849 landowners along the Kent Avenue shoreline, including the project site, were given permission by the legislature of the State of New York to begin landfilling out to the new bulkhead line. Dikeman (1870:117-118) provided the specific language authorizing the landfilling:

April 4, 1849, Chapter 209, page 320.

Authorizes the heirs and devisees of Abraham A. Remsen, deceased, and the heirs and devisees of Abraham Boerum, deceased, respectively, and their heirs and assigns, to erect, fill in, keep and maintain forever a bulkhead, docks and wharves adjacent to their respective lands in the Seventh ward of the city of Brooklyn, and extending into the channel in the Wallabout bay not exceeding one hundred feet below water mark on the shore thereof, and along the whole front of their respective pieces of land.

After the authorization for landfilling in 1849, the project site immediately began to be landfilled out to the bulkhead line, covering over the natural sandy shoreline and creating new land in areas once under water. By issuance of the 1850 Dripps map (Figure 9) the project site had already been landfilled considerably and there were several unlabeled structures on the property. Additional areas on the project site had been landfilled by publication of the 1869 Dripps map (Figure 10). The southernmost portion of the project site was labeled a coal yard with several
small structures, a small vacant area north of the coal yard was attributed to “G.E. Hoyt,” and a series of larger buildings to the north of the Hoyt property was attributed to “C.H. Shipman.”

At least by the 1870s, the project site was almost or entirely landfilled out to the bulkhead line (Fulton 1874, Figure 11). The project site continued to contain commercial and industrial businesses. The 1880 Bromley map noted that in addition to the coal yard and its buildings at the southern end of the project site, the Knickerbocker Ice Company had buildings in the central portion of the lot and Moller Sierck & Company had a sugar refinery at the northern end of the parcel. Similar conditions were shown on the 1886 Robinson map, and the 1887 Sanborn map (Figure 12) illustrated the specific building footprints of the three businesses as well as details of their construction. C.I. Totten’s coal yard at the southern end of the property was shown to be part of the larger Wallabout Oil Works, which also was located south of the project site. The oil works had buildings that were one to three stories in height, the ice company had one and two-story buildings, and the sugar refinery had buildings that were one to nine stories tall. Although the nineteenth-century maps did not specify whether any of these buildings also had basements, it is likely that many of them did.

By the 1890s, the Brooklyn Rapid Transit Company (BRT) had erected its first power house on the project site, on the northern portion of the property where the sugar refinery once stood. The 1898 Hyde map (Figure 13) showed the outline of the new brick structure, although indicated no other details. The southern side of the project site still contained the same buildings shown on earlier maps, now attributed to the Consolidated Ice Company. The 1904 Sanborn map (Figure 14) provided more details about the 1890s power plant on the north side of the project site. The building ranged from 1-3 stories in height, with basements and a tall brick chimney. The 1904 Sanborn map also indicated that the former coal and ice company buildings on the south side of the lot had been removed and that area was slated for a new power house to be erected for the BRT. The 1908 Bromley map showed that by this time, a portion of the second power house building on the south side of the lot fronting Kent Avenue had been constructed, although there were no details as to its characteristics. The 1916 Hyde map, as well as the 1918 Sanborn map (Figure 15) confirmed that by this time, nearly the entire southern side of the project site was covered by the newly erected power house building, which the Sanborn map indicated was up to 6 stories high with a basement, and had been constructed in 1906. Portions of the original power plant on the northern part of the lot had been demolished and functions moved to the south, so that the configuration of the overall facility had shifted. The 1935 Sanborn map (Figure 16) showed a largely similar layout to the earlier maps.

The last major building episode on the project site was in the late 1930s, when the northernmost portion of the power plant was constructed, replacing the last remaining parts of the original 1890s component. The 1950 Sanborn map (Figure 17) showed the new portion of the power plant at the northern end of the lot, which was noted as constructed in 1937. This configuration, from the 1930s, was largely the layout that endured through the remainder of the twentieth century, although a section along the southern side of the property had been demolished by the 1970s, according to Sanborn maps (H2M 1999: Appendix A). The S/NRHP Determination of Eligibility for the power plant, which was completed in 2008 (Appendix C) contains interior and exterior photographs of the power plant.

As described in the Introduction, Con Edison purchased the BRT power plant in 1959 and operated it until 1999, when it was shut down. A site map from 1999 illustrated the layout of the power plant at that time (Appendix F). The facility was demolished in 2009. Subsequently, the site was remediated by removing all of the soil above the basement slabs and down to the water table in areas not containing basements. Clean fill and a soil cover system were installed in 2013. A series of site maps were created at that time showing the existing conditions, foundation remains, and final site topography after the remediation had occurred (Appendix B). The only remaining features of the former power plant on the project site today are the basement slabs and the underlying foundations, which are covered with the clean fill and capped by the gravel and concrete pavement.

V. CONCLUSIONS

This Phase IA Archaeological Documentary Study focused specifically on the LPC recommendation to clarify the potential for the existence and survival of potential eighteenth-century burials from Revolutionary War era prison ships. Archival sources indicated that the eastern shore of Wallabout Bay was the location of an unspecified number of prisoner burials, which were shallowly interred in the sandy soils at the base of the bluff that ran along the shoreline. Kent Avenue runs along the top of this former bluff. Prisoner burials also occurred along the western
side of Wallabout Bay, in areas that later became part of the Brooklyn Navy Yard. Historic accounts indicated that many of the prisoner burials on the western side of the bay later were encountered during construction activities or exposed along the shorelines. However, there have been no known instances of burials rediscovered along the eastern side of the bay within or in proximity to the project site. Archaeologists studying properties immediately to the north and south of the project site, with similar conditions, have posited that due to the swift currents and tidal actions in these locations, burials likely were dislodged and/or washed away prior to the landfilling that occurred many decades later (Church and Rutsch 1982:42; Dallal 2007:VI-2, 3).

In its predevelopment condition, the project site was largely under the water of Wallabout Bay, with only a narrow stretch of land along the eastern side of the property (roughly parallel to Kent Avenue) as firm ground. This area consisted of an elevated bluff that sloped down to the bay along a sandy shoreline. The project site was later landfilled to its present extent out to the bulkhead line, beginning in about 1849 and continuing for the next few decades. During this process, the original shoreline was covered over to create the artificial landform. It is unclear whether the original shoreline, where potential burials would have been located, was simply capped with fill, or also was subjected to grading or other earthmoving as part of the landfilling process.

From the mid-nineteenth century through 2009, there was a succession of industrial buildings constructed and demolished on the project site. The earliest buildings included those from coal yards, ice houses, and a sugar refinery. All of those buildings were demolished by the 1890s, when the BRT began construction of a series of power house or generating plant buildings, which had basements that extended deep into the landfilled areas. The BRT facility changed configurations several times, with the final layout of the plant in place by the 1930s. Con Edison operated the plant from 1959 through 1999, and the facility was demolished in 2009.

Remediation of the project site in 2013, after the power plant buildings were demolished, entailed removing all soil down to the top of the basement slab where the buildings were once located, and down to the water table in all other areas on the property. After the contaminated soil was removed, clean fill was placed on top of the former basement slabs to bring the site elevation back up to the approximate street level. As such, the only potentially natural soils on the project site would be located underneath the extant basement slabs.

The top of the basement slab across the property is at approximately elevation 5.5 feet (NAVD 88). Because previous soil borings did not extend beneath these slabs, the degree of disturbance to the original shoreline soils below the basements presently is unknown. It is assumed that the disturbance extends below the depth of the extant basement slabs, to account for the deeper foundations and support piles that would have supported the former buildings. However, the remote possibility remains that locations along the original shoreline where Revolutionary War era prisoner burials might have been placed could be extant and capped by the former building basements.

Current project plans indicate the floor elevation of the new building cellar level will be approximately 15 feet below the current grade, at a depth of elevation 3.5 feet (NAVD 88). Construction of the new cellar level and its foundations would necessitate removing the former power plant basement slabs and at least some of their underlying foundations. The top of the proposed new cellar level will be approximately 2 feet lower than the existing power plant basement slab, although the base of the new cellar floor, the new building pilings, pile caps, and other foundation elements will extend considerably deeper. As such, the proposed project will entail removing additional soil along the original Wallabout Bay shoreline where Revolutionary War prisoner burials could have been situated.

VI. RECOMMENDATIONS

Based on the conclusions outlined above, HPI recommends that future geotechnical soil borings extending below the existing basement slab be reviewed by a professional archaeologist. These borings should be implemented with a continuous tube sampling of soil beneath the extant basement slab. The intent of this review would be to confirm the expected disturbance to the natural soil column along the former shoreline where potential Revolutionary War prisoner burials might have been located. Historic accounts noted that the burials were placed in natural sandy soils that were located at the base of the bluff overlooking the bay, although historic maps differed as to the precise location of the shoreline within the project site. Therefore, a sufficient number of geotechnical borings should be placed along the eastern side of the project site to adequately sample the area that was once firm ground, extending from the boundary of the property with the Kent Avenue sidewalk west to the approximate center of the property. If the planned geotechnical soil borings show disturbance extending below the level of the proposed project cellar.
floor and its support components (including pile caps) along the eastern side of the project site, then it is likely that no further archaeological consideration will be necessary. If the soil borings do not indicate the expected deep disturbance along the eastern side of the project site, then it is possible that additional archaeological testing or monitoring may be warranted. The scope and work plan for any future archaeological field investigations should be developed in consultation with the LPC and prepared according to LPC guidelines (LPC 2018).
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Figure 1: Project site on *Brooklyn, N.Y.* 7.5 Minute Topographic Quadrangle (U.S.G.S. 2016).
Figure 2: Project site and photograph locations on existing conditions survey (HPI 2021 and AAA Group 2019).
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Figure 3: Project site on *New York City Reconnaissance Soil Survey* (U.S.D.A. 2006).
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Figure 8: Project site on *Map of the City of Brooklyn*... (Colton 1839).
Figure 9: Project site on *Map of the City of Brooklyn, L.I....* (Dripps 1850).
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Figure 12: Project site on *Insurance Maps of the City of Brooklyn* (Sanborn 1887).
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Figure 13: Project site on *Atlas of the Brooklyn Borough of the City of New York* (Hyde 1898).
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Figure 14: Project site on *Insurance Maps of the Borough of Brooklyn* (Sanborn 1904).
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Photograph 3. The southern boundary of the project site, marked by a high concrete wall. View looking south.

Photograph 4. The project site as seen from Division Avenue. The buses in the far background mark the southern edge of the property. Kent Avenue is located behind the trailers on the left. View looking south.
Photograph 5. The project site as seen from the southern end of the property, with Division Avenue in the background and Wallabout Channel on the left. View looking north.

Photograph 6. The project site as seen from the western side, looking towards Kent Avenue in the background. The area where the trailers are located marked the approximate original shoreline prior to landfilling. View looking east.
Photograph 7. The project site showing Wallabout Channel in the background. View looking northwest.

Photograph 8. The project site showing the western side of the property, which is covered with concrete. Wallabout Channel is on the left. View looking north toward Division Avenue.
Photograph 9. The project site showing construction materials storage at the northwestern corner of the property on top of the concrete surface. Wallabout Channel is on the right. View looking south.
APPENDIX A: PROJECT PLANS
# 500 KENT

## ZONING SUBMISSION

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500 KENT AVENUE, BROOKLYN, NY 11249

ZONING SUBMISSION ID #2019K0330

PHILIB HABIB AND ASSOCIATES
120 BROADWAY 20TH FL, NEW YORK, NY 10271

MPFP
TWO PARK AVENUE, NEW YORK, NY 10016

HERRICK FEINSTEIN LLP
102 MADISON AVE # 11, NEW YORK, NY 10016

KENT MEMBER LLC
505 FLUSHING AVE, BROOKLYN, NY 11205

145 HUDSON STREET, FLR.3   NEW YORK, NY 10013

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DOB STAMP ZONE 
SPECIAL PERMIT REQUESTED, PURSUANT TO SECTIONS 74-52 OF THE ZONING RESOLUTION ("ZR"), FOR AN ATTENDED PUBLIC PARKING GARAGE OF 249 SPACES OCCUPYING PORTIONS OF THE GROUND FLOOR AND CELLAR.

<table>
<thead>
<tr>
<th>GARAGE AREA AND CAPACITY PLAN - ATTENDED PARKING</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROUND FLOOR</strong></td>
</tr>
<tr>
<td>MINIMUM NUMBER OF BICYCLE SPACES REQUIRED, 1 PER EVERY 10 SPACES (36-711)</td>
</tr>
</tbody>
</table>

**GROUND FLOOR**
- 232 SPACES
- 12 RESERVOIR SPACES
- 25 SPACES FOR BICYCLES
- PROJECT 0'-0" IS +17.00 (NAVD-1988)
- BASE FLOOD ELEVATION ZONE AE +11' -0" (NAVD-1988)

**CELLAR**
- 15 SPACES
- 2 RESERVOIR SPACES

**TOTAL**
- 249 SPACES
- 12 RESERVOIR SPACES
- 25 SPACES FOR BICYCLES
- PROJECT 0'-0" IS +17.00 (NAVD-1988)
- BASE FLOOD ELEVATION ZONE AE +11' -0" (NAVD-1988)

GENERAL NOTES
1. APPROXIMATE LOCATION MEASURED FROM CURB LEVEL.
2. BOUNDARY INFORMATION IS THE SAME MEASURED AS A필을 놓은 이 부분은 시장에 의해 변경될 수 있습니다.
3. LANDSCAPE AND HARDSCAPE INFORMATION ISしか하지 않아야 할 부분은 시장에 의해 변경될 수 있습니다.
4. BUILDING SHOWN WITHIN THE ZONING ENVELOPE IS FOR ILLUSTRATIVE PURPOSES ONLY AND IT IS SUBJECT TO CHANGE.
5. LANDSCAPE AND HARDSCAPE INFORMATION IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND IS SUBJECT TO CHANGE.
7. PROJECT 0'-0" IS +17.00 (NAVD-1988).

**SCALE**
1" = 20'-0"
SPECIAL PERMIT REQUESTED, PURSUANT TO SECTIONS 74-52 OF THE ZONING RESOLUTION ("ZR"), FOR AN ATTENDED PUBLIC PARKING GARAGE OF 249 SPACES OCCUPYING PORTIONS OF THE GROUND FLOOR AND CELLAR.

**GENERAL NOTES**

1. APPLICANT'S STAMP AND SEAL CORRESPONDS TO THE INFORMATION REGARDING THE DEVELOPMENT SITE, ZONING LOT, AND RELATED CURB CUTS. INFORMATION REGARDING THE SURROUNDING PROPERTIES IS FOR ILLUSTRATIVE PURPOSES ONLY.

2. ALL ELEVATIONS MEASURED FROM BASE PLANE UNLESS OTHERWISE NOTED.

3. APPROXIMATE CONTEXT HEIGHTS MEASURED FROM CURB LEVEL.

4. BUILDING SHOWN WITHIN THE ZONING ENVELOPE IS FOR ILLUSTRATIVE PURPOSES ONLY AND IT IS SUBJECT TO CHANGE.

5. LANDSCAPE AND HARDSCAPE INFORMATION IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND IT IS SUBJECT TO CHANGE.


7. PROJECT 0'-0" IS +17.00 (NAVD-1988).

8. BASE FLOOD ELEVATION ZONE AE +11'-0" (NAVD-1988).

**CEMENTARY AREA AND CAPACITY PLAN - ATTENDED PARKING**

| ABOVE BUILDING CORES, MECHANICAL ELECTRICAL & OTHER SPACE NOT SUBJECT TO REQUESTED SPECIAL PERMIT PURSUANT TO SECTION 74-52 |

**ACCESSIBILITY FOR THE DISABLED:**

**BULKHEAD HEIGHT**

**TOP**

**ZHT:** +375.1'

**WAIVER**

**ZR62-341 (C)(2)**

**PROPOSED BLDG HEIGHT**

**ROOF**

145 HUDSON STREET, FLR.3   NEW YORK, NY 10013

350' - 0"

**LEVEL 23**

**LEVEL 22**

**LEVEL 21**

**LEVEL 20**

**LEVEL 19**

**LEVEL 18**

**LEVEL 17**

**LEVEL 16**

**LEVEL 15**

**LEVEL 14**

**LEVEL 13**

**LEVEL 12**

**LEVEL 11**

**LEVEL 10**

**LEVEL 9**

**LEVEL 8**

**LEVEL 7**

**LEVEL 6**

**LEVEL 5**

**LEVEL 4**

**LEVEL 3**

**LEVEL 2**

**LEVEL 1**

**BASEPLANE**

**KENT AVENUE (NARROW) DIVISION AVENUE**

**T CHANNEL**

**MAXIMUM BASE HT  ZR62-341(C)(1)**

**M1-5 ZONING ENVELOPE**

**ZHT:** +352.1'

**PROPOSED BLDG HEIGHT**

**PROPOSED BLDG HEIGHT**

**ZHT:** +375.1'

**T CHANNEL**

**MAX PERMITTED BLDG HEIGHT**

**ZHT:** +185.0'

**ZHT:** +127.1'

**ZHT:** +65.0'

**ZHT:** +64-11 1/2"
GENERAL NOTES
1. APPLICANT'S STAMP AND SEAL CORRESPONDS TO THE INFORMATION REGARDING THE DEVELOPMENT SITE, ZONING LOT, AND RELATED CURB CUTS. INFORMATION REGARDING THE SURROUNDING PROPERTIES IS FOR ILLUSTRATIVE PURPOSES ONLY.
2. ALL ELEVATIONS MEASURED FROM BASE PLANE UNLESS OTHERWISE NOTED.
3. APPROXIMATE CONTEXT HEIGHTS MEASURED FROM CURB LEVEL.
4. BUILDING SHOWN WITHIN THE ZONING ENVELOPE IS FOR ILLUSTRATIVE PURPOSES ONLY AND IT IS SUBJECT TO CHANGE.
5. LANDSCAPE AND HARDSCAPE INFORMATION IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND IS SUBJECT TO CHANGE.
7. PROJECT 0'-0" IS +17.00(NAVD-1988).
8. BASE FLOOD ELEVATION ZONE AE +11'-0" (NAVD-1988).

KENT AVENUE (NARROW)
DIVISION AVENUE (70' - NARROW)
S 11TH ST. (NARROW)
ROBERTO CLEMENTE BALLFIELD

MAX BUILDING HEIGHT
125'-0"
62'-10 1/2"
0'-0"

BASE PLANE
372'-11 1/2"

T.O. BULKHEAD
125'-0"
62'-10 1/2"
0'-0"

NAVY YARD UNDEVELOPED/VACANT
3 STORIES
MAX BUILDING HEIGHT
125'-0"
62'-10 1/2"
0'-0"

WALLABOUT CHANNEL
350'-0"
MAX BUILDING HEIGHT
372'-11 1/2"
T.O. BULKHEAD
125'-0"
62'-10 1/2"
0'-0"

PARKING
WYTHE AVENUE (NARROW)

LEGEND
ZONING LOT LINE
PERMITTED ZONING ENVELOPE PLAN
LOT LINE
MAPPED EASEMENT
PROJECT BASE LINE
ZONING ENVELOPE
STREET WALL
ELEVATION EXTENT
PROPERTY LINE
PROPOSED ZONING ENVELOPE
BUILDING HT MARKER
HT:XXX
HEIGHT FROM PROJECT 0'-0"
ZHT:XXX
HEIGHT FROM PROJECT BASEPLANE
HT:   XXX
HEIGHT AS MEASURE FROM PROJECT 0'-0" (NAVD88 17.00)
ZHT: XXX
HEIGHT AS MEASURE FROM PROJECT BASEPLANE (NAVD88 14.88)
EL:XXX
ELEVATION REFERENCE FROM NAVD88 DATUM
SPOT ELEV MARKER
EL:XXX
NAVD88 SPOT ELEVATION
1/64" = 1'-0"
APPENDIX C: NATIONAL REGISTER OF HISTORIC PLACES DETERMINATION OF ELIGIBILITY/RESOURCE EVALUATION FOR THE KENT AVENUE (BMT) POWERHOUSE
RESOURCE EVALUATION

DATE: June 2, 2008
PROPERTY: Kent Avenue (BMT) Powerhouse
ADDRESS: 2-18 Division Avenue/452-518 Kent Avenue

STAFF: Kathy Howe
MCD: Brooklyn
COUNTY: Kings
USN: 04701.016325

I. □ Property is individually listed on SR/NR:
   name of listing:
□ Property is a contributing component of a SR/NR district:
   name of district:

II. □ Property meets eligibility criteria.
□ Property contributes to a district which appears to meet eligibility criteria.

Pre SRB: □  Post SRB: □  SRB date

Criteria for Inclusion in the National Register:

A. □ Associated with events that have made a significant contribution to the broad patterns of our history;

B. □ Associated with the lives of persons significant in our past;

C. □ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;

D. □ Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:
The Kent Avenue Powerhouse at Division and Kent avenues on the south Williamsburg waterfront in Brooklyn consists of a 1905 block designed by electrical engineer Thomas Edward Murray (1860-1929) and a taller 1936 addition. The building is one of a number of New York City electrical generating stations built under Murray's direction and one of the few to survive substantially intact. The large-scale structure meets Criterion C as an example of a surviving early twentieth-century electrical generating station in New York. Although the generating equipment has largely been removed the building remains an important icon of New York's industrial heritage.
The powerhouse provided electricity to the streetcars and elevated lines of the Brooklyn Rapid Transit Company (BRT). Its location on the waterfront was practical allowing the delivery of coal by barge, the use of river water to condense steam, and the removal of ashes by scow.

The Dual Contracts of 1913 allowed for the major expansion of the subway and elevated lines. Under this deal the Interborough Rapid Transit Company signed with the New York Municipal Railway Corporation for the construction, equipment acquisition and operation of the Dual System. The New York Municipal Railway Corporation was a subsidiary of the Brooklyn Rapid Transit Company. In 1923, the BRT was reorganized as the Brooklyn-Manhattan Transit Corporation, or BMT. The Kent Avenue Powerhouse was the site of an important sit-down strike in 1937 that gave the Transport Workers Union the right to represent BMT workers.

In 1940 New York City purchased the assets of the IRT and BMT and joined them with the city-built Independent line (IND) to create a unified transit system. The building was sold to ConEd in 1950 which used it until 1999. The building is currently vacant and slated for demolition.

If you have any questions concerning this Determination of Eligibility, please call Kathy Howe at (518) 237-8643, ext. 3266.
Kent Avenue (BMT) Powerhouse

Interior, showing windows and clock. Lower walls are glazed tile.  
*Photo by Gerald Weinstein, 1983*

Turbine hall.  
*From Electrical Power Plants... designed by Thomas Edward Murray (1910)*
Kent Avenue (BMT) Powerhouse

Photo by Gerald Weinstein, 1983

Low tension switchboards.
From *Electrical Power Plants...designed by Thomas Edward Murray* (1910)
Kent Avenue (BMT) Powerhouse

High tension controls.
From *Electrical Power Plants...designed by Thomas Edward Murray* (1910)

*Photo by Gerald Weinstein, 1983*
Kent Avenue (BMT) Powerhouse

Elevation, Kent Avenue façade.
From *Electrical Power Plants...designed by Thomas Edward Murray* (1910)

Showing 1936 addition.
Photo by Mary Habstritt, March 2007
Kent Avenue (BMT) Powerhouse

Addition of 1936.
*Photo by Mary Habstritt, March 2007*

Window in 1905 building.
*Photo by Mary Habstritt, March 2007*
The MacDonald/Klines Sawmill is an amazing example of a water powered mill with many elements of its water powered machinery still in place.

Buckingham of the Green Brook Township Historical Society to this gem of a rural industrial resource. This timber frame "up and down" sawmill is in a remarkable state of preservation and is truly unique.

As early as 1744, Col. William MacDonald operated a sawmill in this reach of the North Branch of the Raritan River. The present structure likely dates to the last half the 19th century. The sawmill has changed little since then and its water power system is largely intact. There is also the potential for significant archeological remains of earlier manifestations of the hydropower system and other mill seats preserved nearby under riverine silts. Two dwellings are located near the mill. One, a small one-story structure is said to have been the miller's house but it might have served as a storage building. The second dwelling is a much larger farmhouse. This preserved rural landscape provides a welcome step back in time from the busy streets of densely developed central New Jersey.

Our members were delighted to see the level of preservation of the equipment including the turbine and reciprocating saw. Bierce Riley indicated that the turbines, castings and power take-off were likely manufactured by Bartley in the Barleyville section of Mt. Olive Township, Morris County, NJ. William Bartley held a patent on a turbine design and is known to have retrofitted mills with turbines, which were more efficient than traditional vertical waterwheels. A rarity is that the sheet-metal housing of the turbine remains, although somewhat deteriorated. It is likely that beams as opposed to planks were cut here. The mill was converted in the 20th century to supply DC current to the nearby houses which probably facilitated its preservation. The generator remains in the mill.

RCSTA strongly encourages the property owners to pursue avenues of funding for the preservation of the MacDonald/Klines Sawmill. Without further maintenance the structure will gradually deteriorate and an important piece of Somerset County and the State of New Jersey's industrial heritage will be lost. Public access and interpretation of the overall site is also encouraged as the mill provides an important touchstone to our now largely destroyed historic rural industries and their associated landscapes. RCSTA thanks Tom and the property owners for providing the chapter with this unique opportunity to visit the MacDonald/Klines Mill.

OTHER EVENTS

The Camden & Amboy Railroad Symposium

Saturday, November 10

This day long event, presented by the Camden & Amboy Railroad Historical Group, is being held to commemorate the 175th anniversary of the first run of the John Bull locomotive. Presentations will include such topics as the building of the C&S&A, the role of the Stevens family on the technological development of RR's in NJ, the history of the John Bull, the relationship of the RR to the Delaware and Raritan Canal, among others.

Fare: $30.00 non-members, includes registration, lunch and a one year membership. The time and location of this event have yet to be determined. Please contact Mark Liss, Symposium Coordinator for more information at (609) 443 - 4000 ext. 210 (daytime) or (215) 757-6631 (evenings) or via e-mail at mbliss@verizon.net.

HISTORIC PRESERVATION COMMITTEE NEWS

Preservation Alert!

Kent Avenue (BMT) Powerhouse

By Mary Habstritt

We have heard from a reliable source that asbestos abatement is beginning at the Kent Avenue Powerhouse in preparation for removal of equipment prior to demolition of the building for construction of
luxury residential units. Some of the equipment at the site includes dynamos from Edison's historic Pearl Street Station which were salvaged and stored here. These dynamos and other historic equipment are to be saved but, at this writing, it is not known where they will be deposited. Nor is it known whether any part of the monumental building will be preserved.

The 1905 central station stands on the south Williamsburg waterfront at Kent and Division Avenues. The stout stone foundations, brick walls, and 4-story-high arched windows trimmed in cream-colored terra cotta speak of the power within. The complex was built to provide electricity to the streetcars and elevated lines of the Brooklyn Rapid Transit Company (BRT). The 1936 addition at the north end is tucked in respectfully behind the 1905 portion and stands on the site of an even earlier 1893 power plant built for what was then the Brooklyn City Railroad Co. The many layers attest to the importance of a waterfront location where coal to fuel the boilers came in by barge, river water was available to condense steam, and ashes could be hauled away by scow.

It was designed by Thomas Edward Murray, an engineer and inventor who is second only to Thomas Edison in the number of patents (1,100) granted to him. Raised in Albany, he began working at the Municipal Gas Co. there in 1887. He rose quickly through the ranks and was soon consulting at other utilities owned by Anthony N. Brady, including Troy Electric Light Co. and the Kings County Electric Light and Power Co. He had a part in consolidating Brady's electric companies in Brooklyn and in the formation of the Edison Electric Illuminating Co., later Brooklyn Edison Co. Soon he was involved in consolidating electric companies in Manhattan and by 1900 was second vice-president and general manager of New York Edison Co. When the New York and Brooklyn Edisons merged in 1928, he became vice-chairman of the board. The city's greatest electric power stations were built under his direction including Waterside No. 1 and No. 2 (recently demolished), Sherman Creek (razed), Hell Gate (razed), Hudson Avenue (recently altered), and East River (at 14th St.)
stations. All along the way, he was running his own engineering and manufacturing companies on the side.

His original 1903 proposal for the Kent Avenue Powerhouse, then being called the Williamsburg Power House, suggested that turbines would provide the greatest economy by generating the most kilowatts for the amount of floor space occupied, an important consideration on the confined lot, but he felt they were too experimental and untired to be seriously considered. By the time he wrote the specifications for the plant in 1905, however, 5,500 kW turbines manufactured by Westinghouse and Allis-Chalmers were planned. In the end, even bigger turbines, 7,500 kW units from Westinghouse were installed, as well as one 5,500 kW unit from Allis-Chalmers. Obviously, the technological landscape was changing quickly.

In 1913, a deal, known as the Dual Contracts, was struck to unite the IRT (Interborough Rapid Transit) and the BRT as part of a major expansion of the subway and elevated lines. Because the agreement locked in fares, the BRT quickly went bankrupt and re-organized as Brooklyn-Manhattan Transit (BMT) in 1923. During the BMT period, the powerhouse was the site of a 1937 sit-down strike that was instrumental in recognition of the Transport Workers Union in representing city transit workers.

New York City purchased the assets of the IRT and BMT in 1940 and united them with the city-built Independent line (IND) to create a unified transit system. The city sold the Kent Avenue powerhouse to ConEd in 1950 and that company operated it until 1999. It has been vacant since.

Sources:


Electric Power Plants: A Description of a Number of Power Stations, designed by Thomas Edward Murray. (New York: Thomas Edward Murray, 1910)

Report on the Power Station Possibilities of the Kent Avenue Property of the Brooklyn Heights Railroad Company, by Thomas E. Murray, consulting engineer. (Brooklyn?: 1903)


Dictionary of American Biography. (New York: Scribner’s)

Some of this information was compiled as part of a project for the Municipal Art Society.

Smoky Seat of Manufactures Endangered

By Mary Habstritt

On June 14, 2007, the National Trust for Historic Preservation announced that Brooklyn’s industrial waterfront led the 2007 list of America’s 11 Most Endangered Historic Places.

The Trust summed up the situation this way, “Once a booming 19th-century industrial waterfront supported by generations of immigrants, Brooklyn’s heritage is at risk as historic dockyards and factories are being demolished by developers anxious to cash in on the area’s newly hip status.”

In defining the threat, the Trust cited the average four building permits and five demolition permits issued per day for Brooklyn in 2005. The immense re-zoning of 180 acres along the Greenpoint-Williamsburg waterfront in 2005 was credited with causing demolition of historic manufacturing buildings to make way for residential units. In addition to the loss of historic structures and neighborhood character, many of these buildings have been re-used by small manufacturers and their demolition means the loss of industrial jobs.

The Trust called upon the city to build upon its past leadership in preserving such former industrial areas as Soho and Tribeca and pursue more designations of historically significant industrial sites, and to plan comprehensively for appropriate growth and development.

The nomination of Brooklyn’s industrial waterfront to the list was initiated by the Municipal Art Society. Letters supporting the nomination came from the Waterfront Preservation Alliance of Greenpoint and Williamsburg, the DUMBO Neighborhood Association, and the Roebling Chapter, Society for Industrial Archeology.

In the Roebling Chapter’s letter of January 17, 2007, such historic industrial assets as Brooklyn Bridge, Cass Gilbert’s Austin, Nichols & Co. Warehouse, Graving Dock No. 1 of the former Todd Shipyard, the National Cold Storage Co. Complex, and Domino Sugar were discussed. Then-president Mary Habstritt went on to say, “Many of these sites are significant beyond New York City. Atlantic Basin, for instance, was developed beginning in 1841 and is possibly the earliest U.S. example of a European-style protected harbor. It was the earliest freight terminal on New York harbor and the leading grain terminal in the port in the 19th century. Its continued use as a freight terminal is threatened by the city’s plans to re-
APPENDIX D: NYSDEC FACT SHEET
Introduction

The New York State Department of Environmental Conservation (NYSDEC) has determined that Con Edison has achieved remediation requirements to address contamination related to the former Kent Avenue Generating Station ("Site"), located at 500 Kent Avenue, Brooklyn, NY (NYSDEC Site Code V00732). NYSDEC has issued a Release and Covenant Not to Sue to Con Edison regarding the Site.

Release and Covenant Not to Sue

The Release and Covenant Not to Sue issued by NYSDEC marks the official closure of Con Edison’s remedial action at the Site, and permits the Site to be redeveloped and returned to productive use in the community. It indicates that Con Edison has performed all the necessary work on the property and no further activity is required provided that the Site Management Plan (SMP) is followed, the Declaration of Covenants and Restrictions (deed restriction) remains in place, and no evidence of additional contamination is found.

Highlights of the Final Engineering Report

The remediation at the Site included the removal and disposal of approximately 13,700 tons of soil and debris down to the water table or confining concrete slab (approximately 5 – 13 feet below grade) in accordance with NYSDEC Restricted Residential Soil Cleanup Objectives (SCOs). Clean fill materials were brought in to replace the excavated soil and debris and establish the designed grades at the Site.

In the northern section of the Site, an old underground storage tank, used to store fuel oil, was registered and removed. The surrounding soils were also excavated.

The remedy also included a two-foot soil cover in the southwest corner of the Site (an area that is not conducive to excavation) to allow for restricted residential use of the Site. The soil cap was topped off with a layer of 3/4-inch stone.

During remediation, extensive efforts were made to protect the community from potential hazards. Appropriate dust suppression techniques were employed to prevent the release of asbestos and other particulates into the surrounding areas. The NYSDOH-based Community Air Monitoring Plan (CAMP) was implemented to mitigate potential short-term exposures to workers and local residents. In addition, there was an Asbestos Air Monitoring Program. All air monitoring data was made available to the NYSDEC, NYSDOH and the public via the website, www.coned.com/mgp.

Remediation at the Site also included an Interim Remedial Measure (IRM), performed in late 2011 – early 2012. The IRM comprised of removal of sediment from a former ash pit, which was built in the late 1920s or 1930s and is located in the northwestern portion of the Site. The ash pit was then backfilled with low density cellular concrete fill and covered with structural concrete.

Documents related to this project are available at: Brooklyn Community Board 2, 350 Jay Street, 8th floor, Brooklyn, NY 11201, 718-596-5410. Hours M-F 9-4pm; Williamsburg Public Library 240 Division Ave, Brooklyn, NY 11211 Phone: 718-302-3485, Hours: MW/Th/F – 10am-6pm, Tuesday – 1-8pm, Closed Sat/Sun and www.coned.com/mgp (Kent Avenue tab)
NYSDEC is also overseeing an environmental investigation of Manufactured Gas Plant (MGP)-related contamination being performed by National Grid at the former Nassau Gas Works Site located immediately to the south of Con Edison’s Site. As part of the remedy for Con Edison’s Site, National Grid collected environmental samples at such Site in May 2014. The results of the investigation show MGP-related contamination underneath the Site.

Since contaminated soil remains beneath the Site, Institutional and Engineering Controls are required to protect human health and the environment. These Engineering and Institutional Controls are part of the Site Management Plan (SMP) for the Site and include maintaining the two-foot soil cover in the southwest corner of the Site to allow for restricted residential use of the Site and the imposition of a Declaration of Covenants and Restrictions, which requires compliance with the SMP. The SMP also includes notification to the NYSDEC if any intrusive work is conducted at the Site, and a Monitoring Plan to assess the performance and effectiveness of the remedy.

**Next Steps**

NYSDEC issued the Release and Covenant Not to Sue (on April 7, 2015) based on review and approval of the Final Engineering Report (FER) and SMP submitted by Con Edison. The FER described the remedial activities completed, certified that remediation requirements have been achieved for the Site, and included the SMP.

With the receipt of the Release and Covenant Not to Sue, NYSDEC states that Con Edison has successfully remediated the Site and that the Site can now be used for purposes up to and including restricted residential.

**Public Involvement**

A Citizen Participation Plan (CPP) was developed to provide the community with the history of the Site, investigation work performed to date, stakeholder concerns and a Site Contact List for on-going communication. The CPP also described citizen participation activities conducted during Site investigation and remediation.

All Site documents can be found at the Document Repositories listed on the bottom of the front page of this fact sheet or on-line at [www.coned.com/mgp](http://www.coned.com/mgp) (Kent Avenue tab). Community members who have a question or concern can contact Con Edison, NYSDEC and NYSDOH; contact information is available on the first page of this fact sheet left hand side.

**Site Background**

The former Con Edison Kent Avenue Generating Station is located at 500 Kent Avenue, Brooklyn, New York. The Site is approximately 4 acres. Approximately 2.6 acres was the location of an electrical power generating station housed in a seven to nine story building that was demolished in 2009 (and clean backfill was placed within the footprint of the former station). The lot is vacant, but the foundation and basements of the former generating station and original powerhouse remain below street level.
### Test Boring Log

**Project Name:** Kent Avenue  
**Client:** Con Ed  
**Driller:**  
**Drilling Method:** AMS Power Probe  
**Boring Location:**  
**Coordinates:**  
**Logged By:** John Nixon

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Recovery (ft)</th>
<th>Instrument Reading</th>
<th>Sample Returned</th>
<th>Classification Of Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-8'</td>
<td></td>
<td>1.6'</td>
<td>1</td>
<td>Yes</td>
<td>0-3' concrete</td>
</tr>
<tr>
<td></td>
<td>.3'-7' yellow brown silty soil</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>.7'-1' concrete</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-1.6' black ash</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No odors or readings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-12'</td>
<td></td>
<td>1.6'</td>
<td>1</td>
<td>Yes</td>
<td>0-8' brown m sand wet</td>
</tr>
<tr>
<td></td>
<td>.8'-1.6' grey m-f sand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>weathered concrete in shoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No odors or readings.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  
- S-01B soil sample taken  
- S-01C soil sample taken
# Test Boring Log

**Boring No.:** S-02  
**Project No.:** 115192  
**Client:** Con Ed  
**Date:** 12/17/99  
**Driller:**  
**Drilling Method:** AMS Power Probe  
**Boring Location:**  
**Coordinates:**  
**Logged By:** John Nixon  
**Surf. Elevation:**  
**Hole Diameter:**  
**Total Depth:**

## Monitoring Instrument(s): Hnu LMS #001

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Classification Of Material</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-8'</td>
<td></td>
<td>0-1.8' concrete, some brown silty soil, dry</td>
<td>S-02B sample taken.</td>
</tr>
<tr>
<td>8-12'</td>
<td></td>
<td>0-6' concrete, some yellow brown soil, some black oil stuck in shoe w/ concrete.</td>
<td>S-02C sample taken.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Classification Of Material</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth (ft)</td>
<td>Blows On Sampler</td>
<td>Recovery</td>
<td>Instrument Reading</td>
</tr>
<tr>
<td>-----------</td>
<td>------------------</td>
<td>----------</td>
<td>--------------------</td>
</tr>
<tr>
<td>4-8'</td>
<td></td>
<td>1.7'</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8-8.7'</td>
<td>.4'</td>
<td>3.3</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Project Name: Kent Avenue
Client: Con Ed
Driller: 
Drilling Method: AMS Power Probe
Boring Location: 
Coordinates: 
Logged By: John Nixon
Monitoring Instrument(s): Hnu LMS #001

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Recovery</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
<th>Classification Of Material</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.5-8'</td>
<td>2.6'</td>
<td>1</td>
<td>Yes</td>
<td></td>
<td>0-.3' gravel</td>
<td>S-04B soil sample was taken.</td>
</tr>
</tbody>
</table>

.3-1.6' grey brown very fine silt and some brown fine sand
1.6'-2.6' grey clay and grey silt
**LMS Test Boring Log**

- **Boring No.:** S-06  
- **Sheet:** 1 of 1

**Project Name:** Kent Avenue  
**Client:** Con Ed

**Driller:**  
**Drilling Method:** AMS Power Probe

**Boring Location:**  
**Coordinates:**

**Logged By:** John Nixon  
**Monitoring Instrument(s):** Hnu LMS #001

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Recovery (ft)</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
<th>Classification Of Material</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-6'</td>
<td></td>
<td>1.2'</td>
<td></td>
<td></td>
<td>0-1.2' grey brown very fine silt</td>
<td>S-06B soil sample taken.</td>
</tr>
</tbody>
</table>

**Total Depth:**  
**Surf. Elevation:**

**Date:** Start 12/16/99  
**Finish:** 12/16/99
### LMS Test Boring Log

#### Details
- **Boring No.:** S-07
- **Sheet:** 1 of 1
- **Project Name:** Kent Avenue
- **Client:** Con Ed
- **Driller:**
- **Drilling Method:** AMS Power Probe
- **Boring Location:**
- **Coordinates:**
- **Logged By:** John Nixon
- **Monitoring Instrument(s):** Hnu LMS #001
- **Total Depth:** 12'
- **Depth To Water:** ~7'
- **Surf. Elevation:**
- **Hole Diameter:**

#### Monitoring Table

<table>
<thead>
<tr>
<th>Depth (f)</th>
<th>0'-6'</th>
<th>6'-12'</th>
<th>12'-18'</th>
<th>18'-24'</th>
<th>Recovery</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-12'</td>
<td></td>
<td>4'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Classification of Material

- f - fine
- m - medium
- c - coarse

<table>
<thead>
<tr>
<th>Classification</th>
<th>f - fine</th>
<th>m - medium</th>
<th>c - coarse</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>and - 35-50%</td>
<td>some - 20-35%</td>
<td>little - 10-20%</td>
</tr>
</tbody>
</table>

#### Remarks
- 0-4' brown very fine sand and silt
- Oil staining @ 9 feet. Looks like a light fuel oil but smells like moth balls.
- S-07C soil sample taken.
- 85 on the Hnu
Boring No.: S-08  
Project No.: 115192  
Date: Start 12/16/99  
Finish 12/16/99  
Total Depth: 10 feet

Project Name: Kent Avenue  
Client: Con Ed  
Driller:  
Drilling Method: AMS Power Probe  
Boring Location:  
Coordinates:  
Logged By: John Nixon  
Surf. Elevation:  
Hole Diameter:  

Monitoring Instrument(s): Hnu LMS #001

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows on Sampler</th>
<th>Recovery (%)</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
<th>Classification Of Material</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-10'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>f - fine</td>
<td>S-10B soil sample was taken, which is really the S-08 sample.</td>
</tr>
<tr>
<td>0-6'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>m - medium</td>
<td></td>
</tr>
<tr>
<td>6'-12'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>c - coarse</td>
<td></td>
</tr>
<tr>
<td>12'-18'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and - 35-50%</td>
<td></td>
</tr>
<tr>
<td>18'-24'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>some - 20-35%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>little - 10-20%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>trace - 0-10%</td>
<td></td>
</tr>
</tbody>
</table>

Disk No.: Lms-prv\Users\EHollister\examples\logs x Test Boring Log 11/4/1999 4:19:49 PM+
### LMS Test Boring Log

**Boring No.: S-09**  
**Sheet: 1 of 1**  
**Project Name: Kent Avenue**  
**Client: Con Ed**  
**Driller:**  
**Drilling Method:** AMS Power Probe  
**Boring Location:**  
**Coordinates:**  
**Logged By: John Nixon**  

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Recovery (ft)</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
<th>Classification Of Material</th>
<th>Remarks</th>
</tr>
</thead>
</table>
| 4-5.5'     |                  | .7'           | 5                  | Yes            | 0-.7' black brown silty soil, and concrete, some red brick, concrete stuck in shoe. Old diesel odor in moist soil | Hit refusal three times @ 5.5'  
4-5 on the Hnu |
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Recovery (ft)</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 4-8'      |                  | 1.7'          | 1                  | Yes             | 0-1.4 concrete, red brick  
1.4'-1.7' black soil, no odors or Hnu readings. Some red brick with asbestos in shoe with black kerosene smelling wood refusal @ 9.5'  
S-11B soil sample taken |

Classification Of Material
- f - fine and - 35-50%
- m - medium some - 20-35%
- c - coarse little - 10-20%
- trace - 0-10%
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Blows On Sampler</th>
<th>Recovery (ft)</th>
<th>Instrument Reading</th>
<th>Sample Retained</th>
<th>Classification Of Material</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-6'</td>
<td></td>
<td>2.2'</td>
<td>5.7</td>
<td>Yes</td>
<td>f - fine and 35-60% m - medium some 20-35% c - coarse little 10-20% trace 0-10%</td>
<td>0-1.9' brick concrete debris 1.9'-2.2' black kerosene smelling soil and concrete</td>
</tr>
</tbody>
</table>
### BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**UTILITY CLEARANCE (0' - 5') DATE:** 12.04.2009  
**DATE STARTED:** 12.08.2009  
**DATE COMPLETED:** 12.08.2009

**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 15.0’

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 38°, sunny

**DRILLING METHOD:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 0          |      |              | Hand dig to 1’  
Concrete Slab  
Drill through 8’ of concrete |            |        | NA          |
| 5          |      |              |              |             |        |             |
| 10         |      |              | Silty clay w/strong petroleum odor, sheen  
Gray coarse sand | SC         |        |             |
| 12         |      |              | Sand - petroleum odor and slight staining | SM        | 10’     |             |
| 15         |      |              | End of Boring @ 15’ |            |        |             |
| 20         |      |              |              |             |        |             |

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton
### BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

- **UTILITY CLEARANCE (0' - 5')** DATE: 12.04.2009
- **DATE STARTED:** 12.08.2009
- **DATE COMPLETED:** 12.08.2009
- **ELEVATION:**
- **GROUNDWATER LEVEL:**
- **TOTAL BORING DEPTH:** 8'
- **GEOLOGIST:** Erika Cozza
- **WEATHER:** 38°, sunny
- **DRILLING METHOD:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Hand dig to 1'</td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete Slab</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drilled to 8' through concrete</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hit some metal and destroyed the drill bit.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No sample collected</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact Roto Sonic 17-C
- **Driller:** Chris Stratton

**PAGE:** 1 of 1
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Hand dig to 1'</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Concrete Slab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>Drill to 5'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>12:05</td>
<td>6&quot;</td>
<td>Brown coarse sand w/small rocks</td>
<td>SW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Clayey sand - petroleum odor and staining</td>
<td>SC</td>
<td>12&quot;</td>
<td>224</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 15'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
## BORING LOG

### PROJECT NUMBER: 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-1-10-S

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig to 1'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete Slab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drill to 5'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>13:20</td>
<td>10&quot;</td>
<td>Silty clay w/strong petroleum odor, sheen</td>
<td>SC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Silty clay w/strong petroleum odor, sheen, product in soil</td>
<td>SC</td>
<td>10'</td>
<td>58</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 15'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

### NOTES:

- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact Roto Sonic 17-C
- **Driller:** Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING**  
**PBL-1-10-E**

**UTILITY CLEARANCE (0' - 5') DATE:** 12.04.2009  
**DATE STARTED:** 12.10.2009  
**DATE COMPLETED:** 12.10.2009

**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 10'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 36°, sunny and windy

**DRILLING METHOD:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5          | 15:30 | 48"          | Hand dig to 1'  
Concrete slab  
Drill to 5' - concrete | SM | 6° | 66.5 |
| 10         |      |              | Top 1' - Sand, brick, ash layer  
6'-10": petroleum odor and staining | SM | 10° | 2.5 |

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton  
**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 10'  
**GEOLOGIST:** Erika Cozza  
**WEATHER:** 36°, sunny and windy  
**DRILLING METHOD:** Compact RotoSonic 17-C  
**PAGE:** 1 of 1  
**End of Boring @ 10'**
### BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING**  
**PBL-1-20-E**

- **UTILITY CLEARANCE (0' - 5') DATE:** 12.04.2009  
- **DATE STARTED:** 12.11.2009  
- **DATE COMPLETED:** 12.11.2009

- **ELEVATION:**
- **GROUNDWATER LEVEL:**
- **TOTAL BORING DEPTH:** 8'

- **GEOLOGIST:** Erika Cozza  
- **WEATHER:** 27°, sunny and windy

**DRILLING METHOD:** Compact RotoSonic 17-C

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10:30</td>
<td>26&quot;</td>
<td>Concrete and brick debris, brn. Silty sand Petroleum odor and staining in bottom 4&quot;</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8</td>
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<td></td>
<td></td>
</tr>
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<td>9</td>
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<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**USCS SYMBOL**  
**SAMPLE**  
**PID DATA (ppm)**  
**BLOW COUNTS**

| | | 8' | 24.9 |
| | | | |

---

**Hand dig to 1’**  
**Concrete**  
**Drill to 5’**  

**Concrete @ 8’**  
**End of Boring @ 8’**
## BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5' Concrete and coarse sand</td>
<td>SW</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dark grey/brown sily soil with wood pieces Petroleum odor and staining</td>
<td>ML</td>
<td>9' 30'</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9:05</td>
<td>36&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>End of Boring @ 10'</td>
<td></td>
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<tr>
<td>15</td>
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<tr>
<td>20</td>
<td></td>
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</tr>
</tbody>
</table>

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton

**UTILITY CLEARANCE (0' - 5') DATE:** 12.14.2009  
**DATE STARTED:** 12.15.2009  
**DATE COMPLETED:** 12.15.2009

**ELEVATION:**

**GROUNDWATER LEVEL:**

**TOTAL BORING DEPTH:** 10'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 47°F, cloudy, chance of rain
## BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-1-5-W

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>BLOW COUNTS</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10:10</td>
<td>30&quot;</td>
<td>Hand dig to 1' Concrete Slab</td>
<td></td>
<td>SW</td>
<td>NA</td>
</tr>
</tbody>
</table>
| 10         | 48"    |              | Top 15": Coarse sand/w rocks  
Bottom 15": Clay w/odor and staining | CL          | 9'    | 92.7        |
| 15         |        |              | End of Boring @ 15'          |             |        |             |
| 20         |        |              |             |             |        |             |

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-1-10-W

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 3’</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Concrete Slab</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10:15</td>
<td></td>
<td>Top 12”: Concrete debris, brown silty sand</td>
<td>SM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Bottom 12”: Sand w/visible staining + sheen + strong petroleum odor</td>
<td>SM</td>
<td>10’</td>
<td>339.0</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 15’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
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</tbody>
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**NOTES:**
Drilling Contractor: ADT  
Drilling Equipment: Compact RotoSonic 17-C  
Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**UTILITY CLEARANCE (0’ - 5’)**: 12/07/2009  
**DATE STARTED:** 12/11/2009  
**DATE COMPLETED:** 12/11/2009  
**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 15’  
**GEOLOGIST:** Erika Cozza  
**WEATHER:** 27°, sunny and windy

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 0          |      | 0            | Hand dig to 1.5’ - concrete with steel  
Drill through concrete to 5’ |            |        | NA            |            |
| 5          |      |              | No Recovery |            |        |                |            |
| 11:45      | 0    | 0            | Silty clayey soil  
Black petroleum  
Staining and odor | CL      | 11’   | 6.9           |            |
| 15         |      |              | End of Boring @ 15’ |            |        |                |            |
| 20         |      |              |              |            |        |                |            |
|            |      |              |              |            |        |                |            |

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton
## BORING LOG

**PROJECT NUMBER:** 126649  
**UTILITY CLEARANCE (0' - 5') DATE:** 12/14/2009  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 15'  
**GEOLOGIST:** Erika Cozza  
**WEATHER:** 47°, cloudy, chance of rain  
**DRILLING METHOD:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>11:45</td>
<td>60&quot;</td>
<td>Drilled to 10' through concrete</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5'</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete, rubble</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>dk. grey/brown silty soil</td>
<td>10'</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Light staining and odor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 15'</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact RotoSonic 17-C  
Driller: Chris Stratton
# Boring Log

**Project Number:** 126649

**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

**Boring PBL-2-60-N**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample (ppm)</th>
<th>Blow Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>12:00</td>
<td>6&quot;</td>
<td>Grey sand</td>
<td>SM</td>
<td>NA</td>
<td></td>
</tr>
</tbody>
</table>
| 10        | 36"   | Organic grey clay | No staining - organic odor  
Pieces of wood at bottom | CL          | 11" | 15.4          |
| 15        |       |               | End of Boring @ 15'                                                        |             |              |             |
| 20        |       |               |                                                                              |             |              |             |

**Notes:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact RotoSonic 17-C
- Driller: Chris Stratton
### Boring Log

**Project Number:** 126649  
**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

**Boring:** PBL-2-10-E

**Utility Clearance (0' - 5') Date:** 12.07.2009  
**Date Started:** 12.11.2009  
**Date Completed:** 12.11.2009

**Elevation:**  
**Groundwater Level:**  
**Total Boring Depth:** 10'

**Geologist:** Erika Cozza  
**Weather:** 27°, sunny and windy

**Drilling Method:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample</th>
<th>PID Data (ppm)</th>
<th>Blow Counts</th>
</tr>
</thead>
</table>
| 0          |      |              | Hand dig - hit concrete at ≈1'  
Drill through concrete to 5' | SM          | 6'     | 0.7            | NA          |
| 5          | 11:15| 50"          | Brown silty sand  
No odor/staining  
Bottom 1': dark grey soil  
Petroleum odor and staining | SM          | 10'    | 14.8           |            |
| 10         |      |              |             |             |        |                |             |
| 15         |      |              |             |             |        |                |             |
| 20         |      |              |             |             |        |                |             |

**Notes:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact RotoSonic 17-C  
Driller: Chris Stratton
# Boring Log

**Project Number:** 126649  
**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

**Boring:** PBL-2-20-E

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5         | 11:50| 48"          | Hand dig to 1’ - concrete  
Drill through concrete to 5’ |             |              | NA          |
| 10        |      |              | Dark grey silty soil with staining and petroleum odor | ML          | 9’ 27        |             |
| 15        |      |              | End of Boring @ 10’ |             |              |             |
| 20        |      |              |              |             |              |             |

**Notes:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton

**Utility Clearance:** (0’ - 5’)
- Hand dig to 1’ - concrete
- Drill through concrete to 5’

**Description:**
- Petroleum odor
- Dark grey silty soil with staining and petroleum odor

**他人：**
- GEOLOGIST: Erika Cozza
- WEATHER: 27°, sunny and windy

**Dates:**
- DATE STARTED: 12.11.2009
- DATE COMPLETED: 12.11.2009

**Other Information:**
- ELEVATION:  
- GROUNDWATER LEVEL:  
- TOTAL BORING DEPTH: 10’
# Boring Log

**Project Number:** 126649  
**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

**Boring:** PBL-2-30-E

**Utility Clearance (0' - 5') Date:** 
**Date Started:** 12.11.2009  
**Date Completed:** 12.11.2009

**Elevation:**  
**Groundwater Level:**  
**Total Boring Depth:** 10'

**Geologist:** Erika Cozza  
**Weather:** 27°, sunny and windy

**Drilling Method:** Compact RotoSonic 17-C

## Depth Log

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample (ppm)</th>
<th>Blow Counts</th>
</tr>
</thead>
</table>
| 0          |      |              | Hand dig to concrete @ 1’  
Drill through concrete to 5’ |              |              | NA          |
| 5          | 13:45| 45"          | Silty dark grey with black stained soils  
Petroleum odor | ML           |              |             |
| 10         |      |              | End of Boring @ 10’ |              | 9’ 18.7     |             |
| 15         |      |              |             |              |              |             |
| 20         |      |              |             |              |              |             |

**Notes:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton
## BORING LOG

### PROJECT NUMBER: 126649
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

### BORING PBL-2-60-E

- **UTILITY CLEARANCE (0' - 5') DATE:** 12.14.2009
- **DATE STARTED:** 12.15.2009
- **DATE COMPLETED:** 12.15.2009
- **ELEVATION:**
- **GROUNDWATER LEVEL:**
- **TOTAL BORING DEPTH:** 11’
- **GEOLOGIST:** Erika Cozza
- **WEATHER:** 47°, cloudy, chance of rain

### DRILLING METHOD:
- **Compact RotoSonic 17-C**

### DESCRIPTION BLOW COUNTS

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>9:15</td>
<td>60”</td>
<td>Drilled through concrete</td>
<td>SM</td>
<td>4’</td>
<td>53.9</td>
<td>NA</td>
</tr>
<tr>
<td>10</td>
<td>0.4</td>
<td>12”</td>
<td>10'-11' - more concrete</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
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<tr>
<td>20</td>
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</tbody>
</table>

### NOTES:
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample (ppm)</th>
<th>BLOW COUNTS</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>36&quot;</td>
<td>Hand dig to 1'</td>
<td>SM</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>5</td>
<td>12:25</td>
<td>30&quot;</td>
<td>Drill to 5' - brown clayey sand with rocks and concrete</td>
<td>SM</td>
<td>6'</td>
<td>1.1</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>No odor or staining</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Refusal @ 6'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>End of Boring @ 8'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>15</td>
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<tr>
<td>20</td>
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</table>

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact RotoSonic 17-C
- Driller: Chris Stratton
<table>
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<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample</th>
<th>PID Data (ppm)</th>
<th>Blow Counts</th>
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<tbody>
<tr>
<td>0&quot;</td>
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<td>Hand dig to 1'</td>
<td></td>
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<td>5</td>
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<td>Drill to 5'</td>
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<tr>
<td>10</td>
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<td>No recovery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12&quot;</td>
<td></td>
<td></td>
<td>Grey/brown silty soil</td>
<td>ML</td>
<td>5'</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Refusal @ 6'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>End of Boring @ 6'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
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<td></td>
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<tr>
<td>20</td>
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</tr>
</tbody>
</table>

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**UTILITY CLEARANCE (0' - 5') DATE:** 12.8.2009  
**DATE STARTED:** 12.14.2009  
**DATE COMPLETED:** 12.14.2009  
**DEPTH (ft)** | **TIME** | **RECOVERY (%)** | **DESCRIPTION** | **USCS SYMBOL** | **SAMPLE** | **PID DATA (ppm)** | **BLOW COUNTS**
---|---|---|---|---|---|---|---
| | (15") | | Hand dig to 1' | ML | 2' | 4.7 |
| | 28" | | Drill to 5'  

dk. Grey silty soil, concrete bits | |
| | 5 | | Rubble, rocks  

Refusal @ 6' | |
| | 12" | | End of Boring @ 6' |
| | 10 | | |
| | 15 | | |
| | 20 | | |

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton
<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig to 1'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drilled to 5' - hit refusal @ 5'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grey/brown silty soil</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00</td>
<td>30&quot;</td>
<td></td>
<td>ML</td>
<td>4'</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>End of Boring @ 5'</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
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<td>NA</td>
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</tbody>
</table>

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING PBL-5-2-W**

**UTILITY CLEARANCE (0' - 5') DATE:** 12.04.2009  
**DATE STARTED:** 12.14.2009  
**DATE COMPLETED:** 12.14.2009  
**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 9'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 45°, cloudy

**DRILLING METHOD:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>Hand dig to 1'</td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Drilled to 5'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete, rubble, brick, brown coarse sand</td>
<td>SW</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>12:15</td>
<td></td>
<td>Brown sand - refusal @ 8'</td>
<td>SM</td>
<td>7''</td>
<td>0.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>End of Boring @ 8'</td>
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<td>10</td>
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<td>20</td>
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</table>

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact RotoSonic 17-C  
Driller: Chris Stratton
<table>
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<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>BLOW COUNTS</th>
</tr>
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<tbody>
<tr>
<td>0-5</td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5'</td>
<td>SM</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>5</td>
<td>12:15</td>
<td>45&quot;</td>
<td>Rubble, pieces of rebar, brown silty sand</td>
<td>SM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6&quot;</td>
<td></td>
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<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8&quot;</td>
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<td>15</td>
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<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>End of Boring @ 9'</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
Drilling Contractor: ADT
Drilling Equipment: Compact Roto Sonic 17-C
Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING PBL-7-10-N**

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5          | 12:05 | 50"          | Hand dig/Vactron to 5'  
Concrete, brick, rubble w/brown silty sand | SM          | NA         |             |
| 10         |      |              | End of Boring @ 9'      |             |         |             |
| 15         |      |              |             |             |         |             |
| 20         |      |              |             |             |         |             |

**NOTES:**
- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact RotoSonic 17-C
- **Driller:** Chris Stratton
# Boring Log

**Project Number:** 126649  
**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

**Boring:** PBL-7-20-N

**Utility Clearance (0' - 5') Date:** 11.30.2009  
**Date Started:** 12.10.2009  
**Date Completed:** 12.10.2009

**Elevation:**  
**Groundwater Level:**  
**Total Boring Depth:** 10'

**Geologist:** Erika Cozza  
**Weather:** 36°, sunny and windy

## Drilling Method

- **Drilling Method:** Compact RotoSonic 17-C

## Boring Log

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample</th>
<th>PID Data (ppm)</th>
<th>Blow Counts</th>
</tr>
</thead>
</table>
| 5         | 13:30| 48"          | Hand cleared to 5'  
Brick, rubble, sand                              | SM          | 5'     | 0              | NA          |
| 10        |      |              | Concrete, brick, sand                            | SM          | 5'     | 0              | 0           |
| 15        |      |              | Slight staining @ bottom                         |             |        |                |             |
| 20        |      |              | End of Boring @ 10'                              |             |        |                |             |

## Notes

- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact RotoSonic 17-C
- **Driller:** Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING**  
**PBL-7-5-S**

**UTILITY CLEARANCE (0' - 5') DATE:** 12.02.2009  
**DATE STARTED:** 12.09.2009  
**DATE COMPLETED:** 12.09.2009

**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 9'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 50°, heavy rain, wind

**DRILLING METHOD:** Compact RotoSonic 17-C  
**PAGE:** 1 of 1

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5'</td>
<td>SM</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete, brick, rubble, brown silty sand</td>
<td>SM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>13:10</td>
<td>30&quot;</td>
<td>Brown silty soil w/rocks, concrete, bricks</td>
<td>SM</td>
<td>8'</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No staining or odor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>End of Boring @ 9'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>20</td>
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</tbody>
</table>
## BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING LOG**

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5          | 12:50  | 45"          | Hand dig/Vactron to 5'  
Brown, silty sand | SM          |              | NA          |
| 10         |        |              | Top 35": Loose, tan sand with concrete, bricks, wood. | SM          | 6'           |             |
|            |        |              | Bottom 10": Black stained cinders, odor & staining present | SP          | 9'           |             |
| 15         |        |              | End of Boring @ 9'                                 |             |              |             |
| 20         |        |              |                                                  |             |              |             |

**NOTES:**
- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact RotoSonic 17-C
- **Driller:** Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-7-20-S

**UTILITY CLEARANCE (0' - 5')**  
**DATE:** 11.30.2009

**DATE STARTED:** 12.10.2009  
**DATE COMPLETED:** 12.10.2009  

**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 10'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 36°, sunny and windy

**DRILLING METHOD:** Compact RotoSonic 17-C

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig to 5'</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
</tbody>
</table>
| 5          | 13:45 | 15”          | Brown silty sand, concrete, bricks  
No odor or staining | SM |              |             |
| 10         |      |              | End of Boring @ 10' |               | 0.5          |
| 15         |      |              |              |             |              |             |
| 20         |      |              |              |             |              |             |

**NOTES:**

- Drilling Contractor: ADT
- Drilling Equipment: Compact RotoSonic 17-C
- Driller: Chris Stratton
## BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-7-5-E

**UTILITY CLEARANCE (0’ - 5’) DATE:** 12.04.2009  
**DATE STARTED:** 12.09.2009  
**DATE COMPLETED:** 12.09.2009

**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 9’

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 50°, heavy rain, wind

**DRILLING METHOD:** Compact RotoSonic 17-C  
**PAGE:** 1 of 1

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5’ Rubble, concrete, brick, steel</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>5</td>
<td>11:55</td>
<td>45”</td>
<td>Brown course sand w/bricks, rock Bottom 12”: black soil, cinders</td>
<td>SW</td>
<td></td>
<td>8’</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Concrete @ 9’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 9’</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>20</td>
<td></td>
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</tbody>
</table>

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton
## BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5          | 11:50| 45"          | Hand dig/Vactron to 5'  
Concrete, brick, rubble, brown silty sand | SM | NA | |
| 10         |      |              | Top 30": bricks, rock  
Bottom 12": gray silty sand with rocks | SM | | 8" |
| 15         |      |              |             |             |        |                |             |
| 20         |      |              |             |             |        |                |             |

**NOTES:**

- **Drilling Contractor:** ADT  
- **Drilling Equipment:** Compact Roto Sonic 17-C  
- **Driller:** Chris Stratton  

**UTILITY CLEARANCE (0' - 5')**

- **DATE:** 12.04.2009

**ELEVATION:**

- **GROUNDWATER LEVEL:**
- **TOTAL BORING DEPTH:** 9'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 50o, heavy rain, wind

**DATE STARTED:** 12.09.2009  
**DATE COMPLETED:** 12.09.2009  
**DRILLING METHOD:** Compact RotoSonic 17-C  
**ELEVATION:**

**END OF BORING @ 9'**

**GEOLOGIST:** Erika Cozza
### BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING PBL-7-2-W**

- **UTILITY CLEARANCE (0’ - 5’):** 12.03.2009  
- **DATE STARTED:** 12.09.2009  
- **DATE COMPLETED:** 12.09.2009

- **ELEVATION:**  
- **GROUNDWATER LEVEL:**  
- **TOTAL BORING DEPTH:** 9’

- **GEOLOGIST:** Erika Cozza  
- **WEATHER:** 50o, heavy rain, wind

- **DRILLING METHOD:** Compact RotoSonic 17-C  
- **DRILLING CONTRACTOR:** ADT  
- **DRILLING EQUIPMENT:** Compact RotoSonic 17-C  
- **DRILLER:** Chris Stratton  
- **GEOLoIST:** Erika Cozza  
- **WEATHER:** 50o, heavy rain, wind

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>12:35</td>
<td>40’</td>
<td>Hand dig/Vactron, concrete @ 1’ - 5’</td>
<td>SM</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Slight petroleum odor @ 5’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Brown silty sand rubble</td>
<td>SM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Top 12’: brown silty sand with rubble, slight petroleum odor</td>
<td>SM</td>
<td>5’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staining, petroleum odor present</td>
<td>SW</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gray cinders, petroleum odor and staining</td>
<td>SW</td>
<td>9’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete @ 9’</td>
<td></td>
<td></td>
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<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 9’</td>
<td></td>
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</tr>
</tbody>
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**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING**  
**PBL-7-20-W**

**UTILITY CLEARANCE (0' - 5') DATE:** 12.03.2009  
**DATE STARTED:** 12.09.2009  
**DATE COMPLETED:** 12.09.2009  
**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 7'

**GEOLOGIST:**  
**WEATHER:** 50°, heavy rain, wind

**DRILLING METHOD:** Compact RotoSonic 17-C  
**PAGE:** 1 of 1

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
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<th>SAMPLE (ppm)</th>
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<tbody>
<tr>
<td>5</td>
<td>12:20</td>
<td>24&quot;</td>
<td>Hand dig/Vactron to 5'</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(5'-7')</td>
<td>Bricks, concrete, rubble</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete slab @ 4' - 5'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>Bricks, rocks, wood</td>
<td></td>
<td>5'</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Slight odor @7', concrete @ 7'</td>
<td></td>
<td>7'</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>End of Boring @ 7'</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>20</td>
<td></td>
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**NOTES:**  
- Drilling Contractor: ADT  
- Drilling Equipment: Compact RotoSonic 17-C  
- Driller: Chris Stratton
### BORING LOG

**PROJECT NUMBER:** 126649  
**LOCATION:** FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY  
**BORING:** PBL-8-5-N

<table>
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<th>SAMPLE (ppm)</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig to 1.5’</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete block with rebar</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Drill to 5’ - hit rebar and damage bit</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Refusal @ 5’</td>
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</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
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<td>10</td>
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<td>20</td>
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</table>

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact RotoSonic 17-C  
Driller: Chris Stratton
<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 2.5'</td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
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<td></td>
<td></td>
<td></td>
<td>Refusal @ concrete slab</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Drill to 5'</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete and brick</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Black stained soil with odor at bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9:20</td>
<td>22''</td>
<td></td>
<td>SM</td>
<td>5'</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete and brick</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Black stained soil with odor at bottom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9.5'</td>
<td>61.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>End of Boring @ 10'</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
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<td>20</td>
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</table>

NOTES:
Drilling Contractor: ADT
Drilling Equipment: Compact Roto Sonic 17-C
Driller: Chris Stratton
### BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING** PBL-8-5-S

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
|            |      |              | Hand dig to 3'  
Steel and timber  
Drill to 5' |            |        |                | NA         |
|            |      |              | Brown silty soil with bricks, concrete, timber  
Bottom 16": black stained soil  
Strong petroleum odor | SM | 5' | 2.5 |
| 10         | 10:30 | 46"         |             |             |        |                |             |
|            |      |              | End of Boring @ 10' |            |        |                |             |
| 15         |      |              |             |             |        |                |             |
| 20         |      |              |             |             |        |                |             |

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649

**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING** PBL-8-5-S

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE</th>
<th>PID DATA (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5          | 10:50 | 48"          | Hand dig/Vactron to 5'  
Light brown silty sand | SM | | NA |
| 10         |       |              | Brown fine sand  
Bottom 18": black stained sand with petroleum odor | SM | 5' | 63.9 |
| 10         | End of Boring @ 10' | | | | |

**NOTES:**

- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING PBL-8-10-S**

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
</table>
| 5          | 10:50| 48"          | Hand dig/Vactron to 5'  
Light brown silty sand | SM          | NA          |
| 10          |      |              | Brown fine sand  
Bottom 18": black stained sand with petroleum odor | SM          | 5'          | 63.9        |
| 15          |      |              |             |             |              |             |
| 20          |      |              |             |             |              |             |

**NOTES:**

Drilling Contractor: **ADT**  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: **Chris Stratton**
# BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-8-20-S

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS</th>
<th>Sample</th>
<th>PID Data (ppm)</th>
<th>Blow Counts</th>
</tr>
</thead>
</table>
| 0          |      |              | Hand dig to 5'  
Rubble, bricks, concrete |      |        |                | NA          |
| 5          | 14:30 | 48"          | Brown silty soil with bricks and concrete | ML   | 6'     | 133            |
| 10         |      |              |             |      |        |                |             |
| 15         |      |              |             |      |        |                |             |
| 20         |      |              |             |      |        |                |             |

**End of Boring @ 12'**

**NOTES:**
- Drilling Contractor: **ADT**
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton

**UTILITY CLEARANCE (0' - 5') DATE:**
- **DATE STARTED:** 12.11.2009
- **DATE COMPLETED:** 12.11.2009

**ELEVATION:**
- TOTAL BORING DEPTH: 12'

**GROUNDWATER LEVEL:**
- ELEVATION:  
- GROUNDWATER LEVEL:  

**GEOLGIST:** Erika Cozza

**WEATHER:** 27°, sunny and windy

**DRILLING METHOD:** Compact Roto Sonic 17-C
**BORING LOG**

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING PBL-8-30-S**

**UTILITY CLEARANCE (0' - 5') DATE:** 12.14.2009  
**DATE STARTED:** 12.15.2009  
**DATE COMPLETED:** 12.15.2009  
**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 15'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 47°, cloudy, chance of rain

**DRILLING METHOD:** Compact RotoSonic 17-C

### DEPTH (ft)  | TIME  | RECOVERY (%)  | DESCRIPTION  | USCS SYMBOL  | SAMPLE (ppm)  | BLOW COUNTS
---|---|---|---|---|---|---
| 12:15 | 0" | Drill to 9'  
All bricks - no recovery for sample | |  |  |

### NOTES:

- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact Roto Sonic 17-C
- **Driller:** Chris Stratton

**End of Boring @ 9’**
# Boring Log

**Project Number:** 126649  
**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

**Boring:** PBL-8-60-S

**Utility Clearance (0' - 5') Date:** 12.14.2009  
**Date Started:** 12.15.2009  
**Date Completed:** 12.15.2009

**Elevation:**  
**Groundwater Level:**  
**Total Boring Depth:** 15'

**Geologist:** Erika Cozza  
**Weather:** 47°, cloudy, chance of rain

**Drilling Method:** Compact RotoSonic 17-C

## Depth Log

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample</th>
<th>PID Data (ppm)</th>
<th>Blow Counts</th>
</tr>
</thead>
</table>
| 0         |      |              | Hand dig/Vactron to 5'  
Bricks, brown soil | SM |        | NA           |            |
| 5         | 12:30 | 6” | Bricks and grey cinder/ash | SW |        |              |            |
| 10        |      |              | Grey cinder ash with brick | 12” | 12.8  |              |            |
| 15        |      |              | End of Boring @ 15’ |        |        |              |            |
| 20        |      |              |              |        |        |              |            |

**Notes:**

- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton
## Boring Log

**Project Number:** 126649  
**Former Kent Avenue Generating Station, Kent Avenue, Brooklyn, NY**

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Time</th>
<th>Time Recovery (%)</th>
<th>Description</th>
<th>USCS Symbol</th>
<th>Sample (ppm)</th>
<th>Blown Counts</th>
</tr>
</thead>
</table>
|           |       |                   | Hand dig to 5'  
Bricks, concrete, debris                                                       |             |              | NA           |
|           |       |                   |                                                                                      |             |              |              |
|           |       |                   |                                                                                      |             |              |              |
| 5         | 8:45  | 45"                | Dark brown silty soil with bricks and concrete                                      | SM          | 5'           | 2.3          |
|           |       |                   | Bottom 6": black stained soil and odor                                            |             |              |              |
|           |       |                   |                                                                                      |             |              |              |
| 10        |       |                   |                                                                                      |             | 9.5          | 11.5         |
|           |       |                   | **End of Boring @ 10’**                                                                |             |              |              |
| 15        |       |                   |                                                                                      |             |              |              |
|           |       |                   |                                                                                      |             |              |              |
| 20        |       |                   |                                                                                      |             |              |              |

**Notes:**

Drilling Contractor: ADT

Drilling Equipment: Compact Roto Sonic 17-C

Driller: Chris Stratton

**Drilling Method:** Compact Roto Sonic 17-C

**Geologist:** Erika Cozza

**Weather:** 36°, sunny and windy

**Elevation:** GROUNDWATER LEVEL: 10'

**Utility Clearance:** 0' - 5' Date: 11.30.2009

**Date Started:** 12.10.2009  
**Date Completed:** 12.10.2009

**Total Boring Depth:** 10'
## BORING LOG

### PROJECT NUMBER: 126649

**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING** PBL-8-10-E

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5'</td>
<td>SM</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Concrete, brick, debris and brown silty sand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>9:00</td>
<td>40&quot;</td>
<td>Brown silty sand with concrete and bricks</td>
<td>SM</td>
<td>6'</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bottom 6&quot;: staining and petroleum odor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>End of Boring @ 10'</td>
<td></td>
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<tr>
<td>15</td>
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<td>20</td>
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</tbody>
</table>

### NOTES:

- **Drilling Contractor:** ADT
- **Drilling Equipment:** Compact Roto Sonic 17-C
- **Driller:** Chris Stratton

**UTILITY CLEARANCE (0' - 5') DATE:** 11.30.2009  
**DATE STARTED:** 12.10.2009  
**DATE COMPLETED:** 12.10.2009  
**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 10'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 36°, sunny and windy

**DRILLING METHOD:** Compact RotoSonic 17-C  
**PAGE:** 1 of 1
### BORING LOG

#### PROJECT NUMBER: 126649  
FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY

**BORING**  PBL-8-5-W  

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>NA</td>
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<tr>
<td>0</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
| 5          | 48"  |              | Hand dig to 3' (Bricks)  
Drill to 5'  |             |              |             |
| 10         |      |              | Top foot - bricks and concrete  
Middle - 2' 6" - silty sand - brown  
Bottom 6" - black stained soil  | SM          | 5'          |             |
| 15         |      |              |             |             |              |             |
| 20         |      |              | Strong petroleum odor  
End of Boring @ 10'  |             |              |             |

**NOTES:**  
Drilling Contractor: ADT  
Drilling Equipment: Compact Roto Sonic 17-C  
Driller: Chris Stratton

**UTILITY CLEARANCE (0' - 5')**  
DATE: 11.30.2009

**DATE STARTED:** 12.09.2009  
**DATE COMPLETED:** 12.09.2009

**ELEVATION:**  
**GROUNDWATER LEVEL:**  
**TOTAL BORING DEPTH:** 10'

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 50°, heavy rain, wind

**DRILLING METHOD:** Compact RotoSonic 17-C  
**PAGE:** 1 of 1
### BORING LOG

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**BORING:** PBL-8-10-W

<table>
<thead>
<tr>
<th>DEPTH (ft)</th>
<th>TIME</th>
<th>RECOVERY (%)</th>
<th>DESCRIPTION</th>
<th>USCS SYMBOL</th>
<th>SAMPLE (ppm)</th>
<th>BLOW COUNTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hand dig/Vactron to 5'</td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bricks, concrete, timber, rubble, rebar</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Wet brown silty soil</td>
<td>SM</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Rocks and brick - no odor or staining</td>
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<td></td>
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<tr>
<td>5</td>
<td>30&quot;</td>
<td></td>
<td></td>
<td></td>
<td>8'</td>
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<td>End of Boring @ 10'</td>
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<td>20</td>
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</tbody>
</table>

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton

**ELEVATION:**
- Date: 11.30.2009
- Groundwater Level: Total Boring Depth: 10'

**GEOLOGIST:** Erika Cozza

**WEATHER:** 50°, heavy rain, wind

**DRILLING METHOD:** Compact RotoSonic 17-C

**DATE STARTED:** 12.09.2009  
**DATE COMPLETED:** 12.09.2009

**PROJECT NUMBER:** 126649  
**FORMER KENT AVENUE GENERATING STATION, KENT AVENUE, BROOKLYN, NY**

**UTILITY CLEARANCE (0' - 5') DATE:** 11.30.2009

**DATE:** 11.30.2009  
**DATE COMPLETED:** 12.09.2009

**GEOLOGIST:** Erika Cozza  
**WEATHER:** 50°, heavy rain, wind

**DRILLING METHOD:** Compact Roto Sonic 17-C

**NOTES:**
- Drilling Contractor: ADT
- Drilling Equipment: Compact Roto Sonic 17-C
- Driller: Chris Stratton