APPENDIX C

Site Management Plan

LANGAN

363 BOND STREET AND 388 CARROLL STREET
KINGS COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: C224173

Prepared for:

LSG 363 Bond Street, LLC
c/o The Lightstone Group
460 Park Avenue, 13th Floor
New York, New York 10022

Prepared by:

Langan Engineering, Environmental, Surveying
and Landscape Architecture, D.P.C.
619 River Drive Center 1
Elmwood Park, New Jersey 07407
201-794-6900

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

TABLE OF CONTENTS

TABLE OF CONTENTS **1**

LIST OF TABLES **4**

LIST OF FIGURES **5**

LIST OF APPENDICES **6**

SITE MANAGEMENT PLAN **1**

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM **1**

1.1 INTRODUCTION **1**

1.1.1 General 1
1.1.2 Purpose 2
1.1.3 Revisions 3
1.2 Site Background 3
1.2.1 Site Location and Description 3
1.2.2 Site History 4
1.2.3 Geologic Conditions 4

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS **5**

1.3.1 Areas of Concern 7
1.3.2 Nature and Extent of Soil Analytical Results 12
1.3.3 Nature and Extent of Groundwater Analytical Results 17
1.3.4 Nature and Extent of Soil Vapor Analytical Results 19
1.3.5 Underground Storage Tanks 20

1.4 SUMMARY OF REMEDIAL ACTIONS **20**

1.4.1 Removal of Contaminated Materials from the Site 23
1.4.1.1 Groundwater Interim Remedial Measure 23
1.4.1.2 Removal of Contaminated Soil and Concrete 23
1.4.1.2.1 Underground Storage Tanks (USTs) 24
1.4.1.2.2 Aboveground Storage Tanks (ASTs) 26
1.4.2 Site-Related Treatment Systems 26
1.4.2.1 Groundwater Remediation System Infrastructure 26
1.4.2.2 Vapor Barrier and Sub-Slab Depressurization System 28
1.4.3 Remaining Contamination 28

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN **29**

2.1 INTRODUCTION **29**

2.1.1 General 29
2.1.2 Purpose 29

2.2 ENGINEERING CONTROLS **30**

2.2.1 Engineering Control Systems 30
2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems 36

2.3 INSTITUTIONAL CONTROLS 37
2.3.1 Excavation Work Plan 39
2.3.2 Temporary Cover Disturbance Plan 39
2.3.3 Soil Vapor Intrusion Evaluation 40
2.4 INSPECTIONS AND NOTIFICATIONS 41
2.4.1 Inspections 41
2.4.2 Notifications 42
2.5 CONTINGENCY PLAN 43
2.5.1 Emergency Telephone Numbers 43
2.5.2 Map and Directions to Nearest Health Facility 44
2.5.3 Spill Response Procedures 46
3.0 SITE MONITORING PLAN 48
3.1 INTRODUCTION 48
3.1.1 General 48
3.1.2 Purpose and Schedule 48
3.2 COMPOSITE COVER SYSTEM MONITORING 51
3.3 GROUNDWATER TREATMENT SYSTEM 51
3.3.1 Groundwater Monitoring 51
3.3.1.1 Groundwater Sampling Protocol 52
3.3.1.2 Monitoring Well Repairs, Replacement And Decommissioning 53
3.4 SOIL VAPOR MITIGATION SYSTEM 54
3.5 SITE-WIDE INSPECTION 55
3.6 MONITORING QUALITY ASSURANCE/QUALITY CONTROL 56
3.7 MONITORING REPORTING REQUIREMENTS 57
4.0 OPERATION AND MAINTENANCE PLAN 58
4.1 INTRODUCTION 58
4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE 59
4.2.1 Site Composite Cover System Maintenance 59
4.2.2 Groundwater Remediation System Infrastructure 60
4.2.2.1 Scope 60
4.2.2.2 System Operation: Routine Equipment Maintenance 60
4.2.2.2.1 Groundwater Monitoring Wells 61
4.2.2.2.2 Aboveground Components of the Subgrade Network 61
4.2.2.3 System Operation: Non-Routine Equipment Maintenance 61
4.2.2.3.1 Groundwater Monitoring Wells 61
4.2.2.3.2 Aboveground Components of the Subgrade Network 61
4.2.3 Soil Vapor Mitigation System 62
4.2.3.1 System Start-Up and Testing 62
4.2.3.2 System Operation: Routine Operation Procedures 62

4.2.2.3 System Operation: Routine Equipment Maintenance 63
4.2.2.4 System Operation: Non-Routine Equipment Maintenance 63

4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING 63

4.3.1 Groundwater Performance Monitoring 63
4.3.1.1 Groundwater Monitoring Schedule 64
4.3.1.2 Groundwater General Equipment Monitoring 64
4.3.1.3 Groundwater Sampling Event Protocol 65
4.3.2 Soil Vapor Performance Monitoring 66
4.3.2.1 SSDS General Equipment Monitoring 66

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS 67

4.4.1 Routine Maintenance Reports 68
4.4.2 Non-Routine Maintenance Reports 68

5.0 INSPECTIONS, REPORTING, AND CERTIFICATIONS 69

5.1 SITE INSPECTIONS 69

5.1.1 Inspection Frequency 69
5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports 69
5.1.3 Evaluation of Records and Reporting 69

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS 70

5.3 PERIODIC REVIEW REPORT 71

5.4 CORRECTIVE MEASURES PLAN 72

LIST OF TABLES

Table 1A – Historical Soil Analytical Results (388 Carroll Street)

Table 1B – Historical Soil Analytical Results (363 Bond Street)

Table 2 – Langan Soil Analytical Results (363 Bond Street & 388 Carroll Street)

Table 3A – Historical Groundwater Analytical Results (388 Carroll Street)

Table 3B – Historical Groundwater Analytical Results (363 Bond Street)

Table 4 – Langan Groundwater Analytical Results (363 Bond Street & 388 Carroll Street)

Table 5 – Langan Soil Vapor Analytical Results

Table 6 – Soil Cleanup Objectives

Table 7 – Confirmatory Post-Excavation Soil Sample Analytical Results

Table 8 – Baseline Groundwater Analytical Results

Table 9 – Remaining Impacts In Soil

LIST OF FIGURES

Figure 1 – Site Location Plan

Figure 2 – Site Plan and Excavation Extents

Figure 3 – Clay Elevation Contour Map

Figure 4 – Groundwater Elevation Contour Map

Figure 5 – Historical and Langan Soil Analytical Results

Figure 6 – Historical and Langan Groundwater Analytical Results

Figure 7 – Langan Soil Vapor Analytical Results

Figure 8 – IRM Recovery Well Location Plan

Figure 9 – Post-Excavation Soil Analytical Results

Figure 10 – Baseline Groundwater Analytical Results

Figure 11 – Remaining Contamination above Restricted Residential RUSCOs

Figure 12 – Composite Cover System Plan

LIST OF APPENDICES

Appendix A – Environmental Easement

Appendix B – Metes and Bounds

Appendix C – Groundwater Remediation Infrastructure As-Built Drawings

Appendix D – SSDS As-Built Drawings

Appendix E – Vapor Barrier and Waterproofing Specs

Appendix F – Excavation Work Plan

Appendix G – HASP

Appendix H – Site Survey and Composite Cover Specifications

Appendix I – Bulkhead As-Built

Appendix J – Inspection and Monitoring Checklists

Appendix K – Quality Assurance Project Plan (QAPP)

SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at 363 Bond Street and 388 Carroll Street (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA), Site # C224173, which was executed on 14 August 2013, and was amended on 2 April 2014 and last amended on 30 June 2015.

1.1.1 General

LSG 363 Bond Street, LLC (c/o The Lightstone Group [Lightstone]) entered into a BCA with the NYSDEC to remediate a 1.3-acre property located in Brooklyn, New York. This BCA required the Remedial Party, LSG 363 Bond Street, LLC, to investigate and remediate contaminated media at the site. A figure showing the site location and boundaries of this 1.3-acre "site" is provided in Figure 1. The boundaries of the site are more fully described in the metes and bounds site description that is part of the Environmental Easement.

An Interim Remedial Measures Work Plan (IRMWP), two addendums to the IRMWP, and a Remedial Action Work Plan (RAWP) were approved by NYSDEC and implemented at the Site. The work under these plans included, but was not limited to, the removal of 11,675 tons of petroleum-impacted soil, 7,700 gallons of petroleum-impacted groundwater, and installation of a sub-slab depressurization system, a composite cover system, and a steel sheet pile bulkhead. A detailed discussion of the interim remedial measures and the remedial action is provided in Section 1.4.

After completion of the remedial work, some contamination was left in the subsurface at this site, which is hereafter referred to as 'remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. (Langan), on behalf of LSG 363 Bond Street, LLC, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. Engineering Controls have been incorporated into the site remedy to control exposure to remaining contamination during the use of the site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Brooklyn County Clerk, will require compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for contingent implementation of groundwater treatment.

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Site #C224173) for the site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 Site Background

1.2.1 Site Location and Description

The site is located in Brooklyn, County of Kings, New York and is identified as Block 452 and Lots 1 and 15 on the New York City Tax Map. Lot 15 (the 388 Carroll Street parcel) has been merged with Lot 1, and are collectively referred to as the "Site." The 363 Bond Street parcel (Lot 1) is an approximately 0.68-acre area bounded by the 388 Carroll Street subject property and a one-story building and associated parking that is operated by the City of New York as an EMS station (located along Carroll Street) to the north, First Street followed by an active redevelopment site (365 Bond Street) to the south, a portion of the 388 Carroll Street property to the east, and Bond Street followed by a three-story mixed-use commercial and residential building and a six-story residential building to the west (see Figure 1). The 388 Carroll Street parcel (Lot 15) is an approximately 0.67-acre area bounded by Carroll Street followed by a four-story industrial and manufacturing building and associated parking lot to the north, the 363 Bond Street subject property to the south, the Gowanus Canal followed by a one-story industrial and manufacturing building to the east, and a one-story building and associated parking that is operated by the City of New York as an EMS station and a two-story residential building to the west. The boundaries of the site are more fully described in Appendix B – Metes and Bounds.

1.2.2 Site History

The site properties at 363 Bond Street and 388 Carroll Street have an extensive industrial and manufacturing history which dates back over 100 years. A Phase I Environmental Site Assessment (ESA) was completed at the site in 2012 following the completion of environmental investigations that began in 1997, as discussed in Section 1.3 below. Based on a review of historic Sanborn Fire Insurance Maps conducted as part of the Phase I ESA, historical uses of the 363 Bond Street property have included an asphalt and cement works, a paint manufacturer, a garage and automotive repair shop with two 550-gallon underground gasoline tanks on the western portion of the Site, a radio parts manufacturer and an automotive spray paint booth. Since circa 1969, the western portion of the property (closest to Bond Street) was used as a wholesale grocery warehouse. Most recently, the property was used for the light assembly and storage of baby clothing. The former building was demolished in preparation for site redevelopment.

Historical uses of the 388 Carroll Street property have included an oil terminal, an automotive salvage yard, a timber yard, and a marine equipment storage yard. Review of historic Sanborn Maps identified five large diameter containment vessels that were associated with former above-ground oil storage tanks for the previous oil terminal operations. The former buildings and above ground portions of the former containment vessels were demolished in preparation for site redevelopment.

1.2.3 Geologic Conditions

Soil borings completed during the Phase II and Remedial Investigation (RI) phases completed by Langan and others identified that a layer of historic fill consisting of sand and silt is present from the surface to between 6 and 11-feet below ground surface (bgs) at 363 Bond Street and 388 Carroll Street. A clay layer was observed underlying the historic fill in several borings. A geotechnical investigation completed by Langan at the Site in March and April 2013 revealed a 10- to 14-foot thick historic fill layer underlain by clay in several borings. Based on this information, an elevation contour map for the native clay layer is provided as Figure 3.

Groundwater is encountered between 2.7 and 9.5-feet bgs at the Site due to the variability of the site topography. During the RI, groundwater was observed at elevations ranging from 0.26 to 2.17-feet in the Brooklyn Highway Vertical Datum. Based on the groundwater elevation data collected as part of the RI, groundwater flow

direction is towards the Gowanus Canal to the northeast. A groundwater elevation contour map is provided as Figure 4.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the site and supplement the previous Phase II Investigation findings. The following reports document investigation activities completed at the site:

- *Soil Investigation - 388 Carroll Street*, dated November 1997, prepared by Cosmos Environmental Services;
- *Soil Sampling Report – 388 Carroll Street,* dated September 2002, prepared by Tradewinds;
- *Environmental Investigation – 388 Carroll Street*, October 2002, prepared by North Atlantic;
- *Phase II Investigation Report – 388 Carroll Street*, dated May 6, 2005, prepared by ELM;
- *Phase II Investigation Report – 363 Bond Street*, dated May 31, 2005, prepared by ELM;
- *Remedial Action Plan – 363-365 Bond Street and 388 Carroll Street*, dated February 3, 2009, Prepared by ELM;
- *Gowanus Canal Remedial Investigation Report, Volume 1 dated January 2011,* prepared by HDR, CH2M Hill, GRB Environmental Services Inc., prepared for USEPA;
- *Draft Subsurface Investigation Summary Report*, dated 13 September 2011, prepared by PW Grosser Consulting, Inc.;
- *Remedial Action Plan – 388 Carroll Street*, dated July 2011, prepared by PW Grosser Consulting, Inc.;
- *Bulkhead Replacement – 388 Carroll Street letter, dated 25 October 2011, prepared by PW Grosser;*

- *Phase I Environmental Assessment – 363 Bond Street*, dated February 2012, prepared by PW Grosser;
- *Phase I Environmental Assessment – 388 Carroll Street,* dated February 2012, prepared by PW Grosser;
- *Soil Sampling – 388 Carroll Street*, dated April 2012, completed by Zeb Environmental;
- *Limited Phase II Environmental Investigation Report – Proposed 363-365 Bond Street Redevelopment,* dated October 2012, prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.;
- *Revised Remedial Investigation Workplan – Proposed 363 Bond Street Redevelopment,* dated 10 July 2013, prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.;
- *Supplemental Remedial Investigation Work Plan,* dated 23 September 2014, Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.; and,
- *Supplemental Remediation Investigation,* dated 3 December 2014, prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Detailed discussions of the historical environmental investigation reports were provided in the *Revised Remedial Investigation Work Plan (RIWP) for the Proposed 363 Bond Street Development* prepared by Langan, dated 10 July 2013, that was approved by the NYSDEC on 26 July 2013. A summary of areas of concern (AOCs) and all historical investigation results is provided below. The locations of all site AOCs are shown on Figure 2. Historical soil analytical results are provided in Tables 1 and 2 and summarized on Figure 5, historical groundwater analytical results are provided in Tables 3 and 4 and summarized on Figure 6, and historical soil vapor analytical results are provided in Table 5 and summarized on Figure 7.

Generally, the RI determined that elevated concentrations of SVOCs and metals and the presence of petroleum impacts existed on-site above the site wide clay layer encountered at depths ranging from 10 to 14 feet below grade. The majority of the elevated concentrations of SVOCs and metals have been associated with the presence

of historic fill across the site; however, there are also portions of the site where the concentrations of SVOCs and metals were higher than those typically associated with historic urban fill. Petroleum impacts, which include the presence of LNAPL and elevated concentrations of PAHs, have been associated with the historic use of the site as an oil terminal. On the western portion of the site, the presence of LNAPL above the clay layer has been associated with spills from underground petroleum storage tanks. The presence of LNAPL or anomalously high concentrations of SVOCs or metals were used to determine the extent of the remedial areas.

Groundwater was also identified as being impacted with LNAPL and elevated VOCs and SVOCs associated with gasoline and petroleum. These impacts were identified as being related to the historic use of the site as described above. In the event that there is a remaining presence of LNAPL or elevated concentrations of VOCs or SVOCs post remediation a determination will be made by NYSDEC whether such conditions must be addressed via groundwater treatment.

1.3.1 Areas of Concern

Contaminants of concern (COCs) have been identified at the site associated with the historic fill material and petroleum impacts from historic operations at the site. Summaries of the AOCs and nature and extent of contamination associated with each prior to completion of the remedial action are provided below.

AOC-1 and AOC-2

AOC-1 and AOC-2, as shown in Figure 2, are located in the vicinity of the former ASTs, and are associated with historic operation of the site as an oil storage terminal. Analytical results from all previous investigations, including the 2013 RIR, prepared by Langan, have revealed that soils were impacted with SVOCs and metals exceeding NYSDEC Restricted Residential and/or Commercial SCOs. Sheen was observed in soil within the extents and in the vicinity of AOC-1, and LNAPL was observed within the extents of and in the vicinity of AOC-2. Analytical results for contaminants of concern (SVOCs and metals) are substantially lower in the samples collected immediately outside of the AOC extents than those collected within the extents and are representative of typical historic fill concentrations. The final excavation extents for AOC-1 and AOC-2 measured approximately 5,055 and 2,611 square feet, respectively, and extended vertically to a depth of 7-feet bgs.

AOC-3

AOC-3, as shown in Figure 2, is located in the area of the former ASTs, and is associated with the former operation of the site as an oil terminal. The analytical results for samples collected within the AOC extents are indicative of petroleum impacts. Analytical results for contaminants of concern SVOCs and metals are substantially lower in the soil samples collected immediately outside of the AOC extents than those collected within the extents and are representative of typical historic fill concentrations. In addition to the presence of LNAPL in MW-5, elevated concentrations of VOCs (primarily BTEX), SVOCs, and metals were detected in exceedance of the GWQS in groundwater samples collected from AOC-3 at MW-5 and LMW-6. Analytical results for BTEX are substantially lower in the groundwater samples collected to the east and west of the AOC extents than those collected within the extents. The final excavation extents for AOC-3 measured approximately 10,662 square feet and extended vertically to 8- to 10-feet bgs.

AOC-5

The potential presence of two gasoline Underground Storage Tanks (USTs) was identified on the western portion of the 363 Bond Street property within the footprint of the former on-site building. As shown in Figure 2, during excavation activities, two approximately 550-gallon USTs (UST-2 and UST-3) were discovered and removed, as discussed below in Section 1.4.1.2.1. The analytical results for samples collected within the AOC extents are indicative of petroleum impacts. Analytical results for contaminants of concern SVOCs and metals are substantially lower in the samples collected immediately outside of the AOC extents than those collected within the extents and are representative of typical historic fill concentrations. In addition to the presence of LNAPL in LMW-7, elevated concentrations of VOCs (including ethylbenzene, xylene, and toluene), SVOCs (naphthalene), one PCB (Aroclor 1254), and metals were detected above the GWQS in LMW-7. LNAPL was not observed in either of the two wells to the east of AOC-5 (EPAMW-1 and MW-2). No exceedances of the GWQS were identified for VOCs or SVOCs in either well to the east of AOC-5. The final excavation extents for AOC-5 measured approximately 1,870 square feet and extended vertically to 10-feet bgs.

SB-3

Based on the results of the ELM Phase II investigation for the 363 Bond Street property, anomalously elevated concentrations of PAHs were detected in a shallow soil sample located on the eastern side of the site at the SB-3 location. Based on the results of the 2014 USEPA Supplemental RI, completed by Langan, which revealed elevated concentrations of PAHS, the boundaries of this AOC area were expanded to include the SB-3 location and the boring locations EPA-13 and EPA-14 to address elevated PAHs that were detected in the latter two borings. The final excavation extents for SB-3 measured approximately 894 square feet and extended vertically to 7- feet bgs).

AOC-6

Elevated TCE concentrations were detected in soil vapor samples collected within the extents of AOC-6. During the 2013 RI, two soil vapor samples were collected from the LSV-20 location. One sample was collected from immediately below the building the slab and the second sample was collected from 5-feet below the building slab. Soil vapor impacted with trichloroethylene (TCE) significantly above the NYSDOH Matrix 1 criteria for a mitigation action was detected in both samples. Based on this result, the area in the direct vicinity of LSV-20 was identified as AOC-6.

Based on this anomalously elevated concentration, in soil vapor, the AOC extents for AOC-6 were determined to be in area measuring 225 square feet and extend vertically to approximately 7-feet bgs. However, following the results of the 2014 USEPA Supplemental RI, completed by Langan, this area was expanded to include the boring location EPA-12 to address shallow impacts of arsenic that were detected in the boring. The final excavation extents for AOC-6 measured approximately 556 square feet and extend vertically to approximately 8- to 10- feet bgs.

Additional Excavation Areas

During investigation activities completed at the site between 1997 and 2014, soil borings were advanced outside of the above AOCs to assess site-wide characterization of soil. As part of the Supplemental RI, three areas were identified that exhibited anomalously high SVOC concentrations which were attributed to petroleum impacts at the site (EPA-9, EPA-10, and EPA-11) and were determined to require excavation and disposal. These were determined to be isolated impacted areas. The EPA-9 and EPA-10 excavations merged based on field observations and measured approximately

828 square feet and extended vertically to approximately 10-feet bgs. The final excavation extents for EPA-11 measured approximately 441 square feet and extended vertically to approximately 10-feet bgs.

Former ASTs

Review of historic Sanborn Maps identified five large diameter secondary containment structures on the 388 Carroll Street property that were associated with former above-ground oil storage tanks for the previous oil terminal operations. Elevated concentrations of VOCs, PAHs, PCBs, and dissolved metals above the NYSDEC GWQS were detected in five of the seven in groundwater samples collected at the site. The impacts identified in this investigation resulted in the creation of AOC-1 and AOC-2.

As part of the 2013 RI, two soil samples were collected from two borings at the groundwater interface or the depth interval which exhibited the greatest evidence of impact to address potential impacts from the former ASTs upgradient of the previously defined extents of AOC-1 and AOC-2 to confirm that delineation of impacts from the former ASTs is complete. No VOCs, SVOCs, pesticides, PCBs, or metals were detected in exceedance of the Restricted Commercial SCOs in any of the samples collected and LNAPL was not observed in either of those borings. Elevated concentrations of VOCs and metals above the NYSDEC GWQS were detected in groundwater at two wells in the vicinity of the former ASTs. Historical soil sample locations at which LNAPL was identified are located within the extents of AOC-1, AOC-2 and AOC-3. Soil sample locations outside of these AOCs and in the vicinity of the former ASTs exhibit contaminant concentrations typical of historic urban fill. As such, petroleum-impacted soil is delineated within the extents of AOC-1, AOC-2 and AOC-3 and does not extend to the former ASTs. The ASTs were removed circa 1950 and the secondary containment structures were partially demolished in 2012 and completely demolished in 2014. During completion of regrading and foundation construction, subgrade portions of the ASTs were discovered and excavated, as discussed in Section 1.4.1.2.

EPA Coal Tar Study

The results of the United States Environmental Protection Agency (USEPA) Remedial Investigation of the Gowanus Canal in the areas of the site were presented in a January 2011 Gowanus Canal Remedial Investigation Report. As part of the investigation, coal tar impacts were identified within the canal adjacent to the

388 Carroll Street site and two groundwater monitoring wells (MW-36 and MW-43) were installed at 388 Carroll Street. The results of this identified coal tar NAPL at the MW-43 location at a depth of approximately 20-feet below the groundwater table, which corresponds to approximately 30- to 32-feet bgs. Based on these results, PW Grosser completed a subsurface investigation at 388 Carroll Street to further delineate the extent of the soil impacts in the vicinity of MW-43 as documented in the Draft Subsurface Investigation Summary Report dated 13 September 2011. Eleven soil borings were advanced to a depth of approximately 35-feet bgs to investigate deep soil at the site. Thin lenses of impacted soil containing NAPL were observed in three of the soil samples collected (GP-01, GP-05, and GP-08) approximately 25-feet bgs and in one of the soil samples collected (GP-10) at approximately 30-feet bgs between MW-43 and the Gowanus Canal. A fingerprint analysis of the NAPL identified the product as coal tar/creosote. Soil samples collected as part of this investigation did not report exceedances of the Unrestricted Use SCOs.

Based on the results of the investigations it was determined that the NAPL impacts identified on the 388 Carroll Street site were localized and minimal and although the presence of these impacts may have originated from the canal, remediation was determined to be required to address the potential for these areas to impact the canal. The remedial approach identified to address contaminants to remain on site post remediation and coal tar include sealing the steel bulkhead on the outboard side of the existing timber bulkhead to isolate the site from the canal.

Based on the results of the investigation completed at the site by PW Grosser and the proposed remedial approach, no additional remediation related to the presence of DNAPL was proposed.

Historic Fill

Based on the results of soil sampling completed throughout the site, a layer of historic fill is present above the confining clay layer. The fill material is impacted by PAHs, SVOCs, and metals at concentrations typical of historic urban fill within New York City. The material that was outside of these AOCs remains onsite left. Based on this, the material remaining beneath the composite site cover or demarcation layer should be considered to be impacted fill material and handled in accordance with this SMP.

1.3.2 Nature and Extent of Soil Analytical Results

As part of the RI and historical investigations, soil samples for VOC, SVOC, pesticide, PCB, and metal analysis were collected from within and outside of the identified areas of concern. Soil samples collected as part of the Supplemental RI were analyzed for VOCs, SVOCs and metals only. The soil analytical results are provided in Tables 1 and 2, and Figure 5.

AOC-1 and AOC-2

Soil samples from within the extents of two petroleum-impacted areas, AOC-1 and AOC-2 identified exceedances of the Restricted Residential and/or Restricted Commercial SCOs for SVOCs and metals. The results of the RI detected the following SVOCs in exceedance of the Restricted Residential RCOs in AOC-1: benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. The following SVOCs were detected in exceedance of the Restricted Commercial SCOs in AOC-1: benzo(a)pyrene and dibenzo(a,h)anthracene. All SVOC exceedances of the Restricted Residential and Restricted Commercial SCOs in AOC-1 were identified between 3.5- and 5.0-feet bgs.

The following SVOCs were detected in exceedance of the Restricted Residential SCOs in AOC-2: benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. The following SVOCs were detected in exceedance of the Restricted Commercial SCOs in AOC-2: benzo(a)anthracene, benzo(a), benzo(b)fluoranthene, and dibenzo(a,h)anthracene.

Metals exceedances of the Restricted Residential SCOs were detected in AOC-1 including magnesium and mercury. Metals exceedances of the Restricted Commercial SCOs were detected in AOC-1 including arsenic. All metals exceedances of the Restricted Residential SCOs were detected between 2.7- and 5-feet bgs and all metals exceedances of the Restricted Commercial SCOs were detected between 0.5- and 5-feet bgs.

The only metal that was detected in exceedance of the Restricted Residential SCOs in AOC-2 was mercury in one location from 1.5- to 3-feet bgs. No metals exceedances of the Restricted Commercial SCOs were detected in any of the samples collected from within AOC-2.

A sheen was observed within the extents and in the vicinity of AOC-1 at SB-2 (2- and 8-feet bgs), SB-3 (4-feet bgs) and SB-5 (2-feet bgs). LNAPL was observed within the extents of and in the vicinity of AOC-2 at SB-8 (3.5-feet bgs) and SB-10 (8-feet bgs) with a thickness of approximately 0.5-feet.

The analytical results for samples collected within the two AOC extents are indicative of petroleum impacts. Analytical results for contaminants of concern SVOCs and metals are substantially lower in the samples collected immediately outside of the two AOC extents than those collected within the extents and are representative of typical historic fill concentrations.

AOC-3

Soil samples from within the extents of petroleum-impacted AOC-3 identified exceedances of the Restricted Residential and/or Restricted Commercial SCOs for SVOCs, PCBs, and metals. The results of the RI detected the following SVOCs in exceedance of the Restricted Residential RCOs in AOC-3:acenaphthene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. The following SVOCs were detected in exceedance of the Restricted Commercial SCOs in AOC-3: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene.

All SVOC exceedances of the Restricted Residential and Restricted Commercial SCOs in AOC-3 were identified between 1- and 15-feet bgs.

The PCB Aroclor 1254 was detected in exceedance of the Restricted Commercial SCOs in AOC-3 at LSB-9 (6,240 ug/kg) from 0- to 2-feet bgs.

The following metals were detected in exceedance of the Restricted Residential SCOs in AOC-3: cadmium, lead, and mercury. The following metals were detected in exceedance of the Restricted Commercial SCOs in AOC-3: arsenic, barium, cadmium, copper, lead, and mercury. All metals exceedances of the Restricted Residential SCOs in AOC-3 were identified between 0- and 6-feet bgs and all metals exceedances of the Restricted Commercial SCOs in AOC-3 were identified between 0- and 9.5-feet bgs.

LNAPL and/or sheen was observed within the extents of AOC-3 at TP-1 (5.4-feet bgs), MW-5 (7- and 8-feet bgs), LSB-22 (4-feet bgs), and SB-1 (2- and 4-feet bgs) at a thickness ranging between 0.1- and 0.5 feet.

The analytical results for samples collected within the AOC extents are indicative of petroleum impacts. Analytical results for contaminants of concern SVOCs and metals are substantially lower in the samples collected immediately outside of the AOC extents than those collected within the extents and are representative of typical historic fill concentrations.

AOC-5

Soil samples from within the extents of petroleum-impacted AOC-5 identified exceedances of the Restricted Residential and/or Restricted Commercial SCOs for SVOCs and metals.

The following SVOCs were detected in exceedance of the Restricted Residential SCOs in AOC-5: anthracene, benzo(k)fluoranthene, chrysene, dibenzofuran, fluoranthene, naphthalene, phenanthrene, and pyrene. The following SVOCs were detected in exceedance of the Restricted Commercial SCOs in AOC-5: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and phenanthrene. All SVOC exceedances of the Restricted Residential and Restricted Commercial SCOs in AOC-5 were identified between 5.5- and 9.5-feet bgs.

Metals were detected in exceedance of the Restricted Residential SCOs in AOC-5 including lead and mercury. An exceedance of the Restricted Commercial SCOs was detected in AOC-5 for arsenic. All exceedances of the Restricted Residential SCOs for metals in AOC-5 were detected between 5.5- and 8-feet bgs and the exceedance of the Restricted Commercial SCOs was detected between 7- and 8-feet bgs.

LNAPL and/or sheen was observed within the extents and in the vicinity of AOC-5 at LSB-1 (8- and 10-feet bgs) and LSB-8 (8-feet bgs) with a thickness of approximately 0.67 feet.

The analytical results for samples collected within the AOC extents and presence of LNAPL and/or sheen are indicative of petroleum impacts. Analytical results for contaminants of concern SVOCs and metals are substantially lower in the samples

collected immediately outside of the AOC extents than those collected within the extents and are representative of typical historic fill concentrations.

SB-3

Soil samples from within the extents of the SB-3 area identified exceedances of the Restricted Residential and/or Restricted Commercial SCOs for SVOCs and metals.

The following SVOCs were detected in exceedance of the Restricted Residential SCOs within SB-3: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeo(1,2,3-cd)pyrene. The following SVOCs were detected in exceedance of the Restricted Commercial SCOs within SB-3: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene. All SVOC exceedances of the Restricted Residential and Restricted Commercial SCOs in SB-3 were identified between 0- and 8-feet bgs.

Metals were detected in exceedance of the Restricted Residential SCOs within SB-3 including arsenic, copper, lead, and mercury. Metals were detected in exceedance of the Restricted Commercial SCOs within SB-3 including arsenic and lead. All exceedances of the Restricted Residential and Restricted Commercial SCOs for metals in SB-3 were detected between 0- and 9-feet bgs.

Sheen was observed within the extents of SB-3 at EPA-13 (8.5-feet bgs) with a thickness of approximately 0.5 feet.

The elevated PAH concentrations and the presence of sheen are indicative of petroleum impacts. Analytical results for contaminants of concern from within the AOC are an order of magnitude higher than those from nearby samples collected from similar depth intervals.

AOC-6

A soil samples from within the extents of the SB-3 area identified exceedances of the Restricted Residential and/or Restricted Commercial SCOs for SVOCs and metals.

The following SVOCs were detected in exceedance of the Restricted Residential SCOs: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeo(1,2,3-cd)pyrene.

Benzo(a)pyrene was also detected in exceedance of the Restricted Commercial SCOs within AOC-6.

Metals were detected in exceedance of the Restricted Residential SCOs for arsenic, lead, and mercury. Metals were detected in exceedance of the Restricted Commercial SCOs for arsenic. All exceedances of the Restricted Residential SCOs for metals in AOC-6 were detected between 0- and 6-feet bgs and the exceedance of the Restricted Commercial SCOs was detected between 3- and 6-feet bgs.

Sheen was observed within the extents of AOC-6 at EPA-12 (7.5-feet bgs) with a thickness of approximately 0.5 feet.

The analytical results for the soil sample collected within the AOC extents and the presence of sheen are indicative of petroleum impacts. Analytical results for contaminants of concern SVOCs and metals are lower in the samples collected immediately outside of the AOC extents than those collected within the extents and are representative of typical historic fill concentrations.

Additional Excavation Areas

The Supplemental Remedial Investigation revealed that exceedances of the Restricted Residential and/or Restricted Commercial SCOs were detected for SVOCs and metals within EPA-9, EPA-10, and EPA-11.

The following SVOCs were detected in exceedance of the Restricted Residential SCOs within EPA-9, EPA-10, and EPA-11: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, and naphthalene. Exceedances of the Restricted Commercial SCOs for SVOCs were detected at the three locations including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene. All SVOC exceedances of the Restricted Residential and Restricted Commercial SCOs in the additional SVOC-impacted areas were identified between 3- and 12-feet bgs.

Soil samples for metals analysis were collected from within the extents of the additional SVOC-impacted areas at three locations. Metals were detected in exceedance of the Restricted Residential SCOs in each location including cadmium, lead, and mercury. Metals were detected in exceedance of the Restricted Commercial SCOs in each location including cadmium and lead. All exceedances of the Restricted Residential SCOs for metals in the additional SVOC-impacted areas were detected between 0- and

12-feet bgs and all exceedances of the Restricted Commercial SCOs were detected between 0- and 10.5-feet bgs.

The analytical results for the soil samples collected within the extents of EPA-9, EPA-10, and EPA-11 are associated with historic operations and indicative of the presence of petroleum-impacted historic fill.

1.3.3 Nature and Extent of Groundwater Analytical Results

Samples were collected from monitoring wells for VOC, SVOC, pesticide, PCB, and metal analysis. Exceedances of the NYSDEC GWQS were detected for VOCs, SVOCs, PCBs, and metals, as shown in Tables 3 and 4 and Figure 6.

VOCs

A total of 23 groundwater samples for VOC analysis were collected from 16 unique sampling locations at the site. VOCs (primarily benzene) were detected in exceedance of the GWQS in 16 of the samples collected (corresponding to 13 unique sample locations). In several locations, elevated concentrations of VOCs are associated with the presence of LNAPL.

Benzene was detected at SB-3, located on the western portion of the site in exceedance of the GWQS in a groundwater sample collected within AOC-1. VOCs were detected in exceedance of the GWQS in groundwater samples collected to the east of AOC-1 at SB-11 including benzene, toluene, and mixed xylenes.

Benzene was detected at MW-1 in exceedance of the GWQS in a groundwater sample collected within AOC-2.

VOCs were detected in exceedance of the GWQS in groundwater samples collected from AOC-3 at MW-5 and LMW-6 including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, cis-1,2-dichloroethylene, ethylbenzene, isopropylbenzene, n propylbenzene, o-xylene, toluene, mixed xylenes, and vinyl chloride. VOCs were detected in groundwater samples collected from MW-2 and MW-4 to the west and east of AOC-3 including naphthalene and benzene.

VOCs were detected in exceedance of the GWQS in groundwater samples collected from AOC-5 at LMW-7 including 1,2,4-trimethylbenzene, 1,3,5-trimethylbenze, ethylbenzene, isopropylbenzene, n-butylbenzene, n propylbenzene, o-xylene, sec-

butylbenzene, and toluene. VOCs were detected in exceedance of the GWQS in groundwater samples collected to the south of AOC-5 at MW-3 including acetone, isopropylbenzene, n-butylbenzene, and n-propylbenzene.

VOCs were detected in exceedance of the GWQS in groundwater samples collected from monitoring wells in the vicinity of the former ASTs at SB-2 and LMW-9 including benzene, cis-1,2-dichlorethylene, TCE, and vinyl chloride.

SVOCs

A total of 23 groundwater samples for SVOC analysis were collected from 16 unique sampling locations at the site. SVOCs (primarily PAHs) were detected in exceedance of the GWQS in eight of the samples collected (corresponding to six unique sample locations).

No SVOCs were detected in exceedance of the GWQS in groundwater samples collected from AOC-1 at SB-3. SVOCs were detected in exceedance of the GWQS in groundwater samples collected to the east of AOC-1 at SB-11 including acenaphthene, benzo(a)anthracene, chrysene, and naphthalene.

No SVOCs were detected in exceedance of the GWQS in groundwater samples collected from AOC-2 at MW-1.

SVOCs were detected in exceedance of the GWQS in groundwater samples collected from AOC-3 at MW-5 and LMW-6 including acenaphthene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, pyrene, 2,4-dimethylphenol, o-cresol(s) (2-methylphenol), and phenol. SVOCs were detected in exceedance of the GWQS in one groundwater sample collected from MW-2 to the west of AOC-3 including naphthalene. SVOCs were not detected in exceedance of the GWQS in MW-4 to the east of AOC-3.

Naphthalene was detected at LMW-7 in exceedance of the GWQS and the USEPA Toxicity Units Criteria in a groundwater sample collected within AOC-5. No SVOCs were detected in exceedance of the GWQS in groundwater samples collected to the south of AOC-5 at MW-3.

No SVOCs were detected in exceedance of the GWQS in groundwater samples collected from monitoring wells in the vicinity of the former ASTs at SB-2, LMW-9, and LMW-10.

SVOCs were detected in marginal exceedance of the GWQS in groundwater samples collected from monitoring wells not in the vicinity of AOCs at SB-7 including benzo(a)anthracene. SVOCs were not detected in monitoring wells MW-1, SB-7, and SB-12.

PCBs

Aroclor 1254 was detected in exceedance of the GWQS at LMW-7 in AOC-5. This elevated concentration of PCBs is associated with the presence of historic fill.

Metals

A total of 21 groundwater samples for Metals analysis were collected from 15 unique sampling locations at the site. Elevated concentrations of metals are associated with the presence of historic fill.

Metals were detected in exceedance of the GWQS in 20 of the samples collected (corresponding to 15 unique sample locations) including total aluminum, dissolved aluminum, total antimony, total arsenic, dissolved arsenic, total barium, total cadmium, dissolved cadmium, total iron, dissolved iron, total lead, dissolved lead, total magnesium, dissolved magnesium, total manganese, dissolved manganese, total selenium, dissolved selenium, total sodium, and dissolved sodium.

LNAPL

LNAPL and/or sheen was identified in groundwater at five groundwater sample locations and in two test pits. LNAPL and/or sheen was identified in AOC-1 at TP-6 (0.5-feet thick), in AOC-3 at TP-3 (0.1-feet thick), TP-2 (sheen), and MW-5 (0.1-feet thick), and in AOC-5 at LMW-7 (3.0-feet thick) and MW-3 (0.5-feet thick).

1.3.4 Nature and Extent of Soil Vapor Analytical Results

Exceedances of the NYSDOH and/or USEPA criteria were detected for target VOCs in all 12 sublsab soil vapor samples collected including benzene, ethylbenzene, m- and p-xylenes, o-xylene, PCE, TCE, and toluene. Exceedances of the NYSDOH and/or USEPA

criteria were detected for target VOCs in all 15 drilled soil vapor samples collected including benzene, ethylbenzene, m- and p-xylenes, o-xylene, PCE, TCE, and toluene.

Soil vapor impacted with TCE detected above the NYSDOH Matrix 1 criteria for mitigation action (250 ug/m^3) and/or with PCE detected above the NYSDOH Matrix 2 criteria for mitigation action (1,000 ug/m^3) was identified in 17 of the 27 samples collected, corresponding to 9 of the 15 unique sample locations.

1.3.5 Underground Storage Tanks

A geophysical survey was completed using ground penetrating radar, electromagnetic, and comprehensive subsurface utility surveying equipment. The geophysical survey was completed across the entire site with the exception of the partial basement located beneath the northwest corner of the building at 363 Bond Street and an area of thickly matted vegetation along the western boundary of 388 Carroll Street. Anomalies were detected at the site; however, no undocumented USTs were identified during any of the historical site investigations or during the RI. During the remedial excavation activities, one approximately 500-gallon UST (UST-1) was discovered within the extents of AOC-3, as shown in Figure 2. Additionally, two approximately 550-gallon USTs (UST-2 and UST-3) were discovered within a concrete enclosure within the extents of AOC-5, as discussed in Section 1.4.1.2.1 and shown in Figure 2. These were removed as part of the remedial action.

1.4 SUMMARY OF REMEDIAL ACTIONS

The site was remediated in accordance with the following NYSDEC-approved work plans:

- Interim Remedial Measure Work Plan, dated November 2013, prepared by Langan;
- Interim Remedial Measure Work Plan Addendum, dated August 2014, prepared by Langan;
- Interim Remedial Measure Work Plan Addendum, dated November 2014, prepared by Langan;
- Remedial Action Work Plan, dated March 2015, prepared by Langan; and,
- 363 Bond Street Supplemental Remedial Measures Plan, dated January 2015, prepared by Langan.

The following is a summary of the Remedial Actions performed at the site:

1. Implementation of a Community Air Monitoring Plan (CAMP) for volatile organic compounds (VOCs) and particulates emissions during remediation;

2. Perimeter and work zone air monitoring for VOCs and particulates;

3. Installation of four recovery wells in the western portion of the 363 Bond Street parcel and direct extraction of contaminated groundwater and LNAPL using vacuum trucks;

4. Excavation and offsite disposal of six hotspot areas (AOC-1, AOC-2, AOC-3, AOC-5, AOC-6, and SB-3) of soil impacted by residual petroleum contamination that has resulted in a localized area of non-aqueous phase liquid (LNAPL) and is characterized by the presence of petroleum related compounds benzene, toluene, ethylbenzene and xylenes (BTEX) in accordance with the RAWP;

5. Excavation and offsite disposal of additional areas impacted by LNAPL and anomalously high concentrations of semi-volatile organic compounds (SVOCs) as identified during the Supplemental RI at the site and in accordance with the RAWP and Supplemental Remedial Measures Plan (SRMP) (EPA-9, EPA-10, and EPA-11);

6. Excavation and offsite disposal of soils encountered that are saturated with free phase petroleum (within the vadose zone) in addition to excess contaminated soils generated or encountered during regrading and foundation construction activities;

7. Collection and analysis of post-excavation soil samples for all remedial excavation areas;

8. Decommissioning of three underground storage tanks (USTs) discovered during excavation associated with the site redevelopment in accordance with all applicable federal, state and local regulations;

9. Collection and analysis of soil samples for waste characterization of all exported soils generated from the proposed redevelopment activities;

10. Backfilling of remedial excavation areas to development grade with recycled concrete aggregate (RCA) in accordance with Section 5.4(e)5.ii of DER-10;

11. Decommissioning of two aboveground storage tanks (ASTs) in the basement of the former building in accordance with all applicable federal, state and local regulations;

12. Installation of groundwater treatment system infrastructure underneath the new slab on the western and central portions of the Site in the area of AOC-3 and AOC-5;

13. Installation of a sub-membrane piping network for an active sub-slab depressurization system (SSDS) beneath the at sidewalk-grade level of the new building;

14. Installation of a waterproofing/va[pr barrier system (Grace Preprufe® 300R and Bituthene® 3000) beneath the subgrade parking area foundation and the installation of a vapor barrier (15-mil Stego Wrap Vapor Barrier vapor barrier system) beneath the at sidewalk-grade level building foundations;

15. Construction of a composite cover system consisting of building foundations, sidewalks, paved walkways and a temporary soil cover to prevent human exposure to remaining contaminated soil/fill at the site;

16. Construction of a steel sheet-pile bulkhead wall outboard of the existing bulkhead to stabilize the existing bulkhead, act as a retaining structure of the composite cover system, and define the eastern edge of this system on the Gowanus Canal;

17. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;

18. Performance of activities required for the IRMWP, associated addendums, and RAWP, including permitting requirements, in compliance with applicable laws and regulations;

19. Inclusion in the Final Engineering Report (FER) of a narrative of the work performed under these plans and a certification that the remedial

requirements have been achieved, and listing any deviation from the IRMWP or RAWP;

20. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the site.

21. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting; and,

22. Periodic certification of the institutional and engineering controls listed above.

Remedial activities were completed at the site between December 2014 and July 2015. The remedy is documented in the Final Engineer Report (FER).

1.4.1 Removal of Contaminated Materials from the Site

The following sections document the product recovery (Section 1.4.1.1) and the removal of contaminated soil and concrete (Section 1.4.1.2) activities.

1.4.1.1 Groundwater Interim Remedial Measure

Product recovery was implemented at the Site in accordance with the November 2013 IRMWP that was approved by the NYSDEC in March 2014. The remedial action included recovery of LNAPL within the AOC-5 area via installation of four four-inch product recovery wells at a depth of approximately 15-feet bgs. A map showing the location of the recovery wells is shown in Figure 8.

A total of approximately 7,700 gallons of water/LNAPL were recovered, of which approximately 524 gallons is estimated to be LNAPL, from 17 April to 8 October 2014 via direct extraction using vacuum trucks.

1.4.1.2 Removal of Contaminated Soil and Concrete

A BCP Track 4: Restricted Use with site-specific soil cleanup objectives remedy, which conformed to the Site's remedial action goals and Remedial Action Objectives (RAOs), was implemented at this Site in accordance with 6 NYCRR Part 375 Environmental

Remediation Programs (2006), DER-10 (2010), the November 2014 IRMWP, March 2015 RAWP and the March 2015 Decision Document. The remedial action included the excavation and off-site disposal of contaminant source areas, including weathered petroleum contaminated soil, to a depth of two feet below the water table, which ranges from five- to eight-feet bgs. In particular, the removal of fill impacted with LNAPL and elevated concentrations of contaminants of concern (naphthalene, xylene, 1,2,4-trimethylbenzene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, PCE, TCE, and toluene) was excavated. The extent and depth of areas of excavation are shown on Figure 2. A total of approximately 11,675 tons of impacted soil was excavated during the RA as detailed below.

a. 2,282.77 tons of soil removed from AOC-1;
b. 1,172.61 tons of soil removed from AOC-2;
c. 5,855.83 tons of soil removed from AOC-3;
d. 945.66 tons of soil removed from AOC-5;
e. 649.98 tons of soil removed from SB-3 and AOC-6;
f. 768.19 tons of soil removed from EPA-9, EPA-10, and EPA-11; and,
g. 564 tons of petroleum-impacted concrete.

A list of the site-specific soil cleanup objectives (SCOs) used for the site and applicable land use for this site is provided in Table 6. Post excavation sampling was completed in all identified areas of concern and post excavation results and remaining contamination left in place under appropriate Institutional and Engineering Controls is discussed in Section 1.4.3.

A waste disposal trucking log and waste manifests are provided in the Final Engineering Report.

1.4.1.2.1 Underground Storage Tanks (USTs)

Three USTs were removed from the site during RA activities conducted between 4 and 17 February 2015. The former tank locations are shown on Figure 2. The tanks consisted of the following.

- One approximately 500-gallon UST (UST-1) was discovered within the extents of AOC-3; and,

- Two approximately 550-gallon USTs (UST-2 and UST-3) were discovered within a concrete enclosure within the extents of AOC-5.

UST-1, located in AOC-3, was observed to be punctured, and soil in the vicinity of the UST was over-excavated to remove petroleum impacts. Post-excavation soil sample results revealed no exceedances of the NYSDEC UUOs. One of the two USTs (UST-2) in AOC-5 was also observed to be punctured due to the installation of LMW-7 during the RI. Product was observed in the concrete base of the tank enclosure that was removed via vacuum truck. Post-excavation soil sampling revealed no exceedances of the NYSDEC UUOs. Post-excavation soil sampling results are provided in Table 7 and Figure 9.

The removal of three USTs was completed in accordance with all applicable federal, state, and local regulations. The contents of UST-1, consisting of approximately 55-gallons of liquid that was likely accumulated surface water, was removed prior to excavation and stored in UN/DOT-approved 55-gallon steel drums. Waste characterization sampling identified hazardous concentrations of benzene in the four drums containing liquid from UST-1, as well as development water and purge water from the temporary well installation and sampling event discussed in Section 1.4.2.1. Based on the characterization results the four drums were disposed of offsite on 25 June 2015 to Republic Environmental Systems, LLC of Hatfield, Pennsylvania. The contents of UST-2 and UST-3, consisting of approximately 498-gallons of liquid that was likely gasoline mixed with surface water, were removed prior to excavation and sent to Advanced Waste and Water Technology, Inc. of Farmingdale, New York for disposal. After being removed and cleaned, UST-1 was sent to Sixth Street Iron & Metal of Brooklyn, New York for disposal and UST-2 and UST-3 were sent to A.R.C. Metal Recycling of Long Island City, New York for disposal. Soil excavated as part of the UST removals was sent to Bayshore. The UST excavation areas were backfilled and compacted to the required development grade depth with clean fill material, which meets the requirements of 6 NYCRR 375-6.7(d) and 6 NYCRR 376-5.4(e), following the collection of confirmatory post-excavation soil samples. Documentation detailing the UST removals and closures including signed affidavits, photographic documentation of removal activity, tank disposal bills of lading, tank contents disposal manifests, soil disposal manifests, and clean fill certifications are provided in the Final Engineer Report.

1.4.1.2.2 Aboveground Storage Tanks (ASTs)

In June 2014 two approximately 1,500-gallon No. 4 Fuel Oil USTs (locations shown on Figure 2) were removed and disposed of prior to building demolition. Both ASTs were observed in good condition with no noticeable punctures or routes for potential leaks or spills. The removal of both ASTs was completed in accordance with all applicable federal, state, and local regulations. The contents of the tanks, consisting of approximately 1,500-gallons of liquid each that was likely fuel oil, were removed prior to excavation and sent to Clean Water of News York of Staten Island, New York for disposal. After being removed and cleaned the tanks were disposed of off-site at a recycling facility. Documentation detailing the AST removals and closures including signed affidavits, photographic documentation of removal activity, tank disposal bills of lading, and tank contents disposal manifests are provided in the Final Engineer Report.

1.4.2 Site-Related Treatment Systems

1.4.2.1 Groundwater Remediation System Infrastructure

Following excavation activities, eleven two-inch diameter temporary groundwater (TW-1 to TW-11) monitoring wells, as shown on Figure 10, were installed at locations across the site to evaluate the necessity for groundwater treatment in AOC-3 and AOC-5. Well construction details for these wells are provided in Appendix C. On 19 through 23 March 2015, groundwater samples were collected for VOCs and SVOCs analysis. Monitoring wells were sampled in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, and Sampling Guidelines and Protocols, dated March 1991.

Baseline groundwater analytical results are provided in Table 8 and Figure 10. LNAPL was not encountered during the installation or sampling of the temporary wells during the baseline sampling event. The results indicated that VOCs associated with petroleum impacts were detected in TW-1, TW-4, TW-6, and TW 9 including 1,2,4-trimethylbenzene (9 ug/l – 15 ug/l), 1,3,5-trimethylbenzene (8.8 ug/l), benzene (3.8 ug/l – 4.4 ug/l), ethylbenzene (26 ug/l), isopropylbenzene (6 ug/l – 6.5 ug/l), m- & p-xylene (12 ug/l – 13 ug/l), o-xylene (7.1 ug/l), and n-propylbenzene (5.9 ug/l – 8.2 ug/l). Chlorinated VOCs were detected in TW-9 including cis-1,2-cichloroethylene (28 ug/l), trichcloroethylene (10 ug/l), and vinyl chloride (6.4 ug/l). Other VOCs detected above the GWQS include acetone (34 ug/l – 460 ug/l) at all of the aforementioned wells as well as TW-3, TW-5, TW-8, and TW-11 and methyl ethyl ketone (50 ug/l) at TW-9.

SVOCs were detected above the GWQS in all samples collected with the exception of TW-5 and TW-7 including benzo(a)anthracene (0.126 ug/lg – 0.519 ug/l), benzo(b)fluoranthene (0.0821 ug/l – 0.39 ug/l), benzo(k)fluoranthe (0.0821 ug/lg – 0.346 ug/l), chrysene (0.0947 ug/l – 0.431 ug/l), indeno(1,2,3-cd)pyrene (0.108 ug/l – 0.195 ug/), naphthalene (11.3 ug/l – 72.6 ug/l), and phenol (11.1 ug/l – 58.7 ug/l).

Metals were detected above the GWQS in all samples collected including aluminum (10 ug/l – 8,620 ug/l), cadmium (5 ug/l), iron (360 ug/l – 10,600 ug/l), lead (33 ug/l – 99 ug/l), magnesium (75,700 ug/l – 80,700 ug/l), manganese (500 ug/l – 590 ug/l), and sodium (23,700 ug/l – 690,000 ug/l).

Following sampling activities, the temporary monitoring wells were abandoned during foundation construction activities. Concurrent with the building foundation and slab construction activities, the eleven temporary wells were replaced with ten permanent monitoring wells (PMW-1 through PMW-10, as shown in Appendix C), constructed of two-inch diameter stainless steel casing with ten-feet of 20-slot stainless steel screen. In addition to the monitoring wells, the groundwater treatment system infrastructure for the contingent system was installed, consisting of a remedial well network, as described in detail in Section 2.2.1.2, and shown in Appendix C. During construction of the remainder of the building the system manifold connecting the wells and the associated manifold closet will be installed. Multi-Phase Extraction (MPE) wells (MPE-1 through MPW-10) were installed underneath the new slab within AOC-3. Soil vapor extraction (SVE) wells (SVE-1 through SVE-7) and air sparge wells (AS-1 through AS-4) were installed underneath the new slab within AOC-5 to address the potential remaining LNAPL or residual groundwater impacts.

Details of the contingent remediation process equipment room are provided in Appendix C. The completion of the contingent groundwater treatment system will be determined by the NYSDEC based on the results discussed above and the on-going groundwater monitoring as detailed in Section 3.3. The remedial wells were routed beneath the new building slab with an access point within the process room to allow for well access. In addition to the recovery and treatment option for the wells as provided in the RAWP, the wells were also constructed such that upon request by the Department they could be used for the in-situ injection of chemicals to assist in the remediation of groundwater.

1.4.2.2 Vapor Barrier and Sub-Slab Depressurization System

Components of an active vapor mitigation system consisting of the sub-membrane components of an SSDS piping network was installed beneath the at sidewalk-grade portions of the ground floor slab of the building to mitigate potential soil vapor intrusion into the planned building. The risers and the inline fans of this active system will be installed as part of the new building construction. The SSDS is not located beneath the subgrade parking area, which is required to be ventilated in accordance with New York City Department of Buildings requirements. The required ventilation in conjunction with the Grace Preprufe and Bituthene 3000 vapor barrier requirements will adequately address any potential soil vapor intrusion conditions in this area. As-built drawings of the SSDS are provided in Appendix D and manufacturer specifications for the Grace waterproofing barrier and Stego Wrap Vapor Barrier are provided in Appendix E. A detailed discussion of the SSDS piping network is provided in Section 2.2.1.3. Operation and maintenance details are provided in Section 4.2 and 4.3.

1.4.3 Remaining Contamination

Historical analytical results for sample locations that were not excavated as part of the remedial action are provided and discussed in detail in the FER. The remedy for the site consisted of removal of areas of historic fill impacted by LNAPL and anomalously elevated concentrations of SVOCs and metals. Soil associated with the presence of historic fill that was not impacted by LNAPL and contains concentrations of polycyclic aromatic hydrocarbons (PAHs) and metals typical of historic fill but at levels above the Restricted Residential RUSCOs and the Unrestricted Use Objectives remains in portions of the site.

Per the requirements detailed in the RAWP and NYSDEC DER-10 policy, confirmatory soil sample collection was completed from the excavation bottom for every 900 square feet of bottom area and from the excavation sidewalls every 30 linear feet. Based on the sampling results, some SVOCs and metals exceeding the Restricted Residential RUSCOs and Unrestricted Use Objectives remain in place at the site; however, the concentrations remaining are consistent with the presence of historic urban fill in the subsurface. Confirmatory soil sample analytical results are provided in Table 7 and summarized on Figure 9.

Table 9 and Figure 11 summarize the results of all soil samples remaining at the site after completion of Remedial Action that exceed the Restricted Residential RUSCOs.

Remediation consisting of excavation of all historic fill was not consistent with the remedial goals for the site and was not practical as it would have required additional support of excavation, disposal of soil, dewatering and backfilling. As contaminated soil remains beneath the site after completion of the Remedial Action, Engineering Controls (ECs) and Institutional Controls (ICs) are required to protect human health and the environment. These ECs and ICs are described in the following sections. Long-term management of these ECs and ICs and residual contamination will be performed under the SMP approved by the NYSDEC.

To address remaining soil impacts a site-wide composite cover system is identified in Section 1.4 and discussed in detail below in Section 3.2 was installed. This consists of the concrete slab and foundation walls, Stego wrap vapor barrier, sub-slab SSDS, and Grace waterproofing barrier. In the area of the waterfront esplanade a demarcation layer such as high visibility snow fence or geotextile membrane has been placed beneath the clean soil cover. Remaining soil vapor impacts are addressed via the active SSDS and potential groundwater impacts are address via the contingent groundwater treatment system infrastructure.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

As remaining contamination exists beneath the site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;

- A description of the features to be evaluated during each required inspection and periodic review;

- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and

- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Composite Cover System

Exposure to remaining contamination in soil/fill at the site is prevented by a composite cover system placed over the site. This cover system is comprised of a minimum of 10- to 12-inches of concrete building foundations and sidewalks within the building footprint and surrounding sidewalk area and a minimum two-foot thick temporary soil cover with a demarcation layer in the waterfront esplanade. The completed esplanade will consist of paved walking areas which will prevent contact with historic fill left in place. Landscaped areas will be underlain by a minimum 2-foot clean fill cover with a demarcation layer consisting of a high-visibility snow fence layer. Imported backfill for the completion of landscaped areas in the esplanade will meet the requirements outlined in the Excavation Work Plan. The Excavation Work Plan that appears in Appendix F outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP.

2.2.1.2 Groundwater Treatment System Infrastructure

The groundwater remediation system infrastructure consisted of a remediation well network installed underneath the new slab on the western portion of the 363 Bond St parcel in the area of AOC-5 and in the central portion of the site in AOC-3. The following

wells were installed as part of the well network, and are discussed in further detail below:

- Ten multi-phase extraction wells (MPE-1 through MPE-10) within AOC-3;
- Four air sparge wells (AS-1 through AS-4) within AOC-5;
- Seven soil vapor extraction wells (SVE-1 through SVE-7) within AOC-5; and,
- Ten monitoring wells (PMW-1 through PMW-10) installed across the site.

The remedial well network (i.e., all wells with exception of PMW-1 through PMW-10) will be connected to a manifold and sub-slab trunk line that connect the well network to the contingent remediation process equipment room. The wells were routed beneath the new building slab with an access point within the process room to allow for well access. The location of the well network, future system manifold, and the potential remediation process equipment room as well as well construction details are provided in Appendix C.

A multi-phase extraction (MPE) system was selected as the contingent groundwater remediation system for AOC-3. The technology allows for removal of LNAPL impacts through removal of dissolved, vapor, residual, and non-aqueous phases of contamination. Ten wells, as shown in Appendix C, were installed within the extents of AOC-3 as part of the contingent MPE system. Five MPE wells (MPE-1 through MPE-3, MPE-5, and MPE-6) were installed within the basement garage at a depth of approximately 15-feet below top of slab and were constructed of four-inch diameter stainless steel casing with a 20-slot screen installed between approximately 5.5- and 13-feet below top of slab and a capped sump installed between approximately 13- and 15-feet below top of slab. The remaining five MPE wells (MPE-4 and MPE-7 through MPE-10) were installed beneath the first-floor slab of the building at a depth of approximately 19-feet below top of slab and were constructed of four-inch diameter stainless steel riser with a 20-slot screen installed between 9.5- and 17-feet below top of slab and a capped sump installed between approximately 17- and 19-feet below top of slab. A two-inch Schedule 80 PVC line is connected to each of the ten MPE wells, and the ten individual well lines will manifold to a six-inch Schedule 80 PVC trunk line that connects to the contingent remediation process equipment room. The future two-inch manifold will be contained within an above-ground manifold closet within the basement garage. Within the manifold closet, each individual MPE well line will be fitted with a sample

port/flow meter, vacuum indicator, and gate valve. The end of the six-inch trunk line in the contingent remediation process equipment room is capped.

A soil vapor extraction (SVE)/air sparge system was selected for AOC-5 because of its ability to remove residual LNAPL, its effectiveness, and its ability to be implemented safely in an occupied active facility. Eleven wells, as shown in Appendix C, were installed within the extents of AOC-5 as part of the contingent SVE/air sparge system. Four air sparge wells (AS-1 through AS-4) were installed 20-feet below top of slab and were constructed of four-inch diameter stainless steel riser with a 20-slot screen installed between 13- and 18-feet below top of slab and a capped sump installed between 18- and 20-feet. A two-inch Schedule 80 PVC line is connected to each of the four air sparge wells, and the four individual well lines will manifold to a six-inch Schedule 80 PVC trunk line that connects to the contingent remediation process equipment room. The future manifold will be contained within an above-ground manifold closet within the basement garage. Within the future manifold closet, each individual air sparge well line will be fitted with a sample port/flow meter, pressure indicator, and gate valve. The end of the six-inch trunk line in the contingent remediation process equipment room is capped.

Seven SVE wells (SVE-1 through SVE-7) were installed at a depth of approximately 9-feet below top of slab and were constructed of four-inch diameter stainless steel riser with a 20-slot screen installed between 4- and 9-feet below top of slab. A two-inch Schedule 80 PVC line is connected to each of the seven SVE wells, and the seven individual well lines will manifold to a six-inch Schedule 80 PVC trunk line that connects to the contingent remediation process equipment room. The future manifold will be contained within the same above-ground manifold closet as the air sparge well manifold. Within the future manifold closet, each individual SVE well line will be fitted with a sample port/flow meter, vacuum indicator, and gate valve. The end of the six-inch trunk line in the contingent remediation process equipment room is capped.

Ten groundwater monitoring wells (PMW-1 through PMW-10) were installed across the site for the purpose of groundwater sample collection and monitoring. Each monitoring well was constructed of two-inch diameter stainless steel casing with ten-feet of 20-slot screen installed at various depths, listed as follows.

Well Location	Reference Elevation	Well	Approx. Total Depth Below Reference Elevation (ft bgs)	Approx. Screen Interval Below Reference Elevation (ft bgs)
Bond Street Sidewalk	Sidewalk Grade (approx. El.+9.5)	PMW-1	15	5 to 15
363 Bond Street Cellar	Top-of-Slab (approx. El +4.44)	PMW-2	12	2 to 12
		PMW-3	12	2 to 12
		PMW-4	12	2 to 12
		PMW-5	12	2 to 12
363 Bond Street First Floor	Top-of-Slab (approx. El +10.62)	PMW-6	17	7 to 17
Proposed Esplanade	Proposed Esplanade (approx. El +7.5)	PMW-7	14	4 to 14
		PMW-8	14	4 to 14
		PMW-9	14	4 to 14
First Street Sidewalk	Sidewalk Grade (approx. El.+7)	PMW-10	15	5 to 15

The depths were determined such that the top of the screen was above the groundwater table to allow for the gauging of any potential LNAPL.

To determine the integrity of each remedial well line, remedial trunk line, and the associated connections, a pressure test was conducted at each point. Pressure was applied to each line, and the line was isolated and then monitored to identify any change in pressure over an at least 15 minute period. If pressure remained constant over the 15 minute period, it was determined that the pipe and associated connections were free of damage and/or defect and passed the pressure test. Pressure test results are provided in Appendix C.

Based on a loss of vacuum during testing it was determined that both the SVE and MPE trunk lines contained leaks. As a result, additional testing was conducted to determine the potential cause and magnitude of these leaks. Applying vacuum and/or pressure on

a solid pipe free of leaks would result in zero air flow; however, with the presence of leaks there will be air flow, the magnitude of which will be determined based on the extensiveness of the leaks (i.e., more leaks will result in more flow). As such, both vacuum and pressure were actively applied to each remedial trunk line via active extraction and injection and the air flow through the pipe, was measured using an anemometer (i.e., TSI 9555). The results of this additional testing indicated that minor leaks remain in the SVE and MPE trunk lines exists that resulted in a 1.5 to 5 scfm maximum flow rate. The results of this testing are included in Appendix Q.

It is anticipated that the observed minor leaking air flow rate through the MPE and SVE trunk lines (i.e., 1.5 to 5 scfm maximum), if remains consistent and does not worsen over time, will not affect the performance and effectiveness of the contingent remediation MPE and SVE systems.

The need for the contingent groundwater remediation system implementation will be determined based on the results of the post-excavation groundwater monitoring, which was conducted on 19 through 23 March 2015 and the on-going groundwater monitoring as discussed in detail in Section 3.3. Based on the results of groundwater monitoring the Department will provide a decision on whether groundwater treatment will be implemented utilizing the remedial system infrastructure underneath the new slab. Post-excavation groundwater monitoring results are summarized in Section 1.4.2.1. If the contingent groundwater remediation system is implemented, a revised SMP will be completed, which will include procedures to monitor the future conditions of the leaks discussed previously.

The sizing of any potential groundwater remediation system process equipment depends upon the groundwater impacts remaining post-excavation. All process equipment to be used as part of the contingent groundwater remediation system will be intrinsically safe and explosion-proof to Class I Division I standards. The potential extracted gas vapors from the SVE/Air Sparge and MPE systems will be treated via vapor phase carbon units prior to discharge to atmosphere via a stack located on the roof of the proposed building. In addition, the room that contains the process equipment will also be equipped with a lower explosive limit sensor that will have the capability to disable the equipment if the lower explosive limit is reached within the room.

Procedures for maintaining the groundwater remediation system infrastructure are documented in the Operation and Maintenance Plan (Section 4 of this SMP).

Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the site, occurs.

2.2.1.3 Sub-Slab Depressurization System

Based on the results of the RI, it was determined that an active SSDS would be required to mitigate potential exposure of volatile organic compounds in soil vapor to the new building. Exposure to potential residual vapors in the subgrade parking area is prevented by a Grace vapor barrier system and active ventilation in accordance with New York City Department of Buildings requirements. Accordingly, no sub-slab venting system was required beneath this area. The New York City Department of Buildings requires certification that the ventilation system is operating. As outlined in Section 2.3.1, the environmental easement includes a provision that converting the parking areas to a higher level of use, such as residential use, or other enclosed purposes requires an amendment or the extinguishment of the Environmental Easement and NYSDEC and NYSDOH approval.

The SSDS was developed in accordance with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York, and the New York City Mechanical Code Section MC 512 (2008). The sub-membrane portions of the system consists of trenches which allowed for the installation of screened PVC vapor collection piping that is surrounded by a minimum of six-inches of certified clean sand. With exception of pile cap locations, the remaining areas were covered with a minimum of four-inches of ¾-inch of RCA to act as a vapor collection layer followed by the 15 mil Stego Wrap Vapor Barrier. During the completion of the construction of the building, the system will be completed with cast iron riser pipes and inline industrial fans to convey the collected vapor to the roof. Two sample ports will be installed along each riser, one above and one below the inline industrial fan.

As-built drawings of the SSDS are provided in Appendix D and manufacturer specifications of for the Grace waterproofing barrier and Stego Wrap Vapor Barrier are provided in Appendix E. Diagrams and manufacturer documentation for the vapor barrier and SSDS are presented in the FER.

As part of the final building construction, three vertical cast iron risers (V1 through V3) with inline industrial fans will be located on the northeast and southwest sides of the building. Two sample ports will be installed along each riser, one above and one below

the inline industrial fan. Once the system is complete and operational, performance monitoring of the system will be performed as identified in The Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the site, occurs.

Procedures for operating and maintaining the vapor mitigation system are documented in the Operation and Maintenance Plan (Section 4 of this SMP).

2.2.1.4 Future Engineering Controls

A temporary soil cover is currently located in the area that will ultimately be constructed as the waterfront esplanade. Construction of the waterfront esplanade along the western side of the site will include a minimum two-foot clean soil cover system with an underlying demarcation layer within the landscaped areas and the remainder of the esplanade will consist of asphalt or concrete paved public areas and/or walkways. Construction of this feature will be completed in accordance with the Excavation Work Plan provided in Appendix F.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.2.2.2 Groundwater

Should the contingent remediation systems be implemented, groundwater monitoring data (collected at defined, regular intervals, as discussed in Section 3.0) will be used to confirm continued operation of the systems, or to shutdown partial or the entire systems.

The contingent MPE and AS/SVE systems will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the

MPE and/or AS/SVE systems are no longer required, a proposal to discontinue the system will be submitted by the property owner. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

2.2.2.3 Sub-slab Depressurization System (SSDS)

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls is required by the RAWP to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to Restricted Residential uses only. Adherence to these Institutional Controls on the site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater and soil vapor performance monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions that apply to the Controlled Property are:

- The property may only be used for Restricted Residential use provided that the long-term Engineering and Institutional Controls included in this SMP are employed.
- The property may not be used for a higher level of use, such as unrestricted Residential or Unrestricted use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed outside of those constructed during this redevelopment, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited;
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The site has been remediated for Restricted Residential use. Any future intrusive work that will penetrate the soil cover, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix F to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP is attached as Appendix G to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work, including specifically the construction of the waterfront esplanade, will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Temporary Soil Cover Disturbance Plan

This soil cover disturbance plan details the construction of the esplanade and the measures that will be taken to conform to the EWP. Notification of the cover disturbance for the construction of the esplanade will be made to the NYSDEC no less than 15 days prior to the commencement of these activities. The notification will include a detailed description of the work to be performed, a summary of environmental conditions anticipated in the work areas, a schedule for the work, a summary of the applicable components of the EWP, identification of disposal facilities for potential waste, streams, and identification of sources of anticipated backfill.

Installation of the permanent cover will consist of a combination of pavement and/or concrete and a minimum two-foot thick clean fill cover underlain by a demarcation layer in the landscaped areas. Visual, olfactory, and instrument-based soil screening for VOCs using a photoionization detector (PID) will be performed during all excavation activity. A qualified environmental professional or person under their supervision will oversee all excavation, stockpiling, material load outs, and cover system restoration and will conduct dust, odor, and vapor monitoring in conjunction with the Community Air Monitoring Plan.

Backfill material will be imported in accordance with Section 5.4(e)5.ii of DER-10 and the backfill procedures detailed in the EWP. The demarcation required in beneath the two-foot clean fill cover in the landscaped areas will consist of orange snow fence or similar.

As-built drawings and documentation of the imported backfill will be submitted to the NYSDEC within 90 days of the completion of the construction of the esplanade.

2.3.3 Soil Vapor Intrusion Evaluation

In accordance with the March 2015 RAWP, a vapor mitigation system consisting of an active SSDS and vapor barrier was constructed beneath the at sidewalk-grade portion of the ground floor building slab. In addition, a waterproofing/vapor barrier membrane was installed beneath subgrade parking area. These EC's prevent impacts from soil vapor intrusion from entering the new building. Based on the mitigation measures in place and the determination made following the completion of the RI, additional SVI evaluation for the new building is not necessary.

Prior to the future construction of any additional enclosed structures on the Site, an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York". Measures to be employed to

mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the property owner within 30 days of validation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted at the frequency defined in Section 5.3. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and,
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the Brownfield Cleanup Agreement (BCA), 6NYCRR Part 375, and/or Environmental Conservation Law.

- 15-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.

- Notice within 48-hours of any damage or defect to the foundation, structures, or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action to be taken to mitigate the damage or defect.

- Verbal notice by noon of the following day of any emergency, such as a fire, flood, earthquake, utility repair, or other emergency situation that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective

purchaser has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP

- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made Steven Ciambruschini, the Qualified Environmental Professional. These emergency contact lists must be maintained in an easily accessible location at the site.

Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Site Contact Numbers*

Program Manager:	Steven Ciambruschini, 201-794-6900
Project Manager:	Christopher McMahon, 201-794-6900
Health & Safety Officer (HSO):	Tony Moffa, 201-398-4699

NYSDEC Project Manager:	John Grathwol, 518-402-9767
Owner Representative:	Mark Green

* Note: Contact numbers subject to change and should be updated as necessary

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 363 Bond Street and 388 Carroll Street

Nearest Hospital Name: Brooklyn Hospital Center

Hospital Location: 121 DeKalb Avenue, Brooklyn, NY 11201

Hospital Telephone: (718) 250-8075

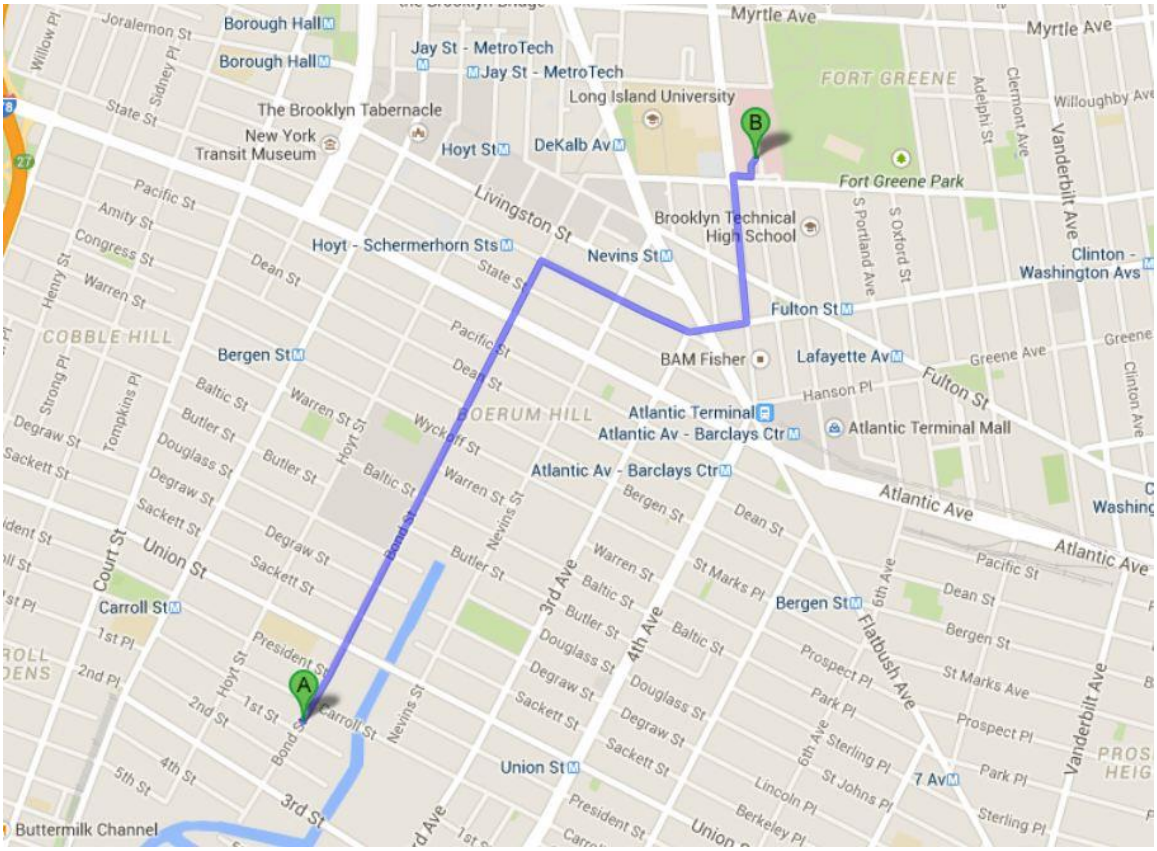
Directions to the Hospital:

1. Start traveling northeast on Bond Street toward Carroll Street
2. Turn right onto Schermerhorn Street
3. Continue onto Lafayette Street
4. Turn left onto South Oxford Street
5. Turn left onto DeKalb Avenue
6. Arrive at The Brooklyn Hospital Center, 121 DeKalb Avenue, Brooklyn, NY 11201

Total Distance: 1.7 miles

Total Estimated Time: 8 minutes

Map Showing Route from the site to the Hospital:



LANGAN

2.5.3 Spill Response Procedures

For small spills, sorbent materials such as sand, sawdust, or commercial sorbents should be placed directly on the substance to contain the spill and aid recovery. Any acid spills should be diluted or neutralized carefully prior to attempting recovery. Berms of earthen or sorbent materials can be used to contain the leading edge of the spills. Drains or drainage areas should be blocked. All spill containment materials will be properly disposed. An exclusion zone around the spill area should be established depending on the size of the spill. The following steps should be taken by the Emergency Coordinator:

- Determine the nature, identity and amounts of major spill components;
- If a flammable liquid, gas or vapor is involved, remove all ignition sources and use non-sparking and/or explosive-proof equipment to contain or clean up the spill (diesel only vehicles, air operated pumps, etc.);
- Make sure all unnecessary persons are removed from the spill area;
- Take action to stop or minimize the spill; such as shutting down equipment,
- Notify appropriate response teams and authorities;
- Use proper PPE in handling of the spill;
- If possible, try to stop the leak with appropriate material;
- Remove all surrounding materials that can react or compound with the spill; and,
- Ensure spilled material, containment material and PPE are contained for proper disposal.

In order to mobilize the manpower, resources and equipment necessary to cope with a fire or other emergency, a clear chain of authority should be established. The local fire department will take charge of all emergency response activities and dictate the procedures that will be followed for the duration of the emergency. The fire department will report immediately to the scene of the emergency, assess the seriousness of the situation, and direct whatever efforts are necessary until the emergency response units arrive. All project personnel will be instructed on proper emergency response procedures and locations of emergency telephone numbers. If an emergency occurs, including but not limited to fire, explosion or significant release of fuel, all heavy equipment will be shut down and all personnel will evacuate the work areas and assemble at an evacuation meeting point.

The emergency responders will give directions for implementing whatever actions are necessary. If traffic control is necessary, as in the event of a fire or explosion, a project team member, who has been trained in these procedures and designated at the Site safety meeting, will take over these duties until local police and fire fighters arrive.

2.5.3.1 Emergency Contacts/Notification System

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Section 2.5.1). The list will also be posted prominently at the site and made readily available to all personnel at all times.

2.5.3.2 Procedures for Spills

Control or stop the spread of minor chemical spills contamination utilizing the appropriate materials (i.e., absorbents, etc.) if possible. Whenever possible, the MSDS will be consulted to assist in determining the best means of containment and cleanup. For all petroleum or hazardous chemical spills immediately notify the appropriate response groups including the NYSDEC Spill Response hotline (within 2 hours of discovery).

2.5.3.3 Evacuation Plans

In the event evacuation of the Site is necessary (e.g., fire, explosion, etc.), personnel will evacuate using evacuation routes posted in all on-site buildings.

2.5.3.4 Contingency Plan Amendments

As changes in site conditions and operations may take place over time, some information in this contingency plan may need to be updated to reflect these changes. The contingency plan will be updated on an as-needed basis. Any updates to the contingency plan will be kept with this Monitoring Plan and will be maintained at the site.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the composite cover system, and all affected site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (groundwater, indoor air, and sub-slab air);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and the NYSDOH Vapor Intrusion Guidance decision matrices ;
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- All designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells and exposed SSDS equipment;

- Monitoring well decommissioning procedures; and,
- Annual inspection and periodic certification.

Monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted quarterly for groundwater for one year. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in groundwater in the affected areas will be evaluated to determine if the remedy was effective in achieving remedial goals. Monitoring programs are summarized in the table below and outlined in detail in Sections 3.2, 3.3, and 3.4 below.

Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Site Composite Cover System	Annual, and after flooding or storm events	N/A	Visual inspection of all cover system components
Vapor Mitigation System	1 month after completion of system construction and quarterly thereafter, and after flooding or storm events	Soil Vapor	Visual inspection of all accessible vapor mitigation system components, evaluation of system vacuum, air flow, and PID readings
Site-Wide Inspection	Annual, and after flooding or storm events	N/A	Visual and paperwork inspection
Groundwater Monitoring	Quarterly*	Groundwater	VOCs (EPA Method 8260) SVOCs (EPA Method 8270) Metals (EPA Methods 6010 and 7473)
Indoor Air and Sub-Slab Air Monitoring	First heating season after completion of system construction and annually thereafter	Indoor Air and Sub-Slab Air	VOCs ** (EPA Method TO-15)

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

** The initial indoor air and sub-slab air monitoring event will include all TO-15 parameters.

**The frequency will be reevaluated following the fourth quarterly event.

3.2 COMPOSITE COVER SYSTEM MONITORING

A site-wide composite cover system comprised of a concrete building and foundation walls, paved walkways, and a temporary soil cover in the waterfront esplanade serve as a protective barrier minimizing the risk of exposure to residual contamination left in place under the Site. A steel sheet-pile bulkhead wall outboard of the existing bulkhead was constructed to stabilize the existing bulkhead, act as a retaining structure of the composite cover system, and define the eastern edge of this system. The components of the site composite cover system are illustrated in Figure 12 and details are provided in Appendix H and Appendix I for the composite cover system and bulkhead, respectively.

Inspection of the site composite cover system by a professional engineer or a qualified environmental professional, under the direction of a professional engineer, is required on a regular schedule at a minimum of once a year and following any severe weather or other conditions that could affect the cover. During these inspections, an inspection form will be completed (Appendix J). The inspection requires sufficient information to certify the integrity of all elements of the composite cover system described above and should document any site composite cover system disturbance activities.

The composite cover system is part of the approved Track 4 remedy and must be maintained during any future construction. Areas that require excavation for foundation components or for the completion of the esplanade must restore the minimum backfill cover or an approved alternative (e.g. foundation pile cap, concrete slab). Future development must maintain the cover system and conduct earthwork in a manner that complies with the Environmental Easement, the Excavation Work Plan, and is in accordance with the E-designation process. Any damage to the site cover identified during the inspection will be repaired in kind and in compliance with this SMP.

3.3 GROUNDWATER TREATMENT SYSTEM

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on a periodic basis to assess the performance of the remedy.

The network of monitoring wells has been installed to monitor both upgradient and downgradient groundwater conditions at the site. The network of on-site wells has been designed based on the following criteria. Ten monitoring wells (PMW-1 through

PMW-10) were installed across the site, with at least one monitoring well installed upgradient and downgradient of each of the contingent groundwater treatment systems. One monitoring well was installed within the former extents of AOC-3 and one was installed within the former extents of AOC-5. Three monitoring wells were installed downgradient of the on-site foundation to monitor groundwater immediately upgradient of the Gowanus Canal. A figure showing the monitoring well array is provided in Appendix C.

Each monitoring well was constructed of two-inch diameter stainless steel casing with ten-feet of 20-slot screen installed at varying depths. The depths were determined such that the wells were screened across the top of the groundwater table to determine the potential presence of LNAPL. Monitoring well construction details are included in Appendix C.

Based on the results of the post-excavation groundwater sampling discussed in Section 1.4.2.1, the ten groundwater monitoring wells will be gauged and sampled quarterly. The samples will be submitted to a NYSDOH ELAP-accredited laboratory for analysis of VOCs via EPA method 8260, SVOCs via EPA method 8270, and metals via EPA methods 6010 and 7473. The frequency of groundwater monitoring activities will be reevaluated following the fourth quarter. The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Groundwater Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix J. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Each monitoring well will be purged and sampled using low-flow sampling techniques. One representative groundwater sample will be collected from each well with a dedicated stainless steel bladder pump and dedicated Teflon tubing. Sampling will be conducted in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, and Sampling Guidelines and Protocols, dated March 1991. Field parameters (dissolved oxygen, pH, specific

conductance, temperature, and oxidation-reduction potential) will be measured using water quality probes inserted in a flow-through cell. Once all field parameters have stabilized within acceptable limits, the flow-through cell will be disconnected and the samples will be collected directly from the tubing into laboratory-prepared sample bottles. The bottles will then be labeled and stored in an insulated cooler at 4 degrees Celsius.

Groundwater samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for the following analyses:

- Volatile Organic Compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270; and,
- Target Analyte List metals by EPA Method 6010 and 7473;

Following future groundwater sampling events, a Groundwater Monitoring Report, indicating whether groundwater concentrations remain at levels at which the monitored natural attenuation remedy is effective, will be provided to NYSDEC and in the annual Periodic Review Report (PRR). The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC. Deliverables for the groundwater monitoring program are specified in Section 3.7.

3.3.1.2 Monitoring Well Repairs, Replacement And Decommissioning

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater

Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.4 SOIL VAPOR MITIGATION SYSTEM

The sub-membrane portion of the active SSDS has been installed to remediate the presence of soil vapor impacts below the building. The risers of this system and the inline fans will be installed as part of the new building construction. Following completion of the remedy, the soil vapor mitigation system will be inspected to evaluate the integrity of the active SSDS. Inspections will be completed one month after the completion of system construction and annually thereafter unless otherwise required by NYSDEC. Inspection will include a visual inspection of accessible system components and performance monitoring including evaluation of vacuum and air flow, and VOC field monitoring with a PID. A complete list of components to be checked is provided in the inspection checklist presented in Appendix J. As-builts for the sub-membrane components of the SSDS are provided in Appendix D.

3.4.1 Indoor Air and Sub-Slab Air Monitoring

Indoor air and sub-slab air monitoring will be performed on a periodic basis to assess the performance of the remedy. Indoor air and sub-slab air (collected from the pre-fan sample ports along the three vertical Schedule 80 PVC risers at the roof) will be sampled during the first heating season after the completion of system construction and annually during the heating season unless otherwise required by NYSDEC. Indoor air samples will be collected from three non-residential locations within the building and sub-slab air will be collected from the pre-fan sample ports along the three vertical Schedule 80 PVC risers at the roof. An ambient air sample will be collected concurrently with the indoor air and sub-slab air samples. Samples will be submitted to a NYSDOH ELAP-accredited laboratory for analysis of the VOCs via EPA method TO-15.

Following future indoor air sampling events, an Indoor Air Monitoring Report, indicating whether indoor air concentrations remain at levels at which the active SSDS remedy is effective, will be provided to NYSDEC and in the annual Periodic Review Report (PRR). The sampling frequency may be modified with the approval NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC. Deliverables for the soil vapor monitoring program are specified in Section 3.7.

3.4.1.1 Sampling Protocol

All air sampling activities will be recorded in a field book and an indoor air and sub-slab air sampling log presented in Appendix J.

Indoor air samples will be collected at the frequency described above from three locations within the building. Sub-slab air samples will be collected at the frequency described above from the pre-fan sample ports along the three vertical Schedule 80 PVC risers at the roof. All samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Samples will be collected in Summa canisters which have been certified clean by the laboratory and analyzed by using USEPA Method TO-15. Flow rate of both purging and sampling will not exceed 0.2 L/min. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, identity of samplers, sampling methods and devices, air purge volumes, volume of the indoor and sub-slab air extracted, vacuum of canisters before and after the samples are collected, and chain of custody protocols. An ambient air sample will be collected concurrently with the indoor air and sub-slab air samples. A copy of the sample log is provided in Appendix J.

3.5 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix J). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and,
- Confirm that site records are up to date.

3.6 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix K). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.7 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be submitted to NYSDEC, subsequent to each sampling event. The letter report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (o be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and,
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in the table below.

Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Site Cover Inspection	Annually
Site-Wide Inspection	Annually
Groundwater Water Treatment System/Monitoring Wells	Annually
Groundwater Monitoring	One Month Following Completion of Sampling Events
Vapor Mitigation System Inspection	Concurrently with Indoor Air Monitoring
Indoor Air and Sub-Slab Air Monitoring	One Month Following Completion of Sampling Events

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the site to operate and maintain the contingent groundwater remediation system infrastructure, the groundwater monitoring well network and SSDS;
- Includes an operation and maintenance contingency plan; and,

- Will be updated periodically to reflect changes in site conditions or the manner in which the contingent groundwater remediation system infrastructure, the groundwater monitoring well network and SSDS are operated and maintained.

Information on non-mechanical Engineering Controls (i.e. composite cover system) is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

System operation and maintenance events will be conducted for the site composite cover system (Section 4.2.1), groundwater remediation infrastructure (Section 4.2.2), and soil vapor mitigation system (Section 4.2.3). The following sections discuss the scope of the inspection events and the frequency of the inspection events for each engineering control.

4.2.1 Site Composite Cover System Maintenance

A visual inspection of the site composite cover system as well as the temporary soil cover in the waterfront esplanade will be performed by a qualified environmental professional on an annual basis as outlined above. For the paved portions, if minor cracking or damage is observed over less than 25 percent of the concrete and paved areas, cracks and/or holes will be patched or repaired as required. If cracking and/or other damage is observed over greater than 25 percent of the paved areas, the area will be repaved with asphalt or concrete to restore a thickness of at least four inches. For the temporary soil cover, inspections will be conducted to confirm that the cover remains at temporary finished grade and that underlying historic fill has not been exposed. All disturbances of the cover will be repaired. For the future landscaped areas, inspections will be conducted to confirm that the cover has not been breached and that the demarcation layer has not been exposed. All disturbances of the landscaped areas will be repaired. An example Site Cover Inspection Checklist is included in Appendix J. Inspection logs and records of any repairs made to the site cover will be included in the Periodic Review Report.

4.2.2 Groundwater Remediation System Infrastructure

4.2.2.1 Scope

The groundwater remediation system infrastructure consists of a remediation well network installed underneath the new slab on the western portion of the 363 Bond St parcel in the area of AOC-5 and below the central portion of the site in AOC-3, and sub-slab manifold connecting the well network to the potential remediation process equipment room. MPE, air sparge, and SVE wells were routed beneath the new building slab with an access point within the contingent remediation process equipment room to allow for well access. The network consists of ten MPE wells, four air sparge wells, seven SVE wells, and ten groundwater monitoring wells. The location of the well network, future system manifold, and the contingent remediation process equipment room as well as well details are provided in Appendix C. Minimal operation and maintenance activity beyond the inspections completed in conjunction with the groundwater monitoring are required for the groundwater remediation system infrastructure. As part of the inspection, all ten monitoring wells as well as the aboveground components of the subgrade network, including the two future manifold closets, the future piping and manifolds contained in the manifold closets, and the truck line access points in the process room, will be inspected. With exception of the manifolds and manifold closets, all components of this system have been constructed as of the date of this report.

If the contingent groundwater remediation systems are implemented, a revised SMP will be completed that will discuss the operation and maintenance requirements of these systems, which will include procedures to monitor the future conditions of the leaks detected in the MPE and SVE trunk lines, as discussed in Section 2.2.1.2.

4.2.2.2 System Operation: Routine Equipment Maintenance

Routine inspections will be conducted, and will consist of inspecting all ten monitoring wells as well as the aboveground components of the subgrade network. Observations will be recorded on the site-wide inspection checklist (provided in Appendix J). Any minor damage (e.g., broken valve, cracked piping) will be repaired and documented. Routine inspections will be conducted on an annual basis.

4.2.2.2.1 Groundwater Monitoring Wells

Routine inspections will be conducted to verify the integrity of the ten monitoring wells (PMW-1 through PMW-10). Concurrent with groundwater sampling activities, each monitoring well will be gauged, and depth-to-bottom measurements will be collected. The measurements will be recorded on the groundwater sampling log provided in Appendix J. The integrity of the well casing, plugs, etc. will be documented on the site-wide inspection checklist provided in Appendix J.

4.2.2.2.2 Aboveground Components of the Subgrade Network

Routine inspections will be conducted to verify the integrity of the two manifold closets, the piping and manifolds contained in the manifold closets, and the truck line access points and vault in the process room. The integrity of each of these aboveground components of the subgrade network will be documented on the site-wide inspection checklist provided in Appendix J.

4.2.2.3 System Operation: Non-Routine Equipment Maintenance

An inspection and evaluation of the system will occur after any severe condition such as flooding occurs on the Property. In particular, an inspection of the integrity of all ten monitoring wells as well as the aboveground components of the subgrade network will be conducted. Any damage or operational problems and steps taken to correct the problems will be noted in the field book and reported in the Periodic Review Report.

4.2.2.3.1 Groundwater Monitoring Wells

An inspection and evaluation of the ten monitoring wells will occur after any severe condition such as flooding occurs on the Property. In particular, well casing, plugs, etc. will be inspected. Any damage or operational problems and steps taken to correct the problems will be noted in the field book and reported in the Periodic Review Report.

4.2.2.3.2 Aboveground Components of the Subgrade Network

An inspection and evaluation of the two manifold closets, the piping and manifolds contained in the manifold closets, and the truck line access points and vault in the process room will occur after any severe condition such as flooding occurs on the Property. Any damage or operational problems and steps taken to correct the problems will be noted in the field book and reported in the Periodic Review Report.

4.2.3 Soil Vapor Mitigation System

Exposure to potential residual vapors is prevented by an active SSDS installed beneath the first floor building slab. The mitigation system design consists of a network of sub-membrane depressurization piping placed beneath a vapor barrier, three riser pipes with inline industrial fans, nine vacuum monitoring ports, and three sampling ports. The base of the risers penetrates the foundation building slab at three locations around the building. With exception of the risers and inline fans, all components of this system have been constructed as of the date of this report.

4.2.3.1 System Start-Up and Testing

Prior to activating the system, fans will be installed on the riser pipes. The engineer will measure the voltage of the fans to ensure proper operation. The system should be operated under the following procedures:

- Check to ensure that all valves are open;
- Turn on the fans;
- Collect vacuum readings and flow rates until a steady state condition is reached;
- Adjust valves to balance the system with equitable flow rates and vacuums in each branch of the system.

At the initial start-up all vacuum and flow rate readings will be recorded and maintained at the Site. The system testing described above will be conducted if, in the course of the SSDS lifetime, significant changes are made to the system, and the system must be restarted.

4.2.3.2 System Operation: Routine Operation Procedures

System checks will be conducted in accordance with the frequency identified for the Vapor Mitigation System in the Maintenance Plan. The routine check will consist of collecting flow rate and vacuum readings to ensure that all fans are operational, and noting any unusual conditions such as leaks or odors. If the system is not functioning properly (i.e., the fans not operational or leaks are noted), the Site Representative will immediately notify an emergency contact of the condition. Phone numbers for the emergency contacts will be available on-site. Routine checks will be conducted one month after completion of system construction, and quarterly thereafter.

4.2.2.3 System Operation: Routine Equipment Maintenance

Routine inspections will be conducted, and will consist of adjusting system components to optimize system efficiency and recording all gauge and meter readings (i.e., flow meter, vacuum/pressure gauges) in the system log book and on inspection checklist (provided in Appendix J). The vapor sampling ports will be inspected on a quarterly basis at the time of each scheduled vapor sampling event. Any minor damage (e.g., broken valve, cracked piping) will be repaired and documented. Vapor sampling ports will be replaced if leaking or unusable. Annual indoor air and sub-slab air sampling and any required maintenance will also be conducted during routine inspections. Routine inspections will be conducted one month after completion of system construction, and quarterly thereafter.

4.2.2.4 System Operation: Non-Routine Equipment Maintenance

An inspection and evaluation of the system will occur whenever there is an in-line fan failure or after any severe condition such as flooding occurs on the Property. In the event that the effectiveness of the SSDS may have been compromised, such as long-term shut-off of the fans, breaching the slab, or failure to maintain negative pressure in any or all of the system, indoor air samples will be collected. Any damage or operational problems and steps taken to correct the problems will be noted in the field book and reported in the Periodic Review Report.

4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING

System performance monitoring will be conducted for the groundwater system infrastructure (Section 4.3.1) and the soil vapor mitigation system (Section 4.3.2). The following sections discuss the monitoring schedule and sampling events for each engineering control.

4.3.1 Groundwater Performance Monitoring

Groundwater monitoring via groundwater sampling will be performed on a periodic basis to assess the performance of the remedy, as will be discussed in Section 4.3.1.1.

The network of monitoring wells has been installed to monitor both upgradient and downgradient groundwater conditions at the site. The network of on-site wells has been designed based on the following criteria. Ten monitoring wells (PMW-1 through PMW-10) were installed across the site, with at least one monitoring well installed

upgradient and downgradient of each of the contingent groundwater treatment systems. One monitoring well was installed within the former extents of AOC-3 and one was installed within the former extents of AOC-5. Three monitoring wells were installed downgradient of the on-site building to monitor groundwater immediately upgradient of the Gowanus Canal. A figure showing the monitoring well array is provided in in Appendix C.

Each monitoring well was constructed of two-inch diameter stainless steel casing with ten-feet of 20-slot screen installed at varying depths. The depths were determined such that the top of the screen was above the groundwater table. Monitoring well construction details are included in Appendix C.

4.3.1.1 Groundwater Monitoring Schedule

Based on the results of the post-excavation groundwater sampling discussed in Section 1.4.2.1, the ten groundwater monitoring wells will be gauged and sampled quarterly. The samples will be submitted to a NYSDOH ELAP-accredited laboratory for analysis of VOCs via EPA method 8260, SVOCs via EPA method 8270, and metals via EPA methods 6010 and 7473. The frequency of groundwater monitoring activities will be re-evaluated following the fourth quarter. Inspection frequency is subject to change with the approval of the NYSDEC. Monitoring deliverables are specified later in this Plan.

If the contingent groundwater treatment systems are implemented, unscheduled inspections and/or sampling may take place when a suspected failure of the groundwater treatment systems has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the contingent groundwater treatment systems will be specified in a revised SMP should the systems be implemented, which will include procedures to monitor the future conditions of the leaks detected in the MPE and SVE trunk lines, as discussed in Section 2.2.1.2.

4.3.1.2 Groundwater General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. Components to be monitored include, but are not limited to, the following:

- Ten monitoring wells (PMW-1 through PMW-10) and their protective casings; and,
- Accessible system piping and valves.

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix J.

4.3.1.3 Groundwater Sampling Event Protocol

Based on the results of the post-excavation groundwater sampling discussed in Section 1.4.2.1, the ten groundwater monitoring wells will be gauged and sampled quarterly. The samples will be submitted to a NYSDOH ELAP-accredited laboratory for analysis of VOCs via EPA method 8260, SVOCs via EPA method 8270, and metals via EPA methods 6010 and 7473. The locations of the monitoring wells are provided in Appendix C. Each monitoring well will be purged and sampled using low-flow sampling techniques. One representative groundwater sample will be collected from each well with a rented stainless steel bladder pump and dedicated Teflon tubing. Sampling will be conducted in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, and Sampling Guidelines and Protocols, dated March 1991. Field parameters (dissolved oxygen, pH, specific conductance, temperature, and oxidation-reduction potential) will be measured using water quality probes inserted in a flow-through cell. Once all field parameters have stabilized within acceptable limits, the flow-through cell will be disconnected and the samples will be collected directly from the tubing into laboratory-prepared sample bottles. The bottles will then be labeled and stored in an insulated cooler at 4 degrees Celsius.

Groundwater samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for Full analysis:

- Volatile Organic Compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270; and,
- Target Analyte List metals by EPA Method 6010 and 7473;

Following future groundwater sampling events, a Groundwater Monitoring Report, indicating whether groundwater concentrations remain at levels at which the monitored natural attenuation remedy is effective, will be provided to NYSDEC and in the annual Periodic Review Report (PRR).

4.3.2 Soil Vapor Performance Monitoring

The sub-membrane portion of the active SSDS has been installed to mitigate possible soil vapor intrusion into occupied buildings. The components installed to date include the sub-membrane piping network, vacuum monitoring ports, sampling ports, vertical stubs, and the vapor barrier membrane. During construction of the remainder of the building the risers and rooftop elements of the risers, including the in-line fans, will be installed. Following completion of the construction of the system the performance monitoring will commence to determine the system effectiveness. Performance monitoring will consist of evaluation of vacuum and air flow and VOC field monitoring with a PID and will be conducted in conjunction with the annual inspection of the system.

4.3.2.1 Monitoring Schedule

Indoor air and sub-slab air monitoring will be performed on an annual basis during the heating season to assess the performance of the remedy. Indoor air and sub-slab air (collected from the pre-fan sample ports along the three vertical Schedule 80 PVC risers at the roof) will be sampled during the first heating season after the completion of system construction and annually during the heating season unless otherwise required by NYSDEC. SSDS inspections will be completed in conjunction with indoor air and sub-slab monitoring. Inspection frequency is subject to change with the approval of the NYSDEC. In the event that the effectiveness of the SSDS may have been compromised, such as long-term shut-off of the fans, breaching the slab or failure to maintain negative pressure in any or all of the system, the NYSDEC and NYSDOH will request the collection of indoor air samples. Monitoring deliverables are specified later in this Plan.

4.3.2.2 SSDS General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. SSDS components to be monitored include, but are not limited to, the following:

- Vacuum;
- Flow rate;
- Temperature; and,

- Accessible system piping and valves.

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix J. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSDS restarted.

4.3.2.3 Sampling Event Protocol

Indoor air and sub-slab air monitoring will be performed on an annual basis during the heating season to assess the performance of the remedy. Indoor air and sub-slab air (collected from the pre-fan sample ports along the three vertical Schedule 80 PVC risers at the roof) will be sampled during the first heating season after the completion of system construction and annually during the heating season unless otherwise required by NYSDEC. Indoor air samples will be collected from three non-residential building locations. All samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Samples will be collected in Summa canisters which have been certified clean by the laboratory and analyzed by using USEPA Method TO-15. Flow rate of both purging and sampling will not exceed 0.2 L/min. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, identity of samplers, sampling methods and devices, air purge volumes, volume of the indoor and sub-slab air extracted, vacuum of canisters before and after the samples are collected, and chain of custody protocols. An ambient air sample will be collected concurrently with the indoor air and sub-slab air samples. A copy of the sample log is provided in Appendix J. Samples will be submitted to a NYSDOH ELAP-accredited laboratory for analysis of the VOCs via EPA method TO-15.

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the site will be kept on-file on-site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Routine Maintenance Reports

Checklists or forms (see Appendix J) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc. (attached to the checklist/form).

4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5.0 INSPECTIONS, REPORTING, AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which are contained in Appendix J. Additionally, a general site-wide inspection form will be completed during the site-wide inspection (see Appendix J). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.

- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Mark Green, of LSG 363 Bond, LLC, am certifying as the Owner for the site.

The signed certification will be included in the Periodic Review Report described below.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the Department every year, beginning fifteen months after the Certificate of Completion is issued. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix B (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, sub-slab air, and indoor air), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:

- The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
- The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and,
- The overall performance and effectiveness of the remedy.

- A performance summary for all treatment systems at the site during the calendar year, including information such as:
  - The number of days the system was run for the reporting period;
  - The contaminant mass removed;
  - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
  - A description of the resolution of performance problems;
  - A summary of the performance, effluent and/or effectiveness monitoring; and,
  - Comments, conclusions, and recommendations based on data evaluation.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a

corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

TABLES

TABLE 1A
HISTORICAL SOIL ANALYTICAL RESULTS
388 CARROLL STREET
Brooklyn, New York

Consultant:			Subpart 375-6 (Revised Brownfields)				Environmental Liability Management (ELM) of New York, LLC																							
Sample ID:			Protection of Public Health				SB-1/4-5		SB-2/9-10		SB-3/5-7		SB-4/3-5		SB-5/9-10		SB-6/4-6		SB-7/14-15		SB-8/5-7		SB-9/3-5		SB-10/1-3		SB-11/4-5		SB-11/14-15		SB-12/2-4	
Laboratory Sample Number:							207935-001		207935-002		207935-003		207935-004		207935-005		207935-006		207935-007		207935-008		207935-009		207935-010		207935-012		207935-011		207935-005	
Sampling Date:	CAS No.	Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004		10/25/2004	
Sampling Depth (ft):							4-6		9-10		5-7		3-5		19-20		4-6		14-15		5-7		3-5		1-3		4-5		14-15		2-4	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																														
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	670	U	8.7	U	***690***	***U***	620	U	6.4	U	620	U	8.7	U	***3200***	***U***	31	U	620	U	***3400***	***U***	8.9	U	0.58	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	31	U	***620***	***U***	***3400***	***U***	8.9	U	0.47	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	31	U	***620***	***U***	***3400***	***U***	8.9	U	0.47	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	***31***	***U***	***620***	***U***	***3400***	***U***	8.9	U	0.58	U
1,2-Dichloroethene (cis)	156-59-2	250	59,000	100,000	500,000	1,000,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	31	U	***620***	***U***	***3400***	***U***	8.9	U	0.35	U
1,2-Dichloroethene (trans)	156-60-5	190	100,000	100,000	500,000	1,000,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	31	U	***620***	***U***	***3400***	***U***	8.9	U	0.7	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,3-Trichloropropane	96-18-4	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,3,5-Trimethylbenzene	108-67-8	8,400	47,000	52,000	190,000	380,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Isopropyltoluene	99-87-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	***1700***	***U***	48		***1,100***	***J***	***3,600***		15,000		***1,200***	***J***	16	J	***7900***	***U***	***140***		***1500***	***U***	***8500***	***U***	25		45	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	**86**	***J***	8.7	U	**130**	***J***	**110**	***J***	6.4	U	***620***	***U***	8.7	U	**630**	***J***	31	U	***620***	***U***	***3400***	***U***	8.9	U	3.5	J
n-Butylbenzene	104-51-8	12,000	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Carbon Disulfide	75-15-0	—	—	—	—	—	72	J	17		310	J	620,000	U	6.4	U	620	U	19		3200	U	7.5	J	620	U	3400	U	10		3.1	J
Carbon tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	670	U	8.7	U	690	U	620,000	U	6.4	U	620	U	8.7	U	***3200***	***U***	31	U	620	U	***3400***	***U***	8.9	U	0.35	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	670	U	8.7	U	690	U	620,000	U	6.4	U	620	U	8.7	U	***3200***	***U***	31	U	620	U	***3400***	***U***	8.9	U	0.47	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	31	U	***620***	***U***	***3400***	***U***	8.9	U	0.7	U
Diethylbenzene-p	105-05-5	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	**8100**		2.9	J	77	J	110,000	J	1.9	J	620	U	8.7	U	***3200***	***U***	73		620	U	***3400***	***U***	8.9	U	59	
p-Ethyltoluene	622-96-8	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Isopropyl Benzene	98-82-8	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
p-Isopropyltoluene	99-87-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methyl ethyl ketone (MEK / 2-butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	***670***	***U***	17	U	***690***	***U***	***620***	***U***	13	U	***620***	***U***	17	U	***3200***	***U***	62	U	***620***	***U***	***3400***	***U***	18	U	0.7	U
Methylene chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	**110**	***JB***	9.2	B	**120**	***JB***	**110**	***JB***	5.7	JB	**110**	***JB***	7.2	JB	**560**	***JB***	32	B	**99**	***JB***	**560**	***JB***	6.9	JB	14	B
4-Methyl-2-Pentanone	108-10-1	—	—	—	—	—	670	U	17	U	690	U	620	U	13	U	620	U	17	U	3200	U	62	U	620	U	3400	U	18	U	0.47	U
Naphthalene	91-20-3	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Propylbenzene-n	103-65-1	3,900	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Sec-Butylbenzene	135-98-8	11,000	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Tert-Butylbezene	98-06-6	5,900	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Tetrachloroethene	127-18-4	1,300	5,500	19,000	150,000	300,000	670	U	8.7	U	690	U	620	U	6.4	U	620	U	8.7	U	***3200***	***U***	6	J	620	U	***3400***	***U***	8.9	U	0.7	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	220	U	1.3	J	120	J	620	U	0.73	J	620	U	8.7	U	***3200***	***U***	24	J	620	U	***3400***	***U***	8.9	U	26	
Trichloroethene	79-01-6	470	10,000	21,000	200,000	400,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	31	U	***620***	***U***	***3400***	***U***	8.9	U	0.35	U
Tetramethylbenzene-1,2,4,5	95-93-2	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	***670***	***U***	8.7	U	***690***	***U***	***620***	***U***	6.4	U	***620***	***U***	8.7	U	***3200***	***U***	***31***	***U***	***620***	***U***	***3400***	***U***	8.9	U	0.35	U
1,2-Xylene (o-Xylene)	95-47-6	260	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,3-Xylene (m-Xylene)	108-38-3	260	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Xylene (m,p-Xylene)	108-38-3	260	100,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Xylene (total)	1330-20-7	260	100,000	100,000	500,000	1,000,000	**520**	***J***	**8.9**		220	J	**410**	***J***	6.6		***620***	***U***	8.7	U	***3200***	***U***	**280**		**280**	***J***	***3400***	***U***	8.9	U	180	
Semi-Volatile Organic Compounds (SVOCs)																														
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	***1700***	***U***	570	U	450	U	400	U	400	U	410	U	570	U	410	U	***3200***	***U***	***1600***	***U***	***1800***	***U***	590	U	64	U
1,2-Diphenylhydrazine	122-66-7	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	64	U
2-Methylnaphthalene	91-57-6	—	—	—	—	—	1000	J	570	U	1100		360	J	400	U	410	U	570	U	440		2800	J	1700		4400		590	U	2900	
2-Nitrophenol	88-75-5	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	130	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	200	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	70	U
3-Nitroaniline	99-09-2	—	—	—	—	—	8500	U	2800	U	2200	U	1900	U	1900	U	2000	U	2700	U	2000	U	16000	U	7700	U	8800	U	2800	U	79	U
4-Chloroaniline	106-47-8	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	120	U
4-Nitroaniline	100-01-6	—	—	—	—	—	3500	U	1100	U	890	U	800	U	800	U	810	U	1100	U	820	U	6400	U	3200	U	3600	U	1200	U	55	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	2200		570	U	830		950		400	U	620		570	U	290	J	1700	J	930	J	6800		590	U	890
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	960	J	570	U	410	J	400	U	400	U	210	J	570	U	130	J	620	J	260	J	2900		590	U	47
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	2100		570	U	280	J	350	J	400	U	150	J	570	U	290	J	3500		2000		4100		590	U	500
Benzo (a) anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	**1,800**		570	U	180	J	290	J	400	U	130	J	570	U	580		**7,500**		**3,900**		**4,100**		590	U	740
Benzo (a) pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	**1,700**	***J***	570	U	130	J	650		400	U	170	J	570	U	500		**6,700**		**4,000**		**11,000**		590	U	810
Benzo (b) fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	**1,600**	***J***	570.00	U	210	J	360	J	400	U	410	U	570	U	360	J	**5,500**		**3,000**		**4,500**		590	U	810
Benzo (g,h,i) perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	1300	J	570	U	130	J	600		400	U	130	J	570	U	230	J	3900		2400		13000		590	U	610
Benzo (k) fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	**890**	***J***	570	U	180	J	350	J	400	U	130	J	570	U	450		**5,200**		**3,400**		**5,700**		590	U	650
Benzyl alcohol	100-51-6	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	72	U
bis(2-chloroethoxy)methane	111-91-1	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	65	U
bis(2-ethylhexyl)phthalate	117-81-7	—	—	—	—	—	1400	J	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	200	U
Butylbenzylphthalate	85-68-7	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	840	J	1600	U	1800	U	590	U	49	U
Carbazole	86-74-8	—	—	—	—	—	380	J	570	U	450	U	400	U	400	U	410	U	570	U	410	U	1300	J	330	J	1800	U	590	U	56	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	**2,000**		570.00	U	270	J	310	J	400	U	130	J	570	U	640		**7,500**		**4,200**		**4,200**		590	U	840
Dibenzo (a,h) anthracene	53-70-3	330	330	330	330	560	***1700***	***U***	***570***	***U***	***450***	***U***	82	J	***400***	***U***	***410***	***U***	***570***	***U***	100	J	**1,700**	***J***	**860**	***J***	**1,800**		***590***	***U***	230
Dibenzofuran	132-64-9	—	—	—	—	—	1000	J	570	U	520		750		400	U	160	J	570	U	140	J	1200	J	620	J	1800		590	U	620
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	5500		570	U	540		450		400	U	240	J	570	U	990		15000		8500		6500		590	U	1500
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	3000		570	U	1100		1600		400	U	300	J	570	U	250	J	2200	J	1100	J	5300		590	U	1100
Hexachloroethane	67-72-1	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	67	U
Indeno (1,2,3-cd) pyrene	193-39-5	500	500	500	5,600	11,000	**840**	***J***	**570**	***U***	100	J	350	J	400	U	81	J	**570**	***U***	200	J	**3,800**		**2,000**		**7,200**		**590**	***U***	450
Isophorone	78-59-1	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	68	U
n-Nitrosodiphenylamine	86-30-6	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	57	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	1600	J	570	U	460		400	U	400	U	930		570	U	350	J	1600	J	1600		4200		590	U	1500
Nitrobenzene	98-95-3	—	—	—	—	—	1700	U	570	U	450	U	400	U	400	U	410	U	570	U	410	U	3200	U	1600	U	1800	U	590	U	46	U
o-Cresol(s) (2-Methylphenol)	95-48-7	330	100,000	100,000	500,000	1,000,000	***1700***	***U***	***570***	***U***	***450***	***U***	***400***	***U***	***400***	***U***	***410***	***U***	***570***	***U***	***410***	***U***	***3200***	***U***	***1600***	***U***	***1800***	***U***	***590***	***U***	100
m,p-Cresol(s) (3&4-Methylphenol)	106-44-5	330	34,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
p-Cresol(s) (4-Methylphenol)	106-44-5	330	34,000	100,000	500,000	1,000,000	***1700***	***U***	***570***	***U***	***450***	***U***	***400***	***U***	***400***	***U***	***410***	***U***	***570***	***U***	***410***	***U***	***3200***	***U***	***1600***	***U***	***1800***	***U***	***590***	***U***	200
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	***8500***	***U***	***2800***	***U***	***2200***	***U***	***1900***	***U***	***1900***	***U***	***2000***	***U***	***2700***	***U***	***2000***	***U***	***16000***	***U***	***7700***	***U***	***8800***	***U***	***2800***	***U***	330
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	5300		570	U	520		1300		400	U	310	J	570	U	1100		11,000		6100		10000		590	U	1900
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	***1700***	***U***	***570***	***U***	***450***	***U***	***400***	***U***	***400***	***U***	***410***	***U***	***570***	***U***	***410***	***U***	***3200***	***U***	***1600***	***U***	***1800***	***U***	***590***	***U***	110
Pyrene	129-00-0	1,000	100,000	100,000	500,000	1,000,000	5900		570	U	580		930		400	U	400	J	570	U	1200		11000		7300		9800		590	U	1900
TPH - Diesel Range Organics (DRO)																														
Fuel Oil #2		—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total DRO TPH		—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Unknown DRO TPH		—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
PCBs/Pesticides																														
Aroclor 1242	53469-21-9	100	1,000	1,000	1,000	25,000	**150**		NA		23	U	21	U	NA		21	U	NA		21	U	NA		21	U	23	U	NA		3.4	U
Aroclor 1248	12672-29-6	100	1,000	1,000	1,000	25,000	22	U	NA		23	U	21	U	NA		21	U	NA		21	U	NA		21	U	23	U	NA		6.5	J
Aroclor 1260	11096-82-5	100	1,000	1,000	1,000	25,000	98		NA		23	U	21	U	NA		21	U	NA		22		NA		21	U	23	U	NA		4.6	U
Total PCBs/Pesticides	—	—	—	—	—	—	380		NA						NA				NA		168		NA						NA		23	J
Metals																														
Aluminum	7429-90-5	—	—	—	—	—	9,260.000		NA		3,960.000		1,130.000		NA		3,420.000		NA		5,730.000		NA		2,630.000		4,210.000		NA		2,700.000	
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	9830	J	NA		**43,200**		9200	J	NA		11100	J	NA		3200	J	NA		8900	J	6100	J	NA		5600	J
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	202000		NA		150000		18300		NA		142000		NA		60200		NA		57800		102000		NA		58300	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	2600	U	NA		2800	U	2500	U	NA		2800	U	NA		2600	U	NA		2800	U	2900	U	NA		660	U
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	2200	J	NA		***4200***	***U***	***3700***	***U***	NA		***4200***	***U***	NA		***3900***	***U***	NA		***3900***	***U***	***4400***	***U***	NA		1300	U
Calcium	7440-70-2	—	—	—	—	—	22,300,000		NA		15,000,000		216,000,000		NA		4,230,000		NA		6,830,000		NA		18,500,000		81,300,000		NA		7,870,000	
Chromium	7440-47-3	—	—	—	—	—	27200		NA		11300		61400		NA		8000		NA		19900		NA		7600		6000		NA		1100	
Cobalt	7440-48-4	—	—	—	—	—	8500		NA		7100		1700	J	NA		4400		NA		6600		NA		4200		3100		NA		5400	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	**159,000**		NA		49500		37400		NA		**204,000**		NA		26100		NA		**131,000**		**76,000**		NA		42300	
Iron	7439-89-6	—	—	—	—	—	32,100,000		NA		15,100,000		7,750,000		NA		8,290,000		NA		13,400,000		NA		9,460,000		7,440,000		NA		9,620,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	**283,000**		NA		**856,000**		**93,900**		NA		**265,000**		NA		52800		NA		**222,000**		**139,000**		NA		**129,000**	
Magnesium	7439-95-4	—	—	—	—	—	5,990.000		NA		1,830.000		2,250.000		NA		948.000		NA		3,610.000		NA		705.000		3,840.000		NA		1,400.000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	267000		NA		139000		133000		NA		141000		NA		161000		NA		91100		282000		NA		151000	
Mercury (elemental)	7439-97-6	180	810	810	2,800	5,700	**840**		NA		**1,900**		140		NA		**1,200**		NA		**620**		NA		**280**		85		NA		94	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	**34,500**		NA		16800		5100	J	NA		10400		NA		16300		NA		13700		10400		NA		16400	
Potassium	7440-09-7	—	—	—	—	—	1980000		NA		448000		285000		NA		554,000		NA		1100000		NA		396000		333,000		NA		310000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	***20800***	***U***	NA		**17,400**	***J***	***20000***	***U***	NA		***22400***	***U***	NA		***20400***	***U***	NA		***20700***	***U***	***23400***	***U***	NA		2100	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	***3900***	***U***	NA		**5,900**		***3700***	***U***	NA		700	J	NA		***3800***	***U***	NA		***3900***	***U***	***4400***	***U***	NA		420	U
Sodium	7440-23-5	—	—	—	—	—	466000		NA		171000		192000		NA		407.000		NA		208000		NA		114000	J	523000		NA		131000	
Vanadium	7440-62-2	—	—	—	—	—	32000		NA		22700		5300		NA		16400		NA		25600		NA		10300		11000		NA		12600	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	**779,000**		NA		**1,090,000**		69200		NA		106000		NA		57400		NA		79,900.0		**211,000**		NA		73100	

Consultant:	Environmental Liability Management (ELM) of New York, LLC																													
Sample ID:	SB-12/2-4		SB-1/0-1-3		SB-1/3-3.5		SB-3/4-7		SB-4/4-5		SB-5/1.5-3		SB-6/2.7-4.7																	
Laboratory Sample Number:	207935-019		207935-020		207935-006		207936-002		207936-003		207936-004																			
Sampling Date:	10/27/2004		10/27/2004		10/27/2004		10/27/2004		10/27/2004		10/27/2004																			
Sampling Depth (ft):	0.5-3		3-3.5		4-7		4-6		1.5-3		2.7-4.7																			
Units:	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q																		
Volatile Organic Compounds (VOCs)																														
1,1,1-Trichloroethane	650	U	580	U	0.61	U	110	U	420	U	470	U																		
1,1-Dichloroethane	***650***	***U***	**580**	***U***	0.49	U	51	U	200	U	220	U																		
1,1-Dichloroethene	***650***	***U***	**580**	***U***	0.49	U	90	U	***350***	***U***	***390***	***U***																		
1,2-Dichloroethane	***650***	***U***	**580**	***U***	0.61	U	***76***	***U***	***300***	***U***	***330***	***U***																		
1,2-Dichlo

TABLE 1A
HISTORICAL SOIL ANALYTICAL RESULTS
388 CARROLL STREET
Brooklyn, New York

Consultant:			Subpart 375-6 (Revised Brownfields)				P.W. Grosser																															
Sample ID:			Protection of Public Health				GP-02		GP-04		GP-10		GP-11		P-9		P-9		P-10		P-10		P-12		P-1B		P-1B		P-2		P-3		P-3		P-4		P-4		P-5	
Laboratory Sample Number:	CAS No.	Unrestricted Use Objectives	Residential		Restricted - Residential		L1104348-02		L1104348-04		L1104656-02		L1104656-03		1204165-1		1204165-2		1204165-3		1204165-4		1204165-5		1204166-1		1204166-2		1204166-3		1204166-4		1204166-5		1204166-6		1204166-7		1204166-8		1204166-9	
Sampling Date:							3/30/2011		3/30/2011		4/6/2011		4/6/2011		4/11/2012		4/12/2012		4/12/2012		4/12/2012		4/11/2012		4/11/2012		4/11/2012		4/11/2012		4/11/2012		4/11/2012		4/11/2012		4/11/2012		4/11/2012	
Sampling Depth (ft):							25-30		25-30		25-30		25-30		3.5-5		6.5-7		7-8		4-5		4-5		4-5		6-7		6-7		3.5-5		7-7.5		3.5-5		6-6.5		3.5-5	
Units:		ug/kg	ug/kg		ug/kg		ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																																						
1,1,1-Trichloroethane	71-55-6	680	100,000		100,000		500,000		1,000,000		3	U	3	U	130	U	3	U	245	U	10.4	U	77	U	73.8	U	80.1	U	88.9	U	79	U	10.5	U	4.86	U	258	U	11.4	U	164	U	10.1	U	13.6	U
1,1-Dichloroethane	75-34-3	270	19,000		26,000		240,000		480,000		4	U	5	U	190	U	5	U	142	U	9.18	U	44.4	U	42.6	U	46.2	U	51.3	U	45.6	U	9.25	U	4.27	U	149	U	10	U	94.5	U	8.91	U	103	U
1,1-Dichloroethene	75-35-4	330	100,000		100,000		500,000		1,000,000		3	U	3	U	130	U	3	U	175	U	10.8	U	54.8	U	52.5	U	57	U	63.3	U	56.2	U	10.9	U	5.05	U	184	U	11.9	U	117	U	10.5	U	14.2	U
1,2-Dichlorobenzene	107-06-2	20	2,300		3,100		30,000		60,000		3	U	3	U	130	U	3	U	175	U	11.5	U	***74 U***		***71 U***		***77 U***		***85.5 U***		***76 U***		11.6	U	5.37	U	***224 U***		12.6	U	***158 U***		11.2	U	***224 U***	
1,2-Dichloroethene (cis)	156-59-2	250	59,000		100,000		500,000		1,000,000		3	U	3	U	130	U	3	U	198	U	10.6	U	62.2	U	59.6	U	64.7	U	71.8	U	63.8	U	10.7	U	4.94	U	209	U	11.6	U	132	U	10.3	U	13.9	U
1,2-Dichloroethene (trans)	156-60-5	190	100,000		100,000		500,000		1,000,000		4	U	5	U	***190 U***		5	U	127	U	10.4	U	40	U	38.3	U	41.6	U	46.2	U	41	U	10.5	U	4.86	U	134	U	11.4	U	85.1	U	10.1	U	13.6	U
1,2,3-Trichlorobenzene	87-61-6	---	---		---		---		---		15	U	16	U	630	U	16	U	170	U	10.1	U	53.3	U	51.1	U	55.4	U	221	J	157	J	10.2	U	4.7	U	179	U	11	U	113	U	9.8	U	13.2	U
1,2,3-Trichloropropane	96-18-4	---	---		---		---		---		29	U	32	U	1300	U	32	U	2830	U	10.3	U	470	J	76.7	U	494	J	504	J	82.1	U	10.4	U	4.81	U	1710	J	11.3	U	170	U	10	U	13.5	U
1,2,4-Trichlorobenzene	120-82-1	---	---		---		---		---		NA	NA	NA	NA	NA	NA	NA	NA	212	U	10.7	U	66.6	U	63.9	U	69.3	U	146	J	68.4	U	10.8	U	4.97	U	224	U	11.7	U	142	U	10.4	U	13.9	U
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000		52,000		190,000		380,000		15	U	16	U	630	U	16	U	454	J	12.5	U	249	J	62.5	U	116	J	75.2	J	66.9	U	12.6	U	5.82	U	219	U	13.7	U	401	J	12.1	U	16.3	U
1,3,5-Trimethylbenzene	108-67-8	8,400	47,000		52,000		190,000		380,000		15	U	16	U	630	U	16	U	203	U	12.4	U	133	J	61.1	U	66.2	U	73.5	U	65.4	U	12.5	U	5.77	U	214	U	13.5	U	135	U	12	U	16.2	U
4-Isopropyltoluene	99-87-6	---	---		---		---		---		NA	NA	NA	NA	NA	NA	NA	NA	1430	J	14.8	J	718	J	48.3	U	126	J	58.1	U	51.7	U	12.4	U	5.74	U	169	U	13.5	U	1010	J	12	U	16.1	U
Acetone	67-64-1	50	100,000		100,000		500,000		1,000,000		29	U	32	U	***1300 U***		32	U	***1280 U***		38.7	U	***432 U***		***415 U***		***450 U***		***499 U***		***444 U***		39	U	32.1	J	***1450 U***		42.3	J	***920 U***		37.6	U	***420 J***		***1310 U***	
Benzene	71-43-2	60	2,900		4,800		44,000		89,000		3	U	3	U	***130 U***		8	J	***203 U***		10.7	U	***112 J***		***61.1 U***		***94.2 J***		***73.5 U***		***65.4 U***		10.8	U	4.99	U	***214 U***		11.7	U	***135 U***		10.4	U	37.6		***192 U***	
n-Butylbenzene	104-51-8	12,000	100,000		100,000		500,000		1,000,000		3	U	3	U	130	U	3	U	10100		18.9	J	483	J	515	J	549	J	703	J	472	J	20.3	J	5.74	U	950	J	13.5	U	320	J	12	U	230		980	J
Carbon Disulfide	75-15-0	---	---		---		---		---		29	U	32	U	1300	U	32	U	189	J	13.8	J	59.2	U	56.8	U	61.6	U	68.4	U	60.8	U	7.57	U	3.5	U	199	J	36.9	J	126	J	7.3	U	56.7	J	179	J
Carbon tetrachloride	56-23-5	760	1,400		2,400		22,000		44,000		3	U	3	U	130	U	3	U	208	U	10.4	U	65.1	U	62.5	U	67.8	U	75.2	U	66.9	U	10.5	U	4.83	U	219	U	11.3	U	139	U	10.1	U	13.6	U	197	U
Chlorobenzene	108-90-7	1,100	100,000		100,000		500,000		1,000,000		3	U	3	U	130	U	3	U	227	U	12.3	U	71	U	68.2	U	73.9	U	82.1	U	73	U	12.4	U	5.71	U	239	U	13.4	U	151	U	11.9	U	16	U	215	U
Chloroform	67-66-3	370	10,000		49,000		350,000		700,000		6	U	6	U	240	U	6	U	217	U	11.6	U	68.1	U	65.3	U	70.8	U	78.7	U	69.9	U	11.7	U	5.39	U	229	U	12.7	U	145	U	11.3	U	15.1	U	206	U
Diethylbenzene-p	105-05-5	---	---		---		---		---		12	U	29	J	510	U	13	U	2500		11.4	U	351	J	447	J	818		66.7	U	59.3	U	11.4	U	5.29	U	194	U	12.4	U	123	U	11	U	111		906	J
Ethylbenzene	100-41-4	1,000	30,000		41,000		390,000		780,000		3	U	3	U	310		5		194	U	10.2	U	137	J	58.2	U	238	J	70.1	U	62.3	U	10.2	U	4.73	U	204	U	11.1	U	129	U	9.86	U	13.3	U	183	U
p-Ethyltoluene	622-96-8	---	---		---		---		---		NA	NA	NA	NA	NA	NA	NA	NA	633	J	12.3	U	317	J	55.4	U	371	J	66.7	U	59.3	U	12.4	U	5.71	U	194	U	13.4	U	222	J	11.9	U	42		174	U
Isopropyl Benzene	98-82-8	---	---		---		---		---		3	U	3	U	130	U	3	U	4440		12.2	U	226	J	649	J	492	J	298	J	66.9	U	12.3	U	5.66	U	310	J	13.3	U	139	U	11.8	U	15.9	U	357	J
p-Isopropyltoluene	99-87-6	---	---		---		---		---		3	U	3	U	130	U	3	U	1430		14.8	J	219	J	48.3	U	126	J	58.1	U	51.7	U	12.4	U	5.74	U	169	U	13.5	U	1010	J	12	U	16.1	U	152	U
Methyl ethyl ketone (MEK / 2-butanone)	78-93-3	120	100,000		100,000		500,000		1,000,000		29	U	32	U	***1300 U***		32	U	***230 U***		20.8	U	***284 U***		***272 J***		***296 U***		***328 U***		***294 U***		39	U	32.1	U	***954 U***		30.5	J	***605 U***		20.2	U	***858 U***	
Methylene chloride	75-09-2	50	51,000		100,000		500,000		1,000,000		29	U	32	U	***184 U***		10.8	U	***57.7 U***		***55.4 U***		***60.1 U***		***56.4 U***		***59.3 U***		10.9	U	5.02	U	***184 U***		11.8	U	***123 U***		***54.5***		***132***		***174***	
4-Methyl-2-Pentanone	108-10-1	---	---		---		---		---		29	U	32	U	1300	U	32	U	859		27.9	U	269	U	258	U	280	U	311	U	277	U	28.1	U	13	U	905	U	30.5	U	573	U	27.1	U	36.4	U	814	U
Naphthalene	91-20-3	---	---		---		---		---		15	U	16	U	5600	U	16	U	1080		7.86	U	666	J	46.8	U	845		56.2	U	50.2	U	8.03	U	2.27	U	164	U	8.72	U	730	J	46.1	U	10.4	U	148	U
Propylbenzene-n	103-65-1	3,900	100,000		100,000		500,000		1,000,000		3	U	3	U	130	U	4		***9,200***		21.1	J	351	J	1080		710	J	271	J	62.3	U	11.3	U	5.21	U	471	J	12.2	U	129	U	10.9	U	193		834	J
Sec-Butylbenzene	135-98-8	11,000	100,000		100,000		500,000		1,000,000		3	U	3	U	130	U	3	U	8680		12.5	U	537	J	960		814		802	J	427	J	12.6	U	5.82	U	179	U	13.7	U	113	U	12.1	U	16.3	U	161	U
Tert-Butylbenzene	98-06-6	5,900	100,000		100,000		500,000		1,000,000		15	U	16	U	630	U	16	U	2730		11.9	U	375	J	522	J	270	J	285	J	156	J	35.8	J	5.55	U	965	J	13	U	139	U	11.6	U	131	U	400	J
Tetrachloroethene	127-18-4	1,300	5,500		19,000		150,000		300,000		3	U	3	U	130	U	3	U	278	U	12.3	U	87.3	U	83.8	U	90.9	U	101	U	89.7	U	12.4	U	5.71	U	293	U	13.4	U	186	U	24.7	J	35	J
Toluene	108-88-3	700	100,000		100,000		500,000		1,000,000		4	U	5	U	190	U	5	U	212	U	10.9	U	102	J	63.9	U	69.3	U	76.9	U	68.4	U	12.9	J	5.07	U	224	U	11.9	U	142	U	10.6	U	16.4	J	201	U
Trichloroethene	79-01-6	470	21,000		200,000		400,000		800,000		3	U	3	U	130	U	3	U	212	U	9.99	U	68.1	U	65.3	U	70.8	U	78.7	U	69.9	U	10.1	U	4.65	U	219	U	10.9	U	145	U	9.69	U	13	U	206	U
Tetramethylbenzene-1,2,4,5	95-93-2	---	---		---		---		---		12	U	28	J	510	U	13	U	30200		115		2160		3120		3110		3170		1970		109		14.8		2920		38.3		1660		31.2		950		4910		112	
Vinyl Chloride	75-01-4	20	210		900		13,000		27,000		6	U	7	U	***240 U***		6	U	***202 U***		12.6	U	***63.6 U***		***61.1 U***		***66.2 U***		***72.5 U***		***65.4 U***		12.7	U	5.87	U	***154 U***		13.8	U	***135 U***		12.3	U	16.5	U	***182 U***		***69.2 U***	
1,2-Xylene (o-Xylene)	95-47-6	260	100,000		100,000		500,000		1,000,000		6	U	7	U	250	U	6	U	175	U	12.6	U	57	U	12.3	U	63.3	U	66.2	U	12.7	U	5.85	U	184	U	13.7	U	117	U	12.2	U	16.4	U	165	U
1,3-Xylene (m-Xylene)	108-38-3	260	100,000		100,000		500,000		1,000,000		NA	NA	NA	NA	NA	NA	NA	NA	***771 J***		24	U	***273 J***		122		148	J	147	U	131	U	24.2	U	11.2	U	***427 U***		26.2	U	***271 U***		23.3	U	31.3	U	***384 U***	
Xylene (m,p-Xylene)	108-38-3	260	100,000		100,000		500,000		1,000,000		6	U	7	U	250	U	8	U	***771 J***		24	U	***273 J***		122		148	J	147	U	131	U	24.2	U	11.2	U	***427 U***		26.2	U	***271 U***		23.3	U	31.3	U	***384 U***	
Xylene (total)	1330-20-7	260	100,000		100,000		500,000		1,000,000		ND		ND		ND		ND		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Semi-Volatile Organic Compounds (SVOCs)																																						
1,2-Dichlorobenzene	95-50-1	1,100	100,000		100,000		500,000		1,000,000		200	U	220	U	200	U	210	U	38.9	U	35.5	U	36.6	U	35	U	38.1	U	42.3	U	37.5	U	35.7	U	41.3	U	40.9	U	38.7	U	38.9	U	34.4	U	46.3	U	55.3	U	39.8	U	34.9	U	42.4	U	35	U	51.2	U
1,2-Diphenylhydrazine	122-66-7	---	---		---		---		---		NA		NA		NA		NA		209	J	34.7	U	35.8	U	34.2	U	37.3	U	41.3	U	36.7	U	34.9	U	40.3	U	122	J	37.8	U	38	U	33.7	U	45.2	U	54	U	38.9	U	34.1	U	41.5	U	34.2	U	50	U
1,2,4-Trichlorobenzene	120-82-1	---	---		---		---		---		200	U	220	U	200	U	210	U	455	J	47.8	U	49.3	U	47.2	U	51.4	U	171	J	50.5	U	48.1	U	55.5	U	244	J	52.1	U	52.4	U	46.4	U	62.3	U	74.4	U	53.5	U	47	U	57.1	U	47.1	U	68.9	U
2-Methylnaphthalene	91-57-6	---	---		---		---		---		200	U	220	U	1400	E	8.5	J	963		6.9	U	491	J	54.3	U	48.2	U	45.9	U	53	U	46.1	U	49.7	U	1670		49.7	U	1030		44.2	U	59.4	U	71	U	51.1	U	44.8	U	4390		45	U	65.7	U
2-Nitrophenol	88-75-5	---	---		---		---		---		800	U	880	U	440	U	460	U	38.2	U	34.9	U	36	U	34.5	U	37.5	U	41.6	U	36.9	U	35.1	U	40.6	U	40.3	U	38.1	U	38.3	U	33.9	U	45.5	U	54.4	U	299	J	34.3	U	41.8	U	34.4	U	50.3	U
2,4-Dimethylphenol	105-67-9	---	---		---		---		---		200	U	220	U	200	U	210	U	52.6	U	48	U	405	J	47.4	U	211	J	412	J	50.7	U	48.3	U	55.8	U	1430		52.4	U	436	J	46.6	U	412	J	202	J	53.8	U	47.2	U	308	J	47.3	U	142	J
2,6-Dinitrotoluene	606-20-2	---	---		---		---		---		200	U	220	U	200	U	210	U	518	U	47.3	U	48.8	U	46.7	U	50.9	U	940		199	J	47.6	U	55	U	54.6	U	51.6	U	51.9	U	45.9	U	61.7	U	200	J	53	U	46.5	U	56.6	U	46.7	U	68.2	U
3-Nitroaniline	99-09-2	---	---		---		---		---		200	U	220	U	200	U	210	U	21.6	U	19.7	U	505	J	19.5	U	200	J	293	J	107	J	19.9	U	23	U	22.8	U	21.6	U	21.7	U	19.2	U	213	J	179	J	88.8	J	19.4	U	552	J	19.5	U	180	J
4-Chloroaniline	106-47-8	---	---		---		---		---		200	U	220	U	200	U	210	U	47.9	U	43.7	U	45.1	U	43.2	U	47	U	702		46.2	U	44	U	50.9	U	50.5	U	47.7	U	549	J	42.5	U	457	J	243	J	70.8	J	43	U	52.3	U	43.1	U	63.1	U
4-Nitroaniline	100-01-6	---	---		---		---		---		280	U	310	U	200	U	210	U	123	J	112	U	116	U	111	U	121	J	342	J	119	U	113	U	131	U	690		123	J	361	J	109	U	146	J	176	J	126	J	110	U	134	U	111	U	162	U
Acenaphthene	83-32-9	20,000	100,000		100,000		500,000		1,000,000		200	U	220	U	1,400.0	E	93		4410		55.1	J	1030		47.7	U	2950		1010		170	J	145	J	56.2	U	3620		52.8	U	802		46.9	U	681	J	211	J	54.2	U	47.5	U	6750		47.7	U	364	J
Acenaphthylene	208-96-8	100,000	100,000		100,000		500,000		1,000,000		200	U	220	U	48	J	8.5	U	43.3	U	39.5	U	40.8	U	39	U	42.5	U	47.1	U	41.7	U	39.8	U	45.9	U	45.6	U	43.1	U	43.3	U	38.4	U	51.5	U	61.5	U	44.3	U	38.8	U	47.3	U	39	U	639	J
Anthracene	120-12-7	100,000	100,000		100,000		500,000		1,000,000		200	U	220	U	170	J	33	J	3430		158	J	52.7	U	50.5	U	2130		257	J	60.9	U	54	U	257	J	59.4	U	58.9	U	58.8	U	56	U	49.6	U	71	U	51.1	U	44.8	U	4390		45	U	65.7	U
Benzo (a) anthracene	56-55-3	1,000	1,000		1,000		5,600		11,000		200	U	220	U	9.5	U	8.5	U	***3,030***		118	J	759		48	U	***1,830***		538	J	***1,040***		150		51.3	U	***11,300***	E	53	U	***1,360***		47.2	U	412	J	75.7	U	54.4	U	47.7	U	***1,130***		47.9	U	***2,560***	
Benzo (a) pyrene	50-32-8	1,000	1,000		1,000		5,600		1,100		200	U	220	U	8.1	U	8.5	U	***5,840***		189	J	782		59.1	U	***1,850***		865		***1,090***		180	J	***14,000***	E	65.3	U	***1,150***		58.1	U	452	J	93.2	U	67.1	U	58.8	U	757		59	U	***5,870***	
Benzo (b) fluoranthene	205-99-2	1,000	1,000		1,000		5,600		11,000		200	U	220	U	8.1	U	8.5	U	***7,260***		70	J	630		47.1	U	***1,110***		592	J	50.4	U	973		139	J	***10,400***	E	52	U	***1,010***		46.3	U	352	J	74.2	U	53.4	U	46.8	U	587		47	U	***2,330***	
Benzo (g,h,i) perylene	191-24-2	100,000	100,000		100,000		500,000		1,000,000		200	U	220	U	8.1	U	8.5	U	7140		152	J	814		86.6	U	1290		886	J	92.7	U	709		102	U	7560		95.7	U	1060		85.2	U	458	J	137	U	98.3	U	86.2	U	743		86.5	U	578	
Benzo (k) fluoranthene	207-08-9	800	1,000		3,900		56,000		110,000		200	U	220	U	8.1	U	8.5	U	***3,520***		96.4	J	615		86.3	U	***1,140***		601	J	92.4	U	***906***		167	J	***11900***	E	95.4	U	***1,040***		84.8	U	365	J	136	U	97.9	U	85.9	U	637	J	86.2	U	***2,980***	
Benzyl alcohol	100-51-6	---	---		---		---		---		200	U	440	U	200	U	210	U	64.4	J	67.7	U	69.9	U	66.9	U	72.9	U	80.7	U	71.6	U	68.2	U	78.8	U	78.1	U	73.9	U	74.3	U	65.8	U	88.3	U	106	U	75.9	U	66.6	U	90.7	U	66.8	U	97.7	U
bis(2-chloroethoxy)methane	111-91-1	---	---		---		---		---		200	U	220	U	200	U	210	U	123	J	47.5	U	49.1	U	46.9	U	51.1	U	56.6	U	50.2	U	47.9	U	55.3	U	54.8	U	51.9	U	52.1	U	46.2	U	62	U	74.1	U	53.3	U	46.7	U	56.9	U	46.9	U	68.5	U
bis(2-ethylhexyl)phthalate	117-81-7	---	---		---		---		---		400	U	440	U	200	U	210	U	82.4	U	123	J	185	J	74.3	U	3310		89.6	U	79.5	U	75.7	U	87.4	U	86.8	U	82.1	U	82.5	U	73	U	139	J	117	U	84.3	U	73.9	U	92	J	74.2	U	108	U
Butylbenzylphthalate	85-68-7	---	---		---		---		---		200	U	220	U	200	U	210	U	66.4	U	60.6	U	62.6	U	59.9	U	65.2	U	72.2	U	64.1	U	61	U	70.5	U	69.9	U	66.2	U	66.5	U	58.9	U	79	U	94.5	U	68	U	59.6	U	72.5	U	59.8	U	87.4	U
Carbazole	86-74-8	---	---		---		---		---		200	U	220	U	200	U	210	U	72.5	U	66.1	U	68.2	U	65.3	U	71.1	U	78.8	U	69.9	U	93.6	J	76.9	U	76.3	U	72.2	U	72.5	U	64.2	U	86.2	U	103	U	74.1	U	65	U	514	J	65.2	U	95.4	U
Chrysene	218-01-9	1,000	1,000		3,900		56,000		110,000		200	U	220	U	9.1		8.5	U	***3,240***		130	J	882		60	U	***1,360***		554	J	64.2	U	***1,060***		170	J	***10,500***		66.3	J	***1,400***		59	U	437	J	94.6	U	68.1	U	59.7	U	***1,010***		59.9	U	***2,560***	
Dibenzo (a,h) anthracene	53-70-3	330	330		330		560		1,100		120	U	130	U	8.1	U	8.5	U	***668***		64.1	U	66.1	U	63.3	U	68.9	U	76.3	U	67.7	U	64.5	U	74.5	U	***3,870***		69.9	U	70.3	U	62.2	U	83.5	U	99.8	U	71.8	U	63	U	76.6	U	63.2	U	92.4	U
Dibenzofuran	132-64-9	---	---		---		---		---		200	U	220	U	200	U	210	U	38.3	U	34.9	U	36	U	34.5	U	37.5	U	41.3	U	36.9	U	35.1	U	40.6	U	41.9	U	42.1	U	33.9	U	45.5	U	54.4	U	43	U	37.7	U	3830		37.8	U	55.3	U
Fluoranthene	206-44-0	100,000	100,000		100,000		500,000		1,000,000		200	U	220	U	38		29		69.3	U	276	J	2000		62.5	U	7630		952		98.3	J	2040		174	J	12100	E	69	U	3020		61.4	U	984		157	J	70.9	U	62.2	U	8060		62.4	U	4570	
Fluorene	86-73-7	30,000	100,000		100,000		500,000		1,000,000		200	U	220	U	480		8.6		5750		93	J	1070		45.6	U	3160		55	U	48.8	U	96	J	53.7	U	4360		50.4	U	50.6	U	44.8	U	581	J	553	J	51.7	U	45.4	U	4120		45.5	U	384	J
Hexachloroethane	67-72-1	---	---		---		---		---		200	U	220	U	32	U	34	U	56	U	51.1	U	999		50.5	U	54.9	U	60.9	U	54	U	51.4	U	59.4	U	58.9	U	56	U	49.6	U	1620		79.6	U	57.3	U	50.2	U	61.1	U	50.4	U	220	U
Indeno (1,2,3-cd) pyrene	193-39-5	500	500		500		5,600		11,000		200	U	220	U	8.1	U	8.5	U	***3,570***		80.4	J	***582 J***		52.4	U	***915***		***744***		56.1	U	***644***		80.1	J	61.0	U	57.3	U	57.6	U	50.9	U	68.4	U	81.8	U	87.5	J	51.6	U	62.8	U	51.8	U	75.7	U
Isophorone	78-59-1	---	---		---		---		---		200	U	220	U	180	U	190	U	2750		52.5	U	313	J	51.8	U	56.4	U	62.5	U	55.5	U	52.8	U	61	U	60.5	U	57.3	U	57.6	U	50.9	U	68.4	U	81.8	U	87.5	J	51.6	U	62.8	U	51.8	U	75.7	U
N-Nitrosodiphenylamine	86-30-6	---	---		---		---		---		200	U	660	U	160	U	170	U	68.6	U	62.6	U	64.6	U	61.8	U	67.3	U	74.6	U	66.1	U	63	U	72.8	U	72.2	U	68.3	U	68.6	U	60.8	U	81.6	U	97.5	U	70.1	U	61.5	U	452	J	61.7	U	90.2	U
Naphthalene	91-20-3	12,000	100,000		100,000		500,000		1,000,000		200	U	220	U	4000.0	E	8.5	U	50.6	U	46.2	U	927		45.6	U	1900		55	U	48.8	U	46.5	U	53.7	U	53.2	U	50.4	U	533	J	44.8	U	60.2	U	71.9	U	51.7	U	45.4	U	4320		45.5	U	381	J
Nitrobenzene	98-95-3	---	---		---		---		---		200	U	220	U	180	U	190	U	797		44.4	U	126	J	43.9	U	47.8	U	52.9	U	47	U	44.7	U	51.7	U	51.3	U	48.5	U	48.7	U	43.1	U	202	J	69.2	U	49.8	U	43.7	U	229	J	43.8	U	64.1	U
o-Cresol(s) (2-Methylphenol)	95-48-7	330

TABLE 1A
HISTORICAL SOIL ANALYTICAL RESULTS
388 CARROLL STREET
Brooklyn, New York

Consultant:			Subpart 375-6 (Revised Brownfields)				Cosmos Environmental								Tradewinds					
Sample ID:			Protection of Public Health				P-8	TP-1		TP-3		TP-6[1]	TP-7[1]	TP-8	Composite[2]	NE Corner		NW Corner		SE Corner		SW Corner	
Laboratory Sample Number:							1204166-16	C974508/1		C974508/2		C974508/3	C974508/4	C974508/5	C974508/7	0209069-02A/B		0209069-03A/B		0209069-04A/B		0209069-05A/B	
Sampling Date:							4/11/2012	10/26/1997		10/26/1997		10/26/1997	10/26/1997	10/26/1997	10/26/1997	9/20/2002		9/20/2002		9/20/2002		9/20/2002	
Sampling Depth (ft):							7-7.5																
Units:	CAS No.	Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																									
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	10.7	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	9.38	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	11.1	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	11.8	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Dichloroethene (cis)	156-59-2	250	59,000	100,000	500,000	1,000,000	10.8	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Dichloroethene (trans)	156-60-5	190	100,000	100,000	500,000	1,000,000	10.7	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	---	---	---	---	---	---	10.3	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	96-18-4	---	---	---	---	---	10.5	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	120-82-1	---	---	---	---	---	10.9	U	NA		NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	12.8	U	1100		55		110		140		250		NA		5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	8,400	47,000	52,000	190,000	380,000	12.7	U	290		150		70		65		120		NA		5	U	5	U	5	U
4-Isopropyltoluene	99-87-6	---	---	---	---	---	12.6	U	NA		NA		NA		NA		NA		NA		5	U	5	U	9.2	
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	39.6	U	NA		NA		NA		NA		NA		NA				NA		NA	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	11	U	**1,100**		**270**		**200**		**150**		**1,300**		NA		5	U	5	U	5	U
n-Butylbenzene	104-51-8	12,000	100,000	100,000	500,000	1,000,000	12.6	U	4300		1100		1900		1000		990		NA		5	U	5	U	5	U
Carbon Disulfide	75-15-0	---	---	---	---	---	7.68	U	NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
Carbon tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	10.6	U	NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	12.5	U	NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	11.8	U	NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
Diethylbenzene-p	105-05-5	---	---	---	---	---	11.6	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	10.4	U	**1,200**		95		120		50		360		NA		5	U	5	U	5	U
p-Ethyltoluene	622-96-8	---	---	---	---	---	12.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Isopropyl Benzene	98-82-8	---	---	---	---	---	12.4	U	4200		1200		490		520		1100		NA		5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	---	---	---	---	---	12.6	U	220		70		60		50		610		NA		NA		NA		NA	
Methyl ethyl ketone (MEK / 2-butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	21.3	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	**83**		NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
4-Methyl-2-Pentanone	108-10-1	---	---	---	---	---	28.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	91-20-3	---	---	---	---	---	8.15	U	2100		380		290		310		350		NA		5	U	5	U	5	U
Propylbenzene-n	103-65-1	3,900	100,000	100,000	500,000	1,000,000	11.4	U	**8,400**		2000		310		840		1400		NA		5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	11,000	100,000	100,000	500,000	1,000,000	12.8	U	5800		1100		2800		890		1100		NA		5	U	5	U	5	U
Tert-Butylbezene	98-06-6	5,900	100,000	100,000	500,000	1,000,000	12.2	U	2500		470		1200		390		880		NA		9.1		5	U	5.4	
Tetrachloroethene	127-18-4	1,300	5,500	19,000	150,000	300,000	34.2		NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	11.1	U	**760**		110		190		130		280		NA		5	U	5	U	5	U
Trichloroethene	79-01-6	470	10,000	21,000	200,000	400,000	10.2	U	NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
Tetramethylbenzene-1,2,4,5	95-93-2	---	---	---	---	---	36.6		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	12.9	U	NA		NA		NA		NA		NA		NA		5	U	5	U	5	U
1,2-Xylene (o-Xylene)	95-47-6	260	100,000	100,000	500,000	1,000,000	12.8	U	**280**		60	U	60		65		85		NA		5	U	5	U	5	U
1,3-Xylene (m-Xylene)	108-38-3	260	100,000	100,000	500,000	1,000,000	24.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Xylene (m,p-Xylene)	108-38-3	260	100,000	100,000	500,000	1,000,000	24.5	U	**2,400**		**270**		**350**		**290**		**650**		NA		10	U	10	U	10	U
Xylene (total)	1330-20-7	260	100,000	100,000	500,000	1,000,000	NA		**2,700**		**310**		**410**		**350**		**730**		NA		NA		NA		NA	
Semi-Volatile Organic Compounds (SVOCs)																										
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	36.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Diphenylhydrazine	122-66-7	---	---	---	---	---	35.4	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	120-82-1	---	---	---	---	---	48.8	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2-Methylnaphthalene	91-57-6	---	---	---	---	---	46.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2-Nitrophenol	88-75-5	---	---	---	---	---	35.6	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,4-Dimethylphenol	105-67-9	---	---	---	---	---	49	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
2,6-Dinitrotoluene	606-20-2	---	---	---	---	---	48.3	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
3-Nitroaniline	99-09-2	---	---	---	---	---	20.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Chloroaniline	106-47-8	---	---	---	---	---	44.7	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Nitroaniline	100-01-6	---	---	---	---	---	115	U	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	49.4	U	1900		6500		300	U	300	U	5600		NA		170		300		330		460	
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	40.3	U	NA		NA		NA		NA		NA		NA		94		270		190		300	
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	52.2	U	1500		2100		300	U	300	U	3900		NA		250		610		370		1300	
Benzo (a) anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	49.6	U	**2,400**		**1,100**		300	U	300	U	**4,300**		NA		770		**1,200**		**1,200**		**2,700**	
Benzo (a) pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	61.1	U	**2,800**		**1,500**		300	U	300	U	**3,700**		NA		880		**1,500**		**1,200**		**2,500**	
Benzo (b) fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	48.7	U	**2,400**	^	950	^	300	U	300	U	**3,300**	^	NA		**1,000**		**1,800**		**1,500**		**3,200**	
Benzo (g,h,i) perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	89.6	U	1100		600		300	U	300	U	1300		NA		650		1200		830		1900	
Benzo (k) fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	89.2	U	**2,400**	^	**950**	^	300	U	300	U	**3,300**	^	NA		420		750		680		**1,600**	
Benzyl alcohol	100-51-6	---	---	---	---	---	69.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
bis(2-chloroethoxy)methane	111-91-1	---	---	---	---	---	48.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
bis(2-ethylhexyl)phthalate	117-81-7	---	---	---	---	---	76.8	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Butylbenzylphthalate	85-68-7	---	---	---	---	---	61.9	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Carbozole	86-74-8	---	---	---	---	---	67.5	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	62	U	**2,400**		**1,300**		300	U	300	U	**4,200**		NA		880		**1,400**		**1,300**		**2,900**	
Dibenzo (a,h) anthracene	53-70-3	330	330	330	560	1,100	65.4	U	*480*		300	U	300	U	300	U	*710*		NA		190		*330*		250		*580*	
Dibenzofuran	132-64-9	---	---	---	---	---	39.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	64.6	U	4300		2600		620		350		9200		NA		1600		2700		2800		6300	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	47.1	U	1700		3900		2000		300	U	4000		NA		1100		290		330		550	
Hexachloroethane	67-72-1	---	---	---	---	---	52.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Indeno (1,2,3-cd) pyrene	193-39-5	500	500	500	5,600	11,000	54.2	U	**1,100**		360		300	U	300	U	**1,200**		NA		**540**		**1,000**		**730**		**1,700**	
Isophorone	78-59-1	---	---	---	---	---	53.6	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
n-Nitrosodiphenylamine	86-30-6	---	---	---	---	---	63.9	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	47.1	U	300	U	7800		300	U	300	U	300	U	NA		80	U	190		170		440	
Nitrobenzene	98-95-3	---	---	---	---	---	45.4	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
p-Cresol(s) (2-Methylphenol)	95-48-7	330	100,000	100,000	500,000	1,000,000	42	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
m,p-Cresol(s) (3&4-Methylphenol)	106-44-5	330	34,000	100,000	500,000	1,000,000	36.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
p-Cresol(s) (4-Methylphenol)	106-44-5	330	34,000	100,000	500,000	1,000,000	36.2	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	444	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	53.3	U	5400		7100		1700		300	U	22000		NA		810		2300		930		5600	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	30.6	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	43.4	U	6200		5700		1300		860		13000		NA		1400		2300		2200		4300	
TPH - Diesel Range Organics (DRO)																										
Fuel Oil #2			---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		270000	
Total DRO TPH			---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		490000	
Unknown DRO TPH			---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		220000	
PCBs/Pesticides																										
Aroclor 1242	53469-21-9	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1248	12672-29-6	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1260	11096-82-5	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total PCBs/Pesticides	---	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals																										
Aluminum	7429-90-5	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	NA		NA		NA		NA		NA		NA		1400		NA		NA		NA		NA	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	NA		NA		NA		NA		NA		NA		28000		NA		NA		NA		NA	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	NA		NA		NA		NA		NA		NA		100	U	NA		NA		NA		NA	
Calcium	7440-70-2	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Chromium	7440-47-3	---	---	---	---	---	NA		NA		NA		NA		NA		NA		2800		NA		NA		NA		NA	
Cobalt	7440-48-4	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Iron	7439-89-6	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	NA		NA		NA		NA		NA		NA		6600		NA		NA		NA		NA	
Magnesium	7439-95-4	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Mercury (elemental)	7439-97-6	180	810	810	2,800	5,700	NA		NA		NA		NA		NA		NA		**2,600**		NA		NA		NA		NA	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Potassium	7440-09-7	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	NA		NA		NA		NA		NA		NA		960		NA		NA		NA		NA	
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	NA		NA		NA		NA		NA		NA		200	U	NA		NA		NA		NA	
Sodium	7440-23-5	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Vanadium	7440-62-2	---	---	---	---	---	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	

NOTES:
Subpart 375-6 (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
--- : No criteria identified

Sample data for ELM, Cosmos, and Tradewind were provided in the Phase II Investigation Report, 400 Carroll Street by ELM dated May 2005.
Sample data for PW Grosser were provided in the PW Grosser Draft Subsurface Investigation Summary Report dated 16 June 2011.
Sample data for Zeb Environmental were provided in an environmental investigatiton provided by Sive Padget & Riesel, LLP.
ND:Not detected
NA: Not analyzed
E:Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument
J:Estimated result
U: Indicates that the result is lower than the MDL
B: Analyte detected in method blank

Italicized and **Bold *results*** indicate method detection limits (MDL) greater than or equal to the most stringent criteria.

Cosmos Environmental Services Samples:
^ : EcoTest Laboratories reported that it could not separate the isonomers for benzo(b)fluoranthene and benzo(k)fluoranthene. Therefore, the sum is split evenly between t

TABLE 1B
SUMMARY OF HISTORICAL SOIL ANALYTICAL RESULTS
363 BOND STREET
Brooklyn, New York

| Consultant: | Subpart 375-6 (Revised Brownfields) | | | | | Environmental Liability Management (ELM) of New York, LLC | | | | |

TABLE 2
SUMMARY OF LANGAN SOIL ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)					Due Diligence						
Address:			Protection of Public Health				363 Bond Street						
Location ID:		Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	LSB-1	LSB-2	LSB-2	LSB-3	LSB-3	LSB-4	LSB-4
Sample ID:	CAS No.						002/001	003/004	005/006	007/008	009/010	011/012	013/014
Sample Date:							8/21/2012	8/21/2012	8/21/2012	8/22/2012	8/22/2012	8/22/2012	8/22/2012
Sampling Depth/VOC Sampling Depth (ft bgs):							7.5-9.5/8-8.5	6.5-8.5/6.5-7	11.5-13.5/11.5-12	6-8/6-6.5	12-14/12-12.5	7-9/8.5-9	7-9/8.5-9
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	310 U	5.4 U	5.5 U	270 U	320 U	280 U	330 U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	***310 U***	5.4 U	5.5 U	***270 U***	***320 U***	***280 U***	***330 U***
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	310 U	5.4 U	5.5 U	270 U	320 U	280 U	***330 U***
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	***61 U***	1.1 U	1.1 U	***55 U***	***64 U***	***56 U***	***67 U***
1,4-Dioxane (P-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	***7700 U***	***130 U***	***140 U***	***6800 U***	***8000 U***	***7000 U***	***8300 U***
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**217 J**	25.4	35.7	***550 U***	***640 U***	***560 U***	***670 U***
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	20.2 J	1.1 U	1.1 U	55 U	***64 U***	12 J	36 J
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	310 U	5.4 U	5.5 U	270 U	320 U	280 U	330 U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	310 U	5.4 U	5.5 U	270 U	320 U	280 U	330 U
Cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	68.1 J	5.4 U	5.5 U	37.6 J	***320 U***	135 J	188 J
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	**2,260**	1.1 U	1.1 U	55 U	64 U	151	310
M And P Xylenes	179601-23-1	260	100,000	100,000	500,000	100,000	**17,100**	1.1 U	1.1 U	55 U	64 U	**437**	**875**
Methyl Ethyl Ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	***610 U***	11 U	11 U	***550 U***	***640 U***	***560 U***	***670 U***
P-Cymene (P-Isopropyltoluene)	CYMP	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	18.4 J	1.1 U	1.1 U	55 U	64 U	38.1 J	83.7
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	***310 U***	5.4 U	5.5 U	***270 U***	***320 U***	50.1 J	62.2 J
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	60.5 J	5.4 U	5.5 U	75 J	21.1 J	280 U	330 U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	***310 U***	5.4 U	5.5 U	***270 U***	***320 U***	***280 U***	***330 U***
Semi-Volatile Organic Compounds (SVOCs)													
2-Methylphenol (O-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	**1,500**	67 U	68 U	71 U	74 U	74 U	78 U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	**72,200**	184	235	759	1810	975	291
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	**151,000**	604	740	1180	3230	1490	552
Benzo(A)Anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	**168,000**	**2,670**	**2,620**	**1,580**	**6,450**	**1,660**	989
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	**152,000**	**3,080**	**2,910**	**1,410**	**6,170**	**1,320**	902
Benzo(B)Fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	**150,000**	**3,000**	**2,840**	**1,490**	**4,960**	**1,240**	754
Benzo(G,H,I)Perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	96,000	2,100	1,910	802	3,680	731	539
Benzo(K)Fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	**76,700**	**1,360**	**1,370**	722	**4,510**	**864**	619
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	**166,000**	**2,670**	**2,580**	**1,550**	**6,090**	**1,580**	**1,030**
Cresols, M & P	MEPH1314	330	34,000	100,000	500,000	1,000,000	**4,600**	67 U	68 U	71 U	74 U	74 U	78 U
Dibenz(A,H)Anthracene	53-70-3	330	330	330	560	1,100	**36,900**	**774**	**686**	300	**1,310**	309	201
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	**62,100**	90.4	104	448	1170	335	156
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	**473,000**	5640	5240	5030	16200	4970	2480
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	**84,200**	231	260	924	2050	1110	361
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	***700 U***	67 U	68 U	71 U	74 U	74 U	78 U
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	500	500	5,600	11,000	**89,900**	**1,910**	**1,750**	**762**	**3,550**	**718**	**503**
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	**102,000**	56.3	77.1	291	1040	1010	242
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	***3,500 U***	330 U	340 U	360 U	370 U	370 U	390 U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	**539,000**	1910	2360	5370	13300	6150	2290
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	**1,910**	67 U	68 U	71 U	74 U	74 U	78 U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	**340,000**	4300	4330	3280	12100	3250	2000
Pesticides													
Gamma Chlordane	12789-03-6	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	72-55-9	3	1,800	8,900	62,000	120,000	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	50-29-3	3	1,700	7,900	47,000	94,000	NA	NA	NA	NA	NA	NA	NA
Polychlorinated biphenyls (PCBs)													
PCB-1254 (Aroclor 1254)	11097-69-1	100	1,000	1,000	1,000	25,000	NA	NA	NA	NA	NA	NA	NA
Total PCBS	1336-36-3	100	1,000	1,000	1,000	25,000	NA	NA	NA	NA	NA	NA	NA
Metals													
Antimony	7440-36-0	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	NA	NA	NA	NA	NA	NA	NA
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	NA	NA	NA	NA	NA	NA	NA
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	NA	NA	NA	NA	NA	NA	NA
Calcium	7440-70-2	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Chromium, Total	7440-47-3	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Cobalt	7440-48-4	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	**435,000**	NA	NA	NA	NA	NA	NA
Magnesium	7439-95-4	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	NA	NA	NA	NA	NA	NA	NA
Mercury	7439-97-6	180	810	810	2,800	5,700	NA	NA	NA	NA	NA	NA	NA
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	NA	NA	NA	NA	NA	NA	NA
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	NA	NA	NA	NA	NA	NA	NA
Sodium	7440-23-5	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	—	—	—	—	—	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	NA	NA	NA	NA	NA	NA	NA

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or imprecise.

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 2
SUMMARY OF LANGAN SOIL ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)					Remedial Investigation															
Address:		Protection of Public Health					363 Bond Street															
Location ID:		Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	LSB-7		LSB-7		LSB-8		LSB-9		LSB-9		LSB-10		LSB-22		LSB-22		LSB-22	
Sample ID:	CAS No.						072-LSB-7-20130906		073-LSB-7-20130906		075-LSB-8-20130906		079-LSB-9-20130909		080-LSB-9-20130909		085-LSB-10-20130909		081-LSB-22-20130909		083-DUP-2-20130909		082-084-LSB-22-20130909	
Sample Date:							9/6/2013		9/6/2013		9/6/2013		9/3/2013		9/3/2013		9/3/2013		9/3/2013		9/3/2013		9/3/2013	
Sampling Depth/VOC Sampling Depth (ft bgs):							0-2/1.5-2		13-15/14-14.5		10-12/11.5-12		0-2/1-1.5		4-6/5.5-6		0-2/1-1.5		0-2/1-1.5		0-2/1-1.5		4-6/5.5-6	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																								
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	2.2	U	2.2	U	300	U	2.7	U	640	U	4.2	U	4.3	U	3.2	U	***790***	***U***
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	2.2	U	2.2	U	***300***	***U***	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	2.2	U	2.2	U	300	U	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	2.2	U	2.2	U	300	U	2.7	U	**19,000**		56		4.3	U	3.2	U	790	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	2.2	U	2.2	U	***300***	***U***	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
1,4-Dioxane (P-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	11	UJ	12	UJ	***1600***	***UJ***	14	U	***3400***	***U***	22	U	23	U	17	U	***4200***	***U***
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	25	J	11	J	**320**	**J**	27		***640***	***U***	**150**		**79**		48		***790***	***U***
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	2.2	U	2.2	U	***300***	***U***	2.7	U	**1,000**	**J**	4.2	U	4.3	U	3.2	U	***790***	***U***
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	2.2	U	2.2	U	300	U	2.7	U	640	U	4.2	U	4.3	U	3.2	U	***790***	***U***
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	2.2	U	2.2	U	300	U	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
Cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	2.2	U	2.2	U	***300***	***U***	5.3	J	**950**	**J**	4.2	U	4.3	U	3.2	U	**1,700**	
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	2.2	U	2.2	U	300	U	2.7	U	**3,000**		4.2	U	4.3	U	3.2	U	790	U
M And P Xylenes	179601-23-1	260	100,000	100,000	500,000	100,000	2.2	U	2.2	U	***300***	***U***	2.7	U	**8,000**		6.9	J	4.3	U	3.2	U	**1,000**	**J**
Methyl Ethyl Ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	2.2	U	2.2	U	***300***	***U***	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
P-Cymene (P-Isopropyltoluene)	CYMP	---	---	---	---	---	2.2	U	2.2	U	300	U	2.7	U	8000		5.3	J	4.3	U	3.2	U	790	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	2.2	U	2.2	U	300	U	2.7	U	**1,500**		4.2	U	4.3	U	3.2	U	***790***	***U***
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	2.2	U	2.2	U	***300***	***U***	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	2.2	U	2.2	U	300	U	54		**3,500**		87		6.2	J	9.4		**1,500**	**J**
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	2.2	U	2.2	U	***300***	***U***	2.7	U	***640***	***U***	4.2	U	4.3	U	3.2	U	***790***	***U***
Semi-Volatile Organic Compounds (SVOCs)																								
2-Methylphenol (O-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	90.7	U	***491***	***U***	***1010***	***U***	93.3	U	***5210***	***U***	***445***	***UJ***	181	U	***453***	***UJ***	***5460***	***UJ***
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	50.7	J	606	J	504	U	95.5	J	**53,500**		222	U	141	J	226	U	4880	J
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	144	J	1550		504	U	226		80500		222	U	245	J	390	J	6370	J
Benzo(A)Anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	351		**2,010**		524	J	571		**122,000**		224	J	754	J	1000	J	**10,400**	**J**
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	362		**1,980**		504	U	625		**103,000**		247	J	851	J	991	J	**11,700**	**J**
Benzo(B)Fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	335		**1,230**		508	J	642		**50,400**		305	J	753	J	878	J	**13,000**	
Benzo(G,H,I)Perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	118	J	503	J	1010	U	114	J	20,800		445	U	239	J	453	UJ	5,460	U
Benzo(K)Fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	203		**1,160**		504	U	660		**74,500**		307	J	**1,100**		**1,350**		**11,200**	**J**
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	353		**1,900**		536	J	604		**124,000**		279	J	773	J	998	J	**10,200**	**J**
Cresols, M & P	MEPH1314	330	34,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		NA	
Dibenz(A,H)Anthracene	53-70-3	330	330	330	560	1,100	45.3	U	245	U	***504***	***U***	56.6	J	**17,200**	**J**	222	U	136	J	226	U	***2730***	***UJ***
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	45.7	J	623	J	504	U	46.6	U	**29,700**		222	U	90.7	U	226	U	3190	J
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	948		4140		1120	J	1370		**245,000**		459	J	1390		2000		24400	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	59.4	J	1080		504	U	74	J	**63,400**		222	U	171	J	278	J	6180	J
Hexachlorobenzene	118-74-1	330	330	330	1,200	6,000	45.3	U	245	U	***504***	***U***	46.6	U	***2610***	***U***	222	U	90.7	U	226	U	***2730***	***U***
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	500	500	5,600	11,000	121	J	**594**	**J**	***504***	***U***	140	J	**25,300**	**J**	222	U	297	J	361	J	***2730***	***U***
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	59.4	J	653	J	504	U	78.8	J	**105,000**		222	U	90.7	U	226	U	2730	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	90.7	U	491	U	***1010***	***U***	93.3	UJ	***5210***	***U***	445	UJ	181	U	453	UJ	***5460***	***UJ***
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	686		4660		1120	J	845		**279,000**		318	J	550	J	1010	J	23300	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	45.3	U	245	U	***504***	***U***	46.6	U	***2610***	***U***	222	UJ	90.7	U	226	UJ	***2730***	***UJ***
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	791		3010		912	J	1030		**198,000**		374	J	1250		1930		19800	
Pesticides																								
Gamma Chlordane	12789-03-6	---	---	---	---	---	1.78	U	1.93	U	NA		1.83	U	2.05	U	3.5	U	1.78	U	1.78	U	2.15	U
4,4'-DDE	72-55-9	3	1,800	8,900	62,000	120,000	1.78	U	1.93	U	NA		1.83	U	2.05	U	**548**		**4.39**	**J**	2.59	J	2.15	U
4,4'-DDT	50-29-3	3	1,700	7,900	47,000	94,000	1.78	U	1.93	U	NA		1.83	U	2.05	U	***3.5***	***U***	**9.56**	**J**	**7.73**	**J**	2.15	U
Polychlorinated biphenyls (PCBs)																								
PCB-1254 (Aroclor 1254)	11097-69-1	100	1,000	1,000	1,000	25,000	**330**		19.9	U	NA		**6,240**		21.1	U	18	U	18.4	U	18.3	U	22.1	UJ
Total PCBS	1336-36-3	100	1,000	1,000	1,000	25,000	**330**		19.9	U	NA		**6,240**		21.1	U	18	U	53.8		31.9		22.1	UJ
Metals																								
Antimony	7440-36-0	---	---	---	---	---	540	U	584	U	NA		555	U	4380		530	U	540	UJ	539	UJ	2050	
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	3470		5540		NA		4580		11100		2780		3960	J	5060	J	10400	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	43800		29600		NA		78200		114000		53300		154000		143000		129000	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	108	U	117	U	NA		111	U	124	U	106	U	562	J	108	UJ	130	U
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	678		351	U	NA		**62,300**		**213,000**		318	U	886		586		726	
Calcium	7440-70-2	---	---	---	---	---	8160000		2840000		NA		15200000		51600000		80800000		50500000		52800000		12100000	
Chromium, Total	7440-47-3	---	---	---	---	---	13700		9260		NA		15800		248000		23100		53300	J	18500	J	12600	
Cobalt	7440-48-4	---	---	---	---	---	6250		3960		NA		5650		1970		4310		17300	J	7110	J	4310	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	22100		13700		NA		**57,600**		23500		11700		**487,000**	**J**	**1,090,000**	**J**	**105,000**	
Iron	7439-89-6	---	---	---	---	---	11800000		8540000		NA		11900000		16800000		8620000		22700000	J	13100000	J	7780000	J
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	20800		28900		**169,000**		**142,000**		**2,990,000**		13900		**656,000**		**572,000**		**321,000**	
Magnesium	7439-95-4	---	---	---	---	---	2890000		2710000		NA		3840000		5410000		4090000		3830000		3280000		2510000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	250000		108000		NA		231000		407000		114000		230000		162000		98200	
Mercury	7439-97-6	180	810	810	2,800	5,700	83.8		119		NA		**661**		**884**		39.2		**828**	**J**	**2010**	**J**	**4,320**	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	28800		26600		NA		**30,900**		19000		13500		**61,700**	**J**	**35,400**	**J**	12800	
Potassium	7440-09-7	---	---	---	---	---	935000		596000		NA		1210000		727000		1110000		1410000		1150000		530000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	1080	U	1170	U	NA		1110	U	1240	U	1060	U	1320		1230		1860	
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	540	U	584	U	NA		555	U	621	U	530	U	540	U	539	U	650	U
Sodium	7440-23-5	---	---	---	---	---	426000		364000		NA		792000	J	1080000	J	1030000	J	1340000	J	1180000	J	868000	J
Vanadium	7440-62-2	---	---	---	---	---	19700		13100		NA		16900		9000		12100		17700		16400		8720	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	38000		22800		NA		**277,000**		**6,800,000**		21000		**2,670,000**	**J**	**874,000**	**J**	**1,680,000**	

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or imprec

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 2
SUMMARY OF LANGAN SOIL ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)					Remedial Investigation										Supplemental RI							
Address:		Protection of Public Health					363 Bond Street						388 Carroll Street											
Location ID:		Unrestricted Use					LSB-23		LSB-24		LSB-25		LSB-21		LSB-21		LSB-21		LSB-27		LSB-27		EPA-6 (363 BOND)		EPA-6 (363 BOND)		EPA-6 (363 BOND)		EPA-6 (363 BOND)	
Sample ID:	CAS No.	Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	076-LSB-23-20130906		086-LSB-24-20130909		074-LSB-25-20130906		123-LSB-21-20130912		124-LSB-2120130912		125-DUP-3-20130912		128-LSB-27-20130913		129-LSB-27-20130913		484/EPA-6A-20141103		485/EPA-6B-20141103		486/EPA-6C-20141103		487/EPA-6D-20141103	
Sample Date:							9/6/2013		9/9/2013		9/6/2013		9/12/2013		9/12/2013		9/12/2013		9/13/2013		9/13/2013		11/3/2014		11/3/2014		11/3/2014		11/3/2014	
Sampling Depth/VOC Sampling Depth (ft bgs):							2-4/3-3.5		0-4/3.5-4		5.5-7.5/5.5-6		0-2/1.5-2		7-9/8.5-9		7-9/8.5-9		0-2/0.5-1		5-7/5-5.5		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 7.5-8)		9-11.5 (VOCs 9-9.5)	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																														
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	4.9	U	5.2	U	230	U	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	300	U	320	U	3.2	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	4.9	U	5.2	U	230	U	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	***300***	***U***	***320***	***U***	3.2	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	4.9	U	5.2	U	230	U	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	300	U	320	U	3.2	U
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	4.9	U	5.2	U	440	J	2.9	U	2.6	UJ	5.6	J	3.4	U	3.1	U	2.2	U	300	U	320	U	3.2	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	4.9	U	5.2	U	***230***	***U***	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	***300***	***U***	***320***	***U***	3.2	U
1,4-Dioxane (P-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	26	UJ	27	U	***1200***	***UJ***	15	UJ	14	UJ	12	UJ	69	UJ	61	UJ	43	U	***6000***	***U***	***6400***	***U***	64	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**65**	**J**	**150**		**270**	**J**	12	U	33	U	**110**	**J**	***52***	***U***	30	U	23	J	***600***	***U***	***640***	***U***	12	J
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	4.9	U	5.2	U	***230***	***U***	2.9	U	2.6	U	2.3	U	5.2	J	3.1	U	2.2	U	***300***	***U***	***320***	***U***	3.2	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	4.9	U	5.2	U	230	U	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	300	U	320	U	3.2	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	4.9	U	5.2	U	230	U	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	300	U	320	U	3.2	U
Cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	4.9	U	5.2	U	**440**	**J**	2.9	U	2.6	U	2.3	U	9.6		19		2.2	U	**2400**		**2300**		3.2	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	4.9	U	5.2	U	**1,100**		2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	300	U	320	U	3.2	U
M And P Xylenes	179601-23-1	260	100,000	100,000	500,000	100,000	4.9	U	5.2	U	**2,000**		7.3	J	6.1	U	2.9	U	2.6	U	2.3	U	4.3	U	***600***	***U***	***640***	***U***	6.4	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	4.9	U	5.2	U	***230***	***U***	2.9	U	4.8	J	6.3	J	3.4	U	3.1	U	2.2	U	***300***	***U***	***320***	***U***	3.2	U
P-Cymene (P-Isopropyltoluene)	CYMP	—	—	—	—	—	4.9	U	5.2	U	230	U	3.4	U	3.1	U	2.9	U	2.6	U	2.3	U	2.2	U	300	U	320	U	3.2	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	4.9	U	5.2	U	230	U	2.9	U	2.6	U	2.3	U	10		3.1	U	2.2	U	300	U	320	U	3.2	U
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	4.9	U	5.2	U	***230***	***U***	2.9	U	2.6	U	2.3	U	3.4	U	3.1	U	2.2	U	***300***	***U***	***320***	***U***	3.2	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	4.9	U	20		**480**		2.9	U	2.6	U	2.3	U	3.5	J	11		2.2	U	**3800**		**3400**		3.2	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	4.9	U	5.2	U	***230***	***U***	2.9	U	2.6	U	2.3	U	3.4	U	**23**		2.2	U	***300***	***U***	***320***	***U***	3.2	U
Semi-Volatile Organic Compounds (SVOCs)																														
2-Methylphenol (O-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	***1220***	***U***	***444***	***UJ***	***9770***	***U***	87.6	U	96.5	U	97.4	U	177	UJ	98.5	U	21.6	U	44.7	U	50.5	U	51.9	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	1500	J	324	J	**20,200**		43.8	U	48.3	U	48.7	U	88.3	U	49.3	U	21.6	U	1250		1430		67.8	J
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	4210		414	J	38800		43.8	U	48.3	U	48.7	U	147	J	57.1	J	21.6	U	1930		2550		148	
Benzo(A)Anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	**11,700**		558	J	**75,100**		43.8	U	48.3	U	48.7	U	312	J	171	J	21.6	U	**3290**		**3440**		274	
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	**9,820**		483	J	**71,300**		43.8	U	48.3	U	48.7	U	425		219		21.6	U	958	J	**1400**		267	
Benzo(B)Fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	**9,010**		558	J	**41,300**		43.8	U	48.3	U	48.7	U	416		193	J	21.6	U	977	J	**2310**		161	
Benzo(G,H,I)Perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	3,230		444	U	18,400	J	87.6	U	96.5	U	97.4	U	248	J	99.3	J	21.6	U	421	J	628		51.9	U
Benzo(K)Fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	**11,700**		433	J	**39,700**		43.8	U	48.3	U	48.7	U	378		232		21.6	U	**1070**		**1940**		230	
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	**9,590**		518	J	**74,800**		43.8	U	48.3	U	48.7	U	343	J	197		27.8	J	**2940**		**4360**		307	
Cresols, M & P	MEPH1314	330	34,000	100,000	500,000	1,000,000	NA		NA		NA		NA		NA		NA		NA		NA		21.6	U	44.7	U	50.5	U	51.9	U
Dibenz(A,H)Anthracene	53-70-3	330	330	330	560	1,100	**1,670**	**J**	222	U	***4890***	***U***	43.8	U	48.3	U	48.7	U	121	J	49.3	U	21.6	U	207	J	**402**		51.9	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	1060	J	222	U	**18,500**	**J**	43.8	U	48.3	U	48.7	U	88.3	U	49.3	U	21.6	U	44.7	U	1090		51.9	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	18100		1350		**160,000**		80.7	J	48.3	U	52.2	J	596		320		40.6	J	6080		24700		481	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	1210	J	382	J	28300		43.8	U	48.3	U	48.7	U	88.3	U	49.3	U	21.6	U	1470		1630		67.8	J
Hexachlorobenzene	118-74-1	330	330	330	1,200	6,000	***612***	***U***	222	U	***4890***	***U***	43.8	U	48.3	U	48.7	U	88.3	U	49.3	U	21.6	U	57	J	50.5	U	51.9	U
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	500	500	5,600	11,000	**3,230**		299	J	**19,700**		43.8	U	48.3	U	48.7	U	276	J	99.3	J	21.6	U	**516**	**J**	**688**		76.9	J
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	927	J	222	U	**49,200**		43.8	U	48.3	U	48.7	U	144	J	53.6	J	21.6	U	1360		1410		89.3	J
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	***1220***	***U***	444	UJ	***9770***	***U***	87.6	U	96.5	U	97.4	U	177	UJ	98.5	U	21.6	U	44.7	U	50.5	U	51.9	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	13700		1550		**162,000**		62.9	J	48.3	U	48.7	U	455		217		21.6	U	5440		30300		476	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	***612***	***U***	222	UJ	***4890***	***U***	43.8	U	48.3	U	48.7	U	88.3	UJ	49.3	U	21.6	U	44.7	U	50.5	U	51.9	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	14800		1110		**149,000**		60.1	J	48.3	U	48.7	U	455		252		47.1		6780		41800		512	
Pesticides																														
Gamma Chlordane	12789-03-6	—	—	—	—	—	2.4	U	1.74	U	NA		1.73	U	1.94	U	1.72	U	1.9	U	1.91	U	NA		NA		NA		NA	
4,4'-DDE	72-55-9	3	1,800	8,900	62,000	120,000	2.4	U	**3.44**		NA		1.72	U	1.9	U	1.91	U	1.73	U	1.94	U	NA		NA		NA		NA	
4,4'-DDT	50-29-3	3	1,700	7,900	47,000	94,000	2.4	U	3.27		NA		1.72	U	1.9	U	1.91	U	1.73	U	1.94	U	NA		NA		NA		NA	
Polychlorinated biphenyls (PCBs)																														
PCB-1254 (Aroclor 1254)	11097-69-1	100	1,000	1,000	1,000	25,000	24.8	U	18	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total PCBS	1336-36-3	100	1,000	1,000	1,000	25,000	24.8	U	18	U	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals																														
Antimony	7440-36-0	—	—	—	—	—	1040		528	U	NA		NA		NA		NA		NA		NA		516	U	535	U	605	U	620	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	9440		3790		NA		NA		NA		NA		NA		NA		1810		3360		9650		2120	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	113000		127000		NA		NA		NA		NA		NA		NA		32200		46800		266000		69200	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	146	U	106	U	NA		NA		NA		NA		NA		NA		103	U	107	U	121	U	124	U
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	**21,000**		**50,000**		NA		NA		NA		NA		NA		NA		309	U	321	U	363	U	372	U
Calcium	7440-70-2	—	—	—	—	—	28400000		53500000		NA		NA		NA		NA		NA		NA		7940000		8210000		58800000		8070000	
Chromium, Total	7440-47-3	—	—	—	—	—	29900		19600		NA		NA		NA		NA		NA		NA		10200		10600		15800		8360	
Cobalt	7440-48-4	—	—	—	—	—	4620		7950		NA		NA		NA		NA		NA		NA		5740		5630		5580		4900	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	49000		**135,000**		NA		NA		NA		NA		NA		NA		13100		20700		33300		10400	
Iron	7439-89-6	—	—	—	—	—	13500000		12100000		NA		NA		NA		NA		NA		NA		9560000		9220000		10900000		9000000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	**167,000**		**110,000**		**430,000**		NA		NA		NA		NA		NA		11200		36600		**191000**		29200	
Magnesium	7439-95-4	—	—	—	—	—	5510000		3240000		NA		NA		NA		NA		NA		NA		3540000		4450000		9790000		2680000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	234000		119000		NA		NA		NA		NA		NA		NA		296000		217000		462000		680000	
Mercury	7439-97-6	180	810	810	2,800	5,700	1.17	U	67.1		NA		NA		NA		NA		NA		NA		30.9	U	96.5		**756**		**1380**	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	16000		22100		NA		NA		NA		NA		NA		NA		**36800**		**35500**		22300		20200	
Potassium	7440-09-7	—	—	—	—	—	969000		677000		NA		NA		NA		NA		NA		NA		915000		926000		908000		710000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	1460	U	1370		NA		NA		NA		NA		NA		NA		**4420**		**4340**		**6830**		**3950**	
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	728	U	528	U	NA		NA		NA		NA		NA		NA		516	U	535	U	605	U	620	U
Sodium	7440-23-5	—	—	—	—	—	1260000		962000		NA		NA		NA		NA		NA		NA		329000		324000		526000		285000	
Vanadium	7440-62-2	—	—	—	—	—	15800		11200		NA		NA		NA		NA		NA		NA		15500		17700		20300		19000	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	**197,000**		**691,000**		NA		NA		NA		NA		NA		NA		29600		**129000**		**552000**		28000	

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank c
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or impreci

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 2
SUMMARY OF LANGAN SOIL ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)					Supplemental RI															
Address:		Protection of Public Health																				
Location ID:	CAS No.	Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	EPA-6 (363 BOND)		EPA-7 (363 BOND)		EPA-7 (363 BOND)		EPA-7 (363 BOND)		EPA-8 (363 BOND)		EPA-8 (363 BOND)		EPA-8 (363 BOND)		EPA-8 (363 BOND)	
Sample ID:							488/EPA-6E-20141103		489/EPA-7A-20141103		490/EPA-7B-20141103		491/EPA-7C-20141103		494/EPA-8A-20141103		495/EPA-8B-20141103		496/EPA-8C-20141103		497/EPA-8D-20141103	
Sample Date:							11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014	
Sampling Depth/VOC Sampling Depth (ft bgs):							11		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 8.5-9)		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 7-7.5)		9-10 (VOCs 9.5-10)	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																						
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	8.2		3.4	J	2.1	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
1,4-Dioxane (P-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	41	U	48	U	42	U	55	U	39	U	42	U	50	U	43	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	4.1	U	7.9	J	12		34		17		16		23		20	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	4.3	J	2.1	U
M And P Xylenes	179601-23-1	260	100,000	100,000	500,000	100,000	4.1	U	4.8	U	4.2	U	5.5	U	3.9	U	4.2	U	5	U	4.3	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	2.1	U	2.4	U	2.1	U	6.4		1.9	U	2.1	U	3.1	J	2.1	U
P-Cymene (P-Isopropyltoluene)	CYMP	—	—	—	—	—	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	2.1	U	2.4	U	2.1	U	2.7	U	69		2.1	U	2.5	U	2.1	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	2.1	U	2.4	U	2.1	U	2.7	U	1.9	U	2.1	U	2.5	U	2.1	U
Semi-Volatile Organic Compounds (SVOCs)																						
2-Methylphenol (O-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	NA		43.6	UJ	50.4	U	125	U	45.3	U	23.2	U	26.8	U	22.9	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	NA		87.7		769		1510		145		23.2	U	141		22.9	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	NA		307		2240		3180		332		23.2	U	296		22.9	U
Benzo(A)Anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	NA		891		**2360**		**6960**		805		62.9		386		22.9	U
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	NA		943		**1930**		**1950**		286		76.6		364		22.9	U
Benzo(B)Fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	NA		801		**1880**		**3160**		269		59.2		324		22.9	U
Benzo(G,H,I)Perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	NA		372		588		1090	J	136	J	40.3	J	113		22.9	U
Benzo(K)Fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	NA		759		**1590**		**3130**		341		67.3		315		22.9	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	NA		974		**2700**		**8120**		946		86.6		471		22.9	U
Cresols, M & P	MEPH1314	330	34,000	100,000	500,000	1,000,000	NA		43.6	UJ	50.4	U	125	U	45.3	U	23.2	U	26.8	U	22.9	U
Dibenz(A,H)Anthracene	53-70-3	330	330	330	560	1,100	NA		210		313		**771**	**J**	45.3	R	23.2	U	72.6		22.9	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	NA		43.6	U	796		510		60.7	J	23.2	U	64.5		22.9	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	NA		2180		7880		16000		1950		119		990		22.9	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	NA		98.1		879		1280		45.3	U	23.2	U	161		22.9	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	NA		43.6	U	50.4	U	125	U	45.3	U	23.2	U	26.8	U	22.9	U
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	500	500	5,600	11,000	NA		305		**643**		**1110**	**J**	131	J	33.3	J	121		22.9	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	NA		43.6	U	1280		288		45.3	U	31.4	J	26.8	U	22.9	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	NA		43.6	UJ	50.4	U	125	U	45.3	U	23.2	U	26.8	U	22.9	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	NA		1420		10100		14200		1640		69.2		805		22.9	U
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	NA		43.6	UJ	50.4	U	125	UJ	45.3	UJ	23.2	U	26.8	U	22.9	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	NA		2120		8890		20800		3170		153		986		22.9	U
Pesticides																						
Gamma Chlordane	12789-03-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDE	72-55-9	3	1,800	8,900	62,000	120,000	NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDT	50-29-3	3	1,700	7,900	47,000	94,000	NA		NA		NA		NA		NA		NA		NA		NA	
Polychlorinated biphenyls (PCBs)																						
PCB-1254 (Aroclor 1254)	11097-69-1	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA	
Total PCBS	1336-36-3	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA	
Metals																						
Antimony	7440-36-0	—	—	—	—	—	NA		522	U	603	U	596	U	542	U	555	U	986		548	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	NA		4160		8540		12100		3490		4710		**67000**		1740	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	NA		46800		70300		180000		58200		64300		**547000**		44200	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	NA		104	U	121	U	119	U	108	U	111	U	128	U	110	U
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	NA		313	U	362	U	357	U	325	U	333	U	385	U	329	U
Calcium	7440-70-2	—	—	—	—	—	NA		19600000		1520000		12600000		35700000		2580000		13300000		3950000	
Chromium, Total	7440-47-3	—	—	—	—	—	NA		10900		12100		10800		15400		15600		13700		10500	
Cobalt	7440-48-4	—	—	—	—	—	NA		4550		6070		5550		5110		6410		7730		5310	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	NA		18400		39600		38700		24200		29800		**204000**		13200	
Iron	7439-89-6	—	—	—	—	—	NA		9750000		15400000		12100000		9900000		13500000		28300000		12000000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	NA		53800		**89000**		**401000**		52500		**163000**		**2110000**		4880	
Magnesium	7439-95-4	—	—	—	—	—	NA		2670000		2000000		2720000		3620000		2500000		2220000		2690000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	NA		208000		472000		217000		224000		265000		427000		354000	
Mercury	7439-97-6	180	810	810	2,800	5,700	NA		**322**		**542**		**976**		154		**280**		**2840**		62.9	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	NA		21000		20500		21500		24800		28800		28100		15700	
Potassium	7440-09-7	—	—	—	—	—	NA		787000		620000		803000		1140000		773000		779000		1140000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	NA		3430		**4970**		**4880**		**4120**		**4180**		**6640**		3700	
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	NA		522	J	603	U	596	U	542	U	555	U	641	U	548	U
Sodium	7440-23-5	—	—	—	—	—	NA		273000		324000		478000		290000		195000		461000		248000	
Vanadium	7440-62-2	—	—	—	—	—	NA		15600		21100		19200		18900		21800		33100		22200	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	NA		46500		51500		108000		53100		62700		**543000**		19600	

Investigation Phase:		Supplemental RI																				
Address:																						
Location ID:	CAS No.	EPA-8 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)		EPA-9 (363 BOND)	
Sample ID:		498/EPA-9A-20141103		499/EPA-9B-20141103		500/EPA-9C-20141103		501/EPA-9D-20141103														
Sample Date:		11/3/2014		11/3/2014		11/3/2014		11/3/2014														
Sampling Depth/VOC Sampling Depth (ft bgs):		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 7-7.5)		9-10.5 (VOCs 10-10.5)														
Units:		ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q													
Volatile Organic Compounds (VOCs)																						
1,1,1-Trichloroethane	71-55-6	2	U	2.4	U	2.5	U	2.9	U													
1,1-Dichloroethane	75-34-3	2	U	2.4	U	2.5	U	2.9	U													
1,1-Dichloroethene	75-35-4	2	U	2.4	U	2.5	U	2.9	U													
1,2,4-Trimethylbenzene	95-63-6	2	U	2.4	U	54		2.9	U													
1,2-Dichloroethane	107-06-2	2	U	2.4	U	2.5	U	2.9	U													
1,4-Dioxane (P-Dioxane)	123-91-1	40	U	48	U	51	U	58	U													
Acetone	67-64-1	4	U	18		260	E	8.8	J													
Benzene	71-43-2	2	U	2.4	U	8.8		2.9	U													
Carbon Tetrachloride	56-23-5	2	U	2.4	U	2.5	U	2.9	U													
Chloroform	67-66-3	2	U	2.4	U	2.5	U	2.9	U													
Cis-1,2-Dichloroethylene	156-59-2	2	U	2.4	U	5.1		7.1														
Ethylbenzene	100-41-4	2	U	2.4	U	17		2.9	U													
M And P Xylenes	179601-23-1	4	U	4.8	U	40		5.8	U													
Methyl Ethyl Ketone (2-Butanone)	78-93-3	2	U	2.4	U	63		2.9	U													
P-Cymene (P-Isopropyltoluene)	CYMP	2	U	2.4	U	5.2		2.9	U													
Toluene	108-88-3	2	U	2.4	U	18		2.9	U													
Trans-1,2-Dichloroethene	156-60-5	2	U	2.4	U	2.5	U	2.9	U													
Trichloroethylene (TCE)	79-01-6	2	U	9.6		29		3.3	J													
Vinyl Chloride	75-01-4	2	U	2.4	U	6.6		9.4														
Semi-Volatile Organic Compounds (SVOCs)																						
2-Methylphenol (O-Cresol)	95-48-7	43.4	UJ	44	U	***3190***	***UJ***	**365**														
Acenaphthene	83-32-9	56.8	J	790		12200		880														
Anthracene	120-12-7	130		1470		21400		1830														
Benzo(A)Anthracene	56-55-3	406		**1620**		**17900**		**2470**														
Benzo(A)Pyrene	50-32-8	148		779		**4850**		**1350**														
Benzo(B)Fluoranthene	205-99-2	133		**1240**		**6920**		**1220**														
Benzo(G,H,I)Perylene	191-24-2	43.4	R	373		3120	J	443	J													
Benzo(K)Fluoranthene	207-08-9	169		**874**		**6470**		**1290**														
Chrysene	218-01-9	494		**1910**		**19700**		**3030**														
Cresols, M & P	MEPH1314	43.4	UJ	44	U	238	UJ	**527**														
Dibenz(A,H)Anthracene	53-70-3	43.4	R	207		**1690**	**J**	294	J													
Dibenzofuran	132-64-9	43.4	U	1300		**17600**		865														
Fluoranthene	206-44-0	943		4670		52000		6570														
Fluorene	86-73-7	43.4	U	1060		15800		990														
Hexachlorobenzene	118-74-1	43.4	U	44	U	238	U	53.3	U													
Indeno(1,2,3-C,D)Pyrene	193-39-5	43.4	R	347		**3120**	**J**	483	J													
Naphthalene	91-20-3	43.4	U	3450		**126000**		4380														
Pentachlorophenol	87-86-5	43.4	UJ	44	U	238	UJ	53.3	U													
Phenanthrene	85-01-8	713		7770		89200		7750														
Phenol	108-95-2	43.4	UJ	44	U	***2440***	***UJ***	**451**														
Pyrene	129-00-0	1410		5650		65600		7980														
Pesticides																						
Gamma Chlordane	12789-03-6	NA		NA		NA		NA														
4,4'-DDE	72-55-9	NA		NA		NA		NA														
4,4'-DDT	50-29-3	NA		NA		NA		NA														
Polychlorinated biphenyls (PCBs)																						
PCB-1254 (Aroclor 1254)	11097-69-1	NA		NA		NA		NA														
Total PCBS	1336-36-3	NA		NA		NA		NA														
Metals																						
Antimony	7440-36-0	519	U	527	U	570	U	637	U													
Arsenic	7440-38-2	4240		4840		8960		9830														
Barium	7440-39-3	67200		35800		88200		88600														
Beryllium	7440-41-7	104	U	105	U	114	U	127	U													
Cadmium	7440-43-9	312	U	316	U	1190		**15800**														
Calcium	7440-70-2	14900000		4420000		82600000		32900000														
Chromium, Total	7440-47-3	13600		11300		16700		16800														
Cobalt	7440-48-4	6610		6680		5020		7250														
Copper	7440-50-8	**55700**		16600		21500		29800														
Iron	7439-89-6	17000000		11300000		10700000		17000000														
Lead	7439-92-1	**64500**		22300		52400		**97600**														
Magnesium	7439-95-4	4980000		4870000		3380000		5560000														
Manganese	7439-96-5	253000		245000		224000		348000														
Mercury	7439-97-6	**331**		150		**231**		**304**														
Nickel	7440-02-0	**43500**		**40400**		17200		23600														
Potassium	7440-09-7	1010000		994000		2010000		1440000														
Selenium	7782-49-2	**4730**		**4390**		3470		**6380**														
Silver	7440-22-4	519	U	527	U	570	U	637	U													
Sodium	7440-23-5	326000		315000		1040000		639000														
Vanadium	7440-62-2	17500		20100		22000		25700														
Zinc	7440-66-6	78800		65000		**292000**		**541000**														

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank c
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or impreci

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 2
SUMMARY OF LANGAN SOIL ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)					Supplemental RI															
Address:		Protection of Public Health					363 Bond Street															
Location ID:	CAS No.	Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	EPA-10 (363 BOND)		EPA-10 (363 BOND)		EPA-10 (363 BOND)		EPA-11 (363 BOND)		EPA-11 (363 BOND)		EPA-11 (363 BOND)		EPA-12 (363 BOND)		EPA-12 (363 BOND)		EPA-12 (363 BOND)		EPA-12 (363 BOND)		EPA-13 (363 BOND)	
Sample ID:							502/EPA-10A-20141103		503/EPA-10B-20141103		504/EPA-10C-20141103		505/EPA-11A-20141103		506/EPA-11B-20141103		507/EPA-11C-20141103		508/EPA-11D-20141103		524/EPA-12A-20141104		525/EPA-12B-20141104		526/EPA-12C-20141104		527/EPA-12D-20141104		515/EPA-13A-20141103	
Sample Date:							11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/4/2014		11/4/2014		11/4/2014		11/4/2014		11/3/2014	
Sampling Depth/VOC Sampling Depth (ft bgs):							0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-8 (VOCs 7.5-8)		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 8.5-9)		9-12 (VOCs 11.5-12)		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 7.5-8)		VOCs 8.5-9		0-3 (VOCs 2.5-3)	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																														
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	2.2	U	54	J	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	730	U	3.5	U	3.6	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	2.2	U	3.4	R	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
1,4-Dioxane (P-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	45	U	68	U	41	U	50	U	41	U	59	U	41	U	53	U	82	U	***15000***	***U***	70	U	73	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	33		**87**		13		28		42		17		5.7	J	5.3	U	16	U	***1500***	***U***	**87**		7.3	U
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	730	U	3.5	U	3.6	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
Cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	730	U	3.5	U	3.6	U
M And P Xylenes	179601-23-1	260	100,000	100,000	500,000	100,000	4.5	U	28		4.1	U	5	U	4.1	U	5.9	U	4.1	U	5.3	U	8.2	U	***1500***	***U***	7	U	7.3	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	2.2	U	13		2	U	2.5	U	8.3		3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	16		3.6	U
P-Cymene (P-Isopropyltoluene)	CYMP	—	—	—	—	—	2.2	U	5.1	J	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	730	U	3.5	U	3.6	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	8.2		4.1	U	***730***	***U***	3.5	U	6.1	J
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	2.2	U	3.4	U	2	U	2.5	U	2.1	U	3	U	2.1	U	2.6	U	4.1	U	***730***	***U***	3.5	U	3.6	U
Semi-Volatile Organic Compounds (SVOCs)																														
2-Methylphenol (O-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	51.2	U	***1250***	***U***	23.5	U	42.5	U	23.5	U	119	U	122	U	116	UJ	54.3	UJ	50.9	U	NA		44.8	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	51.2	U	5650		23.5	U	42.5	U	23.5	U	6650		551		413		54.3	U	110		NA		44.8	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	113		10100		112		86.8		23.5	U	6400		1530		915		54.3	U	239		NA		94.9	
Benzo(A)Anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	573		**9970**	**J**	137		326		23.5	U	**12700**	**J**	**5950**	**J**	**2720**		99.6	J	344		NA		358	
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	293		**3120**		59.5		359		23.5	U	**5710**		**3460**		**2390**		95.2	J	254		NA		283	
Benzo(B)Fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	287		**4340**	**J**	63.2		337		23.5	U	**7540**	**J**	**3030**	**J**	**2000**		54.3	U	198		NA		276	
Benzo(G,H,I)Perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	134	J	1680	J	36.3	J	136		23.5	U	2730		1040		730		54.3	U	50.9	U	NA		114	
Benzo(K)Fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	284		**4280**	**J**	87.2		321		23.5	U	**7540**	**J**	**2800**	**J**	**1990**		77.9	J	249		NA		286	
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	756		**10900**	**J**	145		435		23.5	U	**16000**	**J**	**7590**	**J**	**3560**		126		382		NA		420	
Cresols, M & P	MEPH1314	330	34,000	100,000	500,000	1,000,000	51.2	U	***1250***	***U***	23.5	U	42.5	U	23.5	U	119	U	122	U	116	UJ	54.3	UJ	50.9	U	NA		44.8	U
Dibenz(A,H)Anthracene	53-70-3	330	330	330	560	1,100	51.2	R	1250	R	23.5	U	75.9	J	23.5	U	**1260**	**J**	**479**	**J**	283		54.3	U	50.9	U	NA		44.8	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	51.2	U	4690		23.5	U	42.5	U	23.5	U	119	U	247		248		54.3	U	86.1	J	NA		44.8	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	906		24100		260		685		23.5	U	35300		12000		6900		190		734		NA		543	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	51.2	U	6450		37	J	42.5	U	23.5	U	6330		641		341		54.3	U	124		NA		44.8	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	51.2	U	***1250***	***U***	23.5	U	42.5	U	23.5	U	119	U	183	J	116	U	54.3	U	50.9	U	NA		44.8	U
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	500	500	5,600	11,000	150	J	1250	R	32.9	J	141		23.5	U	**2860**	**J**	**1180**	**J**	**780**		54.3	U	50.9	U	NA		106	
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	51.2	U	**14700**		79		42.5	U	23.5	U	832		205	J	211	J	54.3	U	127		NA		44.8	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	51.2	U	***1250***	***U***	23.5	U	42.5	U	23.5	U	119	U	122	U	116	UJ	54.3	UJ	50.9	U	NA		44.8	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	386		34000		321		419		23.5	U	37700		6940		5910		185		897		NA		475	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	51.2	U	***1250***	***U***	23.5	U	42.5	U	23.5	U	119	U	122	U	116	UJ	54.3	UJ	50.9	U	NA		44.8	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	1720		33200		277		721		23.5	U	37900		22700		7950		218		682		NA		615	
Pesticides																														
Gamma Chlordane	12789-03-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDE	72-55-9	3	1,800	8,900	62,000	120,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDT	50-29-3	3	1,700	7,900	47,000	94,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Polychlorinated biphenyls (PCBs)																														
PCB-1254 (Aroclor 1254)	11097-69-1	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total PCBS	1336-36-3	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals																														
Antimony	7440-36-0	—	—	—	—	—	694		599	U	561	U	509	U	562	U	568	U	584	U	556	U	800		609	U	NA		535	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	12000		7400		3080		4270		2810	J	6650		6890		7910		**41500**		5540		NA		6270	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	291000		98400		56400		68600		29100		106000		123000		155000		158000		68700		NA		62200	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	123	U	120	U	112	U	102	U	112	U	114	U	117	U	111	U	130	U	122	U	NA		107	U
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	**7870**		360	U	337	U	312		337	U	341	U	351	U	333	U	390	U	1160		NA		321	U
Calcium	7440-70-2	—	—	—	—	—	34100000		3030000		1610000		18500000		1200000		22700000		9240000		39600000		5880000		10600000		NA		48600000	
Chromium, Total	7440-47-3	—	—	—	—	—	15700		9180		15700		30600		11900		7160		17300		10700		21300		10100		NA		15900	
Cobalt	7440-48-4	—	—	—	—	—	4490		5590		7940		5940		5710		4280		6760		4910		11000		4950		NA		11900	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	**172000**		**52200**		29200		26600		12100		**79700**		26700		**60600**		**147000**		48200		NA		**179000**	
Iron	7439-89-6	—	—	—	—	—	11300000		10800000		14500000		12600000		12900000		10900000		13500000		12000000		19000000		7850000		NA		13300000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	**3760000**		**677000**		24600		**1480000**		10000	J	312000	B	263000	B	**459000**		**247000**		**91600**		NA		**236000**	
Magnesium	7439-95-4	—	—	—	—	—	3660000		1400000		3650000		4510000		3050000		7800000		2190000		2710000		1840000		1790000		NA		7410000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	420000		81400		226000		270000		296000		374000		354000		172000		171000		91700		NA		232000	
Mercury	7439-97-6	180	810	810	2,800	5,700	**1040**		**286**		129		**1330**		45.9		**492**		**1160**		**1110**		**519**		**237**		NA		**366**	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	20400		23600		**31900**		**34600**		23500		15900		**34000**		18100		**38700**		19700		NA		**42000**	
Potassium	7440-09-7	—	—	—	—	—	1020000		504000		1260000		1190000		951000		500000		868000		893000		1350000		532000		NA		1170000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	**5390**		3720		**4330**		**4730**		**4320**	**J**	**6460**		**4470**		**4230**		**7870**		3040		NA		**6110**	
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	613	U	599	U	561	U	509	U	562	U	568	U	584	U	556	U	649	U	609	J	NA		535	U
Sodium	7440-23-5	—	—	—	—	—	398000		309000		321000		396000		386000		341000		396000		345000		554000		202000		NA		951000	
Vanadium	7440-62-2	—	—	—	—	—	20700		21800		23500		20400		17700		14400		26400		17300		30800		14700		NA		14400	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	**556000**		**117000**		35300		69200		29300		**226000**		62300		**129000**		**377000**		99900		NA		**1270000**	

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank c
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or impreci

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 2
SUMMARY OF LANGAN SOIL ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)					Supplemental RI																	
Address:		Protection of Public Health																						
Location ID:	CAS No.	Unrestricted Use Objectives	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	EPA-13 (363 BOND) 516/EPA-13B-20141103		EPA-13 (363 BOND) 517/EPA-13C-20141103		EPA-13 (363 BOND) 518/EPA-13D		EPA-14 (363 BOND) 510/EPA-14A-20141103		EPA-14 (363 BOND) 511/EPA-14B-20141103		EPA-14 (363 BOND) 512/EPA-14C-20141103		EPA-14 (363 BOND) 513/EPA-14D-20141103		EPA-14 (363 BOND) 514/EPA-14E-20141103		EPA-15 (363 BOND) 519/EPA-15A-20141103		EPA-15 (363 BOND) 520/EPA-15B-20141103		EPA-15 (363 BOND) 521/EPA-15C-20141103		EPA-15 (363 BOND) 522/DUP-1-20141103		EPA-15 (363 BOND) 523/EPA-15D-20141103	
Sample ID:							11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014		11/3/2014	
Sample Date:							3-6 (VOCs 5.5-6)		6-9 (VOCs 7.5-8)		9		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 6.5-7)		9-12 (VOCs 9.5-10)		VOCs 12-12.5		0-3 (VOCs 2.5-3)		3-6 (VOCs 5.5-6)		6-9 (VOCs 7-7.5)		6-9 (VOCs 7-7.5)		9.5	
Sampling Depth/VOC Sampling Depth (ft bgs):																															
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																															
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	430	U	3.5	U	6	U	2.7	U	210	U	300	U	360	U	2.2	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	210	U	***300***	***U***	***360***	***U***	2.2	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	210	U	300	U	***360***	***U***	2.2	U
1,2,4-Trimethylbenzene	95-63-6	3,600	47,000	52,000	190,000	380,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	430	U	3.5	U	6	U	2.7	U	260	J	300	U	360	U	2.2	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	***210***	***U***	***300***	***U***	***360***	***U***	2.2	U
1,4-Dioxane (P-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	70	U	***310000***	***U***	61	U	62	U	82	U	***8600***	***U***	71	U	***120***	***U***	55	U	***4300***	***U***	***5900***	***U***	***7200***	***U***	45	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**150**		***31000***	***U***	6.1	U	12	U	8.2	U	***860***	***U***	7.1	U	***97***	***U***	11	U	***430***	***U***	***590***	***U***	***720***	***U***	49	U
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	3.5	U	***15000***	***U***	4.3	J	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	**1100**		***300***	***U***	***360***	***U***	2.2	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	430	U	3.5	U	6	U	2.7	U	210	U	300	U	360	U	2.2	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	210	U	300	U	360	U	2.2	U
Cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	210	U	***300***	***U***	***360***	***U***	2.2	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	430	U	3.5	U	6	U	2.7	U	410	J	300	U	360	U	2.2	U
M And P Xylenes	179601-23-1	260	100,000	100,000	500,000	100,000	7	U	***31000***	***U***	6.1	U	6.2	U	8.2	U	***860***	***U***	7.1	U	12	U	5.5	U	**1200**		***590***	***U***	***720***	***U***	4.5	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	43		***15000***	***U***	26	0	3.1	U	4.1	U	***430***	***U***	23		24		2.7	U	***210***	***U***	***300***	***U***	***360***	***U***	13	
P-Cymene (P-Isopropyltoluene)	CYMP	—	—	—	—	—	3.5	U	15000	U	3.1	U	3.1	U	4.1	U	430	U	3.5	U	6	U	2.7	U	210	U	300	U	360	U	2.2	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	430	U	3.5	U	6	U	2.7	U	**1200**		300	U	360	U	2.2	U
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	***210***	***U***	***300***	***U***	***360***	***U***	2.2	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	3.5	U	***15000***	***U***	3.1	U	11		4.1	U	430	U	3.5	U	6	U	4.1	J	210	U	300	U	360	U	2.2	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	3.5	U	***15000***	***U***	3.1	U	3.1	U	4.1	U	***430***	***U***	3.5	U	6	U	2.7	U	***210***	***U***	***300***	***U***	***360***	***U***	2.2	U
Semi-Volatile Organic Compounds (SVOCs)																															
2-Methylphenol (O-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	50.5	U	***1290***	***U***	NA		46.2	U	51	U	53.6	U	56.8	U	NA		44.6	UJ	23.9	U	26.6	U	28.8	U	NA	
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	197		8100	J	NA		46.2	U	51	U	53.6	U	111	J	NA		127		23.9	U	26.6	U	28.8	U	NA	
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	308		22700	J	NA		46.2	U	51	U	385		147		NA		340		52.6		26.6	U	28.8	U	NA	
Benzo(A)Anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	705		**33700**	**J**	NA		317		263		646		687		NA		**1500**		208		59.3		28.8	U	NA	
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	602		**23100**	**J**	NA		342		460		417		**1240**		NA		875		192		78.8		28.8	U	NA	
Benzo(B)Fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	475		**16100**	**J**	NA		418		301		315		708		NA		996		149		59.3		28.8	U	NA	
Benzo(G,H,I)Perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	188		5660	J	NA		147		137		90.6	J	349		NA		359		78.2		26.6	U	28.8	U	NA	
Benzo(K)Fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	536		**20000**	**J**	NA		364		435		415		**1040**		NA		**1270**		178		63.2		28.8	U	NA	
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	826		**39900**	**J**	NA		439		333		684		805		NA		**1950**		245		81.4		28.8	U	NA	
Cresols, M & P	MEPH1314	330	34,000	100,000	500,000	1,000,000	50.5	U	***1290***	***U***	NA		46.2	U	51	U	53.6	U	56.8	U	NA		44.6	UJ	23.9	U	26.6	U	28.8	U	NA	
Dibenz(A,H)Anthracene	53-70-3	330	330	330	560	1,100	50.5	U	**2630**	**J**	NA		61.1	J	51	U	53.6	U	237		NA		130		23.9	U	26.6	U	28.8	U	NA	
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	95	J	5920	J	NA		46.2	U	51	U	53.6	U	56.8	U	NA		73.9	J	23.9	U	26.6	U	28.8	U	NA	
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	1670		73200	J	NA		318		202		1300		559		NA		2010		385		76.3		28.8	U	NA	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	166		10500	J	NA		46.2	U	51	U	53.6	U	90.6	J	NA		95.3		23.9	U	26.6	U	28.8	U	NA	
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	50.5	U	***1290***	***UJ***	NA		46.2	U	51	U	53.6	U	56.8	U	NA		44.6	U	23.9	U	26.6	U	28.8	U	NA	
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	500	500	5,600	11,000	184		**6030**	**J**	NA		159		150		89.7	J	439		NA		334		67.5		26.6	U	28.8	U	NA	
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	50.5	U	1290	UJ	NA		85.4	J	51	U	53.6	U	196		NA		60.4	J	23.9	U	26.6	U	28.8	U	NA	
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	50.5	U	***1290***	***U***	NA		46.2	U	51	U	53.6	U	56.8	U	NA		44.6	UJ	23.9	U	26.6	U	28.8	U	NA	
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	1920		68300	J	NA		151		51	U	1190		348		NA		1770		232		26.6	U	28.8	U	NA	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	50.5	U	***1290***	***U***	NA		46.2	U	51	U	53.6	U	56.8	U	NA		44.6	UJ	23.9	U	26.6	U	28.8	U	NA	
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	1770		77400	J	NA		395		344		1430		656		NA		2480		417		91.1		28.8	U	NA	
Pesticides																															
Gamma Chlordane	12789-03-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDE	72-55-9	3	1,800	8,900	62,000	120,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4,4'-DDT	50-29-3	3	1,700	7,900	47,000	94,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Polychlorinated biphenyls (PCBs)																															
PCB-1254 (Aroclor 1254)	11097-69-1	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Total PCBS	1336-36-3	100	1,000	1,000	1,000	25,000	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals																															
Antimony	7440-36-0	—	—	—	—	—	1820		617	U	NA		2180		610	U	641	U	680	U	NA		533	U	768		636	U	690	U	NA	
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	5970		11000		NA		**39000**		12500		8120		11000		NA		3740		**13100**		7070		6870		NA	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	72500		62800		NA		105000		115000		180000		306000		NA		77400		93200		215000		244000		NA	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	121	U	123	U	NA		110	U	122	U	128	U	136	U	NA		107	U	114	U	127	U	138	U	NA	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	362	U	370	U	NA		331	U	366	U	1660		408	U	NA		320	U	343	U	382	U	414	U	NA	
Calcium	7440-70-2	—	—	—	—	—	4790000		13400000		NA		34400000		35200000		16100000		7350000		NA		39300000		5030000		6310000		6960000		NA	
Chromium, Total	7440-47-3	—	—	—	—	—	11000		8690		NA		14500		10200		11600		13400		NA		14000		11600		11400		11700		NA	
Cobalt	7440-48-4	—	—	—	—	—	7720		6810		NA		7540		6070		5920		8660		NA		7010		4960		6890		7310		NA	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	**134000**		31100		NA		**292000**		**76700**		**61500**		**53000**		NA		**71400**		**106000**		**72400**		**90200**		NA	
Iron	7439-89-6	—	—	—	—	—	11000000		27800000		NA		22100000		11300000		9780000		20600000		NA		12400000		13600000		10600000		10900000		NA	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	**154000**		**161000**		NA		**366000**		**510000**		**3290000**		**214000**		NA		**142000**		**274000**		**330000**		**384000**		NA	
Magnesium	7439-95-4	—	—	—	—	—	2010000		1390000		NA		2950000		2010000		1770000		1290000		NA		3320000		2000000		1460000		1570000		NA	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	198000		118000		NA		231000		165000		91800		180000		NA		181000		130000		242000		274000		NA	
Mercury	7439-97-6	180	810	810	2,800	5,700	**779**		**717**		NA		**976**		**584**		**1030**		**717**		NA		**273**		**951**		**586**	**J**	**1320**	**J**	NA	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	23200		24200		NA		**33200**		20600		19100		25600		NA		21000		17900		22600		25400		NA	
Potassium	7440-09-7	—	—	—	—	—	619000		550000		NA		1330000		722000		685000		890000		NA		1040000		1060000		870000		840000		NA	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	**4310**		**5130**		NA		**11900**		**4120**		**4610**		**5150**		NA		**4450**		**6050**		**5390**		**3960**		NA	
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	604	U	617	U	NA		552	U	610	U	641	U	680	U	NA		533	U	572	U	636	U	690	U	NA	
Sodium	7440-23-5	—	—	—	—	—	657000		248000		NA		719000		632000		430000		644000		NA		550000		504000		648000		590000		NA	
Vanadium	7440-62-2	—	—	—	—	—	17700		18700		NA		22600		15600		17300		29500		NA		15000		22900		22900		21900		NA	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	55500		94100		NA		**176000**		**154000**		**155000**		71500		NA		78100		**128000**		**129000**		**208000**		NA	

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or impreci

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 3A
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
388 CARROLL STREET
Brooklyn, New York

Consultant:			Environmental Liability Management of New York, LLC (ELM)												Cosmos		Tradewind	
Sample ID:		Ground Water Quality Standards	MW-1		SB-2/TW		SB-3/W		SB-6/TW		SB-7/TW		SB-11/TW		SB-12/TW		PPW-3		W1	
Laboratory Sample Number:	CAS No.		207936-006		207935-013		207935-014		207935-015		207935-016		207935-017		207935-018		C974508/6		0209069-01A	
Sampling Date:			10/25/2004		10/27/2004		10/27/2004		10/27/2004		10/27/2004		10/27/2004		10/27/2004		10/26/1997		9/20/2002	
Units:		ug/l	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Volatile Organic Compounds (VOCs)																				
1,1,1-Trichloroethane	71-55-6	5	0.9	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	NA		NA	
1,1-Dichloroethane	75-34-3	5	0.4	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
1,1-Dichloroethene	75-35-4	5	0.8	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
1,1,1-Trichloroethane	71-55-6	5	0.8	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
1,1,2-Trichloroethane	79-00-5	1	0.8	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***1***	***U***	***1***	***U***
1,1,2,2-Tetrachloroethane	79-34-5	5	0.7	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
1,2-Dichloroethane	107-06-2	0.6	***0.6***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***1***	***U***	***1***	***U***
1,2-Dichloroethene (cis)	156-59-2	5	0.7	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	NA		1	U
1,2-Dichloroethene (trans)	156-60-5	5	0.5	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
1,2-Dichloropropane	78-87-5	1	0.7	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***1***	***U***	***1***	***U***
1,2,4-Trimethylbenzene	95-63-6	5	NA		NA		NA		NA		NA		NA		NA		NA		**5.3**	
Acetone	67-64-1	50	10		6.6	J	13		8.4	J	7.4	J	9.6	J	4.3	J	NA		1	U
Benzene	71-43-2	1	**3.2**	**J**	**8.8**		**1.7**	**J**	**1**	**J**	***5***	***U***	**33**		0.63	J	**52**		**7.4**	
Bromomethane	74-83-9	5	2.7	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Carbon tetrachloride	56-23-5	5	0.6	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Chlorobenzene	108-90-7	5	0.5	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Chloroethane	75-00-3	5	1.7	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Chloroform	67-66-3	7	0.6	U	5	U	5	U	5	U	5	U	2.8	J	0.82	J	1	U	1	U
Ethylbenzene	100-41-4	5	0.5	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	3.7	J	***5***	***U***	1		1	U
Isopropyl Benzene	98-82-8	5	NA		NA		NA		NA		NA		NA		NA		NA		**12**	
Methylene chloride	75-09-2	5	0.6	UB	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Propylbenzene-n	103-65-1	5	NA		NA		NA		NA		NA		NA		NA		NA		**7.9**	
Sec-Butylbenzene	135-98-8	5	NA		NA		NA		NA		NA		NA		NA		NA		**17**	
Styrene	100-42-5	5	0.7	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	NA		1	U
Tert-Butylbezene	98-06-6	5	NA		NA		NA		NA		NA		NA		NA		NA		**6.7**	
Tetrachloroethene	127-18-4	5	0.4	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Toluene	108-88-3	5	0.57	J	1	J	***5***	***U***	***5***	***U***	***5***	***U***	**5.5**		***5***	***U***	3		1	U
Trichloroethene	79-01-6	5	0.8	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Vinyl Chloride	75-01-4	2	0.6	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	1	U	1	U
Xylene (mixed)	1330-20-7	5	0.9	U	1	J	***5***	***U***	***5***	***U***	1	J	**17**		***5***	***U***	NA		NA	
Total VOC	—	–	37.07		172.4		179.7		174.4		173.4		212.6		165.75					
Semi-Volatile Organic Compounds (SVOCs)		–																		
1,2,4-Trichlorobenzene	120-82-1	5	0.6	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2-Chlorophenol	95-57-8	2	1	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2-Methylnaphthalene	—	—	0.6	U	10	U	10	U	10	U	10	U	1	J	10	U	NA		NA	
2-Nitroaniline	88-74-4	5	0.9	U	***50***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***100***	***U***	***50***	***U***	NA		NA	
2-Nitrophenol	88-75-5	2	1	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2,4-Dichlorophenol	120-83-2	5	1	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2,4-Dimethylphenol	105-67-9	2	0.8	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2,4-Dinitrophenol	51-28-5	2	***2***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***100***	***U***	***50***	***U***	NA		NA	
2,4-Dinitrotoluene	121-14-2	5	1	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2,4,5-Trichlorophenol	95-95-4	2	0.9	U	***50***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***100***	***U***	***50***	***U***	NA		NA	
2,4,6-Trichlorophenol	88-06-2	2	***2***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
2,6-Dinitrotoluene	606-20-2	5	0.6	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
3-Nitroaniline	99-09-2	5	0.7	U	***50***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***100***	***U***	***50***	***U***	NA		NA	
3,3'-Dichlorobenzidine	91-94-1	5	0.7	U	***20***	***U***	***20***	***U***	***20***	***U***	***20***	***U***	***40***	***U***	***20***	***U***	NA		NA	
4-Chloroaniline	106-47-8	5	0.6	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
4-Nitroaniline	100-01-6	5	0.8	U	***20***	***U***	***20***	***U***	***20***	***U***	***20***	***U***	***40***	***U***	***20***	***U***	NA		NA	
4-Nitrophenol	100-02-7	2	0.8	U	***50***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***100***	***U***	***50***	***U***	NA		NA	
Acenaphthene	83-32-9	20	0.7	U	2	J	1	J	3	J	9	J	**89**		0.7	J	NA		NA	
Anthracene	120-12-7	50	0.8	U	10	U	10	U	10	U	1	J	5	J	10	U	NA		NA	
Benzo(a)anthracene	56-55-3	0.002	***0.4***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	**0.6**	**J**	**2**	**J**	***10***	***U***	NA		NA	
Benzo(a)pyrene	50-32-8	—	0.5	U	10	U	10	U	10	U	10	U	2	J	10	U	NA		NA	
Benzo(b)fluoranthene	205-99-2	0.002	***1***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Benzo(g,h,i)perylene	191-24-2	—	0.6	U	10	U	10	U	10	U	10	U	2	J	10	U	NA		NA	
Benzo(k)fluoranthene	207-08-9	0.002	***2***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
bis(2-Chloroethyl)ether	111-44-4	1	0.5	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
bis(2-Ethylhexyl)phthalate	117-81-7	5	2	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Chrysene	218-01-9	0.002	***0.5***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	**1**	**J**	***10***	***U***	NA		NA	
Dibenzofuran	132-64-9	—	0.8	U	10	U	0.8	J	10	U	10	U	20	U	10	U	NA		NA	
Fluoranthene	206-44-0	50	0.6	U	10	U	10	U	0.8	J	2	J	7	J	10	U	NA		NA	
Fluorene	86-73-7	50	0.7	U	10	U	1	J	ND		4	J	31		10	U	NA		NA	
Hexachlorobenzene	118-74-1	0.04	***0.7***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Hexachlorobutadiene	87-68-3	0.5	***1***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Hexachlorocyclopentadiene	77-47-4	5	***6***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Hexachloroethane	67-72-1	5	0.9	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	***0.7***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Isophorone	78-59-1	50	0.6	U	10	U	10	U	10	U	10	U	2	J	10	U	NA		NA	
Naphthalene	91-20-3	10	0.7	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	**10**	**J**	***10***	***U***	NA		NA	
Nitrobenzene	98-95-3	0.4	***0.5***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
o-Cresol(s) (2-Methylphenol)	95-48-7	2	0.9	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Pentachlorophenol	87-86-5	1	***2***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***50***	***U***	***100***	***U***	***50***	***U***	NA		NA	
Phenanthrene	85-01-8	50	0.5	U	10	U	10	U	0.7	J	5	J	47		0.5	J	NA		NA	
Phenol	108-95-2	1	0.5	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***20***	***U***	***10***	***U***	NA		NA	
Pyrene	129-00-0	50	0.4	U	10	U	10	U	0.9	J	3	J	10	J	10	U	NA		NA	
Total SVOCs	—	–	ND		942		922.8		905.4		904.6		1849		931.2		NA		NA	
		–																		
PCBs		–																		
Aroclor 1260	11096-82-5	–	0.12	U	1.1	U	1	U	1	U	0.11	J	1	U	1	U	NA		NA	
		–																		
Metals		--																		
Aluminum	7429-90-5	3	**114**	**J**	***500***	***U***	***500***	***U***	***500***	***U***	***500***	***U***	**379**	**B**	***500***	***U***	NA		NA	
Antimony	7440-36-0	3	***5.4***	***U***	***20***	***U***	***20***	***U***	**8.3**	**J**	***20***	***U***	***20***	***U***	***20***	***U***	NA		NA	
Arsenic	7440-38-2	25	6.7	J	***40***	***U***	***40***	***U***	9.7	J	***40***	***U***	***40***	***U***	***40***	***U***	NA		**930**	
Barium	7440-39-3	1,000	222		101		115		369		287		219		211		NA		**8,680**	
Beryllium	7440-41-7	3	0.54	U	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	NA		NA	
Cadmium	7440-43-9	5	1.1	U	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	NA		**134**	
Calcium	7440-70-2	—	187,000		174,000		171,000		264,000		233,000		237,000		237,000		NA		NA	
Iron	7439-89-6	300	**10,100**		80.7	J	**426**		**4,900**		**3,540**		**751**		**1,540**		NA		NA	
Lead	7439-92-1	25	6.1	J	10	U	10	U	6.7	J	10	U	4.4	J	10	U	NA		**109,000**	
Magnesium	7439-95-4	35000	12,800		28,400		14,700		**141,000**		32,600		29,200		**38,400**		NA		NA	
Manganese	7439-96-5	500	**3,870**		218		440		**621**		315		161		344		NA		NA	
Nickel	7440-02-0	100	2.9	J	10	U	10	U	10	U	10	U	1.9	J	10	U	NA		NA	
Potassium	7440-09-7	—	28,300		26,200		16,100		84,500		23,600		24,500		29,100		NA		NA	
Selenium	7782-49-2	10	5	U	***30***	***U***	***30***	***U***	***30***	***U***	***30***	***U***	***30***	***U***	***30***	***U***	NA		**77**	
Sodium	7440-23-5	–	303,000		83,000		20,100		913,000		83,300		57,600		93,400		NA		NA	
Thallium	7440-28-0	0.5	***10***	***U***	***40***	***U***	***40***	***U***	***40***	***U***	***40***	***U***	***40***	***U***	***40***	***U***	NA		NA	
Vanadium	7440-62-2	–	2.3	J	4.3	J	6	U	6	U	6	U	1.6	J	1.5	J	NA		NA	

NOTES:
Groundwater Quality Standards are a combination of values from the NYSDEC Part 703, Table 1 (cf. section 703.5), last revised 17 January 2008 and NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and
— : No criteria established
J: Estimated value
U: Indicates that the result is lower than the MDL
B: Analyte detected in the method blank
NA: Not analyzed

Sample data for ELM, Cosmos, and Tradewind were provided in the Phase II Investigation Report, 400 Carroll Street by ELM dated May 2005.

Italicized and **Bold *results*** indicate method detection limit (MDL) exceedances of the most stringent criteria.

TABLE 3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET
Brooklyn, New York

Consultant:			Environmental Liability Management of New York, LLC (ELM)							
Sample ID:		Ground Water Quality Standards	MW-1		MW-2		MW-4		MW-5	
Langan Sample Number:										
Laboratory Sample Number:	CAS No.		209387-001		209387-002		209387-003		209387-004	
Sampling Date:			4/28/2005		4/28/2005		4/28/2005		4/28/2005	
Sampling Depth (ft):										
Units:		ug/l	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Volatile Organic Compounds (VOCs)										
1,1,2-Trichloroethane	79-00-5	1	0.6	U	0.6	U	0.6	U	***3***	***U***
1,2-Dichloroethane	107-06-2	0.6	***0.6***	U	***0.6***	U	***0.6***	U	***3***	***U***
1,2-Dichloroethene (cis)	156-59-2	5	0.6	U	0.6	U	1.5	J	**450**	
Acetone	67-64-1	50	14		2.4	J	1.4	U	11	J
Benzene	71-43-2	1	0.4	U	0.4	U	**1**	**J**	**59**	
Bromomethane	74-83-9	5	1.2	U	1.2	U	1.2	U	***6***	***U***
Carbon tetrachloride	56-23-5	5	1	U	1	U	1	U	***5***	U
Ethylbenzene	100-41-4	5	1	U	1	U	1	U	**19**	**J**
Methyl ethyl ketone (MEK / 2-butanone)	78-93-3	50	1.2	U	1.2	U	1.2	U	21	J
Methylene chloride	75-09-2	5	0.4	UB	0.4	UB	0.4	UB	2.9	JB
Toluene	108-88-3	5	0.3	U	0.3	U	0.3	U	**38**	
Trichloroethene	79-01-6	5	0.7	U	0.7	U	2.2	J	3.5	U
Vinyl Chloride	75-01-4	2	0.8	U	0.8	U	1.7	J	**320**	
Xylene (mixed)	1330-20-7	5	1	U	1	U	1	U	**94**	
Total VOC	---	--	23.8		12.2		15.1		1035.4	
		--								
Semi-Volatile Organic Compounds (SVOCs)		--								
1,2,4-Trichlorobenzene	120-82-1	5	0.6	U	0.6	U	0.7	U	***7***	***U***
2-Chlorophenol	95-57-8	2	1	U	1	U	1	U	***12***	***U***
2-Methylnaphthalene	91-57-6	---	0.6	U	6	C	0.7	U	150	
2-Nitroaniline	88-74-4	5	1	U	1	U	1	U	***10***	***U***
2-Nitrophenol	88-75-5	2	1	U	1	U	1	U	***13***	***U***
2,4-Dichlorophenol	120-83-2	5	1	U	1	U	1	U	***11***	***U***
2,4-Dimethylphenol	105-67-9	2	0.9	U	0.9	U	0.9	U	**260**	
2,4-Dinitrophenol	51-28-5	2	***2***	U	***2***	U	***2***	U	***20***	***U***
2,4-Dinitrotoluene	121-14-2	5	1	U	1	U	1	U	***11***	***U***
2,4,5-Trichlorophenol	95-95-4	2	1	U	1	U	1	U	***10***	***U***
2,6-Dinitrotoluene	606-20-2	5	0.6	U	0.6	U	0.7	U	***7***	***U***
3-Nitroaniline	99-09-2	5	0.7	U	0.7	U	0.8	U	***8***	***U***
3,3'-Dichlorobenzidine	91-94-1	5	0.7	U	0.7	U	0.8	U	***8***	***U***
4-Chloroaniline	106-47-8	5	0.6	U	0.6	U	0.7	U	***7***	***U***
4-Nitroaniline	100-01-6	5	0.9	U	0.9	U	0.9	U	***9***	***U***
4-Nitrophenol	100-02-7	2	0.9	U	0.9	U	0.9	U	***9***	***U***
Acenaphthene	83-32-9	20	0.7	U	7	J	0.8	U	**90**	**J**
Anthracene	120-12-7	50	0.9	U	2	J	0.9	U	20	J
Benzo(a)anthracene	56-55-3	0.002	***0.4***	***U***	***0.4***	***U***	***0.5***	***U***	**10**	**J**
Benzo(a)pyrene	50-32-8	---	0.5	U	0.5	U	0.6	U	8	J
Benzo(b)fluoranthene	205-99-2	0.002	***1***	***U***	***1***	***U***	***1***	***U***	***11***	***U***
Benzo(k)fluoranthene	207-08-9	0.002	***2***	***U***	***2***	***U***	***2***	***U***	***18***	***U***
bis(2-Chloroethyl)ether	111-44-4	1	0.5	U	0.5	U	0.6	U	***6***	***U***
bis(2-Ethylhexyl)phthalate	117-81-7	5	3	U	3	U	3	U	***28***	***U***
Carbazole		--	0.3	U	5	J	0.3	U	89	J
Chrysene	218-01-9	0.002	***0.5***	***U***	***0.5***	***U***	***0.6***	***U***	**11**	**J**
Dibenzofuran	132-64-9	---	0.9	U	3	J	0.9	U	53	J
Fluoranthene	206-44-0	50	0.6	U	2	J	0.7	J	42	J
Fluorene	86-73-7	50	0.7	U	6	J	0.8	U	**59**	**J**
Hexachlorobenzene	118-74-1	0.04	***0.7***	***U***	***0.7***	***U***	***0.8***	***U***	***8***	***U***
Hexachlorobutadiene	87-68-3	0.5	***1***	***U***	***1***	***U***	***1***	***U***	***12***	***U***
Hexachlorocyclopentadiene	77-47-4	5	***6***	***U***	***6***	***U***	***7***	***U***	***64***	***U***
Hexachloroethane	67-72-1	5	1	U	1	U	1	U	***10***	***U***
Indeno(1,2,3-cd)pyrene	193-39-5	0.002	***0.7***	***U***	***0.7***	***U***	***0.8***	***U***	***8***	***U***
Naphthalene	91-20-3	10	0.7	U	**23**		0.8	J	**620**	
Nitrobenzene	98-95-3	0.4	***0.5***	***U***	***0.5***	***U***	***0.6***	***U***	***6***	***U***
o-Cresol(s) (2-Methylphenol)	95-48-7	2	1	U	1	U	1	U	**47**	**J**
p-Cresol(s) (4-Methylphenol)	106-44-5	--	2	U	2	U	2	U	29	J
Pentachlorophenol	87-86-5	1	***2***	***U***	***2***	***U***	***2***	***U***	***18***	***U***
Phenanthrene	85-01-8	50	0.5	U	10	J	0.6	J	**110**	**J**
Phenol	108-95-2	1	0.5	U	0.5	U	0.6	U	**7**	**J**
Pyrene	129-00-0	50	0.4	U	2	J	0.6	J	37	J
Total SVOCs	---	--	ND		109.8		54.8		2051	
		--								
Pesticides		--								
4,4'-DDE	72-55-9	--	0.01	U	0.0098	U	0.0096	U	0.22	
Aldrin	309-00-2	--	0.0067	U	0.0064	U	0.0063	U	0.049	J
Beta-BHC	319-85-7	--	0.015	U	0.014	U	0.014	U	0.13	
Endosulfan Sulfate	1031-07-8	--	0.016	U	0.016	U	0.015	U	0.076	J
Total Endosulfan	1031-07-8	--	ND		ND		ND		0.076	J
Heptachlor epoxide	1024-57-3	--	0.0066	U	0.0063	U	0.0062	U	0.58	
Total Pesticides	---	--	ND		ND		ND		1.055	

TABLE 3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET
Brooklyn, New York

Consultant:			Environmental Liability Management of New York, LLC (ELM)							
Sample ID:		**Ground Water Quality Standards**	MW-1		MW-2		MW-4		MW-5	
Langan Sample Number:										
Laboratory Sample Number:	**CAS No.**		209387-001		209387-002		209387-003		209387-004	
Sampling Date:			4/28/2005		4/28/2005		4/28/2005		4/28/2005	
Sampling Depth (ft):										
Units:		**ug/l**	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Total Metals										
Aluminum	7429-90-5	3	**97.7**	**J**	***92***	***U***	***92***	***U***	**924**	
Antimony	7440-36-0	3	***5.4***	***U***	***5.4***	***U***	***5.4***	***U***	***5.4***	***U***
Arsenic	7440-38-2	25	3.9	U	10	J	3.9	U	**35.7**	**J**
Barium	7440-39-3	1000	145		224		21.9		157	
Beryllium	7440-41-7	3	ND		ND		ND		ND	
Boron	7440-42-8	---								
Cadmium	7440-43-9	5	1.1	U	1.1	U	**16.4**		1.7	J
Calcium	7440-70-2	---	87,900		108,000		70,300		28,300	
Chromium	7440-47-3	50	1.3	U	1.3	U	1.3	U	21.2	
Cobalt	7440-48-4	---	1.8	U	2.1	J	1.8	U	7.1	J
Copper	7440-50-8	200	4.3	U	4.3	U	8.3	J	17.2	
Iron	7439-89-6	300	**5,990**		**3,730**		270		**3,600**	
Iron and Manganese	7493-89-6/7439-96-5	---	6,946		4,274		330		3,771	
Lead	7439-92-1	25	3	U	3.6	J	3	U	**227**	
Magnesium	7439-95-4	35000	10,600		32,800		5,800		23,500	
Manganese	7439-96-5	500	**956**		**544**		60		171	
Mercury (elemental)	7439-97-6	---	0.07	U	0.07	U	0.07	U	0.49	
Nickel	7440-02-0	100	1.9	U	4.1	J	3.7	J	43.2	
Potassium	7440-09-7	---	14,000		50,300		6,550		79,100	
Sodium	7440-23-5	20000	**105,000**		**155,000**		**28,400**		**187,000**	
Thallium	7440-28-0	0.5	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***
Vanadium	7440-62-2	---	1.5	U	1.5	U	5.7	J	19.8	
Zinc	7440-66-6	2000	11	U	11	U	27	J	165	
Dissolved Metals										
Antimony	7440-36-0	3	***5.4***	***U***	***5.4***	***U***	***5.4***	***U***	***5.4***	***U***
Arsenic	7440-38-2	25	3.9	U	7.5	J	3.9	U	**30.5**	**J**
Barium	7440-39-3	1000	110		158		20.9		123	
Cadmium	7440-43-9	5	1.1	U	1.1	U	**15.3**		1.1	U
Calcium	7440-70-2	---	91,400		107,000		73,100		27,600	
Chromium	7440-47-3	50	1.3	U	1.3	U	1.3	U	16.5	
Cobalt	7440-48-4	---	1.8	U	2.4	J	1.8	U	6.5	J
Copper	7440-50-8	200	4.3	U	4.3	U	5.1	J	6.2	J
Iron	7439-89-6	300	**1,290**		54	U	70.9	J	**1,830**	
Iron and Manganese	7493-89-6/7439-96-5	---	2,267		512		132.1		1,982	
Lead	7439-92-1	25	3	U	3	U	3	U	**135**	
Magnesium	7439-95-4	35000	11,200		32,200		5970		23,200	
Manganese	7439-96-5	500	**977**		**512**		61.2		152	
Nickel	7440-02-0	100	1.9	U	4.6	J	3.9	J	41.9	
Potassium	7440-09-7	---	15100		50,400		6690		80,300	
Sodium	7440-23-5	20000	**111,000**		**156,000**		**29,000**		**184,000**	
Thallium	7440-28-0	0.5	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***
Vanadium	7440-62-2	--	1.5	U	1.5	U	5.2	J	17.1	
Zinc	7440-66-6	2000	11	U	11	U	34.9	J	62.9	

NOTES:

Groundwater Quality Standards are a combination of values from the NYSDEC Part 703, Table 1 (cf. section 703.5), last revised 17 January 2008 and NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, last revised June 2004.
--- : No criteria established
J: Estimated value
U: Indicates that the result is lower than the MDL
B: Analyte detected in the method blank
C: GC target hit confirmed by Mass Spectometry

Sample data were provided in the Phase II Investigation Report, 363 Bond Street by ELM dated May 2005.

Italicized and **Bold *results*** indicate method detection limit (MDL) exceedances of the most stringent criteria.

TABLE 4
SUMMARY OF LANGAN GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET AND 400 CARROLL STREET
Brooklyn, New York

Investigation Phase:			Due Diligence		Remedial Investigation		Due Diligence		Remedial Investigation														Supplemental RI			
Address:		Ground Water	363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		400 Carroll Street		400 Carroll Street		363 Bond Street		363 Bond Street	
Location ID:		Quality	MW-2		MW-2		MW-4		MW-4		MW-1		MW-3		MW-5		MW-5		LMW-6		LMW-7		LMW-9		LMW-10		EPAMW-1		EPAMW-1	
Sample ID:	CAS No.	Standards	031		134-MW-2-20130913		29		156-MW-4-20130917		151-MW-1-20130917		143-MW-3-20130916		145-DUP-1-20130916		148-MW-5-20130917		149-DUP-2-20130917		147-LMW-6-20130917		150-LMW-7-20130917		154-LMW-9-20130917		155-LMW-10-20130917		528/EPAMW-1-20141104		529/DUP-1(GW)-2014110	
Sample Date:			8/30/2012		9/13/2013		8/30/2012		9/17/2013		9/17/2013		9/16/2013		9/16/2013		9/17/2013		9/17/2013		9/17/2013		9/17/2013		9/17/2013		11/4/2014		11/4/2014	
Sample Depth (ft bgs):			7		7		10		14		9		12		12		12		12		12.5		12		10		12		12	
Units:		ug/l	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Volatile Organic Compounds (VOCs)																														
1,1,1,2-Tetrachloroethane	630-20-6	5	NA		0.071	U	NA		0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,1,1-Trichloroethane	71-55-6	5	1	U	0.024	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,1,2,2-Tetrachloroethane	79-34-5	5	1	U	0.17	U	1	U	0.2	U	0.2	U	5	UJ	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	5	U	0.074	U	5	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,1,2-Trichloroethane	79-00-5	1	1	U	0.07	U	1	U	0.2	U	0.2	U	***5***	***U***	0.2	U	***2***	***U***	***2***	***U***	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,1-Dichloroethane	75-34-3	5	1	U	0.044	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,1-Dichloroethene	75-35-4	5	1	U	0.044	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,2,4-Trichlorobenzene	120-82-1	5	NA		0.11	U	NA		0.2	U	0.2	U	5	UJ	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,2,4-Trimethylbenzene	95-63-6	5	NA		0.068	U	NA		**8.6**		1.3		5	UJ	0.4	J	**160**		**160**		**24**		**6,000**		0.32	J	0.48	J	0.37	J	0.41	J
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	***10***	***U***	***0.46***	***U***	***10***	***U***	***0.2***	***U***	***0.2***	***U***	***5***	***UJ***	***0.2***	***U***	***2***	***U***	***2***	***U***	***1***	***U***	***100***	***U***	***0.2***	***U***	***0.2***	***U***	***0.2***	***U***	***0.2***	***U***
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	***2***	***U***	***0.15***	***U***	***2***	***U***	***0.2***	***U***	***0.2***	***U***	***5***	***U***	***0.2***	***U***	***2***	***U***	***2***	***U***	***1***	***U***	***100***	***U***	***0.2***	***U***	***0.2***	***U***	***0.2***	***U***	***0.2***	***U***
1,2-Dichlorobenzene	95-50-1	3	1	U	0.071	U	1	U	0.2	U	0.2	U	***5***	***UJ***	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,2-Dichloroethane	107-06-2	0.6	***1***	***U***	0.12	U	***1***	***U***	0.2	U	0.2	U	***5***	***U***	0.2	UJ	***2***	***U***	***2***	***U***	***1***	***U***	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,2-Dichloropropane	78-87-5	1	1	U	0.051	U	1	U	0.2	U	0.2	U	***5***	***U***	0.2	U	***2***	***U***	***2***	***U***	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	NA		0.059	U	NA		2.1		0.4	J	5	UJ	0.2	U	**42**		**42**		1.8	J	**1,900**		0.2	U	0.2	U	0.2	U	0.2	U
1,3-Dichlorobenzene	541-73-1	3	1	U	0.048	U	1	U	0.2	U	0.2	U	***5***	***UJ***	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,4-Dichlorobenzene	106-46-7	3	1	U	0.048	U	1	U	0.2	U	0.2	U	***5***	***UJ***	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
1,4-Dioxane (P-Dioxane)	123-91-1	---	130	U	4.1	U	130	U	40	U	40	U	1000	U	40	U	400	U	400	U	200	U	20000	U	40	U	40	U	40	U	40	U
2-Hexanone	591-78-6	50	5	U	0.24	U	5	U	0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Acetone	67-64-1	50	10	U	1.5	U	10	U	1	UJ	1	UJ	**130**	**J**	1	UJ	10	UJ	10	UJ	8.1	J	***500***	***UJ***	1.3	J	1.5	U	11	U	15	U
Acrolein	107-02-8	5	NA		0.81	U	NA		0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Acrylonitrile	107-13-1	5	NA		0.73	U	NA		0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Benzene	71-43-2	1	1	U	0.044	U	0.39	J	0.33	J	0.2	U	***5***	***U***	0.2	UJ	**39**		**39**		**39**		***100***	***U***	**1.9**		0.2	U	0.2	U	0.2	U
Benzoic Acid	65-85-0	---	NA		25.6	UJ	NA		25.6	UJ	26.3	UJ	26.3	UJ	29.4	UJ	1470	UJ	1390	UJ	128	UJ	53800	U	30.3	UJ	28.6	U	25.6	U	25.6	U
Bromodichloromethane	75-27-4	50	1	U	0.054	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Bromoform	75-25-2	50	4	U	0.079	U	4	U	0.2	U	0.2	U	5	UJ	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Bromomethane	74-83-9	5	2	U	0.2	U	2	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Carbon Disulfide	75-15-0	60	2	U	0.065	U	2	U	0.2	U	0.2	U	7.8	J	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.22	J
Carbon Tetrachloride	56-23-5	5	1	U	0.085	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Chlorobenzene	108-90-7	5	1	U	0.063	U	1	U	0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Chloroethane	75-00-3	5	1	U	0.09	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Chloroform	67-66-3	7	1	U	0.079	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Chloromethane	74-87-3	---	1	U	0.076	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	100	U	0.2	U	0.22	J	0.2	U	0.2	U
Cis-1,2-Dichloroethylene	156-59-2	5	1	U	0.069	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	**8.1**		0.2	U	0.2	U	0.2	U
Cis-1,3-Dichloropropene	10061-01-5	0.4	***1***	***U***	0.067	U	***1***	***U***	0.2	U	0.2	U	***5***	***U***	0.2	U	***2***	***U***	***2***	***U***	***1***	***U***	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Dibromochloromethane	124-48-1	50	1	U	0.053	U	1	U	0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Dibromomethane	74-95-3	5	NA		0.12	U	NA		0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Dichlorodifluoromethane	75-71-8	5	5	U	0.092	U	5	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Ethylbenzene	100-41-4	5	1	U	0.057	U	1	U	0.56		0.2	U	5	U	0.2	U	**63**		**64**		**11**		**360**		0.2	U	0.2	U	0.2	U	0.2	U
Hexachlorobutadiene	87-68-3	0.5	***1***	***U***	0.12	U	***1***	***U***	0.2	U	0.2	U	***5***	***UJ***	0.2	U	***2***	***U***	***2***	***U***	***1***	***U***	***100***	***U***	0.2	U	0.2	U	0.20.513	UUJ	0.20.513	UUJ
Isopropylbenzene (Cumene)	98-82-8	5	2	U	0.056	U	1.3	J	1.4		0.32	J	**14**	**J**	1.1	J	**16**		**15**		**14**		**410**		0.68		0.2	U	0.2	U	0.2	U
Methyl Acetate	79-20-9	---	5	U	0.62	U	5	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	100	U	0.2	U	0.2	U	0.2	U	0.2	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	10	U	1	U	10	U	0.5	UJ	0.5	U	12	U	0.5	UJ	5	UJ	5	UJ	2.5	UJ	***250***	***U***	0.5	UJ	0.5	UJ	2		1.7	J
Methylene Chloride	75-09-2	5	2	U	0.26	U	2	U	1	UJ	1	UJ	***25***	***U***	1	UJ	***10***	***UJ***	***10***	***UJ***	5	UJ	***500***	***UJ***	1	UJ	1	UJ	1	U	1	U
N-Butylbenzene	104-51-8	5	NA		0.083	U	NA		1.2		0.2	U	**6.8**	**J**	0.24	J	2	U	2	U	3		**580**		0.2	U	0.2	U	0.2	U	0.2	U
N-Propylbenzene	103-65-1	5	NA		0.068	U	NA		0.98		0.2	U	**19**	**J**	0.37	J	**17**		**16**		**11**		**610**		0.54		0.2	U	0.2	U	0.2	U
O-Xylene (1,2-Dimethylbenzene)	95-47-6	5	1	U	0.05	U	0.25	J	4.5		0.98		5	U	0.34	J	**90**		**93**		**14**		**3,200**		0.2	U	0.2	U	0.36	J	0.33	J
Sec-Butylbenzene	135-98-8	5	NA		0.05	U	NA		1.3		0.71		5	UJ	0.66	J	4.2	J	4.2	J	2.3	J	**320**		0.58		0.2	U	0.2	U	0.2	U
Styrene	100-42-5	5	5	U	0.043	U	5	U	0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
T-Butylbenzene	98-06-6	5	NA		0.05	U	NA		1.1		1.5		5	UJ	0.65	J	2.5	J	2	U	1	U	***100***	***U***	0.97		0.2	U	0.2	U	0.2	U
Tert-Butyl Alcohol	75-65-0	---	NA		6.1	U	NA		2		0.5	U	12	U	0.5	UJ	5	U	5	U	4.4	J	250	U	2.3		0.85	J	3.8		4.4	J
Tert-Butyl Methyl Ether	1634-04-4	10	0.31	J	0.48	U	0.53	J	0.2	U	0.42	J	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Tetrachloroethylene (PCE)	127-18-4	5	1	U	0.07	U	1	U	0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	1.1		0.2	U	0.2	U	0.2	U
Toluene	108-88-3	5	1	U	0.042	U	1	U	3		0.31	J	5	U	0.2	U	**31**	**J**	**30**	**J**	**6.1**	**J**	**1,800**		0.23	J	0.2	UJ	0.2	U	0.2	U
Trans-1,2-Dichloroethene	156-60-5	5	1	U	0.085	U	1	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.67		0.2	U	0.2	U	0.2	U
Trans-1,3-Dichloropropene	10061-02-6	0.4	***1***	***U***	0.06	U	***1***	***U***	0.2	U	0.2	U	***5***	***U***	0.2	U	***2***	***U***	***2***	***U***	***1***	***U***	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Trichloroethylene (TCE)	79-01-6	5	1	U	0.071	U	1	U	0.2	U	0.2	U	5	U	0.2	U	2	U	2	U	1	U	***100***	***U***	**6.6**		0.2	U	0.2	U	0.2	U
Trichlorofluoromethane	75-69-4	5	5	U	0.094	U	5	U	0.2	U	0.2	U	5	U	0.2	UJ	2	U	2	U	1	U	***100***	***U***	0.2	U	0.2	U	0.2	U	0.2	U
Vinyl Chloride	75-01-4	2	1	U	0.062	U	1	U	0.5	U	0.5	U	***12***	***U***	0.5	UJ	**11**		**10**		***2.5***	***U***	***250***	***U***	**4.6**		0.5	U	0.27	J	0.39	J

TABLE 4
SUMMARY OF LANGAN GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET AND 400 CARROLL STREET
Brooklyn, New York

Investigation Phase:			Due Diligence		Remedial Investigation		Due Diligence		Remedial Investigation												Supplemental RI			
Address:			363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		363 Bond Street		400 Carroll Street		400 Carroll Street		363 Bond Street		363 Bond Street	
Location ID:			MW-2		MW-2		MW-4		MW-4		MW-1		MW-3		MW-5		MW-5		LMW-6		LMW-7		LMW-9		LMW-10		EPAMW-1		EPAMW-1	
Sample ID:	CAS No.	Ground Water Quality Standards	031		134-MW-2-20130913		29		156-MW-4-20130917		151-MW-1-20130917		143-MW-3-20130916		145-DUP-1-20130916		148-MW-5-20130917		149-DUP-2-20130917		147-LMW-6-20130917		150-LMW-7-20130917		154-LMW-9-20130917		155-LMW-10-20130917		528/EPAMW-1-20141104		529/DUP-1(GW)-2014110	
Sample Date:			8/30/2012		9/13/2013		8/30/2012		9/17/2013		9/17/2013		9/16/2013		9/16/2013		9/17/2013		9/17/2013		9/17/2013		9/17/2013		9/17/2013		11/4/2014		11/4/2014	
Sample Depth (ft bgs):			7		7		10		14		9		12		12		12		12		12.5		12		10		12		12	
Units:		ug/l	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Semi-Volatile Organic Compounds (SVOCs)																														
2,4,5-Trichlorophenol	95-95-4	2	***5.2***	***U***	***2.56***	***U***	***5.2***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
2,4,6-Trichlorophenol	88-06-2	2	***5.2***	***U***	***2.56***	***U***	***5.2***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
2,4-Dichlorophenol	120-83-2	5	***5.2***	***U***	2.56	U	***5.2***	***U***	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
2,4-Dimethylphenol	105-67-9	2	***5.2***	***U***	***2.56***	***U***	***5.2***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
2,4-Dinitrophenol	51-28-5	2	***21***	***U***	***2.56***	***U***	***21***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
2,4-Dinitrotoluene	121-14-2	5	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
2,6-Dinitrotoluene	606-20-2	5	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
2-Chloronaphthalene	91-58-7	5	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
2-Chlorophenol	95-57-8	2	***5.2***	***U***	***2.56***	***U***	***5.2***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
2-Methylnaphthalene	91-57-6	---	1	U	2.56	U	1	U	2.56	U	2.63	U	41.6	J	2.94	UJ	1890		1480		95.4		61000		3.03	U	2.86	U	2.56	U	2.56	U
2-Methylphenol (O-Cresol)	95-48-7	2	***2.1***	***U***	***2.56***	***U***	***2.1***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
2-Nitroaniline	88-74-4	5	***5.2***	***U***	2.56	U	***5.2***	***U***	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
2-Nitrophenol	88-75-5	2	***5.2***	***U***	***2.56***	***U***	***5.2***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
3- And 4- Methylphenol (Total)	MEPH3MEPH4	--	NA		2.56	U	NA		2.56	U	2.63	U	2.63	U	2.94	U	147	U	139	U	12.8	U	5380	U	3.03	U	2.86	U	2.56	U	2.56	U
3,3'-Dichlorobenzidine	91-94-1	5	***5.2***	***U***	2.56	U	***5.2***	***U***	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
3-Nitroaniline	99-09-2	5	***5.2***	***U***	2.56	U	***5.2***	***U***	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
4-Chloro-3-Methylphenol	59-50-7	2	***5.2***	***U***	NA		***5.2***	***U***	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Chloroaniline	106-47-8	5	***5.2***	***U***	NA		***5.2***	***U***	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
4-Nitroaniline	100-01-6	5	***5.2***	***U***	2.56	U	***5.2***	***U***	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
4-Nitrophenol	100-02-7	2	***10***	***U***	***2.56***	***U***	***10***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
Acenaphthene	83-32-9	20	3.4		2.97		1	U	0.0513	U	0.0526	U	1.93	J	0.694	J	**1,020**		**781**		**63.9**		***108***	***U***	0.0606	U	0.0571	U	0.431		0.369	
Acenaphthylene	208-96-8	---	1	U	0.0513	U	1	U	0.0513	U	0.0526	U	0.726	J	0.0588	UJ	50.6	J	47.8	J	0.256	U	108	U	0.0606	U	0.0571	U	0.0513	UJ	0.0513	UJ
Anthracene	120-12-7	50	1.2		0.779		1	U	0.0513	U	0.0526	U	0.347	J	0.0588	UJ	**675**		**507**		9.13	J	***108***	***U***	0.0606	U	0.0571	U	0.328		0.308	
Atrazine	1912-24-9	7.5	5.2	U	2.56	U	5.2	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	0.513	U	0.513	U
Benzidine	92-87-5	5	NA		***10.3***	***U***	NA		***10.3***	***U***	***10.5***	***U***	***10.5***	***U***	***11.8***	***U***	***588***	***U***	***556***	***U***	***51.3***	***U***	***21500***	***U***	***12.1***	***U***	***11.4***	***U***	***10.3***	***U***	***10.3***	***U***
Benzo(A)Anthracene	56-55-3	0.002	***1***	***U***	***0.0513***	***U***	***1***	***U***	***0.0513***	***U***	***0.0526***	***U***	***0.0526***	***U***	***0.0588***	***U***	**376**		**336**		***0.256***	***U***	***108***	***U***	***0.0606***	***U***	***0.0571***	***U***	***0.0513***	***UJ***	***0.0513***	***UJ***
Benzo(A)Pyrene	50-32-8	---	1	U	0.0513	U	1	U	0.0513	U	0.0526	U	0.0526	U	0.0588	U	253	J	254	J	0.256	U	108	U	0.0606	U	0.0571	U	0.0513	U	0.0513	U
Benzo(B)Fluoranthene	205-99-2	0.002	***1***	***U***	***0.0513***	***U***	***1***	***U***	***0.0513***	***U***	***0.0526***	***U***	***0.0526***	***U***	***0.0588***	***U***	**242**	**J**	**214**	**J**	***0.256***	***U***	***108***	***U***	***0.0606***	***U***	***0.0571***	***U***	***0.0513***	***U***	***0.0513***	***U***
Benzo(G,H,I)Perylene	191-24-2	---	1	U	0.0513	U	1	U	0.0513	U	0.0526	U	0.0526	U	0.0588	U	64.1	J	41.1	J	0.256	U	108	U	0.0606	U	0.0571	U	0.0513	U	0.0513	U
Benzo(K)Fluoranthene	207-08-9	0.002	***1***	***U***	***0.0513***	***U***	***1***	***U***	***0.0513***	***U***	***0.0526***	***U***	***0.0526***	***U***	***0.0588***	***U***	**236**	**J**	**184**	**J**	***0.256***	***U***	***108***	***U***	***0.0606***	***U***	***0.0571***	***U***	***0.0513***	***U***	***0.0513***	***U***
Benzyl Butyl Phthalate	85-68-7	50	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Biphenyl (Diphenyl)	92-52-4	5	1	U	2.56	U	1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Bis(2-Chloroethoxy) Methane	111-91-1	5	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	111-44-4	1	***2.1***	***U***	***2.56***	***U***	***2.1***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
Bis(2-Chloroisopropyl) Ether	108-60-1	5	NA		2.56	U	NA		2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Bis(2-Ethylhexyl) Phthalate	117-81-7	5	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	3.82		2.19	J
Caprolactam	105-60-2	---	2.1	U	2.56	UJ	2.1	U	2.56	UJ	2.63	UJ	2.63	UJ	2.94	UJ	147	UJ	139	UJ	12.8	UJ	5380	U	3.03	UJ	2.86	U	2.56	U	2.56	U
Carbazole	86-74-8	---	1	U	2.56	U	1	U	2.56	U	2.63	U	2.63	U	2.94	U	295		288		12.8	U	5380	U	3.03	U	2.86	U	2.56	U	2.56	U
Chrysene	218-01-9	0.002	***1***	***U***	***0.0513***	***U***	***1***	***U***	***0.0513***	***U***	***0.0526***	***U***	***0.0526***	***U***	***0.0588***	***U***	**346**		**310**		***0.256***	***U***	***108***	***U***	***0.0606***	***U***	***0.0571***	***U***	***0.0513***	***U***	***0.0513***	***U***
Dibenz(A,H)Anthracene	53-70-3	---	1	U	0.0513	U	1	U	0.0513	U	0.0526	U	0.0526	U	0.0588	U	53.5	J	34.4	J	0.256	U	108	U	0.0606	U	0.0571	U	0.0513	U	0.0513	U
Dibenzofuran	132-64-9	---	5.2	U	2.56	U	5.2	U	2.56	U	2.63	U	2.63	U	2.94	U	717		139	U	12.8	U	5380	U	3.03	U	2.86	U	2.56	U	2.56	U
Diethyl Phthalate	84-66-2	50	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Dimethyl Phthalate	131-11-3	50	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Di-N-Butyl Phthalate	84-74-2	50	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Di-N-Octylphthalate	117-84-0	50	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Fluoranthene	206-44-0	50	2		1.13		1	U	0.0513	U	0.0526	U	0.305	J	0.0588	UJ	**1,360**		**1,130**		6.41	J	***108***	***U***	0.0606	U	0.171		0.123		0.144	
Fluorene	86-73-7	50	2.7		0.0513	U	1	U	0.0513	U	0.0526	U	3.43	J	1.05	J	**1,030**		**800**		31.7		***108***	***U***	0.0606	U	0.0571	U	0.605	J	0.533	J
Hexachlorobenzene	118-74-1	0.04	***1***	***U***	***0.041***	***U***	***1***	***U***	***0.041***	***U***	***0.0421***	***U***	***0.0421***	***U***	***0.0471***	***U***	***2.35***	***U***	***2.22***	***U***	***0.205***	***U***	***86.2***	***U***	***0.0485***	***U***	***0.0457***	***U***	0.0205	U	0.0205	U
Hexachlorocyclopentadiene	77-47-4	5	***10***	***U***	2.56	U	***10***	***U***	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	2.56	R	2.56	R
Hexachloroethane	67-72-1	5	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	3.03	U	2.86	U	0.513	U	0.513	U
Indeno(1,2,3-C,D)Pyrene	193-39-5	0.002	***1***	***U***	***0.0513***	***U***	***1***	***U***	***0.0513***	***U***	***0.0526***	***U***	***0.0526***	***U***	***0.0588***	***U***	**84.7**	**J**	**57.8**	**J**	***0.256***	***U***	***108***	***U***	***0.0606***	***U***	***0.0571***	***U***	***0.0513***	***U***	***0.0513***	***U***
Isophorone	78-59-1	50	2.1	U	2.56	U	2.1	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Naphthalene	91-20-3	10	1	U	0.0513	U	1	U	0.0513	U	0.232		0.0526	UJ	1.08	J	**1,880**		**1,460**		**139**		**43,700**		0.0606	U	0.0571	U	0.123	J	0.103	J
Nitrobenzene	98-95-3	0.4	***2.1***	***U***	***2.56***	***U***	***2.1***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	0.256	U	0.256	U
N-Nitrosodiphenylamine	86-30-6	50	5.2	U	2.56	U	5.2	U	2.56	U	2.63	U	2.63	U	2.94	U	***147***	***U***	***139***	***U***	12.8	U	***5380***	***U***	3.03	U	2.86	U	2.56	U	2.56	U
Pentachlorophenol	87-86-5	1	***10***	***U***	***1.03***	***U***	***10***	***U***	***1.03***	***U***	***1.05***	***U***	***1.05***	***U***	***1.18***	***U***	***58.8***	***U***	***55.6***	***U***	***5.13***	***U***	***2150***	***U***	***1.21***	***U***	***1.14***	***U***	0.256	U	0.256	U
Phenanthrene	85-01-8	50	3.5		0.359		1	U	0.0513	U	0.0526	U	2.8	J	0.553	J	**2,250**		**1,900**		30.9		***108***	***U***	0.0606	U	0.48		0.81		0.769	
Phenol	108-95-2	1	***2.1***	***U***	***2.56***	***U***	***2.1***	***U***	***2.56***	***U***	***2.63***	***U***	***2.63***	***U***	***2.94***	***U***	***147***	***U***	***139***	***U***	***12.8***	***U***	***5380***	***U***	***3.03***	***U***	***2.86***	***U***	***2.56***	***U***	***2.56***	***U***
Pyrene	129-00-0	50	1.5		0.769		1	U	0.0513	U	0.0526	U	0.211	J	0.0588	UJ	**976**		**866**		4.92	J	***108***	***U***	0.0606	U	0.103		0.133		0.113	

TABLE 4
SUMMARY OF LANGAN GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET AND 400 CARROLL STREET
Brooklyn, New York

Investigation Phase:			Due Diligence	Remedial Investigation	Due Diligence	Remedial Investigation										Supplemental RI	
Address:		**Ground Water Quality Standards**	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	400 Carroll Street	400 Carroll Street	363 Bond Street	363 Bond Street
Location ID:			MW-2	MW-2	MW-4	MW-4	MW-1	MW-3	MW-5	MW-5	LMW-6	LMW-7	LMW-9	LMW-10	EPAMW-1	EPAMW-1
Sample ID:	**CAS No.**		031	134-MW-2-20130913	29	156-MW-4-20130917	151-MW-1-20130917	143-MW-3-20130916	145-DUP-1-20130916	148-MW-5-20130917	149-DUP-2-20130917	147-LMW-6-20130917	150-LMW-7-20130917	154-LMW-9-20130917	155-LMW-10-20130917	528/EPAMW-1-20141104	529/DUP-1(GW)-2014110
Sample Date:			8/30/2012	9/13/2013	8/30/2012	9/17/2013	9/17/2013	9/16/2013	9/16/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	9/17/2013	11/4/2014	11/4/2014
Sample Depth (ft bgs):			7	7	10	14	9	12	12	12	12	12	12.5	12	10	12	12
Units:		**ug/l**	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q	ug/l Q
Pesticides																	
Aldrin	309-00-2	ND	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Alpha Bhc (Alpha Hexachlorocyclohexane)	319-84-6	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Alpha Endosulfan	959-98-8	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Alpha-Chlordane	5103-71-9	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Beta Bhc (Beta Hexachlorocyclohexane)	319-85-7	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Beta Endosulfan	33213-65-9	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Chlordane	57-74-9	0.05	NA	0.0471 UJ	NA	0.04 UJ	0.0457 U	0.05 UJ	0.0471 U	0.0457 UJ	0.0457 U	0.04 UJ	***0.552*** ***U***	0.0432 UJ	0.0444 U	NA	NA
Delta Bhc (Delta Hexachlorocyclohexane)	319-86-8	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Dieldrin	60-57-1	0.004	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	***0.0138*** ***U***	0.00108 UJ	0.00111 U	NA	NA
Endosulfan Sulfate	1031-07-8	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Endrin	72-20-8	ND	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Endrin Aldehyde	7421-93-4	5	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Endrin Ketone	53494-70-5	5	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Gamma Bhc (Lindane)	58-89-9	--	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Heptachlor	76-44-8	0.04	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Heptachlor Epoxide	1024-57-3	0.03	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Methoxychlor	72-43-5	35	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
P,P'-Ddd	72-54-8	0.3	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
P,P'-Dde	72-55-9	0.2	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
P,P'-Ddt	50-29-3	0.2	NA	0.00118 UJ	NA	0.001 UJ	0.00114 U	0.00125 UJ	0.00118 U	0.00114 UJ	0.00114 U	0.001 UJ	0.0138 U	0.00108 UJ	0.00111 U	NA	NA
Toxaphene	8001-35-2	0.06	NA	***0.118*** ***UJ***	NA	***0.1*** ***UJ***	***0.114*** ***U***	***0.125*** ***UJ***	***0.118*** ***U***	***0.114*** ***UJ***	***0.114*** ***U***	***0.1*** ***UJ***	***1.38*** ***U***	***0.108*** ***UJ***	***0.111*** ***U***	NA	NA
Polychlorinated biphenyls (PCBs)																	
Pcb-1016 (Aroclor 1016)	12674-11-2	0.09	NA	0.0588 UJ	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	***0.69*** ***U***	0.0541 U	0.0556 U	NA	NA
Pcb-1221 (Aroclor 1221)	11104-28-2	0.09	NA	0.0588 U	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	***0.69*** ***U***	0.0541 U	0.0556 U	NA	NA
Pcb-1232 (Aroclor 1232)	11141-16-5	0.09	NA	0.0588 U	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	***0.69*** ***U***	0.0541 U	0.0556 U	NA	NA
Pcb-1242 (Aroclor 1242)	53469-21-9	0.09	NA	0.0588 U	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	***0.69*** ***U***	0.0541 U	0.0556 U	NA	NA
Pcb-1248 (Aroclor 1248)	12672-29-6	0.09	NA	0.0588 U	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	***0.69*** ***U***	0.0541 U	0.0556 U	NA	NA
Pcb-1254 (Aroclor 1254)	11097-69-1	0.09	NA	0.0588 UJ	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	**9.35**	0.0541 U	0.0556 U	NA	NA
Pcb-1260 (Aroclor 1260)	11096-82-5	0.09	NA	0.0588 UJ	NA	0.05 U	0.0571 U	0.0625 U	0.0588 U	0.0571 UJ	0.0571 U	0.05 UJ	***0.69*** ***U***	0.0541 U	0.0556 U	NA	NA
Metals																	
Aluminum	7429-90-5	3	NA	**38**	NA	**10**	***10*** ***UJ***	**10** **J**	**1,150** **J**	**37** **J**	**198** **J**	**448** **J**	***219*** ***UJ***	**502**	**145**	**96** **J**	**51** **J**
Aluminum (Dissolved)	7429-90-5	3	NA	***10*** ***U***	NA	***10*** ***U***	***10*** ***U***	***10*** ***U***	***10*** ***U***	**12**	***10*** ***U***	**28**	***10*** ***U***	**14**	***10*** ***U***	NA	NA
Barium	7440-39-3	1000	NA	830	NA	128	291	460	380	540	575	271	327	131	325	478	472
Barium (Dissolved)	7440-39-3	1000	NA	712	NA	129	239	348 J	207 J	454	509	193	321	130	320	NA	NA
Calcium	7440-70-2	---	NA	234000	NA	160000	121000	238000 J	118000 J	94900	99700	88200	601000	615000	218000	161000	161000
Calcium (Dissolved)	7440-70-2	---	NA	235000	NA	161000	123000	221000 J	117000 J	104000	107000	90300	607000	616000	218000	NA	NA
Chromium, Total	7440-47-3	50	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	7	5 U	5 U	5 U	5 U	5 U
Chromium, Total (Dissolved)	7440-47-3	50	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	6	5 U	5 U	5 U	NA	NA
Cobalt	7440-48-4	---	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	25	5 U	5 U	5 U	5	6
Cobalt (Dissolved)	7440-48-4	---	NA	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	26	5 U	5 U	5 U	NA	NA
Copper	7440-50-8	200	NA	3 U	NA	3 U	3 U	3 U	3 U	7	5	14	3 U	3 U	3 U	3 U	3 U
Copper (Dissolved)	7440-50-8	200	NA	3 U	NA	3 U	3 U	3 U	3 U	3	3 U	7	3 U	3 U	3 U	NA	NA
Iron	7439-89-6	300	NA	**5,230**	NA	**5,120**	**2,530**	**25,200** **J**	**14,500** **J**	**3,180**	**3,400**	**3,000**	**5,940**	**707**	**1,890**	**17100**	**17000**
Iron (Dissolved)	7439-89-6	300	NA	64 J	NA	**5,110**	57	**2,450** **J**	**504** **J**	**900**	**766**	**1,020**	82	185	**1,790**	NA	NA
Lead	7439-92-1	25	NA	13	NA	3 U	3 U	3 U	3	**27**	**30**	**31**	**39**	4	5	**37**	**36**
Lead (Dissolved)	7439-92-1	25	NA	3 U	NA	3 U	3 U	3 U	3 U	5	4	9	3 U	4	3 U	NA	NA
Magnesium	7439-95-4	35000	NA	**91,900**	NA	31700	32200	20800 J	**76,000** **J**	**74,800**	**79,200**	**40,800**	**406,000**	**217,000**	**50,400**	**77300**	**76900**
Magnesium (Dissolved)	7439-95-4	35000	NA	**91,100**	NA	32100	32100	20200 J	**73,800** **J**	**80,600**	**83,400**	**40,500**	**409,000**	**221,000**	**50,000**	NA	NA
Manganese	7439-96-5	500	NA	**1,750**	NA	**651**	**963**	**4,650** **J**	**811** **J**	294	316	221	**757**	139	**668**	**736**	**740**
Manganese (Dissolved)	7439-96-5	500	NA	**1,730**	NA	**659**	**936**	**4,480** **J**	**741** **J**	313	306	213	**805**	134	**658**	NA	NA
Selenium	7782-49-2	10	NA	**13**	NA	10 U	10 U	10 U	**11**	**13**	**14**	**19**	10 U	10 U	**11** **J**	**46**	**43**
Selenium (Dissolved)	7782-49-2	10	NA	**11**	NA	10 U	10 U	10 U	**21**	**47**	**39**	**50**	10 U	10 U	**18** **J**	NA	NA
Vanadium	7440-62-2	---	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vanadium (Dissolved)	7440-62-2	---	NA	10 U	NA	10 U	10 U	10 U	10 U	10	10 U	10 U	10 U	10 U	10 U	NA	NA
Zinc	7440-66-6	2000	NA	50	NA	15	13	23	29	33	33	148	47	18	21	28	31
Zinc (Dissolved)	7440-66-6	2000	NA	10 U	NA	12	10 U	10 U	10 U	10 U	10 U	22	12	14	17	NA	NA

NOTES:
Groundwater Quality Standards are a combination of values from the NYSDEC Part 703, Table 1 (cf. section 703.5), last revised 17 January 2008 and NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, last revised June 2004.
--- : No criteria established
ft bgs - feet below ground surface
NA - Compound not analyzed
U - The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the reporting limit (RL) or the sample concentration for results impacted by blank contamination.
J - The analyte was detected in the sample. The result should be considered an estimate.
UJ - The analyte was not detected at a level greater than or equal to the RL; however, the reported RL is approximate and may be inaccurate or imprecise.
B - The analyte was detected in the method blank.

Italicized and **Bold *results*** indicate Reporting Limit (RL) exceedances of the most stringent criteria.
Data has been subject to third party validation.

TABLE 5
SUMMARY OF LANGAN SOIL VAPOR ANALYTICAL RESULTS
363 BOND STREET AND 388 CARROLL STREET
Brooklyn, New York

Investigation Phase:				Due Dilligence		Remedial Investigation												
Address:		NYSDOH [1]	USEPA[2] 90th Percentile	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street
Location ID:				LSV-1	LSV-2	LSV-1	LSV-1	LSV-2	LSV-2	LSV-3	LSV-3	LSV-4	LSV-4	LSV-4	LSV-5	LSV-5	LSV-16	LSV-16
Sample ID:	CAS No.			033	034	095-LSV-1-20130910	121-LSV-1-20130912	090-LSV-2-20130909	115-LSV-2-20130912	094-LSV-3-20130910	112-LSV-3-20130912	098-LSV-4-20130910	118-LSV-4-20130912	122-DUP-1-20130912	089-LSV-5-20130909	117-LSV-5-20130912	097-LSV-16-20130910	119-LSV-16-20130912
Sample Date:				8/30/2012	8/30/2012	9/10/2013	9/12/2013	9/9/2013	9/12/2013	9/10/2013	9/12/2013	9/10/2013	9/12/2013	9/12/2013	9/9/2013	9/12/2013	9/10/2013	9/12/2013
Sampling Depth (ft bgs):				0.5	0.5	4	1	3	1	4	1	4	1	1	4	1	4	1
Units:		ug/m3	ug/m3	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q
Volatile Organic Compounds (VOCs)																		
1,1-Dichloroethane	75-34-3	0.38	—	***3.2*** ***U***	***3.2*** ***U***	***7.3*** ***U***	***9.9*** ***U***	***7.7*** ***U***	***15*** ***U***	***7*** ***U***	***7*** ***U***	***6.9*** ***U***	***11*** ***U***	***6.9*** ***U***	***8.1*** ***U***	***11*** ***U***	***8.8*** ***U***	***7*** ***U***
1,1-Dichloroethene	75-35-4	0.4	—	***3.2*** ***U***	***3.2*** ***U***	***7.1*** ***U***	***9.7*** ***U***	***7.5*** ***U***	***15*** ***U***	***6.8*** ***U***	6.9 ***U***	***6.8*** ***U***	***11*** ***U***	***6.8*** ***U***	***7.9*** ***U***	***10*** ***U***	***8.6*** ***U***	***6.9*** ***U***
Benzene	71-43-2	13	9.4	3.2	1.9 J	5.7 U	7.8 U	**10**	***12*** ***U***	**28**	6.1	5.5 U	8.6 U	5.5 U	7.7	**10**	7 U	5.5 U
Ethylbenzene	100-41-4	6.4	5.7	3.5 U	3.4 J	***7.8*** ***U***	***11*** ***U***	***8.2*** ***U***	***16*** ***U***	***7.5*** ***U***	***7.5*** ***U***	***7.4*** ***U***	***12*** ***U***	***7.4*** ***U***	***8.7*** ***U***	**23**	***9.5*** ***U***	***7.5*** ***U***
M And P Xylenes	79601-23-1	11	22.2	4.3	7.4	***16*** ***U***	**22**	***16*** ***U***	***33*** ***U***	***15*** ***U***	***15*** ***U***	***15*** ***U***	***23*** ***U***	***15*** ***U***	***17*** ***U***	**100**	***19*** ***U***	***15*** ***U***
O-Xylene (1,2-Dimethylbenzene)	95-47-6	7.1	7.9	1.7 J	4.8	***7.8*** ***U***	**12**	***8.2*** ***U***	***16*** ***U***	***7.5*** ***U***	**8.3**	***7.4*** ***U***	***12*** ***U***	***7.4*** ***U***	***8.7*** ***U***	**98**	***9.5*** ***U***	***7.5*** ***U***
Tetrachloroethylene (PCE)	127-18-4	2.5	15.9	**4,160**	**1,010**	**180**	***17*** ***U***	**420**	**400** J	**1,600**	**2,400** J	**3,700**	**1,400** J	**740** J	**300**	**340** J	**2,700**	**1,100** J
Toluene	108-88-3	57	43	4.5	8.7	6.8 U	22	16	14 U	16	18	34	41	24	16	**56**	8.2 U	9.8
Total Xylenes	133-02-07	11	22.2	6.1	**12**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethylene (TCE)	79-01-6	0.46	4.2	**379**	**2,180**	**240**	**77** J	**940**	**780** J	**5,700**	**4,900** J	**1,300**	**550** J	**300** J	**1,400**	**5,400** J	**1,300**	**480** J

Investigation Phase:				Remedial Investigation													
Address:		NYSDOH [1]	USEPA[2] 90th Percentile	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	363 Bond Street	388 Carroll Street	388 Carroll Street	388 Carroll Street	388 Carroll Street	388 Carroll Street	
Location ID:				LSV-17	LSV-17	LSV-18	LSV-18	LSV-19	LSV-19	LSV-20	LSV-20	LSV-11	LSV-12	LSV-13	LSV-14	LSV-15	
Sample ID:	CAS No.			096-LSV-17-20130910	120-LSV-17-20130912	099-LSV-18-20130910	113-LSV-18-20130912	093-LSV-19-20130910	114-LSV-19-20130912	088-LSV-20-20130909	116-LSV-20-20130912	109-LSV-11-20130911	111-LSV-12-20130911	110-LSV-13-20130911	108-LSV-14-20130911	107-LSV-15-20130911	
Sample Date:				9/10/2013	9/12/2013	9/10/2013	9/12/2013	9/10/2013	9/12/2013	9/9/2013	9/12/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	9/11/2013	
				4	1	4	1	3.5	1	4	1	3	3	3	3	2.5	
Units:		ug/m3	ug/m3	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	ug/m3 Q	
Volatile Organic Compounds (VOCs)																	
1,1-Dichloroethane	75-34-3	0.38	—	***11*** ***U***	***8.6*** ***U***	***6.9*** ***U***	***9.4*** ***U***	***8.4*** ***U***	***6.9*** ***U***	***8.5*** ***U***	***10*** ***U***	***10*** ***U***	***8.3*** ***U***	***9.9*** ***U***	***8.3*** ***U***	***8.3*** ***U***	
1,1-Dichloroethene	75-35-4	0.4	—	***11*** ***U***	***8.5*** ***U***	***6.8*** ***U***	***9.2*** ***U***	***8.3*** ***U***	***6.8*** ***U***	***8.3*** ***U***	***10*** ***U***	***10*** ***U***	***8.1*** ***U***	***9.7*** ***U***	***8.1*** ***U***	***8.1*** ***U***	
Benzene	71-43-2	13	9.4	**35**	6.8 U	**45**	7.4 U	**41**	5.5 U	**10**	**16**	8.2 U	**850**	**190**	**190**	**89**	
Ethylbenzene	100-41-4	6.4	5.7	***12*** ***U***	***9.3*** ***U***	***7.4*** ***U***	***10*** ***U***	***9*** ***U***	***7.4*** ***U***	***9.1*** ***U***	***11*** ***U***	**310**	**690**	**450**	**320**	**150**	
M And P Xylenes	79601-23-1	11	22.2	***24*** ***U***	***19*** ***U***	***15*** ***U***	***20*** ***U***	***18*** ***U***	***15*** ***U***	**24**	**27**	**1,200**	**2,000**	**1,900**	**1,800**	**700**	
O-Xylene (1,2-Dimethylbenzene)	95-47-6	7.1	7.9	***12*** ***U***	**9.3**	**8.9**	***10*** ***U***	***9*** ***U***	***7.4*** ***U***	**10**	**13**	**190**	**430**	**340**	**590**	**120**	
Tetrachloroethylene (PCE)	127-18-4	2.5	15.9	**74**	**430** J	**1,100**	**17** J	***14*** ***U***	**22** J	**170**	**2,800** J	***17*** ***U***	**18**	***17*** ***U***	***14*** ***U***	**68**	
Toluene	108-88-3	57	43	20	10	**46**	8.8 U	16	11	31	25	**1,500**	**2,000**	**1,700**	**1,100**	**790**	
Total Xylenes	133-02-07	11	22.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trichloroethylene (TCE)	79-01-6	0.46	4.2	**200**	**1,600** J	**680**	**13** J	**120**	**110** J	**6,400**	**56,000** J	***6.9*** ***U***	***5.5*** ***U***	***6.6*** ***U***	***5.5*** ***U***	**30**	

Notes:

1: NYSDOH 2006: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes (Upper Fence criteria)

2: USEPA 2001: Building Assessment and Survey Evaluation (BASE) Database using Summa Cannister Method, 90th Percentile Criteria

— : No criteria identified

NA - Compound not analyzed

U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.

UJ: The analyte was not detected at a level greater than or equal to the RL; however, the reported RL is approximate and may be inaccurate or imprecise.

Italicized and **Bold *results*** indicate the Reporting Limit (RL) is greater than or equal to the most stringent criteria.

Data has been subject to third party validation.

Table 6
Soil Cleanup Objectives
363 Bond Street
New York, New York

Soil Cleanup Objectives:	CAS No.	Track 1	
		Unrestricted Use Soil Cleanup Objectives	Restricted-Restricted Residential
		mg/kg	mg/kg
Volatile Organics, NJDEP/TCL/Part 375 List			
1,1,1,2-Tetrachloroethane	630-20-6	—	—
1,1,1-Trichloroethane	71-55-6	0.68	100
1,1,2,2-Tetrachloroethane	79-34-5	—	—
1,1,2,2-Tetrachloroethylene	127-18-4	—	—
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	—	—
1,1,2-Trichloroethane	79-00-5	—	—
1,1-Dichloroethane	75-34-3	0.27	26
1,1-Dichloroethylene	75-35-4	0.33	100
1,2,3-Trichlorobenzene	87-61-6	—	—
1,2,3-Trichloropropane	96-18-4	—	—
1,2,3,4-Tetrachlorobenzene	634-66-2	—	—
1,2,4-Trichlorobenzene	120-82-1	—	—
1,2,4-Trimethylbenzene	95-63-6	3.6	52
1,2-Dibromo-3-chloropropane	96-12-8	—	—
1,2-Dibromoethane	106-93-4	—	—
1,2-Dichlorobenzene	95-50-1	1.1	100
1,2-Dichloroethane	107-06-2	0.02	3.1
1,2-Dichloropropane	78-87-5	—	—
1,3,5-Trimethylbenzene	108-67-8	8.4	52
1,3-Dichlorobenzene	541-73-1	2.4	49
1,3-Dichloropropane	142-28-9	—	—
1,4-Dichlorobenzene	106-46-7	1.8	13
1,4-Dioxane	123-91-1	0.1	13
2-Butanone	78-93-3	0.12	100
2-Hexanone	591-78-6	—	—
2,4-Dichloroaniline	554-00-7	—	—
3,4-Dichloroaniline	95-76-1	—	—
4-Methyl-2-pentanone	108-10-1	—	—
Acetone	67-64-1	0.05	100
Acrolein	107-02-8	—	—
Acrylonitrile	107-13-1	—	—
Benzene	71-43-2	0.06	4.8
Bromodichloromethane	75-27-4	—	—
Bromoform	75-25-2	—	—
Bromomethane	74-83-9	—	—
Carbon disulfide	75-15-0	—	—
Carbon tetrachloride	56-23-5	0.76	2.4
Chloroacetamide	79-07-2	—	—
Chlorobenzene	108-90-7	1.1	100
Chloroethane	75-00-3	—	—
Chloroform	67-66-3	0.37	49
Chloromethane	74-87-3	—	—
cis-1,2-Dichloroethylene	156-59-2	0.25	100
cis-1,3-Dichloropropylene	10061-01-5	—	—
Dibromochloromethane	124-48-1	—	—
Dibromomethane	74-95-3	—	—
Dichlorodifluoromethane	75-71-8	—	—
Ethylacetate	141-78-6	—	—
Ethyl Benzene	100-41-4	1	41
Hexachlorobutadiene	87-68-3	—	—
Isopropylbenzene	98-82-8	—	—
Methanol	67-56-1	—	—
Methyl acetate	79-20-9	—	—
Methyl tert-butyl ether (MTBE)	1634-04-4	0.93	100
Methylene chloride	75-09-2	0.05	100
n-Butylbenzene	104-51-8	12	100
n-Propylbenzene	103-65-1	3.9	100
o-Xylene	95-47-6	0.26	100
p- & m- Xylenes	179601-23-1	0.26	100
p- & m- Xylenes	79601-23-1	0.26	100
p-Isopropyltoluene	99-87-6	—	—
P-CYMENE (P-ISOPROPYLTOLUENE)	CYMP	—	—
sec-Butylbenzene	135-98-8	11	100
Styrene	100-42-5	—	—
tert-Butyl alcohol (TBA)	75-65-0	—	—
tert-Butylbenzene	98-06-6	5.9	100
Tetrachloroethylene	127-18-4	1.3	19
Toluene	108-88-3	0.7	100
trans-1,2-Dichloroethylene	156-60-5	0.19	100
trans-1,3-Dichloropropylene	10061-02-6	—	—
Trichloroethylene	79-01-6	0.47	21
Trichlorofluoromethane	75-69-4	—	—
Vinyl Chloride	75-01-4	0.02	0.9
Xylenes, Total	1330-20-7	0.26	100

Soil Cleanup Objectives:	CAS No.	Track 1	
		Unrestricted Use Soil Cleanup Objectives	Restricted-Restricted Residential
		mg/kg	mg/kg
Semi-Volatiles, NJDEP/TCL/Part 375 List			
1-Chloropropane	540-54-5	—	—
1,1'-Biphenyl	92-52-4	—	—
1,2,3,6,7,8-HCDF	57117-44-9	—	—
1,2-Diphenylhydrazine (as Azobenzene)	122-66-7	—	—
2,3,5,6-Tetrachloroaniline	3481-20-7	—	—
2,3,4,5-Tetrachlorophenol	4901-51-3	—	—
2,4,5-Trichloroaniline	636-30-6	—	—
2,4,5-Trichlorophenol	95-95-4	—	—
2,4,6-Trichlorophenol	88-06-2	—	—
2,4-Dichlorophenol	120-83-2	—	—
2,4-Dimethylphenol	105-67-9	—	—
2,4-Dinitrophenol	51-28-5	—	—
2,4-Dinitrotoluene	121-14-2	—	—
2,6-Dinitrotoluene	606-20-2	—	—
2-Chloronaphthalene	91-58-7	—	—
2-Chlorophenol	95-57-8	—	—
2-Methylnaphthalene	91-57-6	—	—
2-Methylphenol	95-48-7	0.33	100
2-Nitroaniline	88-74-4	—	—
2-Nitrophenol	88-75-5	—	—
3-Chloroaniline	108-42-9	—	—
3-Chlorophenol	108-43-0	—	—
3- & 4-Methylphenols	65794-96-9	—	—
3- AND 4- METHYLPHENOL (TOTAL)	MEPH3MEPH4	330	100000
3,3'-Dichlorobenzidine	91-94-1	—	—
3,4-Dichlorophenol	95-77-2	—	—
3-Nitroaniline	99-09-2	—	—
4-Chloro-3-methylphenol	59-50-7	—	—
4-Chloroaniline	106-47-8	—	—
4,6-Dinitro-2-methylphenol	534-52-1	—	—
4-Bromophenyl phenyl ether	101-55-3	—	—
4-Chlorophenyl phenyl ether	7005-72-3	—	—
4-Nitroaniline	100-01-6	—	—
4-Nitrophenol	100-02-7	—	—
Acenaphthene	83-32-9	20	100
Acenaphthylene	208-96-8	100	100
Acetophenone	98-86-2	—	—
Analine	62-53-3	—	100
Anthracene	120-12-7	100	100
Atrazine	1912-24-9	—	—
Benzaldehyde	100-52-7	—	—
Benzidine	92-87-5	—	—
Benzo(a)anthracene	56-55-3	1	1
Benzo(a)pyrene	50-32-8	1	1
Benzo(b)fluoranthene	205-99-2	1	1
Benzo(g,h,i)perylene	191-24-2	100	100
Benzo(k)fluoranthene	207-08-9	0.8	3.9
Benzoic acid	65-85-0	—	—
Benzyl butyl phthalate	85-68-7	—	—
Bis(2-chloroethoxy)methane	111-91-1	—	—
Bis(2-chloroethyl)ether	111-44-4	—	—
Bis(2-chloroisopropyl)ether	108-60-1	—	—
Bis(2-ethylhexyl)phthalate	117-81-7	—	—
Caprolactam	105-60-2	—	—
Carbazole	86-74-8	—	—
Chrysene	218-01-9	1	3.9
Dibenzo(a,h)anthracene	53-70-3	0.33	0.33
Dibenzofuran	132-64-9	7	59
Diethyl phthalate	84-66-2	—	—
Dimethyl phthalate	131-11-3	—	—
Di-n-butyl phthalate	84-74-2	—	—
Di-n-hexyl phthalate	84-75-3	—	—
Di-n-octyl phthalate	117-84-0	—	—
Fluoranthene	206-44-0	100	100
Fluorene	86-73-7	30	100
Hexachlorobenzene	118-74-1	0.33	1.2
Hexachlorocyclopentadiene	77-47-4	—	—
Hexachloroethane	67-72-1	—	—
Indeno(1,2,3-cd)pyrene	193-39-5	0.5	0.5
Isophorone	78-59-1	—	—
Naphthalene	91-20-3	12	100
Nitrobenzene	98-95-3	—	15
N-Nitrosodimethylamine	62-75-9	—	—
N-nitroso-di-n-propylamine	621-64-7	—	—
N-Nitrosodiphenylamine	86-30-6	—	—
Pentachloroaniline	527-20-8	—	—
Pentachlorobenzene	608-93-5	—	—
Pentachloronitrobenzene	82-68-8	—	—
Pentachlorophenol	87-86-5	0.8	6.7
Phenanthrene	85-01-8	100	100
Phenol	108-95-2	0.33	100
Pyrene	129-00-0	100	100
Total SVOCs	—	—	100

Soil Cleanup Objectives:	CAS No.	Track 1	
		Unrestricted Use Soil Cleanup Objectives	Restricted-Restricted Residential
		mg/kg	mg/kg
Herbicides, NJDEP/TCL/Part 375 List			
2,4,5-T	93-76-5	—	—
2,4,5-TP (Silvex)	93-72-1	3.8	100
2,4-D	94-75-7	—	—
2,3,7,8-TCDD	1746-01-6	—	—
2,3,7,8-TCDF	51207-31-9	—	—
Pesticides/PCBs, EPA TCL List			
4,4'-DDD	72-54-8	0.0033	13
4,4'-DDE	72-55-9	0.0033	8.9
4,4'-DDT	50-29-3	0.0033	7.9
Aldrin	309-00-2	0.005	0.097
alpha-BHC	319-84-6	0.02	0.48
Aroclor 1016	12674-11-2	—	—
Aroclor 1221	11104-28-2	—	—
Aroclor 1232	11141-16-5	—	—
Aroclor 1242	53469-21-9	—	—
Aroclor 1248	12672-29-6	—	—
Aroclor 1254	11097-69-1	—	—
Aroclor 1260	11096-82-5	—	—
Aroclor 1262	37324-23-5	—	—
Aroclor 1268	11100-14-4	—	—
beta-BHC	319-85-7	0.036	0.36
Biphenyl	92-52-4	—	—
Chlordane, total	57-74-9	—	—
Chlrodane, gamma	5103-74-2	—	—
Chlordecone (Kepone)	143-50-0	—	—
delta-BHC	319-86-8	0.04	100
Dieldrin	60-57-1	0.005	0.2
Endosulfan I	959-98-8	2.4	24
Endosulfan II	33213-65-9	2.4	24
Endosulfan sulfate	1031-07-8	2.4	24
Endrin	72-20-8	0.014	11
Endrin aldehyde	7421-93-4	—	—
Endrin ketone	53494-70-5	—	—
Furan	110-00-9	—	—
gamma-BHC (Lindane)	58-89-9	0.1	1.3
Heptachlor	76-44-8	— (0.042)	2.1
Heptachlor epoxide	1024-57-3	—	—
Methoxychlor	72-43-5	—	—
Parathion	56-38-2	—	—
Total PCBs	1336-36-3	0.1	1
Toxaphene	8001-35-2	—	0
Metals, Target Analyte			
Aluminum	7429-90-5	—	—
Antimony	7440-36-0	—	—
Arsenic	7440-38-2	13	16
Barium	7440-39-3	350	400
Beryllium	7440-41-7	7.2	72
Boron	7440-42-8	—	—
Cadmium	7440-43-9	2.5	4.3
Calcium	7440-70-2	—	—
Chromium	7440-47-3	—	—
Chromium, Hexavalent	18540-29-9	1	110
Chromium, Trivalent	16065-83-1	30	180
Cobalt	7440-48-4	—	—
Copper	7440-50-8	50	270
Cyanide	57-12-5	27	27
Iron	7439-89-6	—	—
Lead	7439-92-1	63	400
Lithium	7439-93-2	—	—
Magnesium	7439-95-4	—	—
Manganese	7439-96-5	1600	2000
Mercury	7439-97-6	0.18	0.81
Mercury (Elemental)	7439-97-6	0.81	0.81
Mercury (Inorganic Salts)	7439-97-6	0.12	5.8
Molybdemun	7439-98-7	—	—
Nickel	7440-02-0	30	310
Potassium	7440-09-7	—	—
Selenium	7782-49-2	3.9	180
Silver	7440-22-4	2	180
Sodium	7440-23-5	—	—
Technetium	7440-26-8	—	—
Thallium	7440-28-0	—	—
Tin	7440-31-5	—	—
Uranium	7440-61-1	—	—
Vanadium	7440-62-2	—	—
Zinc	7440-66-6	109	10000

NOTES:

NYSDEC Subpart 375-6 Remedial Program SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
A Track 1 cleanup shall achieve a cleanup level that will allow the site to be used for any purpose without any restrictions on the use of the site as described in subparagraph 375-1.8(g)(1)(i).
If a Track 1 cleanup cannot be achieved, Restricted Use Restricted Residential Soil Cleanup Objectives shall serve as the Track 4 restricted use site-specific soil cleanup objectives.

Table 7A
Summary of Post-Excavation Soil Analytical Results
AOC-1
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-1																											
Location ID:		Protection of Public Health					PE-57		PE-57 (DUP-2)		PE-58		PE-59		PE-60		PE-61		PE-62		PE-63		PE-64		PE-65		PE-66		PE-67		PE-68		PE-69		PE-70		PE-71		PE-72		PE-73		PE-74	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB86923-1		JB86923-2		JB86806-4		JB86806-3		JB86923-6		JB87001-4		JB87193-1		JB87400-1		JB87193-2		JB87001-1		JB86923-8		JB86923-5		JB86923-4		JB86923-3		JB86806-5		JB86923-7		JB86923-9		JB87001-2		JB87001-3	
Sample Date:							1/21/2015		1/21/2015		1/21/2015		1/21/2015		1/22/2015		1/23/2015		1/23/2015		1/29/2015		1/23/2015		1/22/2015		1/22/2015		1/21/2015		1/21/2015		1/21/2015		1/22/2015		1/22/2015		1/23/2015		1/23/2015	
Sampling Depth (ft bgs):							7		7		7		7		7		7		7		7		7		7		7		7		7		7		7		7		7		7	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																																										
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.18	U	0.14	U	0.19	U	0.14	U	0.11	U	0.15	U	0.22	U	0.2	U	0.23	U	0.21	U	0.23	U	0.25	U	0.13	U	0.11	U	0.14	U	0.12	U	0.21	U	0.16	U	0.13	U
1,1,2,2-Tetrachloroethane	79-34-5	---	---	---	---	---	0.2	U	0.15	U	0.2	U	0.15	U	0.12	U	0.16	U	0.24	U	0.22	U	0.25	U	0.23	U	0.25	U	0.28	U	0.14	U	0.13	U	0.15	U	0.13	U	0.23	U	0.18	U	0.15	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	---	---	---	---	---	0.4	U	0.3	U	0.4	U	0.29	U	0.23	U	0.31	U	0.46	U	0.43	U	0.49	U	0.45	U	0.49	U	0.55	U	0.27	U	0.25	U	0.29	U	0.25	U	0.45	U	0.35	U	0.29	U
1,1,2-Trichloroethane	79-00-5	---	---	---	---	---	0.25	U	0.19	U	0.25	U	0.18	U	0.14	U	0.2	U	0.29	U	0.27	U	0.31	U	0.28	U	0.3	U	0.34	U	0.17	U	0.15	U	0.18	U	0.16	U	0.28	U	0.22	U	0.18	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.5	U	0.37	U	0.5	U	0.37	U	0.28	U	0.39	U	0.58	U	0.53	U	0.62	U	0.56	U	0.61	U	0.69	U	0.34	U	0.31	U	0.37	U	0.31	U	0.57	U	0.44	U	0.36	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.34	U	0.26	U	0.34	U	0.25	U	0.19	U	0.27	U	0.4	U	0.36	U	0.42	U	0.39	U	0.42	U	0.47	U	0.23	U	0.21	U	0.25	U	0.21	U	0.39	U	0.3	U	0.25	U
1,2,3-Trichlorobenzene	87-61-6	---	---	---	---	---	0.21	U	0.16	U	0.21	U	0.16	U	0.12	U	0.17	U	0.25	U	0.23	U	0.26	U	0.24	U	0.26	U	0.29	U	0.15	U	0.13	U	0.16	U	0.13	U	0.24	U	0.19	U	0.15	U
1,2,4-Trichlorobenzene	120-82-1	---	---	---	---	---	0.25	U	0.19	U	0.25	U	0.18	U	0.14	U	0.2	U	0.29	U	0.27	U	0.31	U	0.28	U	0.31	U	0.35	U	0.17	U	0.15	U	0.18	U	0.16	U	0.28	U	0.22	U	0.18	U
1,2-Dibromo-3-Chloropropane	96-12-8	---	---	---	---	---	0.72	U	0.54	U	0.73	U	0.53	U	0.41	U	0.57	U	0.85	U	0.77	U	0.9	U	0.82	U	0.88	U	1	U	0.5	U	0.45	U	0.54	U	0.45	U	0.83	U	0.64	U	0.53	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	---	---	---	---	---	0.21	U	0.16	U	0.22	U	0.16	U	0.12	U	0.17	U	0.25	U	0.23	U	0.27	U	0.24	U	0.26	U	0.3	U	0.15	U	0.13	U	0.16	U	0.13	U	0.25	U	0.19	U	0.16	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.22	U	0.17	U	0.22	U	0.16	U	0.13	U	0.18	U	0.26	U	0.24	U	0.28	U	0.25	U	0.27	U	0.31	U	0.15	U	0.14	U	0.17	U	0.14	U	0.25	U	0.2	U	0.16	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.16	U	0.12	U	0.16	U	0.12	U	0.091	U	0.13	U	0.19	U	0.17	U	0.2	U	0.18	U	0.19	U	0.22	U	0.11	U	0.099	U	0.12	U	0.1	U	0.18	U	0.14	U	0.12	U
1,2-Dichloroethane-D4	17060-07-0	---	---	---	---	---	49.2		48		46.6		48.1		47.3		48.1		49.8		50.5		49.4		51.9		49.8		46.3		46.9		47.8		46.7		48.2		47.9		47.8	
1,2-Dichloropropane	78-87-5	---	---	---	---	---	0.24	U	0.18	U	0.24	U	0.18	U	0.14	U	0.19	U	0.28	U	0.25	U	0.29	U	0.27	U	0.29	U	0.33	U	0.16	U	0.15	U	0.18	U	0.15	U	0.27	U	0.21	U	0.17	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.22	U	0.16	U	0.22	U	0.16	U	0.12	U	0.17	U	0.25	U	0.23	U	0.27	U	0.25	U	0.26	U	0.3	U	0.15	U	0.13	U	0.16	U	0.14	U	0.25	U	0.19	U	0.16	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.23	U	0.17	U	0.23	U	0.17	U	0.13	U	0.18	U	0.27	U	0.24	U	0.28	U	0.26	U	0.28	U	0.32	U	0.16	U	0.14	U	0.17	U	0.14	U	0.26	U	0.2	U	0.17	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	24	U	24	U	33	U	22	U	23	U	26	U	32	U	33	U	33	U	32	U	33	U	32	U	26	U	22	U	22	U	23	U	45	U	29	U	22	U
2-Hexanone	591-78-6	---	---	---	---	---	0.77	U	0.58	U	0.78	U	0.57	U	0.44	U	0.61	U	0.9	U	0.83	U	0.96	U	0.88	U	0.94	U	1.1	U	0.53	U	0.48	U	0.57	U	0.48	U	0.88	U	0.68	U	0.56	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**61.1**	**J**	24.2	J	2.1	U	4.6	J	5.5	J	1.6	U	38.2		31.9		22.8		22.8		16.8	J	16.1	J	12.3		10.4		3.3	J	6.7	J	10.2	J	36		16.1	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	**127**	**J**	45.1	J	0.24	U	0.18	U	0.14	U	0.19	U	0.28	U	0.26	U	0.3	U	0.27	U	10.8		0.33	U	0.17	U	0.15	U	0.18	U	0.44	J	0.28	U	0.21	U	0.18	U
Bromochloromethane	74-97-5	---	---	---	---	---	0.33	U	0.25	U	0.34	U	0.25	U	0.19	U	0.26	U	0.39	U	0.36	U	0.41	U	0.38	U	0.41	U	0.46	U	0.23	U	0.21	U	0.25	U	0.21	U	0.38	U	0.29	U	0.24	U
Bromodichloromethane	75-27-4	---	---	---	---	---	0.33	U	0.25	U	0.34	U	0.25	U	0.19	U	0.26	U	0.39	U	0.36	U	0.41	U	0.38	U	0.41	U	0.46	U	0.23	U	0.21	U	0.25	U	0.21	U	0.38	U	0.29	U	0.24	U
Bromoform	75-25-2	---	---	---	---	---	0.15	U	0.11	U	0.15	U	0.11	U	0.084	U	0.12	U	0.17	U	0.16	U	0.18	U	0.17	U	0.18	U	0.2	U	0.1	U	0.091	U	0.11	U	0.092	U	0.17	U	0.13	U	0.11	U
Bromomethane	74-83-9	---	---	---	---	---	0.4	U	0.3	U	0.41	U	0.3	U	0.23	U	0.32	U	0.47	U	0.43	U	0.5	U	0.46	U	0.49	U	0.56	U	0.28	U	0.25	U	0.3	U	0.25	U	0.46	U	0.35	U	0.29	U
Carbon Disulfide	75-15-0	---	---	---	---	---	8.4		1.6	J	0.33	U	0.24	U	0.41	J	0.82	J	4	J	2.4	J	3.7	J	5.8	J	8.6		1	J	0.32	J	0.48	J	0.24	U	0.74	J	0.84	J	1.7	J	0.51	J
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.2	U	0.15	U	0.2	U	0.15	U	0.11	U	0.16	U	0.23	U	0.21	U	0.24	U	0.22	U	0.24	U	0.27	U	0.14	U	0.12	U	0.15	U	0.12	U	0.22	U	0.17	U	0.14	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.17	U	0.13	U	0.17	U	0.12	U	0.097	U	0.13	U	0.2	U	0.18	U	0.21	U	0.19	U	0.21	U	0.23	U	0.12	U	0.1	U	0.13	U	0.11	U	0.19	U	0.15	U	0.12	U
Chloroethane	75-00-3	---	---	---	---	---	0.33	U	0.25	U	0.33	U	0.24	U	0.19	U	0.26	U	0.39	U	0.35	U	0.41	U	0.38	U	0.4	U	0.46	U	0.23	U	0.2	U	0.24	U	0.21	U	0.38	U	0.29	U	0.24	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.14	U	0.11	U	0.14	U	0.11	U	0.082	U	0.11	U	0.17	U	0.15	U	0.18	U	0.16	U	0.17	U	0.2	U	0.098	U	0.088	U	0.11	U	0.089	U	0.16	U	0.13	U	0.1	U
Chloromethane	74-87-3	---	---	---	---	---	0.41	U	0.31	U	0.42	U	0.31	U	0.24	U	0.33	U	0.48	U	0.44	U	0.51	U	0.47	U	0.51	U	0.57	U	0.29	U	0.26	U	0.31	U	0.26	U	0.47	U	0.36	U	0.3	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.36	U	0.27	U	0.36	U	0.27	U	0.21	U	0.28	U	0.42	U	0.39	U	0.45	U	0.41	U	0.44	U	0.5	U	0.25	U	0.22	U	0.27	U	0.23	U	0.41	U	0.32	U	0.26	U
cis-1,3-Dichloropropene	10061-01-5	---	---	---	---	---	0.18	U	0.13	U	0.18	U	0.13	U	0.1	U	0.14	U	0.21	U	0.19	U	0.22	U	0.2	U	0.22	U	0.24	U	0.12	U	0.11	U	0.13	U	0.11	U	0.2	U	0.15	U	0.13	U
Cyclohexane	110-82-7	---	---	---	---	---	5.9	J	2.6	J	1.5	J	0.36	U	0.53	J	0.39	U	1.9	J	3	J	0.61	U	0.78	J	6.8	J	6.2	J	0.34	U	0.3	U	0.38	J	0.31	U	0.56	U	0.43	U	0.36	U
Dibromochloromethane	124-48-1	---	---	---	---	---	0.19	U	0.14	U	0.19	U	0.14	U	0.11	U	0.15	U	0.22	U	0.2	U	0.23	U	0.21	U	0.23	U	0.26	U	0.13	U	0.12	U	0.14	U	0.12	U	0.21	U	0.16	U	0.14	U
Dichlorodifluoromethane	75-71-8	---	---	---	---	---	0.72	U	0.54	U	0.73	U	0.53	U	0.41	U	0.57	U	0.84	U	0.77	U	0.9	U	0.82	U	0.88	U	1	U	0.5	U	0.45	U	0.53	U	0.45	U	0.82	U	0.63	U	0.52	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	37.7	J	12.1	J	0.15	U	0.11	U	0.084	U	0.12	U	0.17	U	0.16	U	0.18	U	0.17	U	0.34	J	1.6	J	0.1	U	0.091	U	0.11	U	0.092	U	0.17	U	0.13	U	0.11	U
Hexachlorobutadiene	87-68-3	---	---	---	---	---	10	U	10	U	14	U	9.3	U	9.9	U	11	U	14	U	14	U	14	U	14	U	14	U	14	U	11	U	9.6	U	9.4	U	9.6	U	19	U	12	U	9.5	U
Isopropylbenzene (Cumene)	98-82-8	---	---	---	---	---	2	J	0.5	J	0.21	U	0.16	U	0.12	U	0.17	U	0.25	U	0.23	U	0.26	U	0.24	U	0.27	J	7.2	J	0.15	U	0.13	U	0.16	U	0.13	U	0.24	U	0.19	U	0.15	U
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	91.4	J	30	J	0.32	U	0.23	U	0.18	U	0.25	U	0.37	U	0.33	U	0.39	U	0.36	U	0.38	U	0.62	J	0.22	U	0.19	U	0.23	U	0.2	U	0.36	U	0.28	U	0.23	U
Methyl Acetate	79-20-9	---	---	---	---	---	0.67	U	0.5	U	0.68	U	0.5	U	0.38	U	0.53	U	0.78	U	0.72	U	0.83	U	0.76	U	0.82	U	0.93	U	0.46	U	0.41	U	0.5	U	0.42	U	0.77	U	0.59	U	0.49	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	14.8		1.3	U	1.7	U	1.2	U	0.96	U	1.3	U	2	U	1.8	U	2.1	U	1.9	U	2.1	U	2.3	U	1.2	U	1	U	1.2	U	1	U	1.9	U	1.5	U	1.2	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	---	---	---	---	---	0.44	U	0.33	U	0.45	U	0.33	U	0.26	U	0.35	U	0.52	U	0.48	U	0.55	U	0.51	U	0.54	U	0.62	U	0.31	U	0.28	U	0.33	U	0.28	U	0.51	U	0.39	U	0.32	U
Methylcyclohexane	108-87-2	---	---	---	---	---	2	J	1	J	1	J	0.14	U	0.3	J	0.15	U	0.3	J	1.6	J	0.24	U	0.22	U	1.5	J	14.3		0.28	J	0.12	U	0.14	U	0.2	J	0.22	U	0.48	J	0.14	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	1.3	U	0.99	U	1.3	U	0.97	U	0.75	U	1	U	1.5	U	1.4	U	1.6	U	1.5	U	1.6	U	1.8	U	0.91	U	0.81	U	0.97	U	0.82	U	1.5	U	1.2	U	0.95	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	41.2	J	14.1	J	0.2	U	0.14	U	0.11	U	0.15	U	0.23	U	0.21	U	0.24	U	0.22	U	1	J	1.1	J	0.13	U	0.12	U	0.14	U	0.12	U	0.22	U	0.17	U	0.14	U
Styrene	100-42-5	---	---	---	---	---	0.19	U	0.15	U	0.2	U	0.14	U	0.11	U	0.15	U	0.23	U	0.21	U	0.24	U	0.22	U	0.24	U	0.27	U	0.13	U	0.12	U	0.14	U	0.12	U	0.22	U	0.17	U	0.14	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.99	J	0.48	J	0.34	J	0.17	U	0.13	U	0.18	U	0.27	U	0.25	U	0.29	U	2.3		2.2		0.32	U	0.16	U	0.34	J	0.17	U	0.14	U	0.26	U	0.59	J	0.17	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.27	U	0.2	U	0.27	U	0.2	U	0.15	U	0.21	U	0.32	U	0.29	U	0.34	U	0.31	U	0.33	U	0.37	U	0.19	U	0.17	U	0.2	U	0.17	U	0.31	U	0.24	U	0.2	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	95.1	J	29.9	J	0.21	U	0.15	U	0.12	U	0.16	U	0.24	U	0.22	U	0.26	U	0.24	U	0.43	J	0.29	U	0.14	U	0.13	U	0.15	U	0.13	U	0.24	U	0.18	U	0.15	U
Toluene-D8	2037-26-5	---	---	---	---	---	51.3		52.7		51		51.2		52		50.9		51.7		50.1		51.9		50.1		52.8		51.9		52		52.2		51.4		52.7		52.5		50.5	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.26	U	0.2	U	0.26	U	0.19	U	0.15	U	0.21	U	0.3	U	0.28	U	0.32	U	0.3	U	0.32	U	0.36	U	0.18	U	0.16	U	0.19	U	0.16	U	0.3	U	0.23	U	0.19	U
Trans-1,3-Dichloropropene	10061-02-6	---	---	---	---	---	0.23	U	0.18	U	0.24	U	0.17	U	0.13	U	0.18	U	0.27	U	0.25	U	0.29	U	0.27	U	0.29	U	0.32	U	0.16	U	0.14	U	0.17	U	0.15	U	0.27	U	0.21	U	0.17	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.27	U	0.2	U	0.27	U	0.2	U	0.16	U	0.21	U	0.32	U	0.29	U	0.34	U	0.31	U	0.33	U	0.38	U	0.19	U	0.17	U	0.2	U	0.17	U	0.31	U	0.24	U	0.2	U
Trichlorofluoromethane	75-69-4	---	---	---	---	---	0.23	U	0.17	U	0.23	U	0.17	U	0.13	U	0.18	U	0.27	U	0.25	U	0.29	U	0.26	U	0.28	U	0.32	U	0.16	U	0.14	U	0.17	U	0.14	U	0.26	U	0.2	U	0.17	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.2	U	0.15	U	0.2	U	0.14	U	0.11	U	0.15	U	0.23	U	0.21	U	0.24	U	0.22	U	0.24	U	0.27	U	0.13	U	0.12	U	0.14	U	0.12	U	0.22	U	0.17	U	0.14	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	133	J	44.2	J	0.2	U	0.14	U	0.11	U	0.15	U	0.23	U	0.21	U	0.24	U	0.22	U	1.3	J	1.7	J	0.13	U	0.12	U	0.14	U	0.12	U	0.22	U	0.17	U	0.14	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																																										
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	---	---	---	11	U	11	U	16	U	10	U	11	U	12	U	15	U	16	U	15	U	16	U	16	U	15	U	12	U	11	U	10	U	11	U	21	U	14	U	11	U
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	---	---	---	38	U	39	U	52	U	35	U	37	U	41	U	50	U	52	U	51	U	53	U	53	U	51	U	42	U	35	U	35	U	36	U	71	U	46	U	35	U
2,4,5-Trichlorophenol	95-95-4	---	---	---	---	---	43	U	43	U	59	U	39	U	41	U	47	U	56	U	59	U	57	U	59	U	60	U	57	U	47	U	40	U	39	U	40	U	80	U	52	U	40	U
2,4,6-Trichlorophenol	88-06-2	---	---	---	---	---	35	U	35	U	48	U	32	U	34	U	38	U	46	U	48	U	46	U	48	U	48	U	47	U	38	U	32	U	32	U	33	U	65	U	42	U	32	U
2,4-Dichlorophenol	120-83-2	---	---	---	---	---	59	U	60	U	82	U	54	U	58	U	65	U	78	U	82	U	79	U	82	U	83	U	80	U	65	U	55	U	54	U	56	U	110	U	72	U	55	U
2,4-Dimethylphenol	105-67-9	---	---	---	---	---	261		63	U	85	U	56	U	60	U	67	U	82	U	85	U	83	U	86	U	274		83	U	68	U	58	U	57	U	58	U	120	U	75	U	57	U
2,4-Dinitrophenol	51-28-5	---	---	---	---	---	45	U	46	U	62	U	41	U	44	U	49	U	59	U	62	U	60	U	62	U	63	U	60	U	50	U	42	U	41	U	42	U	84	U	55	U	42	U
2,4-Dinitrotoluene	121-14-2	---	---	---	---	---	16	U	16	U	22	U	15	U	16	U	18	U	21	U	22	U	21	U	22	U	23	U	22	U	18	U	15	U	15	U	15	U	30	U	20	U	15	U
2,6-Dinitrotoluene	606-20-2	---	---	---	---	---	14	U	14	U	19	U	13	U	14	U	15	U	19	U	19	U	19	U	19	U	20	U	19	U	15	U	13	U	13	U	13	U	26	U	17	U	13	U
2-Chloronaphthalene	91-58-7	---	---	---	---	---	11	U	12	U	16	U	10	U	11	U	12	U	15	U	16	U	15	U	16	U	16	U	15	U	13	U	11	U	10	U	11	U	21	U	14	U	11	U
2-Chlorophenol	95-57-8	---	---	---	---	---	37	U	37	U	51	U	34	U	36	U	40	U	49	U	51	U	49	U	51	U	52	U	49	U	41	U	34	U	34	U	35	U	69	U	45	U	34	U
2-Fluorobiphenyl	321-60-8	---	---	---	---	---	26.1		29.6		29.8		28.1		27.5		29.5		29.9		31.4		31.2		31.5		28.1		29.8		31.2		31.4		30.1		30.1		30.5		20.5		30.4	
2-Fluorophenol	367-12-4	---	---	---	---	---	32.8		37		31.3		29		35		34.9		36		33.3		28.4		39.1		35.6		37.9		38.7		38.6		32		36.7		39.5		24.7		36.1	
2-Methylnaphthalene	91-57-6	---	---	---	---	---	21	U	21	U	28	U	19	U	20	U	22	U	27	U	28	U	27	U	28	U	29	U	28	U	23	U	19	U	19	U	19	U	39	U	25	U	19	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	42	U	43	U	58	U	38	U	41	U	46	U	56	U	58	U	56	U	58	U	59	U	56	U	46	U	39	U	38	U	40	U	79	U	51	U	39	U
2-Nitroaniline	88-74-4	---	---	---	---	---	16	U	16	U	22	U	15	U	16	U	18	U	21	U	22	U	22	U	22	U	23	U	22	U	18	U	15	U	15	U	15	U	30	U	20	U	15	U
2-Nitrophenol	89-75-5	---	---	---	---	---	39	U	40	U	54	U	36	U	38	U	43	U	52	U	54	U	52	U	54	U	55	U	52	U	43	U	36	U	36	U	37	U	73	U	47	U	36	U
3,3'-Dichlorobenzidine	91-94-1	---	---	---	---	---	9.3	U	9.5	U	13	U	8.5	U	9.1	U	10	U	12	U	13	U	12	U	13	U	13	U	13	U	10	U	8.7	U	8.6	U	8.8	U	18	U	11	U	8.7	U
3-Nitroaniline	99-09-2	---	---	---	---	---	15	U	15	U	20	U	13	U	14	U	16	U	19	U	20	U	20	U	20	U	21	U	20	U	16	U	14	U	14	U	14	U	28	U	18	U	14	U
4,6-Dinitro-2-Methylphenol	534-52-1	---	---	---	---	---	45	U	46	U	62	U	41	U	44	U	49	U	59	U	62	U	60	U	62	U	63	U	60	U	50	U	42	U	41	U	42	U	84	U	55	U	42	U
4-Bromophenyl phenyl ether	101-55-3	---	---	---	---	---	13	U	14	U	18	U	12	U	13	U	15	U	18	U	18	U	18	U	19	U	19	U	18	U	15	U	12	U	12	U	13	U	25	U	16	U	12	U

Table 7A
Summary of Post-Excavation Soil Analytical Results
AOC-1
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-1																													
Location ID:			Protection of Public Health				PE-57		PE-57 (DUP-2)		PE-58		PE-59		PE-60		PE-61		PE-62		PE-63		PE-64		PE-65		PE-66		PE-67		PE-68		PE-69		PE-70		PE-71	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB86923-1		JB86923-2		JB86806-4		JB86806-3		JB86923-6		JB87001-4		JB87193-1		JB87400-1		JB87193-2		JB87001-1		JB86923-8		JB86923-5		JB86923-4		JB86923-3		JB86806-5		JB86923-7	
Sample Date:							1/21/2015		1/21/2015		1/21/2015		1/21/2015		1/22/2015		1/23/2015		1/23/2015		1/29/2015		1/23/2015		1/22/2015		1/22/2015		1/21/2015		1/21/2015		1/21/2015		1/22/2015	
Sampling Depth (ft bgs):							7		7		7		7		7		7		7		7		7		7		7		7		7		7		7	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																																				
4-Chloro-3-Methylphenol	59-50-7	—	—	—	—	—	37	U	37	U	51	U	34	U	36	U	40	U	49	U	51	U	49	U	51	U	52	U	49	U	41	U	34	U	34	U	35	U
4-Chloroaniline	106-47-8	—	—	—	—	—	12	U	12	U	16	U	11	U	11	U	13	U	16	U	16	U	16	U	16	U	16	U	16	U	13	U	11	U	11	U	11	U
4-Chlorophenyl phenyl ether	7005-72-3	—	—	—	—	—	11	U	11	U	15	U	10	U	11	U	12	U	15	U	15	U	15	U	15	U	16	U	15	U	12	U	10	U	10	U	10	U
4-Nitroaniline	100-01-6	—	—	—	—	—	14	U	15	U	20	U	13	U	14	U	16	U	19	U	20	U	19	U	20	U	19	U	19	U	16	U	13	U	13	U	14	U
4-Nitrophenol	100-02-7	—	—	—	—	—	62	U	63	U	86	U	57	U	60	U	68	U	82	U	86	U	83	U	86	U	87	U	84	U	69	U	58	U	57	U	59	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	11	U	11	U	15	U	9.7	U	10	U	12	U	14	U	15	U	14	U	32.4	J	15	U	115		41.9		10	U	9.8	U	10	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	12	U	12	U	16	U	11	U	11	U	13	U	16	U	16	U	16	U	16	U	16	U	82		13	U	11	U	11	U	11	U
Acetophenone	98-86-2	—	—	—	—	—	6.5	U	6.6	U	9	U	5.9	U	6.3	U	7.1	U	8.6	U	8.9	U	8.7	U	9	U	9.1	U	8.7	U	7.2	U	6	U	5.9	U	6.1	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	13	U	13	U	18	U	12	U	13	U	14	U	17	U	18	U	17	U	18	U	18	U	241		98.1		12	U	12	U	12	U
Atrazine	1912-24-9	—	—	—	—	—	7.2	U	7.4	U	10	U	6.6	U	7	U	7.9	U	9.6	U	10	U	9.7	U	10	U	10	U	9.7	U	8	U	6.8	U	6.6	U	6.8	U
Benzaldehyde	100-52-7	—	—	—	—	—	8.5	U	8.6	U	12	U	7.7	U	8.2	U	9.2	U	11	U	12	U	11	U	12	U	12	U	11	U	9.3	U	7.9	U	7.8	U	8	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	12	U	12	U	17	U	11	U	12	U	13	U	16	U	17	U	16	U	17	U	17	U	189		229		11	U	11	U	11	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	11	U	11	U	16	U	10	U	11	U	12	U	15	U	15	U	15	U	16	U	16	U	186		198		10	U	10	U	11	U
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	12	U	13	U	17	U	11	U	12	U	13	U	16	U	17	U	16	U	17	U	17	U	117		216		11	U	11	U	12	U
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	14	U	14	U	19	U	12	U	13	U	15	U	18	U	19	U	18	U	19	U	19	U	132		117		13	U	13	U	13	U
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	14	U	14	U	19	U	13	U	13	U	15	U	18	U	19	U	18	U	19	U	19	U	36.8	J	83		13	U	13	U	13	U
Benzyl Butyl Phthalate	85-68-7	—	—	—	—	—	21	U	22	U	29	U	19	U	21	U	23	U	28	U	29	U	28	U	30	U	30	U	29	U	24	U	20	U	20	U	20	U
Biphenyl (diphenyl)	92-52-4	—	—	—	—	—	4.3	U	4.3	U	5.9	U	3.9	U	4.1	U	4.7	U	5.6	U	5.9	U	5.7	U	5.9	U	6	U	5.7	U	4.7	U	4	U	3.9	U	4	U
Bis(2-chloroethoxy) methane	111-91-1	—	—	—	—	—	15	U	15	U	21	U	14	U	14	U	16	U	20	U	20	U	20	U	21	U	21	U	20	U	16	U	14	U	14	U	14	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	—	—	—	—	—	11	U	11	U	15	U	10	U	11	U	12	U	15	U	15	U	15	U	15	U	16	U	15	U	12	U	10	U	10	U	10	U
Bis(2-chloroisopropyl) ether	108-60-1	—	—	—	—	—	11	U	11	U	15	U	10	U	11	U	12	U	14	U	15	U	15	U	15	U	15	U	15	U	12	U	10	U	10	U	10	U
Bis(2-ethylhexyl) phthalate	117-81-7	—	—	—	—	—	32	U	33	U	45	U	109		32	U	35	U	43	U	45	U	43	U	45	U	45	U	44	U	36	U	30	U	30	U	31	U
Caprolactam	105-60-2	—	—	—	—	—	12	U	12	U	16	U	11	U	11	U	13	U	15	U	16	U	15	U	16	U	16	U	16	U	13	U	11	U	11	U	11	U
Carbazole	86-74-8	—	—	—	—	—	17	U	17	U	24	U	16	U	17	U	19	U	23	U	23	U	23	U	24	U	24	U	23	U	30	J	16	U	16	U	16	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	12	U	13	U	17	U	11	U	12	U	14	U	16	U	17	U	17	U	17	U	17	U	168		245		12	U	11	U	12	U
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	47	U	48	U	65	U	43	U	45	U	51	U	62	U	64	U	62	U	65	U	65	U	63	U	52	U	44	U	43	U	44	U
Dibenzo(a,h)anthracene	53-70-3	330	330	330	560	1,100	13	U	13	U	17	U	11	U	12	U	14	U	17	U	17	U	17	U	17	U	18	U	17	U	31.7	J	12	U	12	U	12	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	11	U	11	U	15	U	10	U	11	U	12	U	14	U	15	U	15	U	15	U	15	U	15	U	12	U	10	U	10	U	10	U
Diethyl Phthalate	84-66-2	—	—	—	—	—	13	U	13	U	17	U	11	U	12	U	14	U	17	U	17	U	17	U	17	U	18	U	17	U	14	U	12	U	12	U	12	U
Dimethyl Phthalate	131-11-3	—	—	—	—	—	13	U	13	U	18	U	12	U	13	U	14	U	17	U	18	U	17	U	18	U	18	U	17	U	14	U	12	U	12	U	12	U
Di-n-butyl phthalate	84-74-2	—	—	—	—	—	8.2	U	8.3	U	11	U	53.3	J	7.9	U	8.9	U	11	U	11	U	11	U	11	U	11	U	11	U	9	U	7.6	U	7.5	U	7.7	U
Di-n-octylphthalate	117-84-0	—	—	—	—	—	18	U	18	U	25	U	16	U	17	U	20	U	24	U	25	U	24	U	25	U	24	U	24	U	20	U	17	U	16	U	17	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	16	U	17	U	22	U	15	U	16	U	18	U	21	U	22	U	22	U	23	U	23	U	324		520		15	U	15	U	15	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	12	U	12	U	17	U	11	U	12	U	13	U	16	U	17	U	16	U	17	U	17	U	182		36.3	J	11	U	11	U	11	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	12	U	12	U	17	U	11	U	12	U	13	U	16	U	17	U	16	U	17	U	17	U	16	U	13	U	11	U	11	U	11	U
Hexachlorocyclopentadiene	77-47-4	—	—	—	—	—	38	U	38	U	52	U	34	U	36	U	41	U	50	U	52	U	50	U	52	U	53	U	50	U	41	U	35	U	34	U	35	U
Hexachloroethane	67-72-1	—	—	—	—	—	10	U	10	U	14	U	9.3	U	9.9	U	11	U	14	U	14	U	14	U	14	U	14	U	14	U	11	U	9.6	U	9.4	U	9.6	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	13	U	13	U	18	U	12	U	12	U	14	U	17	U	18	U	17	U	18	U	18	U	87.2		123		12	U	12	U	12	U
Isophorone	78-59-1	—	—	—	—	—	9.9	U	10	U	14	U	9	U	9.6	U	11	U	13	U	14	U	13	U	14	U	14	U	13	U	11	U	9.2	U	9.1	U	9.3	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	67.7		10	U	14	U	9.1	U	9.8	U	11	U	13	U	14	U	13	U	14	U	14	U	14	U	11	U	9.4	U	9.2	U	9.5	U
Nitrobenzene	98-95-3	—	—	—	—	—	11	U	11	U	15	U	9.7	U	10	U	12	U	14	U	15	U	14	U	15	U	15	U	14	U	12	U	9.9	U	9.8	U	10	U
N-Nitrosodi-n-Propylamine	621-64-7	—	—	—	—	—	9	U	9.1	U	12	U	8.2	U	8.7	U	9.8	U	12	U	12	U	12	U	13	U	12	U	12	U	9.9	U	8.4	U	8.2	U	8.5	U
N-Nitrosodiphenylamine	86-30-6	—	—	—	—	—	22	U	22	U	30	U	20	U	21	U	24	U	29	U	30	U	29	U	30	U	31	U	30	U	24	U	21	U	20	U	21	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	63	U	64	U	87	U	57	U	61	U	69	U	83	U	87	U	84	U	87	U	88	U	85	U	69	U	59	U	58	U	59	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	17	U	17	U	23	U	15	U	16	U	18	U	22	U	23	U	22	U	23	U	23	U	639		413		16	U	15	U	16	U
Phenol	108-95-2	330	100,000	100,000	100,000	500,000	39	U	39	U	53	U	35	U	38	U	42	U	51	U	53	U	52	U	54	U	54	U	52	U	43	U	36	U	35	U	36	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	14	U	14	U	20	U	13	U	14	U	15	U	19	U	19	U	19	U	20	U	20	U	552		425		13	U	13	U	13	U
Metals, Target Analyte																																				
Aluminum	7429-90-5	—	—	—	—	—	14,500,000		16,100,000		6,000,000		7,300,000	J	10,700,000		13,300,000		18,100,000		18,400,000		21,000,000		17,500,000		18,000,000		12,000,000		12,500,000		11,900,000		9,680,000		10,000,000	
Antimony	7440-36-0	—	—	—	—	—	450	B	310	U	410	U	300	UJ	300	U	380	U	420	U	940	J	440	U	430	U	450	U	460	B	340	U	310	U	290	U	310	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	3,500		3,700		**13,200**		2,600		2,500		**14,400**		**18,900**		9,200		12,100		9,700		9,600		11,800		3,900		2,100	B	3,000		3,700	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	34,300		38,700		262,000		39,200		50,100		49,900		54,500		56,500		48,000		42,700		38,900		**505,000**		66,300		23,100		40,400		49,400	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	650		670		520		470		730		780		910		1,000		1,000		840		1,000		1,200		740		590		860		740	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	99	B	93	B	150	B	120	B	130	B	71	U	200	B	280	B	290	B	79	B	290	B	190	B	180	B	57	U	160	B	100	B
Calcium	7440-70-2	—	—	—	—	—	1,350,000		1,940,000		5,600,000		1,490,000		1,240,000		2,490,000		11,200,000		2,890,000		2,420,000		2,470,000		2,420,000		9,540,000		1,760,000		855,000		1,750,000		1,350,000	
Chromium, Total	7440-47-3	—	—	—	—	—	21,900		24,400		9,100		19,000		20,000		26,200		32,200		33,000		38,300		35,600		33,000		19,300		23,600		17,300		26,800		18,500	
Cobalt	7440-48-4	—	—	—	—	—	4,500	B	4,800	B	5,500	B	4,400	B	7,100		9,700		13,000		10,100		12,000		8,900		10,600		14,900		10,200		3,500	B	8,100		6,600	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	10,100		11,100		24,300		17,200		17,000		17,000		16,700		14,200		17,400		14,500		14,000		**73,500**		37,200		7,200		31,500		16,400	
Iron	7439-89-6	—	—	—	—	—	15,100,000		19,900,000		14,000,000		11,800,000		13,500,000		21,500,000		33,200,000		34,500,000		40,000,000		29,300,000		31,800,000		20,700,000		17,900,000		11,100,000		17,000,000		14,000,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	19,700		16,500		52,600		12,100		10,500		22,200		21,000		14,600		17,200		15,900		15,600		**205,000**		**77,200**		9,500		10,500		10,100	
Magnesium	7439-95-4	—	—	—	—	—	2,600,000		2,840,000		727,000	B	2,750,000		3,110,000		4,690,000		6,080,000		6,720,000		7,420,000		6,300,000		6,250,000		1,360,000		3,280,000		1,950,000		5,370,000		3,300,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	124,000		206,000		209,000		118,000		160,000		190,000		375,000		360,000		452,000		281,000		395,000		645,000		251,000		91,200		256,000		133,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	67		27	B	**480**		5.3	B	6.7	B	14	B	54		28	B	22	B	29	B	27	B	**200**		**330**		20	B	4.6	B	5.2	B
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	18,900		19,700		13,800		23,500		**31,800**		28,600		**30,300**		28,800		**32,700**		26,900		29,500		27,700		**46,900**		16,400		**35,500**		**30,900**	
Potassium	7440-09-7	—	—	—	—	—	1,250,000		1,420,000		574,000	B	1,330,000	J	1,360,000		2,650,000		3,820,000		3,970,000	J	4,650,000		3,730,000		3,820,000		1,290,000	B	1,340,000		742,000	B	2,800,000		1,570,000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	410	U	380	U	1,200	B	360	U	370	U	470	U	520	U	520	U	540	U	520	U	550	U	980	B	410	U	380	U	350	U	380	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	170	U	160	U	1,400		150	U	160	U	200	U	220	U	450	B	290	B	220	U	230	U	220	U	180	U	160	U	150	U	160	U
Sodium	7440-23-5	—	—	—	—	—	382,000	B	427,000	B	1,190,000	B	244,000	B	258,000	B	694,000	B	983,000	B	1,040,000	B	1,660,000		851,000	B	1,120,000	B	1,270,000	B	463,000	B	311,000	B	340,000	B	247,000	B
Thallium	7440-28-0	—	—	—	—	—	510	U	470	U	620	U	450	U	460	U	580	U	640	U	640	U	670	U	650	U	690	U	650	U	510	U	470	U	440	U	470	U
Vanadium	7440-62-2	—	—	—	—	—	29,100		34,000		21,400		22,800		25,900		36,300		44,100		38,400		43,400		41,900		37,500		43,900		29,500		24,400		35,300		26,300	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	32,400		37,300		19,200		35,800		42,600		52,100		73,100		75,800		86,900		69,400		77,300		63,000		59,500		27,300		56,300		37,500	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
— = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7B
Summary of Post-Excavation Soil Analytical Results
AOC-2
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-2																					
Location ID:		Protection of Public Health					PE-46		PE-46 (DUP-1)		PE-47		PE-48		PE-49		PE-50		PE-51		PE-52		PE-53		PE-54		PE-55		PE-56	
Lab Sample ID:							JB86608-2		JB86608-3		JB86608-1		JB86608-4		JB86683-1		JB86683-3		JB86806-1		JB86806-2		JB86608-6		JB86608-5		JB86683-6		JB86683-2	
Sample Date:							1/16/2015		1/16/2015		1/16/2015		1/16/2015		1/19/2015		1/19/2015		1/20/2015		1/20/2015		1/16/2015		1/16/2015		1/20/2015		1/19/2015	
Sampling Depth (ft bgs):							7		7		7		7		7		7		7		7		7		7		7		7	
Units:	CAS Number	Unrestricted Use ug/kg	Residential ug/kg	Restricted-Residential ug/kg	Restricted-Commercial ug/kg	Restricted-Industrial ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																														
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.12	U	0.12	U	0.12	U	0.2	U	0.13	U	0.25	U	0.14	U	0.17	U	0.13	U	0.13	U	0.12	U	0.66	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	—	—	0.14	U	0.13	U	0.13	U	0.22	U	0.15	U	0.28	U	0.15	U	0.18	U	0.14	U	0.15	U	0.13	U	0.73	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	—	—	0.27	U	0.25	U	0.26	U	0.43	U	0.29	U	0.54	U	0.29	U	0.36	U	0.27	U	0.29	U	0.27	U	1.4	U
1,1,2-Trichloroethane	79-00-5	—	—	—	—	—	0.17	U	0.16	U	0.16	U	0.27	U	0.18	U	0.34	U	0.18	U	0.23	U	0.17	U	0.18	U	0.17	U	0.89	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.33	U	0.31	U	0.33	U	0.54	U	0.36	U	0.68	U	0.36	U	0.45	U	0.34	U	0.36	U	0.33	U	1.8	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.23	U	0.21	U	0.22	U	0.37	U	0.25	U	0.46	U	0.25	U	0.31	U	0.23	U	0.25	U	0.23	U	1.2	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	0.14	U	0.13	U	0.14	U	0.23	U	0.15	U	0.29	U	0.15	U	0.19	U	0.14	U	0.15	U	0.14	U	0.76	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	0.17	U	0.16	U	0.17	U	0.27	U	0.18	U	0.34	U	0.18	U	0.23	U	0.17	U	0.18	U	0.17	U	0.9	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	—	—	0.49	U	0.45	U	0.48	U	0.79	U	0.52	U	0.99	U	0.53	U	0.66	U	0.49	U	0.52	U	0.48	U	2.6	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	—	—	0.14	U	0.13	U	0.14	U	0.23	U	0.16	U	0.29	U	0.16	U	0.2	U	0.15	U	0.16	U	0.14	U	0.77	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.15	U	0.14	U	0.15	U	0.24	U	0.16	U	0.3	U	0.16	U	0.2	U	0.15	U	0.16	U	0.15	U	0.8	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.11	U	0.1	U	0.11	U	0.17	U	0.12	U	0.22	U	0.12	U	0.15	U	0.11	U	0.12	U	0.11	U	0.57	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	—	—	45.1		44.1		44.8		48.8		46.7		49.8		47		48.2		44		43.3		46.4		52.1	
1,2-Dichloropropane	78-87-5	—	—	—	—	—	0.16	U	0.15	U	0.16	U	0.26	U	0.17	U	0.32	U	0.17	U	0.22	U	0.16	U	0.17	U	0.16	U	0.85	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.15	U	0.14	U	0.14	U	0.24	U	0.16	U	0.29	U	0.16	U	0.2	U	0.15	U	0.16	U	0.14	U	0.78	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.15	U	0.14	U	0.15	U	0.25	U	0.17	U	0.31	U	0.17	U	0.21	U	0.16	U	0.17	U	0.15	U	0.82	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	24	U	23	U	24	U	34	U	25	U	39	U	22	U	30	U	24	U	27	U	24	U	68	U
2-Hexanone	591-78-6	—	—	—	—	—	0.52	U	0.48	U	0.51	U	0.84	U	0.56	U	1.1	U	0.57	U	0.7	U	0.53	U	0.56	U	0.51	U	2.8	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	7.7	J	14		11.4		22.6		15.7		17.3	J	7	J	19.3		9.6		8.7	J	13.2		7.4	U
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.16	U	0.15	U	0.16	U	0.26	U	0.83	J	50.3		0.18	U	0.22	U	0.16	U	0.17	U	0.71	J	15.3	
Bromochloromethane	74-97-5	—	—	—	—	—	0.22	U	0.21	U	0.22	U	0.36	U	0.24	U	0.45	U	0.24	U	0.3	U	0.23	U	0.24	U	0.22	U	1.2	U
Bromodichloromethane	75-27-4	—	—	—	—	—	0.22	U	0.21	U	0.22	U	0.36	U	0.24	U	0.45	U	0.24	U	0.3	U	0.23	U	0.24	U	0.22	U	1.2	U
Bromoform	75-25-2	—	—	—	—	—	0.099	U	0.092	U	0.097	U	0.16	U	0.11	U	0.2	U	0.11	U	0.13	U	0.1	U	0.11	U	0.098	U	0.53	U
Bromomethane	74-83-9	—	—	—	—	—	0.27	U	0.25	U	0.27	U	0.44	U	0.29	U	0.55	U	0.3	U	0.37	U	0.27	U	0.29	U	0.27	U	1.4	U
Carbon Disulfide	75-15-0	—	—	—	—	—	0.22	U	0.21	U	0.22	U	3.8	J	2.1	J	6.2	J	0.37	J	0.6	J	0.22	U	0.68	J	0.22	U	16.7	J
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.13	U	0.12	U	0.13	U	0.21	U	0.14	U	0.27	U	0.14	U	0.18	U	0.13	U	0.14	U	0.13	U	0.71	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.11	U	0.11	U	0.11	U	0.18	U	0.12	U	0.23	U	0.12	U	0.15	U	0.12	U	0.12	U	0.11	U	0.61	U
Chloroethane	75-00-3	—	—	—	—	—	0.22	U	0.21	U	0.22	U	0.36	U	0.24	U	0.45	U	0.24	U	0.3	U	0.22	U	0.24	U	0.22	U	1.2	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.096	U	0.09	U	0.094	U	0.16	U	0.1	U	0.19	U	0.1	U	0.13	U	0.097	U	0.1	U	0.095	U	0.51	U
Chloromethane	74-87-3	—	—	—	—	—	0.28	U	0.26	U	0.27	U	0.45	U	0.3	U	0.56	U	0.3	U	0.38	U	0.28	U	0.3	U	0.28	U	1.5	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.24	U	0.23	U	0.24	U	0.39	U	0.26	U	0.49	U	0.26	U	0.33	U	0.25	U	0.26	U	0.24	U	1.3	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	—	—	0.12	U	0.11	U	0.12	U	0.19	U	0.13	U	0.24	U	0.13	U	0.16	U	0.12	U	0.13	U	0.12	U	0.63	U
Cyclohexane	110-82-7	—	—	—	—	—	0.5	J	0.38	J	0.32	U	7.7		0.35	U	4.5	J	0.36	U	1.7	J	0.46	J	0.35	U	0.46	J	93.4	
Dibromochloromethane	124-48-1	—	—	—	—	—	0.13	U	0.12	U	0.12	U	0.2	U	0.14	U	0.25	U	0.14	U	0.17	U	0.13	U	0.14	U	0.12	U	0.67	U
Dichlorodifluoromethane	75-71-8	—	—	—	—	—	0.49	U	0.45	U	0.48	U	0.79	U	0.52	U	0.98	U	0.53	U	0.66	U	0.49	U	0.52	U	0.48	U	2.6	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.099	U	0.092	U	0.097	U	0.16	U	0.11	U	41.8		0.11	U	0.13	U	0.1	U	0.11	U	0.098	U	0.53	U
Hexachlorobutadiene	87-68-3	—	—	—	—	—	10	U	9.7	U	10	U	15	U	11	U	17	U	9.6	U	13	U	10	U	12	U	10	U	29	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	—	—	0.32	J	0.3	J	0.14	U	0.23	U	0.37	J	5	J	0.16	U	0.19	U	0.14	U	0.15	U	0.73	J	1.6	J
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	0.21	U	0.2	U	0.21	U	0.34	U	0.23	U	24.4		0.23	U	0.29	U	0.21	U	0.23	U	0.21	U	1.1	U
Methyl Acetate	79-20-9	—	—	—	—	—	0.45	U	0.42	U	0.44	U	0.73	U	0.48	U	0.91	U	0.49	U	0.61	U	0.46	U	0.49	U	0.45	U	2.4	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	1.1	U	1.1	U	1.1	U	1.8	U	1.2	U	2.3	U	1.2	U	1.5	U	1.1	U	1.2	U	1.1	U	6	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	—	—	0.3	U	0.28	U	0.29	U	0.48	U	0.32	U	0.61	U	0.33	U	0.41	U	0.3	U	0.32	U	0.3	U	1.6	U
Methylcyclohexane	108-87-2	—	—	—	—	—	0.53	J	0.44	J	0.13	U	5.2	J	0.14	U	0.26	U	0.14	U	1.5	J	0.13	U	0.14	U	0.13	U	8.2	J
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	0.89	U	0.83	U	0.87	U	1.4	U	0.95	U	1.8	U	0.96	U	1.2	U	0.9	U	0.95	U	0.88	U	4.7	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	0.28	J	0.32	J	0.13	U	0.21	U	0.14	U	53.4		0.14	U	0.18	U	0.13	U	0.14	U	0.13	U	0.7	U
Styrene	100-42-5	—	—	—	—	—	0.13	U	0.12	U	0.13	U	0.21	U	0.14	U	0.26	U	0.14	U	0.18	U	0.13	U	0.14	U	0.13	U	0.7	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.15	U	0.14	U	0.15	U	0.25	U	0.17	U	0.31	U	0.17	U	0.21	U	0.16	U	0.17	U	0.15	U	0.83	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.18	U	0.17	U	0.18	U	0.29	U	0.2	U	0.37	U	0.2	U	0.25	U	0.18	U	0.2	U	0.18	U	0.97	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.14	U	0.13	U	0.14	U	0.22	U	0.15	U	6		0.15	U	0.19	U	0.14	U	0.15	U	0.14	U	0.74	U
Toluene-D8	2037-26-5	—	—	—	—	—	50.7		51.4		50.7		50.5		50.3		51.5		50.8		52		50.8		51		51.2		49.5	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.18	U	0.16	U	0.17	U	0.28	U	0.19	U	0.35	U	0.19	U	0.24	U	0.18	U	0.19	U	0.17	U	0.94	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	—	—	0.16	U	0.15	U	0.16	U	0.25	U	0.17	U	0.32	U	0.17	U	0.21	U	0.16	U	0.17	U	0.16	U	0.84	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.18	U	0.17	U	0.18	U	0.3	U	0.2	U	0.37	U	0.2	U	0.25	U	0.18	U	0.2	U	0.18	U	0.98	U
Trichlorofluoromethane	75-69-4	—	—	—	—	—	0.15	U	0.14	U	0.15	U	0.25	U	0.17	U	0.31	U	0.17	U	0.21	U	0.16	U	0.17	U	0.15	U	0.83	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.13	U	0.12	U	0.13	U	0.21	U	0.14	U	0.27	U	0.14	U	0.18	U	0.13	U	0.14	U	0.13	U	0.7	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	0.28	J	0.32	J	0.13	U	0.21	U	0.14	U	77.8		0.14	U	0.18	U	0.13	U	0.14	U	0.13	U	0.7	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																														
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	—	—	11	U	11	U	11	U	16	U	12	U	18	U	11	U	14	U	11	U	13	U	12	U	32	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	—	—	37	U	36	U	38	U	55	U	40	U	61	U	36	U	47	U	38	U	43	U	39	U	110	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	—	—	42	U	40	U	43	U	62	U	45	U	69	U	40	U	53	U	43	U	48	U	44	U	120	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	—	—	34	U	33	U	34	U	50	U	37	U	56	U	32	U	43	U	35	U	39	U	35	U	99	U
2,4-Dichlorophenol	120-83-2	—	—	—	—	—	58	U	56	U	59	U	85	U	63	U	96	U	56	U	74	U	60	U	67	U	61	U	170	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	61	U	58	U	62	U	89	U	65	U	100	U	58	U	77	U	63	U	70	U	63	U	180	U
2,4-Dinitrophenol	51-28-5	—	—	—	—	—	44	U	42	U	45	U	65	U	47	U	73	U	42	U	56	U	46	U	51	U	46	U	130	U
2,4-Dinitrotoluene	121-14-2	—	—	—	—	—	16	U	15	U	16	U	23	U	17	U	26	U	15	U	20	U	16	U	18	U	16	U	46	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	14	U	13	U	14	U	20	U	15	U	23	U	13	U	18	U	14	U	16	U	14	U	40	U
2-Chloronaphthalene	91-58-7	—	—	—	—	—	11	U	11	U	11	U	16	U	12	U	18	U	11	U	14	U	12	U	13	U	12	U	33	U
2-Chlorophenol	95-57-8	—	—	—	—	—	36	U	35	U	37	U	53	U	39	U	60	U	34	U	46	U	37	U	41	U	38	U	110	U
2-Fluorobiphenyl	321-60-8	—	—	—	—	—	24.9		26.9		28.9		30		29.5		29.4		30.9		29.4		26.9		20.9		26.6		28.9	
2-Fluorophenol	367-12-4	—	—	—	—	—	28.4		30.8		33.7		33.7		35.4		36.6		32.1		31.1		30.5		23.4		31.3		35.2	
2-Methylnaphthalene	91-57-6	—	—	—	—	—	20	U	19	U	20	U	30	U	22	U	33	U	19	U	26	U	21	U	23	U	21	U	59	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	41	U	40	U	42	U	60	U	44	U	68	U	39	U	52	U	43	U	47	U	43	U	120	U
2-Nitroaniline	88-74-4	—	—	—	—	—	16	U	15	U	16	U	23	U	17	U	26	U	15	U	20	U	16	U	18	U	17	U	46	U
2-Nitrophenol	88-75-5	—	—	—	—	—	38	U	37	U	39	U	56	U	41	U	63	U	37	U	49	U	40	U	44	U	40	U	110	U
3,3'-Dichlorobenzidine	91-94-1	—	—	—	—	—	9.2	U	8.8	U	9.3	U	13	U	9.9	U	15	U	8.8	U	12	U	9.5	U	11	U	9.6	U	27	U
3-Nitroaniline	99-09-2	—	—	—	—	—	14	U	14	U	15	U	21	U	16	U	24	U	14	U	18	U	15	U	17	U	15	U	42	U
4,6-Dinitro-2-Methylphenol	534-52-1	—	—	—	—	—	44	U	42	U	45	U	65	U	47	U	73	U	42	U	56	U	46	U	51	U	46	U	130	U
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	13	U	13	U	13	U	19	U	14	U	22	U	13	U	17	U	14	U	15	U	14	U	38	U

Table 7B
Summary of Post-Excavation Soil Analytical Results
AOC-2
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-2																					
Location ID:		Protection of Public Health					PE-46		PE-46 (DUP-1)		PE-47		PE-48		PE-49		PE-50		PE-51		PE-52		PE-53		PE-54		PE-55		PE-56	
Lab Sample ID:							JB86608-2		JB86608-3		JB86608-1		JB86608-4		JB86683-1		JB86683-3		JB86806-1		JB86806-2		JB86608-6		JB86608-5		JB86683-6		JB86683-2	
Sample Date:							1/16/2015		1/16/2015		1/16/2015		1/16/2015		1/19/2015		1/19/2015		1/20/2015		1/20/2015		1/16/2015		1/16/2015		1/20/2015		1/19/2015	
Sampling Depth (ft bgs):							7		7		7		7		7		7		7		7		7		7		7		7	
Units:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																														
4-Chloro-3-Methylphenol	59-50-7	---	---	---	---	---	36	U	35	U	37	U	53	U	39	U	60	U	34	U	46	U	37	U	41	U	38	U	110	U
4-Chloroaniline	106-47-8	---	---	---	---	---	12	U	11	U	12	U	17	U	12	U	19	U	11	U	15	U	12	U	13	U	12	U	34	U
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	---	---	11	U	10	U	11	U	16	U	12	U	18	U	10	U	14	U	11	U	12	U	11	U	32	U
4-Nitroaniline	100-01-6	---	---	---	---	---	14	U	14	U	14	U	21	U	15	U	23	U	13	U	18	U	15	U	16	U	15	U	41	U
4-Nitrophenol	100-02-7	---	---	---	---	---	61	U	59	U	62	U	90	U	66	U	100	U	58	U	78	U	63	U	70	U	64	U	180	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	120		111		11	U	15	U	11	U	17	U	10	U	13	U	11	U	12	U	11	U	30	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	12	U	11	U	12	U	17	U	12	U	19	U	11	U	15	U	12	U	13	U	12	U	34	U
Acetophenone	98-86-2	---	---	---	---	---	6.4	U	6.1	U	6.5	U	9.3	U	6.8	U	10	U	6.1	U	8.1	U	6.6	U	7.3	U	6.6	U	18	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	13	U	12	U	13	U	19	U	14	U	21	U	12	U	16	U	13	U	15	U	13	U	37	U
Atrazine	1912-24-9	---	---	---	---	---	7.1	U	6.9	U	7.2	U	10	U	7.7	U	12	U	6.8	U	9.1	U	7.4	U	8.2	U	7.4	U	21	U
Benzaldehyde	100-52-7	---	---	---	---	---	8.3	U	8	U	8.4	U	12	U	8.9	U	14	U	7.9	U	30.8	J	8.6	U	9.5	U	8.7	U	24	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	12	U	11	U	12	U	17	U	13	U	19	U	11	U	15	U	12	U	14	U	12	U	34	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	11	U	11	U	11	U	16	U	355		18	U	11	U	14	U	11	U	13	U	130		32	U
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	12	U	12	U	12	U	18	U	13	U	20	U	12	U	15	U	12	U	14	U	13	U	35	U
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	13	U	13	U	14	U	20	U	14	U	22	U	13	U	17	U	14	U	15	U	14	U	39	U
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	14	U	13	U	14	U	20	U	15	U	22	U	13	U	17	U	14	U	16	U	14	U	40	U
Benzyl Butyl Phthalate	85-68-7	---	---	---	---	---	21	U	20	U	21	U	31	U	22	U	35	U	20	U	27	U	22	U	24	U	22	U	61	U
Biphenyl (diphenyl)	92-52-4	---	---	---	---	---	4.2	U	4	U	4.3	U	6.2	U	4.5	U	6.9	U	4	U	5.3	U	4.3	U	4.8	U	4.4	U	12	U
Bis(2-chloroethoxy) methane	111-91-1	---	---	---	---	---	15	U	14	U	15	U	21	U	16	U	24	U	14	U	19	U	15	U	17	U	15	U	42	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	---	---	---	---	---	11	U	10	U	11	U	16	U	12	U	18	U	10	U	14	U	11	U	12	U	11	U	32	U
Bis(2-chloroisopropyl) ether	108-60-1	---	---	---	---	---	11	U	10	U	11	U	16	U	12	U	18	U	10	U	14	U	11	U	12	U	11	U	31	U
Bis(2-ethylhexyl) phthalate	117-81-7	---	---	---	---	---	32	U	31	U	32	U	47	U	34	U	53	U	30	U	41	U	33	U	37	U	33	U	93	U
Caprolactam	105-60-2	---	---	---	---	---	11	U	11	U	12	U	17	U	12	U	19	U	11	U	14	U	12	U	13	U	12	U	33	U
Carbazole	86-74-8	---	---	---	---	---	17	U	16	U	17	U	25	U	18	U	28	U	16	U	21	U	17	U	19	U	17	U	49	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	12	U	12	U	12	U	18	U	13	U	20	U	12	U	16	U	13	U	14	U	13	U	36	U
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	46	U	44	U	47	U	67	U	49	U	76	U	44	U	58	U	47	U	53	U	48	U	130	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	12	U	12	U	13	U	18	U	13	U	20	U	12	U	16	U	13	U	14	U	13	U	36	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	11	U	10	U	11	U	16	U	12	U	18	U	10	U	14	U	11	U	12	U	11	U	31	U
Diethyl Phthalate	84-66-2	---	---	---	---	---	12	U	12	U	13	U	18	U	13	U	20	U	12	U	16	U	13	U	14	U	13	U	36	U
Dimethyl Phthalate	131-11-3	---	---	---	---	---	13	U	12	U	13	U	19	U	14	U	21	U	12	U	16	U	13	U	15	U	13	U	37	U
Di-n-butyl phthalate	84-74-2	---	---	---	---	---	8	U	7.7	U	8.1	U	12	U	8.6	U	13	U	7.7	U	10	U	8.3	U	9.2	U	8.4	U	23	U
Di-n-octylphthalate	117-84-0	---	---	---	---	---	18	U	17	U	18	U	26	U	19	U	29	U	17	U	22	U	18	U	20	U	18	U	51	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	16	U	15	U	16	U	23	U	32.8	J	26	U	15	U	20	U	16	U	18	U	17	U	46	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	51.6		47.6		12	U	17	U	13	U	20	U	11	U	15	U	12	U	14	U	12	U	34	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	12	U	11	U	12	U	17	U	13	U	19	U	11	U	15	U	12	U	14	U	12	U	34	U
Hexachlorocyclopentadiene	77-47-4	---	---	---	---	---	37	U	36	U	37	U	54	U	40	U	61	U	35	U	47	U	38	U	42	U	38	U	110	U
Hexachloroethane	67-72-1	---	---	---	---	---	10	U	9.7	U	10	U	15	U	11	U	17	U	9.6	U	13	U	10	U	12	U	10	U	29	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	13	U	12	U	13	U	18	U	13	U	21	U	12	U	16	U	13	U	14	U	13	U	36	U
Isophorone	78-59-1	---	---	---	---	---	9.7	U	9.4	U	9.9	U	14	U	10	U	16	U	9.3	U	12	U	10	U	11	U	10	U	28	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	9.9	U	9.5	U	10	U	14	U	11	U	364		9.4	U	13	U	10	U	11	U	38.8		29	U
Nitrobenzene	98-95-3	---	---	---	---	---	10	U	10	U	11	U	15	U	11	U	17	U	10	U	13	U	11	U	12	U	11	U	30	U
N-Nitrosodi-n-Propylamine	621-64-7	---	---	---	---	---	8.8	U	8.5	U	9	U	13	U	9.5	U	15	U	8.4	U	11	U	9.1	U	10	U	9.2	U	26	U
N-Nitrosodiphenylamine	86-30-6	---	---	---	---	---	22	U	21	U	22	U	32	U	23	U	36	U	21	U	27	U	22	U	25	U	22	U	63	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	62	U	60	U	63	U	91	U	66	U	100	U	59	U	79	U	64	U	71	U	64	U	180	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	16	U	16	U	17	U	24	U	18	U	27	U	16	U	21	U	17	U	19	U	17	U	48	U
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	38	U	37	U	39	U	56	U	41	U	63	U	36	U	48	U	39	U	44	U	40	U	110	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	14	U	13	U	14	U	20	U	15	U	23	U	13	U	18	U	14	U	16	U	14	U	40	U
Metals, Target Analyte																														
Aluminum	7429-90-5	---	---	---	---	---	7,770,000	J	8,340,000		9,750,000		19,600,000		5,370,000		11,300,000		7,810,000		6,170,000		8,240,000		7,190,000		12,600,000		22,100,000	
Antimony	7440-36-0	---	---	---	---	---	320	UJ	320	U	320	U	670	B	310	U	480	U	290	U	370	U	320	U	360	U	420	B	1,000	B
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	2,600		2,800		2,800		10,700		4,700		6,200		3,100		4,100		2,800		4,500		7,000		9,100	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	30,700	J	34,000		31,200		56,900		17,900	B	56,200		44,700		31,300		34,600		30,200		29,400		37,500	B
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	390		400		460		650		350		680		420		310		410		470		630		910	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	94	B	71	B	82	B	84	B	57	U	130	B	160	B	220	B	84	B	110	B	180	B	210	B
Calcium	7440-70-2	---	---	---	---	---	848,000	J	1,060,000		860,000		2,720,000		533,000	B	1,640,000		1,440,000		2,880,000		4,820,000		3,070,000		1,900,000		6,520,000	
Chromium, Total	7440-47-3	---	---	---	---	---	13,200		12,300		15,600		40,200		9,100		18,200		15,600		16,800		12,400		12,100		24,000		29,500	
Cobalt	7440-48-4	---	---	---	---	---	8,100		6,200		5,900		7,600	B	2,600	B	7,700	B	5,200	B	4,800	B	5,900	B	5,800	B	6,700		7,200	B
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	12,000		13,100		14,400		12,500		4,000		13,100		18,400		**274,000**		10,000		7,500		9,600		11,500	
Iron	7439-89-6	---	---	---	---	---	11,400,000		11,700,000		13,400,000		31,900,000		9,830,000		18,300,000		12,500,000		15,100,000		14,300,000		12,900,000		23,200,000		34,500,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	16,000		17,200		13,600		19,400		6,900		36,600		9,900		**118,000**		21,500		22,000		9,400		11,000	
Magnesium	7439-95-4	---	---	---	---	---	2,210,000		2,000,000		2,650,000		7,290,000		1,010,000		2,450,000		2,990,000		2,850,000		2,000,000		1,750,000		4,740,000		5,490,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	111,000		98,100		110,000		306,000		51,000		128,000		127,000		140,000		481,000		272,000		264,000		216,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	25	B	22	B	16	B	28	B	18	B	30	B	9	B	120		19	B	26	B	55		22	B
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	19,200		15,900		21,200		26,100		6,700		19,200		26,500		23,000		14,800		12,900		19,000		26,900	
Potassium	7440-09-7	---	---	---	---	---	922,000	J	1,010,000	B	1,120,000	B	4,420,000		605,000	B	1,420,000	B	1,360,000		1,150,000	B	1,010,000	B	998,000	B	2,860,000		3,680,000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	950	B	750	B	680	B	2,000	B	570	B	1,100	B	360	U	450	U	790	B	1,200	B	1,200	B	1,800	B
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	160	U	220	B	210	B	240	U	160	U	410	B	150	U	500	B	210	B	310	B	160	U	700	B
Sodium	7440-23-5	---	---	---	---	---	162,000	B	148,000	B	244,000	B	812,000	B	199,000	B	373,000	B	224,000	B	288,000	B	187,000	B	210,000	B	672,000	B	2,200,000	B
Thallium	7440-28-0	---	---	---	---	---	480	U	480	U	480	U	690	U	470	U	740	U	440	U	560	U	490	U	550	U	480	U	1,200	U
Vanadium	7440-62-2	---	---	---	---	---	20,100		20,200		22,900		43,100		13,500		28,500		20,700		27,900		20,700		19,800		26,600		60,200	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	33,200		31,800		36,900		69,300		21,300		43,200		32,900		**141,000**		43,500		31,800		52,300		64,700	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables
Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
--- = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results impacted
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7C
Summary of Post-Excavation Soil Analytical Results
AOC-3
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-3																			
Location ID:			Protection of Public Health				PE-1		PE-2/PE-2R*		PE-3/PE-3R*		PE-4		PE-5		PE-6		PE-7		PE-8		PE-9		PE-10		PE-11		PE-12		PE-13		PE-14		PE-15	
Lab Sample ID:							JB87998-3		JB88203-6 / JB88480-1		JB88203-5 / JB88480-4		JB87540-4		JB87540-1		JB87400-15		JB87400-14		JB87400-12		JB87400-13		JB87400-16		JB87540-5		JB87638-3		JB87797-2		JB87797-4		JB88089-5	
Sample Date:							2/9/2015		2/6/2015 / 2/18/2015		2/6/2015 / 2/18/2015		2/3/2015		2/3/2015		1/30/2015		1/30/2015		1/30/2015		1/30/2015		1/30/2015		2/3/2015		2/5/2015		2/5/2015		2/5/2015		2/10/2015	
Sampling Depth (ft bgs):							10		10		10		8.5		8		9		8.5		8.5		8.5		8.5		8.5		8.5		8		8.5		10	
Units:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																																				
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.28	U	0.28	U	0.16	U	0.33	U	0.23	U	0.27	U	0.28	U	0.29	U	0.24	U	0.23	U	0.18	U	0.12	U	0.12	U	0.21	U	0.15	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	—	—	0.3	U	0.3	U	0.18	U	0.36	U	0.25	U	0.29	U	0.3	U	0.31	U	0.27	U	0.26	U	0.2	U	0.13	U	0.13	U	0.23	U	0.17	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	—	—	0.59	U	0.6	U	0.35	U	0.71	U	0.49	U	0.58	U	0.6	U	0.62	U	0.52	U	0.5	U	0.39	U	0.26	U	0.26	U	0.45	U	0.33	U
1,1,2-Trichloroethane	79-00-5	—	—	—	—	—	0.37	U	0.37	U	0.22	U	0.44	U	0.31	U	0.36	U	0.37	U	0.38	U	0.33	U	0.31	U	0.24	U	0.16	U	0.16	U	0.28	U	0.21	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.74	U	0.75	U	0.44	U	0.89	U	0.61	U	0.72	U	0.74	U	0.77	U	0.65	U	0.63	U	0.49	U	0.32	U	0.32	U	0.56	U	0.41	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.51	U	0.51	U	0.3	U	0.61	U	0.42	U	0.49	U	0.51	U	0.53	U	0.45	U	0.43	U	0.33	U	0.22	U	0.22	U	0.38	U	0.28	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	0.31	U	0.32	U	0.19	U	0.38	U	0.26	U	0.31	U	0.32	U	0.33	U	0.28	U	0.27	U	0.21	U	0.14	U	0.14	U	0.24	U	0.17	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	0.37	U	0.37	U	0.22	U	0.45	U	0.31	U	0.36	U	0.37	U	0.39	U	0.33	U	0.32	U	0.24	U	0.16	U	0.16	U	0.28	U	0.21	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	—	—	1.1	U	1.1	U	0.64	U	1.3	U	0.89	U	1.1	U	1.1	U	1.1	U	0.95	U	0.92	U	0.71	U	0.47	U	0.47	U	0.81	U	0.6	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	—	—	0.32	U	0.32	U	0.19	U	0.38	U	0.26	U	0.31	U	0.32	U	0.33	U	0.28	U	0.27	U	0.21	U	0.14	U	0.14	U	0.24	U	0.18	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.33	U	0.34	U	0.2	U	0.4	U	0.27	U	0.32	U	0.33	U	0.35	U	0.29	U	0.28	U	0.22	U	0.15	U	0.14	U	0.25	U	0.18	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.24	U	0.24	U	0.14	U	0.29	U	0.2	U	0.23	U	0.24	U	0.25	U	0.21	U	0.2	U	0.16	U	0.1	U	0.1	U	0.18	U	0.13	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	—	—	51.3		53.4		55.1		51.2		49.7		50.6		51.1		51.7		50.9		48.4		50.5		47.3		46.9		52.2		47	
1,2-Dichloropropane	78-87-5	—	—	—	—	—	0.35	U	0.36	U	0.21	U	0.42	U	0.29	U	0.34	U	0.35	U	0.37	U	0.31	U	0.3	U	0.23	U	0.15	U	0.15	U	0.27	U	0.2	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.32	U	0.32	U	0.19	U	0.39	U	0.27	U	0.31	U	0.32	U	0.34	U	0.28	U	0.27	U	0.21	U	0.14	U	0.14	U	0.24	U	0.18	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.34	U	0.34	U	0.2	U	0.41	U	0.28	U	0.33	U	0.34	U	0.35	U	0.3	U	0.29	U	0.22	U	0.15	U	0.15	U	0.26	U	0.19	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	44	U	NA		NA		46	U	38	U	42	U	37	U	37	U	33	U	33	U	34	U	27	U	24	U	34	U	24	U
2-Hexanone	591-78-6	—	—	—	—	—	1.2	U	1.2	U	0.69	U	1.4	U	0.95	U	1.1	U	1.2	U	1.2	U	1	U	0.98	U	0.75	U	0.5	U	0.5	U	0.87	U	0.64	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**78.7**		30.5		**95.9**		32.1	U	**58.4**		42.3		21.9		25.1		23.1		27.9		**87.4**		23.8		6.8	J	38.5		19.7	U
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.36	U	1.4	J	0.64	J	9.2		0.3	U	0.35	U	0.36	U	1.9	J	11.3		10.7		0.24	U	0.16	U	0.16	U	0.27	U	0.2	U
Bromochloromethane	74-97-5	—	—	—	—	—	0.5	U	0.5	U	0.3	U	0.6	U	0.41	U	0.48	U	0.5	U	0.52	U	0.44	U	0.42	U	0.33	U	0.22	U	0.22	U	0.38	U	0.28	U
Bromodichloromethane	75-27-4	—	—	—	—	—	0.5	U	0.5	U	0.3	U	0.6	U	0.41	U	0.48	U	0.5	U	0.52	U	0.44	U	0.42	U	0.33	U	0.22	U	0.22	U	0.38	U	0.28	U
Bromoform	75-25-2	—	—	—	—	—	0.22	U	0.22	U	0.13	U	0.26	U	0.18	U	0.21	U	0.22	U	0.23	U	0.19	U	0.19	U	0.14	U	0.096	U	0.095	U	0.17	U	0.12	U
Bromomethane	74-83-9	—	—	—	—	—	0.6	U	0.61	U	0.36	U	0.72	U	0.5	U	0.59	U	0.6	U	0.63	U	0.53	U	0.51	U	0.39	U	0.26	U	0.26	U	0.45	U	0.33	U
Carbon Disulfide	75-15-0	—	—	—	—	—	5.7	J	1.2	J	0.59	J	12.4		1.9	J	5	J	6.6	J	5.5	J	16.1		8.8		2.3	J	0.55	J	0.21	U	1.4	J	0.27	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.29	U	0.3	U	0.17	U	0.35	U	0.24	U	0.29	U	0.29	U	0.31	U	0.26	U	0.25	U	0.19	U	0.13	U	0.13	U	0.22	U	0.16	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.25	U	0.25	U	0.15	U	0.3	U	0.21	U	0.25	U	0.25	U	0.26	U	0.22	U	0.21	U	0.17	U	0.11	U	0.11	U	0.19	U	0.14	U
Chloroethane	75-00-3	—	—	—	—	—	0.49	U	0.5	U	0.29	U	0.59	U	0.41	U	0.48	U	0.49	U	0.51	U	0.43	U	0.42	U	0.32	U	0.21	U	0.21	U	0.37	U	0.27	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.21	U	0.21	U	0.13	U	0.26	U	0.18	U	0.21	U	0.21	U	0.22	U	0.19	U	0.18	U	0.14	U	0.093	U	0.092	U	0.16	U	0.12	U
Chloromethane	74-87-3	—	—	—	—	—	0.62	U	0.62	U	0.37	U	0.74	U	0.51	U	0.6	U	0.62	U	0.64	U	0.55	U	0.53	U	0.41	U	0.27	U	0.27	U	0.47	U	0.34	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.54	U	0.54	U	0.51	J	1	J	0.44	U	0.52	U	0.54	U	0.56	U	0.47	U	0.46	U	0.35	U	0.23	U	0.23	U	0.41	U	0.3	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	—	—	0.26	U	0.26	U	0.16	U	0.31	U	0.22	U	0.26	U	0.26	U	0.27	U	0.23	U	0.22	U	0.17	U	0.11	U	0.11	U	0.2	U	0.15	U
Cyclohexane	110-82-7	—	—	—	—	—	0.73	U	1.3	J	0.43	U	1.4	J	0.6	U	2.1	J	0.73	U	7.3	J	75.2		48.7		0.48	U	0.93	J	0.32	U	0.97	J	0.41	U
Dibromochloromethane	124-48-1	—	—	—	—	—	0.28	U	0.28	U	0.17	U	0.33	U	0.23	U	0.27	U	0.28	U	0.29	U	0.25	U	0.24	U	0.18	U	0.12	U	0.12	U	0.21	U	0.15	U
Dichlorodifluoromethane	75-71-8	—	—	—	—	—	1.1	U	1.1	U	0.64	U	1.3	U	0.89	U	1	U	1.1	U	1.1	U	0.95	U	0.92	U	0.71	U	0.47	U	0.47	U	0.81	U	0.6	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.22	U	0.32	J	0.17	J	23.6		0.83	J	0.21	U	0.22	U	0.23	U	1.4	J	0.3	J	0.14	U	0.096	U	0.095	U	0.17	U	0.12	U
Hexachlorobutadiene	87-68-3	—	—	—	—	—	19	U	NA		NA		20	U	16	U	18	U	16	U	16	U	14	U	14	U	14	U	12	U	10	U	15	U	10	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	—	—	0.32	U	2	J	0.79	J	13.5		13.2		0.31	U	0.32	U	0.33	U	9.1		1.2	J	0.21	U	0.14	U	0.14	U	0.24	U	0.18	U
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	0.47	U	0.47	U	0.28	U	12.7		1	J	0.45	U	0.47	U	0.49	U	5.3		0.58	J	0.31	U	0.2	U	0.2	U	0.35	U	0.26	U
Methyl Acetate	79-20-9	—	—	—	—	—	1	U	1	U	0.6	U	1.2	U	0.83	U	0.97	U	1	U	1	U	0.88	U	0.85	U	0.66	U	0.44	U	0.43	U	0.76	U	0.56	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	15.3	J	2.5	U	1.5	U	3	U	10.7	J	3.9	J	2.5	U	2.6	U	2.2	U	2.1	U	18.8		4.9	J	1.1	U	4.9	J	1.4	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	—	—	0.66	U	0.67	U	0.4	U	0.8	U	0.55	U	0.65	U	0.67	U	0.69	U	0.59	U	0.56	U	0.44	U	0.29	U	0.29	U	0.5	U	0.37	U
Methylcyclohexane	108-87-2	—	—	—	—	—	0.28	U	1.1	J	0.53	J	0.34	U	0.23	U	0.28	U	0.28	U	3.3	J	147		35.5		0.19	U	0.12	U	0.12	U	0.21	U	0.16	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	2	U	2	U	1.2	U	2.4	U	1.6	U	1.9	U	2	U	2	U	1.7	U	1.7	U	1.3	U	0.86	U	0.85	U	1.5	U	1.1	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	0.29	U	0.3	J	0.64	J	19.5		1.2	J	0.28	U	0.29	U	0.3	U	2.8		1.2	J	0.19	U	0.13	U	0.13	U	0.22	U	0.16	U
Styrene	100-42-5	—	—	—	—	—	0.29	U	0.29	U	0.17	U	0.35	U	0.24	U	0.28	U	0.29	U	0.3	U	0.26	U	0.25	U	0.19	U	0.13	U	0.13	U	0.22	U	0.16	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.34	U	0.35	U	0.2	U	0.41	U	0.28	U	0.33	U	0.34	U	2.2		0.3	U	1.6	J	0.23	U	0.15	U	0.15	U	0.26	U	0.19	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.4	U	0.41	U	0.24	U	0.48	U	0.33	U	0.39	U	0.4	U	0.42	U	0.36	U	0.34	U	0.26	U	0.18	U	0.17	U	0.3	U	0.22	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.31	U	0.41	J	0.22	J	1.8	J	0.52	J	0.3	U	0.31	U	0.32	U	1.9		0.73	J	0.2	U	0.13	U	0.38	J	0.23	U	0.17	U
Toluene-D8	2037-26-5	—	—	—	—	—	56.4		50.2		50		56.5		56.5		56.6		52		51.1		51		55.7		57		56.7		55.4		54.6		56	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.39	U	0.39	U	0.23	U	0.47	U	0.32	U	0.38	U	0.39	U	0.4	U	0.34	U	0.33	U	0.25	U	0.17	U	0.17	U	0.29	U	0.22	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	—	—	0.35	U	0.35	U	0.21	U	0.42	U	0.29	U	0.34	U	0.35	U	0.36	U	0.31	U	0.3	U	0.23	U	0.15	U	0.15	U	0.26	U	0.19	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.41	U	0.41	U	0.36	J	0.49	U	0.33	U	0.39	U	0.41	U	0.42	U	0.36	U	0.34	U	0.27	U	0.18	U	0.18	U	0.31	U	0.22	U
Trichlorofluoromethane	75-69-4	—	—	—	—	—	0.34	U	0.35	U	0.2	U	0.41	U	0.28	U	0.33	U	0.34	U	0.36	U	0.3	U	0.29	U	0.23	U	0.15	U	0.15	U	0.26	U	0.19	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.29	U	0.29	U	0.2	J	0.35	U	0.24	U	0.28	U	0.29	U	0.3	U	0.26	U	0.25	U	0.19	U	0.13	U	0.13	U	0.22	U	0.16	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	0.29	U	0.67	J	0.9	J	32.2		2.2		0.28	U	0.29	U	0.3	U	8.1		1.7	J	0.19	U	0.13	U	0.13	U	0.22	U	0.16	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																																				
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	—	—	21	U	22	U	16	U	22	U	18	U	20	U	18	U	18	U	16	U	15	U	16	U	13	U	11	U	16	U	11	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	—	—	69	U	72	U	52	U	73	U	61	U	67	U	59	U	59	U	53	U	52	U	53	U	43	U	38	U	55	U	38	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	—	—	78	U	82	U	59	U	82	U	68	U	75	U	66	U	67	U	59	U	58	U	60	U	48	U	43	U	62	U	43	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	—	—	63	U	66	U	48	U	67	U	55	U	61	U	54	U	54	U	48	U	47	U	49	U	39	U	35	U	50	U	35	U
2,4-Dichlorophenol	120-83-2	—	—	—	—	—	110	U	110	U	81	U	110	U	95	U	100	U	92	U	93	U	82	U	81	U	83	U	67	U	59	U	85	U	60	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	110	U	120	U	85	U	120	U	99	U	110	U	96	U	97	U	86	U	84	U	87	U	70	U	62	U	89	U	63	U
2,4-Dinitrophenol	51-28-5	—	—	—	—	—	82	U	86	U	62	U	87	U	72	U	79	U	70	U	70	U	62	U	61	U	63	U	51	U	45	U	65	U	45	U
2,4-Dinitrotoluene	121-14-2	—	—	—	—	—	29	U	31	U	22	U	31	U	26	U	28	U	25	U	25	U	22	U	22	U	23	U	18	U	16	U	23	U	16	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	26	U	27	U	19	U	27	U	22	U	25	U	22	U	22	U	19	U	19	U	20	U	16	U	14	U	20	U	14	U
2-Chloronaphthalene	91-58-7	—	—	—	—	—	21	U	22	U	16	U	22	U	18	U	20	U	18	U	18	U	16	U	16	U	16	U	13	U	11	U	16	U	12	U
2-Chlorophenol	95-57-8	—	—	—	—	—	67	U	70	U	51	U	71	U	59	U	65	U	57	U	58	U	51	U	50	U	52	U	42	U	37	U	53	U	37	U
2-Fluorobiphenyl	321-60-8	—	—	—	—	—	38.1		29.2		30.7		30.1		25.8		29.5		30.3		31.4		32.3		29.1		29		26.6		36.6		37.9		30.7	
2-Fluorophenol	367-12-4	—	—	—	—	—	35.5		23.9		26		36.1		29.7		33.1		32.2		34		34.3		31.5		34.4		30.3		35.9		35.3		29	
2-Methylnaphthalene	91-57-6	—	—	—	—	—	37	U	39	U	28	U	96.5	J	343		36	U	32	U	32	U	29	U	28	U	29	U	23	U	21	U	30	U	21	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	76	U	80	U	58	U	81	U	67	U	74	U	65	U	66	U	58	U	57	U	59	U	47	U	42	U	60	U	42	U
2-Nitroaniline	88-74-4	—	—	—	—	—	29	U	31	U	22	U	31	U	26	U	29	U	25	U	25	U	23	U	22	U	23	U	18	U	16	U	23	U	16	U
2-Nitrophenol	88-75-5	—	—	—	—	—	71	U	75	U	54	U	75	U	63	U	69	U	61	U	61	U	54	U	53	U	55	U	44	U	39	U	56	U	39	U
3,3'-Dichlorobenzidine	91-94-1	—	—	—	—	—	17	U	18	U	13	U	18	U	15	U	16	U	15	U	15	U	13	U	13	U	13	U	11	U	9.4	U	13	U	9.5	U
3-Nitroaniline	99-09-2	—	—	—	—	—	27	U	28	U	20	U	28	U	24	U	26	U	23	U	23	U	20	U	20	U	21	U	17	U	15	U	21	U	15	U
4,6-Dinitro-2-Methylphenol	534-52-1	—	—	—	—	—	82	U	86	U	62	U	87	U	72	U	79	U	70	U	70	U	62	U	61	U	63	U	51	U	45	U	65	U	45	U
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	24	U	26	U	18	U	26	U	21	U	24	U	21	U	21	U	19	U	18	U	19	U	15	U	13	U	19	U	14	U

Table 7C
Summary of Post-Excavation Soil Analytical Results
AOC-3
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-3																					
Location ID:			Protection of Public Health				PE-16		PE-17		PE-18		PE-19		PE-20		PE-20 (DUP-3)		PE-21		PE-22		PE-23		PE-24		PE-25		PE-26	
Lab Sample ID:							JB88089-2		JB87998-4		JB87998-2		JB87998-1		JB88089-3		JB88089-4		JB87638-1		JB87797-1		JB87540-3		JB87540-2		JB87797-3		JB87540-8	
Sample Date:							2/10/2015		2/9/2015		2/9/2015		2/9/2015		2/10/2015		2/10/2015		2/5/2015		2/5/2015		2/3/2015		2/3/2015		2/5/2015		2/4/2015	
Sampling Depth (ft bgs):							10		10		10		10		10		10		9		10		8		8		8		9	
Units:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																														
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.37	U	0.25	U	0.12	U	0.22	U	0.13	U	0.13	U	0.17	U	0.21	U	0.14	U	0.11	U	0.21	U	0.23	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	—	—	0.4	U	0.28	U	0.13	U	0.24	U	0.14	U	0.14	U	0.18	U	0.23	U	0.15	U	0.12	U	0.23	U	0.26	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	—	—	0.79	U	0.54	U	0.25	U	0.47	U	0.27	U	0.28	U	0.36	U	0.45	U	0.3	U	0.23	U	0.44	U	0.5	U
1,1,2-Trichloroethane	79-00-5	—	—	—	—	—	0.49	U	0.34	U	0.16	U	0.29	U	0.17	U	0.17	U	0.22	U	0.28	U	0.19	U	0.14	U	0.28	U	0.31	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.98	U	0.68	U	0.31	U	0.58	U	0.34	U	0.34	U	0.45	U	0.56	U	0.38	U	0.29	U	0.55	U	0.63	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.67	U	0.46	U	0.22	U	0.4	U	0.23	U	0.24	U	0.31	U	0.38	U	0.26	U	0.2	U	0.38	U	0.43	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	0.42	U	0.29	U	0.13	U	0.25	U	0.14	U	0.15	U	0.19	U	0.24	U	0.16	U	0.12	U	0.23	U	0.27	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	0.49	U	0.34	U	0.16	U	0.29	U	0.17	U	0.17	U	0.22	U	0.28	U	0.19	U	0.14	U	0.28	U	0.32	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	—	—	1.4	U	0.99	U	0.46	U	0.85	U	0.49	U	0.5	U	0.65	U	0.81	U	0.55	U	0.42	U	0.8	U	0.92	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	—	—	0.43	U	0.29	U	0.14	U	0.25	U	0.15	U	0.15	U	0.19	U	0.24	U	0.16	U	0.12	U	0.24	U	0.27	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.44	U	0.3	U	0.14	U	0.26	U	0.15	U	0.16	U	0.2	U	0.25	U	0.17	U	0.13	U	0.25	U	0.28	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.32	U	0.22	U	0.1	U	0.19	U	0.11	U	0.11	U	0.14	U	0.18	U	0.12	U	0.092	U	0.18	U	0.2	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	—	—	49.9		51.3		48.1		50.3		46.8		47.2		48.1		49.9		47.3		47.4		49		51.6	
1,2-Dichloropropane	78-87-5	—	—	—	—	—	0.47	U	0.32	U	0.15	U	0.28	U	0.16	U	0.16	U	0.21	U	0.27	U	0.18	U	0.14	U	0.26	U	0.3	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.43	U	0.29	U	0.14	U	0.25	U	0.15	U	0.15	U	0.19	U	0.24	U	0.17	U	0.13	U	0.24	U	0.27	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.45	U	0.31	U	0.14	U	0.27	U	0.16	U	0.16	U	0.21	U	0.26	U	0.17	U	0.13	U	0.25	U	0.29	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	42	U	39	U	25	U	36	U	24	U	22	U	27	U	35	U	23	U	23	U	33	U	35	U
2-Hexanone	591-78-6	—	—	—	—	—	1.5	U	1.1	U	0.49	U	0.9	U	0.53	U	0.54	U	0.69	U	0.87	U	0.59	U	0.45	U	0.86	U	0.98	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**108**		**95.7**		23.8		36.7		13.9	U	13.9	U	37.5		17		30.3	U	9.6	U	31		32.6	U
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	2.8		0.33	U	0.15	U	0.28	U	0.16	U	0.17	U	0.22	U	0.27	U	0.18	U	0.23	J	0.27	U	0.31	U
Bromochloromethane	74-97-5	—	—	—	—	—	0.66	U	0.46	U	0.21	U	0.39	U	0.23	U	0.23	U	0.3	U	0.38	U	0.25	U	0.19	U	0.37	U	0.42	U
Bromodichloromethane	75-27-4	—	—	—	—	—	0.66	U	0.46	U	0.21	U	0.39	U	0.23	U	0.23	U	0.3	U	0.38	U	0.25	U	0.19	U	0.37	U	0.42	U
Bromoform	75-25-2	—	—	—	—	—	0.29	U	0.2	U	0.093	U	0.17	U	0.1	U	0.1	U	0.13	U	0.16	U	0.11	U	0.085	U	0.16	U	0.19	U
Bromomethane	74-83-9	—	—	—	—	—	0.8	U	0.55	U	0.26	U	0.47	U	0.28	U	0.28	U	0.36	U	0.45	U	0.31	U	0.23	U	0.45	U	0.51	U
Carbon Disulfide	75-15-0	—	—	—	—	—	14.3		0.9	J	0.21	U	3.1	J	0.22	U	0.23	U	0.3	U	0.37	U	0.46	J	0.19	U	1.3	J	2.1	J
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.39	U	0.27	U	0.12	U	0.23	U	0.13	U	0.14	U	0.18	U	0.22	U	0.15	U	0.11	U	0.22	U	0.25	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.34	U	0.23	U	0.11	U	0.2	U	0.12	U	0.12	U	0.15	U	0.19	U	0.13	U	0.098	U	0.19	U	0.21	U
Chloroethane	75-00-3	—	—	—	—	—	0.65	U	0.45	U	0.21	U	0.39	U	0.23	U	0.23	U	0.3	U	0.37	U	0.25	U	0.19	U	0.37	U	0.42	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.28	U	0.19	U	0.09	U	0.17	U	0.097	U	0.099	U	0.13	U	0.16	U	0.11	U	0.083	U	0.16	U	0.18	U
Chloromethane	74-87-3	—	—	—	—	—	0.82	U	0.57	U	0.26	U	0.48	U	0.28	U	0.29	U	0.37	U	0.47	U	0.32	U	0.24	U	0.46	U	0.53	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.71	U	0.49	U	0.23	U	0.42	U	0.25	U	0.25	U	0.32	U	0.4	U	0.28	U	0.21	U	0.4	U	0.46	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	—	—	0.35	U	0.24	U	0.11	U	0.21	U	0.12	U	0.12	U	0.16	U	0.2	U	0.13	U	0.1	U	0.2	U	0.22	U
Cyclohexane	110-82-7	—	—	—	—	—	0.97	U	0.67	U	0.31	U	0.57	U	0.33	U	0.34	U	0.44	U	0.55	U	1.8	J	0.28	U	0.54	U	0.62	U
Dibromochloromethane	124-48-1	—	—	—	—	—	0.37	U	0.26	U	0.12	U	0.22	U	0.13	U	0.13	U	0.17	U	0.21	U	0.14	U	0.11	U	0.21	U	0.24	U
Dichlorodifluoromethane	75-71-8	—	—	—	—	—	1.4	U	0.98	U	0.46	U	0.84	U	0.49	U	0.5	U	0.65	U	0.81	U	0.55	U	0.42	U	0.8	U	0.92	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.93	J	0.2	U	0.093	U	0.17	U	0.1	U	0.1	U	0.13	U	0.16	U	0.11	U	0.085	U	0.16	U	0.19	U
Hexachlorobutadiene	87-68-3	—	—	—	—	—	18	U	17	U	11	U	16	U	10	U	9.6	U	11	U	15	U	9.8	U	9.8	U	14	U	15	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	—	—	1.6	J	0.29	U	0.13	U	0.25	U	0.14	U	0.15	U	0.19	U	0.24	U	0.16	U	1.1	J	0.24	U	0.27	U
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	4.2		0.43	U	0.2	U	0.37	U	0.21	U	0.22	U	0.28	U	0.35	U	0.24	U	0.18	U	0.35	U	0.4	U
Methyl Acetate	79-20-9	—	—	—	—	—	1.3	U	0.91	U	0.42	U	0.78	U	0.46	U	0.47	U	0.6	U	0.75	U	0.51	U	0.39	U	0.75	U	0.85	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	14.4	J	18.4	J	1.1	U	2	U	1.1	U	1.2	U	9.3	J	1.9	U	5.7	J	0.97	U	1.9	U	2.1	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	—	—	0.88	U	0.61	U	0.28	U	0.52	U	0.3	U	0.31	U	0.4	U	0.5	U	0.34	U	0.26	U	0.49	U	0.56	U
Methylcyclohexane	108-87-2	—	—	—	—	—	0.38	U	0.26	U	0.12	U	0.22	U	0.13	U	0.13	U	0.17	U	0.21	U	0.14	U	0.11	U	0.21	U	0.24	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	2.6	U	1.8	U	0.83	U	1.5	U	0.9	U	0.91	U	1.2	U	1.5	U	1	U	0.76	U	1.5	U	1.7	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	2.4	J	0.27	U	0.12	U	0.23	U	0.13	U	0.14	U	0.18	U	0.22	U	0.15	U	0.25	J	0.22	U	0.25	U
Styrene	100-42-5	—	—	—	—	—	0.38	U	0.26	U	0.12	U	0.23	U	0.13	U	0.13	U	0.17	U	0.22	U	0.15	U	0.11	U	0.22	U	0.25	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.46	U	0.31	U	0.15	U	0.27	U	0.16	U	0.16	U	0.21	U	0.26	U	0.18	U	0.13	U	0.26	U	0.29	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.54	U	0.37	U	0.17	U	0.32	U	0.18	U	0.19	U	0.24	U	0.3	U	0.21	U	0.16	U	0.3	U	0.34	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.71	J	0.28	U	0.13	U	0.24	U	0.14	U	0.14	U	0.19	U	0.23	U	0.16	U	0.12	U	0.23	U	0.26	U
Toluene-D8	2037-26-5	—	—	—	—	—	56.7		56.9		55.6		57.6		56		56.4		56.4		55.9		56.7		56.5		55.6		56.5	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.52	U	0.36	U	0.17	U	0.3	U	0.18	U	0.18	U	0.23	U	0.29	U	0.2	U	0.15	U	0.29	U	0.33	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	—	—	0.46	U	0.32	U	0.15	U	0.27	U	0.16	U	0.16	U	0.21	U	0.26	U	0.18	U	0.14	U	0.26	U	0.3	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.54	U	0.37	U	0.17	U	0.32	U	0.19	U	0.19	U	0.24	U	0.31	U	0.21	U	0.16	U	0.3	U	0.34	U
Trichlorofluoromethane	75-69-4	—	—	—	—	—	0.46	U	0.31	U	0.15	U	0.27	U	0.16	U	0.16	U	0.21	U	0.26	U	0.18	U	0.13	U	0.26	U	0.29	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.39	U	0.27	U	0.12	U	0.23	U	0.13	U	0.14	U	0.18	U	0.22	U	0.15	U	0.11	U	0.22	U	0.25	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	6.6		0.27	U	0.12	U	0.23	U	0.13	U	0.14	U	0.18	U	0.22	U	0.15	U	0.25	J	0.22	U	0.25	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																														
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	—	—	20	U	19	U	12	U	17	U	11	U	11	U	13	U	17	U	11	U	11	U	16	U	17	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	—	—	67	U	62	U	40	U	58	U	38	U	36	U	43	U	56	U	36	U	36	U	53	U	55	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	—	—	75	U	70	U	45	U	65	U	42	U	40	U	48	U	63	U	41	U	41	U	59	U	62	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	—	—	61	U	57	U	36	U	53	U	34	U	32	U	39	U	51	U	33	U	33	U	48	U	51	U
2,4-Dichlorophenol	120-83-2	—	—	—	—	—	100	U	97	U	62	U	90	U	59	U	56	U	66	U	88	U	57	U	57	U	82	U	87	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	110	U	100	U	65	U	94	U	61	U	58	U	69	U	91	U	59	U	59	U	86	U	90	U
2,4-Dinitrophenol	51-28-5	—	—	—	—	—	79	U	74	U	47	U	68	U	44	U	42	U	50	U	66	U	43	U	43	U	62	U	66	U
2,4-Dinitrotoluene	121-14-2	—	—	—	—	—	28	U	26	U	17	U	24	U	16	U	15	U	18	U	24	U	15	U	15	U	22	U	24	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	25	U	23	U	15	U	21	U	14	U	13	U	16	U	21	U	13	U	13	U	19	U	20	U
2-Chloronaphthalene	91-58-7	—	—	—	—	—	20	U	19	U	12	U	17	U	11	U	11	U	13	U	17	U	11	U	11	U	16	U	17	U
2-Chlorophenol	95-57-8	—	—	—	—	—	65	U	60	U	38	U	56	U	36	U	35	U	41	U	54	U	35	U	35	U	51	U	54	U
2-Fluorobiphenyl	321-60-8	—	—	—	—	—	38.4		41.6		37		39.4		41.8		37.4		29.4		34		28.4		31.9		39.3		29.6	
2-Fluorophenol	367-12-4	—	—	—	—	—	36.7		38.3		35.8		37.4		39.2		33.7		32.3		32.5		33.6		37.2		36.5		35.4	
2-Methylnaphthalene	91-57-6	—	—	—	—	—	36	U	34	U	21	U	31	U	20	UJ	445	J	23	U	30	U	20	U	209		28	U	30	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	74	U	69	U	44	U	64	U	42	U	39	U	47	U	62	U	40	U	40	U	58	U	61	U
2-Nitroaniline	88-74-4	—	—	—	—	—	29	U	27	U	17	U	25	U	16	U	15	U	18	U	24	U	16	U	16	U	22	U	24	U
2-Nitrophenol	88-75-5	—	—	—	—	—	69	U	64	U	41	U	59	U	39	U	37	U	44	U	58	U	37	U	37	U	54	U	57	U
3,3'-Dichlorobenzidine	91-94-1	—	—	—	—	—	16	U	15	U	9.8	U	14	U	9.3	U	8.8	U	10	U	14	U	9	U	9	U	13	U	14	U
3-Nitroaniline	99-09-2	—	—	—	—	—	26	U	24	U	15	U	22	U	15	U	14	U	17	U	22	U	14	U	14	U	20	U	22	U
4,6-Dinitro-2-Methylphenol	534-52-1	—	—	—	—	—	79	U	74	U	47	U	68	U	44	U	42	U	50	U	66	U	43	U	43	U	62	U	66	U
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	24	U	22	U	14	U	20	U	13	U	13	U	15	U	20	U	13	U	13	U	19	U	20	U

Area of Concern:		AOC-3																											
Location ID:		PE-26		PE-27		PE-75		PE-76																					
Lab Sample ID:		JB87540-8		JB87400-17		JB88203-1		JB88203-2																					
Sample Date:		2/4/2015		1/30/2015		2/11/2015		2/11/2015																					
Sampling Depth (ft bgs):		9		8.5		10		10																					
Units:	CAS Number	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q																				
Volatile Organics, NJDEP/TCL/Part 375 List																													
1,1,1-Trichloroethane	71-55-6	0.23	U	0.25	U	0.15	U	0.13	U																				
1,1,2,2-Tetrachloroethane	79-34-5	0.26	U	0.27	U	0.16	U	0.14	U																				
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	0.5	U	0.53	U	0.32	U	0.28	U																				
1,1,2-Trichloroethane	79-00-5	0.31	U	0.33	U	0.2	U	0.17	U																				
1,1-Dichloroethane	75-34-3	0.63	U	0.67	U	0.4	U	0.35	U																				
1,1-Dichloroethene	75-35-4	0.43	U	0.46	U	0.27	U	0.24	U																				
1,2,3-Trichlorobenzene	87-61-6	0.27	U	0.28	U	0.17	U	0.15	U																				
1,2,4-Trichlorobenzene	120-82-1	0.32	U	0.33	U	0.2	U	0.18	U																				
1,2-Dibromo-3-Chloropropane	96-12-8	0.92	U	0.97	U	0.58	U	0.51	U																				
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.27	U	0.29	U	0.17	U	0.15	U																				
1,2-Dichlorobenzene	95-50-1	0.28	U	0.3	U	0.18	U	0.16	U																				
1,2-Dichloroethane	107-06-2	0.2	U	0.21	U	0.13	U	0.11	U																				
1,2-Dichloroethane-D4	17060-07-0	51.6		49.5		52.6		51.2																					
1,2-Dichloropropane	78-87-5	0.3	U	0.32	U	0.19	U	0.17	U																				
1,3-Dichlorobenzene	541-73-1	0.27	U	0.29	U	0.17	U	0.15	U																				
1,4-Dichlorobenzene	106-46-7	0.29	U	0.31	U	0.18	U	0.16	U																				
1,4-Dioxane (p-Dioxane)	123-91-1	35	U	35	U	24	U	24	U																				
2-Hexanone	591-78-6	1	U	1	U	0.62	U	0.54	U																				
Acetone	67-64-1	32.6	U	**59.9**		37		18																					
Benzene	71-43-2	0.31	U	10.4		3.2		0.17	U																				
Bromochloromethane	74-97-5	0.42	U	0.45	U	0.27	U	0.24	U																				
Bromodichloromethane	75-27-4	0.42	U	0.45	U	0.27	U	0.24	U																				
Bromoform	75-25-2	0.19	U	0.2	U	0.12	U	0.1	U																				
Bromomethane	74-83-9	0.51	U	0.54	U	0.33	U	0.28	U																				
Carbon Disulfide	75-15-0	2.1	J	4.8	J	0.26	U	0.23	U																				
Carbon Tetrachloride	56-23-5	0.25	U	0.26	U	0.16	U	0.14	U																				
Chlorobenzene	108-90-7	0.21	U	0.23	U	0.14	U	0.12	U																				
Chloroethane	75-00-3	0.42	U	0.44	U	0.27	U	0.23	U																				
Chloroform	67-66-3	0.18	U	0.19	U	0.12	U	0.1	U																				
Chloromethane	74-87-3	0.53	U	0.56	U	0.33	U	0.29	U																				
cis-1,2-Dichloroethylene	156-59-2	0.46	U	0.48	U	0.29	U	0.25	U																				
cis-1,3-Dichloropropene	10061-01-5	0.22	U	0.24	U	0.14	U	0.12	U																				
Cyclohexane	110-82-7	0.62	U	53.9		0.57	J	0.35	U																				
Dibromochloromethane	124-48-1	0.24	U	0.25	U	0.15	U	0.13	U																				
Dichlorodifluoromethane	75-71-8	0.92	U	0.97	U	0.58	U	0.51	U																				
Ethylbenzene	100-41-4	0.19	U	1.2	J	0.4	J	0.1	U																				
Hexachlorobutadiene	87-68-3	15	U	15	U	10	U	10	U																				
Isopropylbenzene (Cumene)	98-82-8	0.27	U	5.4	J	0.49	J	0.15	U																				
m,p-Xylene (sum of isomers)	XYLMP	0.4	U	2.3		1.4		0.22	U																				
Methyl Acetate	79-20-9	0.85	U	0.9	U	0.54	U	0.47	U																				
Methyl ethyl ketone (2-Butanone)	78-93-3	2.1	U	11.2	J	1.4	U	1.2	U																				
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	0.56	U	0.6	U	0.36	U	0.31	U																				
Methylcyclohexane	108-87-2	0.24	U	54.4		0.38	J	0.13	U																				
Methylene Chloride	75-09-2	1.7	U	1.8	U	1.1	U	0.93	U																				
o-Xylene (1,2-Dimethylbenzene)	95-47-6	0.25	U	2.6		2.4		0.14	U																				
Styrene	100-42-5	0.25	U	0.26	U	0.16	U	0.14	U																				
Tert-Butyl Methyl Ether	1634-04-4	0.29	U	0.7	J	0.19	U	0.16	U																				
Tetrachloroethylene (PCE)	127-18-4	0.34	U	0.36	U	0.22	U	0.19	U																				
Toluene	108-88-3	0.26	U	1.8	J	0.3	J	0.15	U																				
Toluene-D8	2037-26-5	56.5		56.6		55		54.3																					
Trans-1,2-Dichloroethene	156-60-5	0.33	U	0.35	U	0.21	U	0.18	U																				
Trans-1,3-Dichloropropene	10061-02-6	0.3	U	0.31	U	0.19	U	0.17	U																				
Trichloroethylene (TCE)	79-01-6	0.34	U	0.36	U	0.22	U	0.19	U																				
Trichlorofluoromethane	75-69-4	0.29	U	0.31	U	0.19	U	0.16	U																				
Vinyl Chloride	75-01-4	0.25	U	0.26	U	0.16	U	0.14	U																				
Xylenes, Total	1330-20-7	0.25	U	4.8		3.8		0.14	U																				
Semi-Volatiles, NJDEP/TCL/Part 375 List																													
1,2,4,5-Tetrachlorobenzene	95-94-3	17	U	16	U	12	U	11	U																				
2,3,4,6-Tetrachlorophenol	58-90-2	55	U	55	U	39	U	38	U																				
2,4,5-Trichlorophenol	95-95-4	62	U	62	U	44	U	43	U																				
2,4,6-Trichlorophenol	88-06-2	51	U	50	U	35	U	35	U																				
2,4-Dichlorophenol	120-83-2	87	U	86	U	60	U	60	U																				
2,4-Dimethylphenol	105-67-9	90	U	90	U	63	U	63	U										

Table 7C
Summary of Post-Excavation Soil Analytical Results
AOC-3
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-3																					
Location ID:			Protection of Public Health				PE-1		PE-2/PE-2R*		PE-3/PE-3R*		PE-4		PE-5		PE-6		PE-7		PE-8		PE-9		PE-10		PE-11		PE-12		PE-13		PE-14		PE-15	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB87998-3		JB88203-6 / JB88480-7		JB88203-5 / JB88480-4		JB87540-4		JB87540-1		JB87400-15		JB87400-14		JB87400-12		JB87400-13		JB87400-16		JB87540-5		JB87638-3		JB87797-2		JB87797-4		JB88089-5	
Sample Date:							2/9/2015		2/6/2015 / 2/18/2015		2/6/2015 / 2/18/2015		2/3/2015		2/3/2015		1/30/2015		1/30/2015		1/30/2015		1/30/2015		1/30/2015		2/3/2015		2/5/2015		2/5/2015		2/5/2015		2/10/2015	
Sampling Depth (ft bgs):							10		10		10		8.5		8		9		8.5		8.5		8.5		8.5		8.5		8		8.5		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																																		
4-Chloro-3-Methylphenol	59-50-7	—	—	—	—	—	67	U	70	U	51	U	71	U	59	U	65	U	57	U	58	U	51	U	50	U	52	U	42	U	37	U	53	U	37	U
4-Chloroaniline	106-47-8	—	—	—	—	—	21	U	22	U	16	U	23	U	19	U	21	U	18	U	18	U	16	U	16	U	17	U	13	U	12	U	17	U	12	U
4-Chlorophenyl phenyl ether	7005-72-3	—	—	—	—	—	20	U	21	U	15	U	21	U	18	U	20	U	17	U	17	U	15	U	15	U	16	U	12	U	11	U	16	U	11	U
4-Nitroaniline	100-01-6	—	—	—	—	—	26	U	27	U	20	U	28	U	23	U	25	U	22	U	22	U	20	U	20	U	20	U	16	U	14	U	21	U	15	U
4-Nitrophenol	100-02-7	—	—	—	—	—	110	U	120	U	86	U	120	U	100	U	110	U	97	U	97	U	86	U	85	U	87	U	70	U	62	U	90	U	63	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	19	U	20	U	15	U	70.7	J	177		19	U	17	U	17	U	15	U	15	U	15	U	58.2		11	U	15	U	40.9	
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	21	U	22	U	16	U	23	U	19	U	21	U	18	U	18	U	16	U	16	U	17	U	13	U	12	U	17	U	12	U
Acetophenone	98-86-2	—	—	—	—	—	12	U	12	U	8.9	U	13	U	10	U	11	U	10	U	10	U	9	U	8.8	U	9.1	U	7.3	U	6.5	U	9.3	U	6.5	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	23	U	25	U	18	U	25	U	21	U	23	U	20	U	20	U	18	U	18	U	18	U	15	U	13	U	19	U	109	
Atrazine	1912-24-9	—	—	—	—	—	13	U	14	U	10	U	14	U	12	U	13	U	11	U	11	U	10	U	9.9	U	10	U	8.2	U	7.3	U	10	U	7.3	U
Benzaldehyde	100-52-7	—	—	—	—	—	15	U	16	U	12	U	16	U	14	U	15	U	13	U	13	U	12	U	12	U	12	U	9.5	U	8.5	U	12	U	8.6	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	22	U	23	U	16	U	35.5	J	19	U	21	U	19	U	19	U	23.2	J	16	U	17	U	14	U	12	U	17	U	323	
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	20	U	21	U	15	U	22	U	18	U	20	U	17	U	18	U	16	U	15	U	16	U	13	U	11	U	16	U	281	
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	22	U	23	U	17	U	32.1	J	20	U	22	U	19	U	19	U	17	U	17	U	17	U	14	U	12	U	18	U	301	
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	25	U	26	U	19	U	26	U	22	U	24	U	21	U	21	U	19	U	19	U	19	U	15	U	14	U	20	U	125	
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	25	U	26	U	19	U	27	U	22	U	24	U	21	U	22	U	19	U	19	U	19	U	16	U	14	U	20	U	118	
Benzyl Butyl Phthalate	85-68-7	—	—	—	—	—	39	U	41	U	29	U	41	U	34	U	38	U	33	U	33	U	30	U	29	U	30	U	24	U	21	U	31	U	22	U
Biphenyl (diphenyl)	92-52-4	—	—	—	—	—	7.8	U	8.2	U	5.9	U	8.2	U	6.8	U	7.5	U	6.6	U	6.7	U	5.9	U	5.8	U	6	U	4.8	U	4.3	U	6.2	U	4.3	U
Bis(2-chloroethoxy) methane	111-91-1	—	—	—	—	—	27	U	28	U	20	U	29	U	24	U	26	U	23	U	23	U	21	U	20	U	21	U	17	U	15	U	21	U	15	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	—	—	—	—	—	20	U	21	U	15	U	21	U	18	U	20	U	17	U	17	U	15	U	15	U	16	U	12	U	11	U	16	U	11	U
Bis(2-chloroisopropyl) ether	108-60-1	—	—	—	—	—	20	U	21	U	15	U	21	U	18	U	19	U	17	U	17	U	15	U	15	U	15	U	12	U	11	U	16	U	11	U
Bis(2-ethylhexyl) phthalate	117-81-7	—	—	—	—	—	59	U	62	U	45	U	63	U	52	U	57	U	50	U	51	U	45	U	44	U	46	U	37	U	33	U	47	U	33	U
Caprolactam	105-60-2	—	—	—	—	—	21	U	22	U	16	U	22	U	19	U	20	U	18	U	18	U	16	U	16	U	16	U	13	U	12	U	17	U	12	U
Carbazole	86-74-8	—	—	—	—	—	31	U	33	U	23	U	33	U	27	U	30	U	26	U	27	U	24	U	23	U	24	U	19	U	17	U	25	U	17	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	23	U	24	U	17	U	36.2	J	20	U	22	U	19	U	19	U	17	U	17	U	17	U	14	U	12	U	18	U	328	
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	85	U	89	U	64	U	90	U	75	U	82	U	73	U	73	U	65	U	64	U	66	U	53	U	47	U	67	U	47	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	23	U	24	U	17	U	24	U	20	U	22	U	19	U	20	U	17	U	17	U	18	U	14	U	13	U	18	U	40.1	
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	20	U	21	U	15	U	21	U	18	U	19	U	17	U	17	U	15	U	15	U	15	U	12	U	11	U	16	U	17.8	J
Diethyl Phthalate	84-66-2	—	—	—	—	—	23	U	24	U	17	U	24	U	20	U	22	U	19	U	20	U	17	U	17	U	18	U	14	U	13	U	18	U	13	U
Dimethyl Phthalate	131-11-3	—	—	—	—	—	24	U	25	U	18	U	25	U	21	U	23	U	20	U	20	U	18	U	18	U	18	U	15	U	13	U	19	U	13	U
Di-n-butyl phthalate	84-74-2	—	—	—	—	—	15	U	16	U	11	U	16	U	13	U	14	U	13	U	13	U	11	U	11	U	11	U	9.2	U	8.2	U	12	U	8.3	U
Di-n-octylphthalate	117-84-0	—	—	—	—	—	33	U	34	U	25	U	35	U	29	U	32	U	28	U	28	U	25	U	24	U	25	U	20	U	18	U	26	U	18	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	30	U	31	U	28	J	44	J	26	U	29	U	25	U	25	U	24.7	J	22	U	23	U	23.5	J	16	U	23	U	425	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	22	U	23	U	17	U	23	U	19	U	21	U	19	U	19	U	17	U	16	U	17	U	14	U	12	U	17	U	40.8	
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	22	U	23	U	16	U	23	U	19	U	21	U	19	U	19	U	17	U	16	U	17	U	14	U	12	U	17	U	12	U
Hexachlorocyclopentadiene	77-47-4	—	—	—	—	—	68	U	72	U	52	U	72	U	60	U	66	U	58	U	59	U	52	U	51	U	53	U	42	U	38	U	54	U	38	U
Hexachloroethane	67-72-1	—	—	—	—	—	19	U	20	U	14	U	20	U	16	U	18	U	16	U	16	U	14	U	14	U	14	U	12	U	10	U	15	U	10	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	23	U	24	U	18	U	25	U	20	U	23	U	20	U	20	U	18	U	17	U	18	U	14	U	13	U	18	U	123	
Isophorone	78-59-1	—	—	—	—	—	18	U	19	U	14	U	19	U	16	U	17	U	15	U	15	U	14	U	14	U	14	U	11	U	9.9	U	14	U	10	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	18	U	19	U	22.7	J	2,480		400		18	U	16	U	16	U	14	U	14	U	14	U	17.8	J	10	U	14	U	39.3	
Nitrobenzene	98-95-3	—	—	—	—	—	19	U	20	U	15	U	21	U	17	U	19	U	17	U	17	U	15	U	15	U	15	U	12	U	11	U	15	U	11	U
N-Nitrosodi-n-Propylamine	621-64-7	—	—	—	—	—	16	U	17	U	12	U	17	U	14	U	16	U	14	U	14	U	12	U	12	U	13	U	10	U	9	U	13	U	9.1	U
N-Nitrosodiphenylamine	86-30-6	—	—	—	—	—	40	U	42	U	30	U	42	U	35	U	39	U	34	U	34	U	31	U	30	U	31	U	25	U	22	U	32	U	22	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	110	U	120	U	87	U	120	U	100	U	110	U	98	U	99	U	87	U	86	U	88	U	71	U	63	U	91	U	64	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	30	U	32	U	39.4	J	42.6	J	27	U	30	U	26	U	26	U	23	U	23	U	24	U	29.9	J	17	U	24	U	303	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	70	U	74	U	53	U	75	U	62	U	68	U	60	U	60	U	54	U	53	U	54	U	44	U	39	U	56	U	39	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	26	U	27	U	27.3	J	44.1	J	23	U	25	U	22	U	22	U	22.4	J	19	U	20	U	16	U	14	U	20	U	477	
Polychlorinated Biphenyls (PCBs)																																		
Aroclor 1016	12674-11-2	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1221	11104-28-2	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1232	11141-16-5	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1242	53469-21-9	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1248	12672-29-6	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1254	11097-69-1	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1260	11096-82-5	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1268	11100-14-4	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Aroclor 1262	37324-23-5	—	—	—	—	—	NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA	
Metals, Target Analyte																																		
Aluminum	7429-90-5	—	—	—	—	—	23,700,000		23,500,000		19,800,000		21,300,000		18,500,000		21,000,000		20,200,000		25,500,000		19,500,000		18,800,000		15,900,000		4,600,000		6,650,000		19,200,000		7,530,000	
Antimony	7440-36-0	—	—	—	—	—	760	B	600	U	430	U	580	U	470	U	580	B	510	U	840	B	740	B	640	B	430	U	400	B	330	U	450	U	330	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	11,600		10,900		11,300		9,100		9,200		9,900		7,400		10,500		11,200		10,600		**19,800**		5,600		1,800	B	11,800		6,300	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	63,400		50,600		39,900		51,600		49,500		47,400		47,200		56,600		44,300		42,000		44,400		23,300	B	39,900		56,500		105,000	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	1,100		1,000		930		1,600		720		1,100		940		1,400		1,100		1,000		750		250		750		1,300		430	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	160	B	360	B	400	B	430	B	160	B	320	B	220	B	450	B	330	B	1,200		340	B	60	U	86	B	680	B	150	B
Calcium	7440-70-2	—	—	—	—	—	2,250,000		2,440,000		2,480,000		6,180,000		2,330,000		3,520,000		2,180,000		2,830,000		2,880,000		2,520,000		1,440,000		1,910,000		5,040,000		2,150,000		5,590,000	
Chromium, Total	7440-47-3	—	—	—	—	—	40,500		37,800		38,600		32,600		33,400		36,500		31,700		41,900		36,500		37,500		35,400		11,300		14,600		37,600		18,600	
Cobalt	7440-48-4	—	—	—	—	—	11,600		10,700	B	11,300		10,300	B	7,100	B	11,700		9,100	B	13,400		11,100		10,600		13,700		4,100	B	6,000	B	13,800		6,000	B
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	18,300		20,100		16,100		25,400		13,100		15,700		20,000		22,000		15,000		14,600		18,300		16,600		12,700		16,800		18,600	
Iron	7439-89-6	—	—	—	—	—	44,300,000		34,600,000		39,700,000		26,600,000		30,200,000		37,100,000		25,200,000		40,400,000		37,400,000		37,000,000		32,700,000		11,800,000		13,700,000		36,000,000		13,400,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	28,700		31,600		15,300		**85,400**		25,600		19,400		27,700		28,500		14,300		14,100		13,800		**92,600**		7,100		17,200		**294,000**	
Magnesium	7439-95-4	—	—	—	—	—	7,920,000		8,070,000		7,790,000		6,790,000		6,540,000		7,620,000		6,760,000		8,800,000		7,260,000		7,230,000		5,670,000		1,860,000		3,750,000		6,940,000		2,840,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	387,000		419,000		429,000		288,000		201,000		403,000		242,000		483,000		405,000		361,000		265,000		85,800		336,000		383,000		245,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	54	B	130		41	B	**300**		43	B	83		130		160		38	B	31	B	39	B	**270**	**J**	14	B	37	B	**750**	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	**34,400**		**32,900**		**31,700**		**34,400**		23,700		**31,900**		26,100		**36,300**		**30,400**		**30,200**		29,100		16,800		14,500		**34,000**		22,200	
Potassium	7440-09-7	—	—	—	—	—	5,200,000		4,770,000		4,240,000		4,160,000		4,360,000		4,710,000		4,430,000		5,300,000		4,290,000		4,220,000		4,170,000		828,000	B	1,610,000		3,920,000		1,410,000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	640	U	740	U	990	B	700	U	860	B	660	U	620	U	900	B	620	B	780	B	950	B	400	U	410	U	550	U	800	B
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	270	U	290	U	470	B	620	B	810	B	640	B	490	B	670	B	650	B	660	B	670	B	240	B	170	U	230	U	260	B
Sodium	7440-23-5	—	—	—	—	—	3,700,000		3,080,000		2,140,000		2,970,000		1,890,000		1,970,000	B	2,040,000		2,270,000		1,380,000	B	1,640,000	B	1,630,000		351,000	B	299,000	B	973,000	B	383,000	B
Thallium	7440-28-0	—	—	—	—	—	800	U	920	U	650	U	870	U	720	U	820	U	770	U	840	U	700	U	730	U	660	U	490	U	510	U	800	B	500	U
Vanadium	7440-62-2	—	—	—	—	—	49,600		51,700		40,200		51,900		45,800		45,900		44,600		53,600		42,100		41,100		39,300		19,100		31,500		42,600		27,300	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	88,000		83,800		86,600		83,000		66,900		87,800		71,100		96,400		84,600		83,200		61,200		31,100		31,900		92,600		45,000	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006
Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
— = indicates no regulatory limit has been established for this analyte
*VOC samples were recollected on 2/18/2015 due to laboratory error.
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results impacted
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7C
Summary of Post-Excavation Soil Analytical Results
AOC-3
363 Bond Street
Brooklyn, NY

| Area of Concern: | | NYSDEC Subpart 375-6 Remedial Program SCOs | | | | | AOC-3 | | | | |

Table 7D
Summary of Post-Excavation Soil Analytical Results
AOC-5
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-5																
Location ID:			Protection of Public Health				PE-38		PE-39		PE-40		PE-40 (DUP-5)		PE-41		PE-42		PE-43		PE-44		PE-45	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB88317-8		JB88317-9		JB88480-3		JB88480-4		JB88480-5		JB88480-1		JB88317-6		JB88317-7		JB88480-2	
Sample Date:							2/13/2015		2/13/2015		2/18/2015		2/18/2015		2/18/2015		2/18/2015		2/13/2015		2/13/2015		2/18/2015	
Sampling Depth (ft bgs):							11		11		10		10		10		10		11		11		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NYDEP/TCL/Part 375 List																								
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.13	U	0.16	U	0.12	U	0.12	U	0.14	U	0.13	U	0.13	U	0.13	U	0.12	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	—	—	0.15	U	0.18	U	0.13	U	0.13	U	0.16	U	0.15	U	0.15	U	0.14	U	0.13	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	—	—	0.29	U	0.35	U	0.26	U	0.26	U	0.31	U	0.29	U	0.29	U	0.27	U	0.27	U
1,1,2-Trichloroethane	79-00-5	—	—	—	—	—	0.18	U	0.22	U	0.16	U	0.16	U	0.19	U	0.18	U	0.18	U	0.17	U	0.17	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.36	U	0.43	U	0.32	U	0.33	U	0.38	U	0.36	U	0.36	U	0.34	U	0.33	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.24	U	0.3	U	0.22	U	0.22	U	0.26	U	0.25	U	0.25	U	0.23	U	0.23	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	0.15	U	0.18	U	0.14	U	0.14	U	0.16	U	0.15	U	0.15	U	0.14	U	0.14	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	0.18	U	0.22	U	0.16	U	0.16	U	0.19	U	0.18	U	0.18	U	0.17	U	0.17	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	—	—	0.52	U	0.63	U	0.47	U	0.48	U	0.56	U	0.53	U	0.53	U	0.49	U	0.48	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	—	—	0.15	U	0.19	U	0.14	U	0.14	U	0.17	U	0.16	U	0.16	U	0.15	U	0.14	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.16	U	0.19	U	0.15	U	0.15	U	0.17	U	0.16	U	0.16	U	0.15	U	0.15	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.11	U	0.14	U	0.1	U	0.1	U	0.12	U	0.12	U	0.12	U	0.11	U	0.11	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	—	—	45.7		46.9		45.7		44.8		53.7		44.9		46.7		46.5		45.4	
1,2-Dichloropropane	78-87-5	—	—	—	—	—	0.17	U	0.21	U	0.15	U	0.16	U	0.18	U	0.17	U	0.17	U	0.16	U	0.16	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.16	U	0.19	U	0.14	U	0.14	U	0.17	U	0.16	U	0.16	U	0.15	U	0.14	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.16	U	0.2	U	0.15	U	0.15	U	0.18	U	0.17	U	0.17	U	0.16	U	0.15	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	26	U	30	U	25	U	24	U	26	U	26	U	25	U	22	U	24	U
2-Hexanone	591-78-6	—	—	—	—	—	0.55	U	0.67	U	0.5	U	0.51	U	0.6	U	0.56	U	0.56	U	0.53	U	0.51	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	7.1	J	15.7		19.8		5.6	J	10.6	J	19.9		8.6	J	5.9	J	12.6	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.17	U	0.21	U	0.16	U	0.16	U	0.19	U	0.18	U	0.18	U	0.16	U	0.16	U
Bromochloromethane	74-97-5	—	—	—	—	—	0.24	U	0.29	U	0.22	U	0.22	U	0.26	U	0.24	U	0.24	U	0.23	U	0.22	U
Bromodichloromethane	75-27-4	—	—	—	—	—	0.24	U	0.29	U	0.22	U	0.22	U	0.26	U	0.24	U	0.24	U	0.23	U	0.22	U
Bromoform	75-25-2	—	—	—	—	—	0.11	U	0.13	U	0.096	U	0.097	U	0.11	U	0.11	U	0.11	U	0.1	U	0.098	U
Bromomethane	74-83-9	—	—	—	—	—	0.29	U	0.35	U	0.26	U	0.27	U	0.31	U	0.29	U	0.29	U	0.28	U	0.27	U
Carbon Disulfide	75-15-0	—	—	—	—	—	0.24	U	0.29	U	0.21	U	0.22	U	0.3	J	0.24	U	0.24	U	0.22	U	0.22	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.14	U	0.17	U	0.13	U	0.13	U	0.15	U	0.14	U	0.14	U	0.13	U	0.13	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.12	U	0.15	U	0.11	U	0.11	U	0.13	U	0.12	U	0.12	U	0.12	U	0.11	U
Chloroethane	75-00-3	—	—	—	—	—	0.24	U	0.29	U	0.22	U	0.22	U	0.26	U	0.24	U	0.24	U	0.23	U	0.22	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.1	U	0.12	U	0.093	U	0.094	U	0.11	U	0.1	U	0.1	U	0.097	U	0.095	U
Chloromethane	74-87-3	—	—	—	—	—	0.3	U	0.36	U	0.27	U	0.27	U	0.32	U	0.3	U	0.3	U	0.28	U	0.28	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.26	U	0.61	J	0.23	U	0.24	U	0.28	U	0.26	U	0.26	U	0.25	U	0.24	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	—	—	0.13	U	0.15	U	0.11	U	0.12	U	0.14	U	0.13	U	0.13	U	0.12	U	0.12	U
Cyclohexane	110-82-7	—	—	—	—	—	0.35	U	0.43	U	0.32	U	0.32	U	0.38	U	0.36	U	0.36	U	0.33	U	0.33	U
Dibromochloromethane	124-48-1	—	—	—	—	—	0.13	U	0.16	U	0.12	U	0.12	U	0.14	U	0.14	U	0.14	U	0.13	U	0.12	U
Dichlorodifluoromethane	75-71-8	—	—	—	—	—	0.52	U	0.63	U	0.47	U	0.48	U	0.56	U	0.53	U	0.53	U	0.49	U	0.48	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.11	U	0.13	U	0.096	U	0.097	U	0.11	U	0.11	U	0.11	U	0.1	U	0.098	U
Hexachlorobutadiene	87-68-3	—	—	—	—	—	11	U	13	U	11	U	10	U	11	U	11	U	11	U	9.6	U	10	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	—	—	0.15	U	0.18	U	0.14	U	0.14	U	0.95	J	1.1	J	0.15	U	0.14	U	0.22	J
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	0.22	U	0.27	U	0.2	U	0.21	U	0.24	U	0.23	U	0.23	U	0.21	U	0.21	U
Methyl Acetate	79-20-9	—	—	—	—	—	0.48	U	0.58	U	0.44	U	0.44	U	0.52	U	0.49	U	0.49	U	0.46	U	0.45	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	1.2	U	1.5	U	1.1	U	1.1	U	1.3	U	1.2	U	1.2	U	1.1	U	1.1	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	—	—	0.32	U	0.39	U	0.29	U	0.29	U	0.34	U	0.32	U	0.32	U	0.3	U	0.3	U
Methylcyclohexane	108-87-2	—	—	—	—	—	0.14	U	0.4	J	0.12	U	0.13	U	0.15	U	0.14	U	0.14	U	0.13	U	0.13	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	0.94	U	1.1	U	0.86	U	0.87	U	1	U	0.96	U	0.96	U	0.9	U	0.88	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	0.14	U	0.17	U	0.13	U	0.13	U	0.15	U	0.14	U	0.14	U	0.13	U	0.13	U
Styrene	100-42-5	—	—	—	—	—	0.14	U	0.17	U	0.13	U	0.13	U	0.15	U	0.14	U	0.14	U	0.13	U	0.13	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.17	U	0.2	U	0.15	U	0.15	U	0.18	U	0.17	U	0.17	U	0.16	U	0.15	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.19	U	4.7	J	0.18	U	0.18	U	0.21	U	0.2	U	0.2	U	0.18	U	0.18	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.15	U	0.45	J	0.13	U	0.14	U	0.16	U	0.15	U	0.15	U	0.14	U	0.14	U
Toluene-D8	2037-26-5	—	—	—	—	—	51.7		50.8		50.8		50.7		50		51		51.9		51.2		51.3	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.19	U	0.23	U	0.17	U	0.17	U	0.2	U	0.19	U	0.19	U	0.18	U	0.17	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	—	—	0.17	U	0.2	U	0.15	U	0.15	U	0.18	U	0.17	U	0.17	U	0.16	U	0.16	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.19	U	0.24	U	0.18	U	0.18	U	0.21	U	0.2	U	0.2	U	0.19	U	0.18	U
Trichlorofluoromethane	75-69-4	—	—	—	—	—	0.17	U	0.2	U	0.15	U	0.15	U	0.18	U	0.17	U	0.17	U	0.16	U	0.15	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.14	U	0.17	U	0.13	U	0.13	U	0.15	U	0.14	U	0.14	U	0.13	U	0.13	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	0.14	U	0.17	U	0.13	U	0.13	U	0.15	U	0.14	U	0.14	U	0.13	U	0.13	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																								
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	—	—	12	U	14	U	12	U	12	U	12	U	12	U	12	U	11	U	11	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	—	—	41	U	48	U	40	U	39	U	41	U	41	U	40	U	36	U	38	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	—	—	46	U	54	U	45	U	44	U	47	U	47	U	45	U	40	U	42	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	—	—	37	U	44	U	36	U	35	U	38	U	38	U	37	U	32	U	34	U
2,4-Dichlorophenol	120-83-2	—	—	—	—	—	64	U	75	U	62	U	60	U	65	U	65	U	63	U	56	U	59	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	67	U	78	U	65	U	63	U	68	U	67	U	66	U	58	U	61	U
2,4-Dinitrophenol	51-28-5	—	—	—	—	—	48	U	57	U	47	U	46	U	49	U	49	U	48	U	42	U	44	U
2,4-Dinitrotoluene	121-14-2	—	—	—	—	—	17	U	20	U	17	U	16	U	18	U	18	U	17	U	15	U	16	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	15	U	18	U	15	U	14	U	15	U	15	U	15	U	13	U	14	U
2-Chloronaphthalene	91-58-7	—	—	—	—	—	12	U	14	U	12	U	12	U	12	U	12	U	12	U	11	U	11	U
2-Chlorophenol	95-57-8	—	—	—	—	—	40	U	46	U	39	U	38	U	40	U	40	U	39	U	35	U	36	U
2-Fluorobiphenyl	321-60-8	—	—	—	—	—	41.6		44		31.6		34.4		36.9		33		39.5		39.5		34.1	
2-Fluorophenol	367-12-4	—	—	—	—	—	41.4		40.6		30		30		33.7		31.1		36.2		35.8		30	
2-Methylnaphthalene	91-57-6	—	—	—	—	—	22	U	26	U	22	U	21	U	22	U	22	U	22	U	19	U	20	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	45	U	53	U	44	U	43	U	46	U	46	U	45	U	39	U	42	U
2-Nitroaniline	88-74-4	—	—	—	—	—	17	U	20	U	17	U	17	U	18	U	18	U	17	U	15	U	16	U
2-Nitrophenol	88-75-5	—	—	—	—	—	42	U	49	U	41	U	40	U	43	U	43	U	41	U	37	U	39	U
3,3'-Dichlorobenzidine	91-94-1	—	—	—	—	—	10	U	12	U	9.8	U	9.5	U	10	U	10	U	9.9	U	8.8	U	9.2	U
3-Nitroaniline	99-09-2	—	—	—	—	—	16	U	19	U	15	U	15	U	16	U	16	U	16	U	14	U	15	U
4,6-Dinitro-2-Methylphenol	534-52-1	—	—	—	—	—	48	U	57	U	47	U	46	U	49	U	49	U	48	U	42	U	44	U
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	14	U	17	U	14	U	14	U	15	U	15	U	14	U	13	U	13	U

Table 7D
Summary of Post-Excavation Soil Analytical Results
AOC-5
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-5														
Location ID:			Protection of Public Health				PE-38		PE-39		PE-40		PE-40 (DUP-5)		PE-41		PE-42		PE-43		PE-44		PE-45	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB88317-8		JB88317-9		JB88480-3		JB88480-4		JB88480-5		JB88480-1		JB88317-6		JB88317-7		JB88480-2	
Sample Date:							2/13/2015		2/13/2015		2/18/2015		2/18/2015		2/18/2015		2/18/2015		2/13/2015		2/13/2015		2/18/2015	
Sampling Depth (ft bgs):							11		11		10		10		10		10		11		11		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																								
4-Chloro-3-Methylphenol	59-50-7	—	—	—	—	—	40	U	46	U	39	U	38	U	40	U	40	U	39	U	35	U	36	U
4-Chloroaniline	106-47-8	—	—	—	—	—	13	U	15	U	12	U	12	U	13	U	13	U	13	U	11	U	12	U
4-Chlorophenyl phenyl ether	7005-72-3	—	—	—	—	—	12	U	14	U	12	U	11	U	12	U	12	U	12	U	10	U	11	U
4-Nitroaniline	100-01-6	—	—	—	—	—	15	U	18	U	15	U	15	U	16	U	16	U	15	U	13	U	14	U
4-Nitrophenol	100-02-7	—	—	—	—	—	67	U	78	U	65	U	63	U	68	U	68	U	66	U	58	U	62	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	12	U	13	U	11	U	11	U	12	U	12	U	11	U	10	U	11	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	13	U	15	U	12	U	12	U	13	U	13	U	13	U	11	U	12	U
Acetophenone	98-86-2	—	—	—	—	—	7	U	8.2	U	6.8	U	6.6	U	7.1	U	7.1	U	6.9	U	6.1	U	6.4	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	14	U	19.4	J	14	U	13	U	14	U	14	U	14	U	12	U	13	U
Atrazine	1912-24-9	—	—	—	—	—	7.8	U	9.1	U	7.6	U	7.4	U	7.9	U	7.9	U	7.7	U	6.8	U	7.2	U
Benzaldehyde	100-52-7	—	—	—	—	—	9.1	U	11	U	8.9	U	8.6	U	9.3	U	9.2	U	9	U	7.9	U	8.4	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	13	U	50.6		13	U	12	U	13	U	13	U	13	U	11	U	12	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	12	U	43.6	J	12	U	11	U	12	U	12	U	12	U	11	U	11	U
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	13	U	54.3		13	U	13	U	13	U	13	U	13	U	12	U	12	U
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	15	U	29.5	J	14	U	14	U	15	U	15	U	15	U	13	U	14	U
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	15	U	17	U	15	U	14	U	15	U	15	U	15	U	13	U	14	U
Benzyl Butyl Phthalate	85-68-7	—	—	—	—	—	23	U	27	U	22	U	22	U	23	U	23	U	23	U	20	U	21	U
Biphenyl (diphenyl)	92-52-4	—	—	—	—	—	4.6	U	5.4	U	4.5	U	4.4	U	4.7	U	4.7	U	4.5	U	4	U	4.2	U
Bis(2-chloroethoxy) methane	111-91-1	—	—	—	—	—	16	U	19	U	16	U	15	U	16	U	16	U	16	U	14	U	15	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	—	—	—	—	—	12	U	14	U	12	U	11	U	12	U	12	U	12	U	10	U	11	U
Bis(2-chloroisopropyl) ether	108-60-1	—	—	—	—	—	12	U	14	U	11	U	11	U	12	U	12	U	12	U	10	U	11	U
Bis(2-ethylhexyl) phthalate	117-81-7	—	—	—	—	—	35	U	41	U	34	U	33	U	36	U	35	U	35	U	30	U	32	U
Caprolactam	105-60-2	—	—	—	—	—	12	U	15	U	12	U	12	U	13	U	13	U	12	U	11	U	11	U
Carbazole	86-74-8	—	—	—	—	—	18	U	21	U	18	U	17	U	19	U	19	U	18	U	16	U	17	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	13	U	56.1		13	U	13	U	14	U	14	U	13	U	12	U	12	U
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	50	U	59	U	49	U	48	U	51	U	51	U	50	U	44	U	46	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	14	U	16	U	13	U	13	U	14	U	14	U	13	U	12	U	12	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	12	U	14	U	11	U	11	U	12	U	12	U	12	U	10	U	11	U
Diethyl Phthalate	84-66-2	—	—	—	—	—	14	U	16	U	13	U	13	U	14	U	14	U	13	U	12	U	12	U
Dimethyl Phthalate	131-11-3	—	—	—	—	—	14	U	16	U	14	U	13	U	14	U	14	U	14	U	12	U	13	U
Di-n-butyl phthalate	84-74-2	—	—	—	—	—	8.8	U	10	U	8.6	U	8.3	U	8.9	U	8.9	U	8.7	U	7.7	U	8.1	U
Di-n-octylphthalate	117-84-0	—	—	—	—	—	19	U	23	U	19	U	18	U	20	U	20	U	19	U	17	U	18	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	17	U	113		17	U	17	U	18	U	18	U	17	U	15	U	16	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	13	U	15	U	13	U	12	U	13	U	13	U	13	U	11	U	12	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	13	U	15	U	13	U	12	U	13	U	13	U	13	U	11	U	12	U
Hexachlorocyclopentadiene	77-47-4	—	—	—	—	—	40	U	47	U	39	U	38	U	41	U	41	U	40	U	35	U	37	U
Hexachloroethane	67-72-1	—	—	—	—	—	11	U	13	U	11	U	10	U	11	U	11	U	11	U	9.6	U	10	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	14	U	31.6	J	13	U	13	U	14	U	14	U	14	U	12	U	13	U
Isophorone	78-59-1	—	—	—	—	—	11	U	12	U	10	U	10	U	11	U	11	U	11	U	9.3	U	9.8	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	11	U	13	U	11	U	10	U	11	U	11	U	11	U	9.4	U	9.9	U
Nitrobenzene	98-95-3	—	—	—	—	—	11	U	13	U	11	U	11	U	12	U	12	U	11	U	10	U	11	U
N-Nitrosodi-n-Propylamine	621-64-7	—	—	—	—	—	9.7	U	11	U	9.4	U	9.2	U	9.8	U	9.8	U	9.5	U	8.4	U	8.9	U
N-Nitrosodiphenylamine	86-30-6	—	—	—	—	—	24	U	28	U	23	U	22	U	24	U	24	U	23	U	21	U	22	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	68	U	79	U	66	U	64	U	69	U	69	U	67	U	59	U	62	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	18	U	103		18	U	17	U	18	U	18	U	18	U	16	U	17	U
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	42	U	49	U	41	U	39	U	42	U	42	U	41	U	36	U	38	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	15	U	109		15	U	14	U	15	U	15	U	15	U	13	U	14	U
Metals, Target Analyte																								
Aluminum	7429-90-5	—	—	—	—	—	12,500,000		6,090,000		4,390,000		3,770,000		6,000,000		7,450,000		7,640,000		4,370,000		7,070,000	
Antimony	7440-36-0	—	—	—	—	—	330	U	390	U	340	U	310	U	340	U	320	U	330	U	310	U	330	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	3,300		3,000		1,600	B	1,400	B	2,800		2,900		2,000	B	1,400	B	2,700	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	101,000		50,000		37,100		30,400		42,000		62,200		64,600		37,900		60,200	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	830		420		320		240		390		530		480		340		540	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	210	B	100	B	64	B	58	U	89	B	72	B	85	B	58	B	62	B
Calcium	7440-70-2	—	—	—	—	—	2,440,000		2,980,000		3,540,000	J	2,180,000	J	2,910,000		1,600,000		1,370,000		2,280,000		2,220,000	
Chromium, Total	7440-47-3	—	—	—	—	—	26,100		22,700		14,100		9,600		14,600		16,800		14,600		10,500		16,900	
Cobalt	7440-48-4	—	—	—	—	—	10,700		5,800	B	6,000	B	3,500	B	5,200	B	6,300		4,800	B	4,400	B	6,800	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	22,500		12,200		10,600		8,200		13,200		12,800		9,100		9,700		11,700	
Iron	7439-89-6	—	—	—	—	—	24,200,000		13,200,000		10,600,000		8,270,000		12,200,000		14,100,000		14,400,000		12,000,000		14,400,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	16,600		7,100		5,100		7,800		6,000		8,100		7,200		4,500		8,200	
Magnesium	7439-95-4	—	—	—	—	—	5,820,000		4,840,000		6,270,000	J	2,470,000	J	3,310,000		3,070,000		3,550,000		3,010,000		4,310,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	204,000		183,000		258,000	J	147,000	J	323,000		140,000		127,000		347,000		200,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	12	B	80		9.8	B	9.9	B	12	B	7.7	B	6.3	B	5.3	B	9.9	B
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	**31,500**		**41,800**		**35,400**	**J**	15,000	J	18,800		22,300		12,400		19,400		25,200	
Potassium	7440-09-7	—	—	—	—	—	3,650,000		1,260,000	B	991,000	B	826,000	B	1,410,000		1,670,000		1,930,000		1,210,000		1,880,000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	410	U	480	U	420	U	380	U	420	U	390	U	400	U	380	U	410	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	170	U	200	U	180	U	160	U	180	U	170	U	170	U	160	U	170	U
Sodium	7440-23-5	—	—	—	—	—	344,000	B	155,000	B	236,000	B	185,000	B	460,000	B	260,000	B	203,000	B	151,000	B	244,000	B
Thallium	7440-28-0	—	—	—	—	—	510	U	590	U	520	U	470	U	520	U	490	U	500	U	470	U	510	U
Vanadium	7440-62-2	—	—	—	—	—	33,800		23,700		18,400		14,800		25,300		24,000		21,200		19,100		22,500	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	65,500		32,600		25,600		19,400		32,200		36,600		**715,000**		23,900		35,700	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
— = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7E
Summary of Post-Excavation Soil Analytical Results
AOC-6
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-6															
Location ID:			Protection of Public Health				PE-28 *		PE-29		PE-30		PE-31		PE-32		PE-87		PE-88		PE-89	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB87400-8		JB87400-9		JB87400-11		JB87400-7		JB87400-10		JB91084-1		JB91084-2		JB91084-3	
Sample Date:							1/30/2015		1/30/2015		1/30/2015		1/30/2015		1/30/2015		3/26/2015		3/26/2015		3/26/2015	
Sampling Depth (ft bgs):							8		8		8		8		8		8		8		8	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																						
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.25	U	0.3	U	0.26	U	0.25	U	0.27	U	0.36	U	0.32	U	0.12	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	—	—	0.28	U	0.32	U	0.29	U	0.27	U	0.29	U	0.42	U	0.37	U	0.15	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	—	—	0.54	U	0.64	U	0.57	U	0.53	U	0.57	U	1.1	U	0.95	U	0.37	U
1,1,2-Trichloroethane	79-00-5	—	—	—	—	—	0.34	U	0.4	U	0.35	U	0.33	U	0.36	U	0.35	U	0.31	U	0.12	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.68	U	0.79	U	0.71	U	0.66	U	0.72	U	0.34	U	0.3	U	0.12	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.47	U	0.54	U	0.48	U	0.45	U	0.49	U	1.4	U	1.3	U	0.49	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	0.29	U	0.34	U	0.3	U	0.28	U	0.3	U	0.42	U	0.37	U	0.15	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	0.34	U	0.4	U	0.35	U	0.33	U	0.36	U	0.41	U	0.36	U	0.14	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	—	—	0.99	U	1.2	U	1	U	0.96	U	1	U	1.3	U	1.2	U	0.45	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	—	—	0.29	U	0.34	U	0.31	U	0.29	U	0.31	U	0.32	U	0.28	U	0.11	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.31	U	0.36	U	0.32	U	0.3	U	0.32	U	0.29	U	0.26	U	0.1	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.22	U	0.26	U	0.23	U	0.21	U	0.23	U	0.32	U	0.28	U	0.11	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	—	—	49.7		52.6		51.1		50.4		51.1		NA		NA		NA	
1,2-Dichloropropane	78-87-5	—	—	—	—	—	0.32	U	0.38	U	0.34	U	0.32	U	0.34	U	0.57	U	0.51	U	0.2	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.3	U	0.35	U	0.31	U	0.29	U	0.31	U	0.38	U	0.33	U	0.13	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.31	U	0.37	U	0.33	U	0.3	U	0.33	U	0.54	U	0.48	U	0.19	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	33	U	38	U	38	U	33	U	37	U	44	U	43	U	22	U
2-Hexanone	591-78-6	—	—	—	—	—	1.1	U	1.2	U	1.1	U	1	U	1.1	U	3.2	U	2.8	U	1.1	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**54.4**		25.2		**51.7**		30.2		18.4	J	**185**		**80**		49.3	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	7.7		0.39	U	9		0.32	U	0.35	U	0.32	U	0.28	U	0.11	U
Bromochloromethane	74-97-5	—	—	—	—	—	0.46	U	0.53	U	0.47	U	0.45	U	0.48	U	0.75	U	0.66	U	0.26	U
Bromodichloromethane	75-27-4	—	—	—	—	—	0.46	U	0.53	U	0.47	U	0.45	U	0.48	U	0.38	U	0.33	U	0.13	U
Bromoform	75-25-2	—	—	—	—	—	0.2	U	0.24	U	0.21	U	0.2	U	0.21	U	0.57	U	0.5	U	0.2	U
Bromomethane	74-83-9	—	—	—	—	—	0.55	U	0.65	U	0.57	U	0.54	U	0.58	U	0.88	U	0.77	U	0.3	U
Carbon Disulfide	75-15-0	—	—	—	—	—	1.2	J	9.9	J	3.1	J	3.6	J	7.3	J	8.4		6		0.19	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.27	U	0.32	U	0.28	U	0.26	U	0.28	U	0.55	U	0.49	U	0.19	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.23	U	0.27	U	0.24	U	0.23	U	0.24	U	0.37	U	0.33	U	0.13	U
Chloroethane	75-00-3	—	—	—	—	—	0.45	U	0.53	U	0.47	U	0.44	U	0.48	U	1.2	U	1	U	0.4	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.2	U	0.23	U	0.2	U	0.19	U	0.21	U	0.36	U	0.32	U	0.12	U
Chloromethane	74-87-3	—	—	—	—	—	0.57	U	0.66	U	0.59	U	0.55	U	0.6	U	0.63	U	0.56	U	0.22	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.49	U	0.58	U	0.51	U	0.48	U	0.52	U	1.9	U	1.7	U	0.65	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	—	—	0.24	U	0.28	U	0.25	U	0.23	U	0.25	U	0.28	U	0.25	U	0.098	U
Cyclohexane	110-82-7	—	—	—	—	—	221		3.2	J	4.3	J	3.6	J	3.6	J	0.76	U	0.67	U	0.26	U
Dibromochloromethane	124-48-1	—	—	—	—	—	0.26	U	0.3	U	0.27	U	0.25	U	0.27	U	0.49	U	0.44	U	0.17	U
Dichlorodifluoromethane	75-71-8	—	—	—	—	—	0.99	U	1.2	U	1	U	0.96	U	1	U	0.87	U	0.77	U	0.3	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.2	U	0.24	U	0.21	U	0.2	U	0.21	U	0.39	U	0.35	U	0.14	U
Hexachlorobutadiene	87-68-3	—	—	—	—	—	14	U	16	U	16	U	14	U	16	U	19	U	18	U	9.4	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	—	—	4	J	0.34	U	1.4	J	0.28	U	0.31	U	0.26	U	0.23	U	0.088	U
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	1.8	J	0.5	U	1.2	J	0.42	U	0.45	U	0.85	U	0.75	U	0.29	U
Methyl Acetate	79-20-9	—	—	—	—	—	0.92	U	1.1	U	0.95	U	0.89	U	0.97	U	2.1	U	1.8	U	0.72	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	11.5	J	2.7	U	2.4	U	2.2	U	2.4	U	13.7	J	4.1	U	5.1	J
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	—	—	0.61	U	0.71	U	0.63	U	0.59	U	0.64	U	1.1	U	0.97	U	0.38	U
Methylcyclohexane	108-87-2	—	—	—	—	—	229		1.6	J	6.7	J	3	J	1.2	J	0.55	U	0.48	U	0.19	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	1.8	U	2.1	U	1.9	U	1.8	U	1.9	U	2.4	U	2.1	U	0.82	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	2.2		0.31	U	0.54	J	0.26	U	0.28	U	0.66	U	0.58	U	0.23	U
Styrene	100-42-5	—	—	—	—	—	0.27	U	0.31	U	0.28	U	0.26	U	0.28	U	0.43	U	0.38	U	0.15	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.32	U	1	J	0.33	U	0.84	J	1.3	J	1.3	J	1	J	0.13	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.37	U	0.43	U	0.38	U	0.36	U	0.39	U	0.73	U	0.64	U	0.25	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	2.3		0.33	U	0.29	U	0.28	U	0.3	U	0.5	U	0.45	J	0.24	J
Toluene-D8	2037-26-5	—	—	—	—	—	51.3		50.3		52.2		50.4		51.1		NA		NA		NA	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.36	U	0.42	U	0.37	U	0.35	U	0.38	U	1.4	U	1.3	U	0.49	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	—	—	0.32	U	0.38	U	0.33	U	0.31	U	0.34	U	0.43	U	0.38	U	0.15	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.37	U	0.43	U	0.39	U	0.36	U	0.39	U	0.35	U	0.31	U	0.12	U
Trichlorofluoromethane	75-69-4	—	—	—	—	—	0.32	U	0.37	U	0.33	U	0.31	U	0.33	U	0.6	U	0.53	U	0.21	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.27	U	0.31	U	0.28	U	0.26	U	0.28	U	0.48	U	0.42	U	0.16	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	4		0.31	U	1.8	J	0.26	U	0.28	U	0.66	U	0.58	U	0.23	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																						
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	—	—	16	U	18	U	18	U	16	U	18	U	21	U	20	U	10	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	—	—	52	U	60	U	60	U	52	U	59	U	69	U	69	U	35	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	—	—	59	U	68	U	67	U	59	U	66	U	78	U	77	U	39	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	—	—	48	U	55	U	55	U	48	U	54	U	63	U	63	U	32	U
2,4-Dichlorophenol	120-83-2	—	—	—	—	—	82	U	94	U	94	U	82	U	92	U	110	U	110	U	54	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	209	J	98	U	98	U	85	U	96	U	110	U	110	U	57	U
2,4-Dinitrophenol	51-28-5	—	—	—	—	—	62	U	71	U	71	U	62	U	70	U	82	U	81	U	41	U
2,4-Dinitrotoluene	121-14-2	—	—	—	—	—	22	U	26	U	25	U	22	U	25	U	29	U	29	U	15	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	19	U	22	U	22	U	19	U	22	U	26	U	25	U	13	U
2-Chloronaphthalene	91-58-7	—	—	—	—	—	16	U	18	U	18	U	16	U	18	U	21	U	21	U	10	U
2-Chlorophenol	95-57-8	—	—	—	—	—	51	U	58	U	58	U	51	U	57	U	67	U	67	U	34	U
2-Fluorobiphenyl	321-60-8	—	—	—	—	—	27.8		30.9		29.8		33		32		NA		NA		NA	
2-Fluorophenol	367-12-4	—	—	—	—	—	36		32.8		32.2		34.9		34.2		NA		NA		NA	
2-Methylnaphthalene	91-57-6	—	—	—	—	—	348		33	U	32	U	28	U	32	U	38	U	37	U	19	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	142		67	U	66	U	58	U	65	U	77	U	76	U	38	U
2-Nitroaniline	88-74-4	—	—	—	—	—	22	U	26	U	26	U	22	U	25	U	30	U	29	U	15	U
2-Nitrophenol	88-75-5	—	—	—	—	—	54	U	62	U	62	U	54	U	61	U	71	U	71	U	36	U
3,3'-Dichlorobenzidine	91-94-1	—	—	—	—	—	13	U	15	U	15	U	13	U	15	U	17	U	17	U	8.6	U
3-Nitroaniline	99-09-2	—	—	—	—	—	20	U	23	U	23	U	20	U	23	U	27	U	27	U	14	U
4,6-Dinitro-2-Methylphenol	534-52-1	—	—	—	—	—	62	U	71	U	71	U	62	U	70	U	82	U	81	U	41	U

Table 7E
Summary of Post-Excavation Soil Analytical Results
AOC-6
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					AOC-6															
Location ID:			Protection of Public Health				PE-28 *		PE-29		PE-30		PE-31		PE-32		PE-87		PE-88		PE-89	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB87400-8		JB87400-9		JB87400-11		JB87400-7		JB87400-10		JB91084-1		JB91084-2		JB91084-3	
Sample Date:							1/30/2015		1/30/2015		1/30/2015		1/30/2015		1/30/2015		3/26/2015		3/26/2015		3/26/2015	
Sampling Depth (ft bgs):							8		8		8		8		8		8		8		8	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																						
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	18	U	21	U	21	U	18	U	21	U	24	U	24	U	12	U
4-Chloro-3-Methylphenol	59-50-7	—	—	—	—	—	51	U	58	U	58	U	51	U	57	U	67	U	67	U	34	U
4-Chloroaniline	106-47-8	—	—	—	—	—	16	U	19	U	19	U	16	U	18	U	22	U	21	U	11	U
4-Chlorophenyl phenyl ether	7005-72-3	—	—	—	—	—	15	U	18	U	18	U	15	U	17	U	20	U	20	U	10	U
4-Nitroaniline	100-01-6	—	—	—	—	—	20	U	23	U	23	U	20	U	22	U	26	U	26	U	13	U
4-Nitrophenol	100-02-7	—	—	—	—	—	86	U	99	U	98	U	86	U	97	U	110	U	110	U	57	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	912		17	U	17	U	15	U	17	U	20	U	19	U	9.8	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	2,400		19	U	19	U	16	U	18	U	22	U	21	U	11	U
Acetophenone	98-86-2	—	—	—	—	—	8.9	U	10	U	10	U	8.9	U	10	U	12	U	12	U	5.9	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	4,030		20	U	29.5	J	18	U	20	U	24	U	30.1	J	12	U
Atrazine	1912-24-9	—	—	—	—	—	10	U	11	U	11	U	10	U	11	U	13	U	13	U	6.7	U
Benzaldehyde	100-52-7	—	—	—	—	—	89.2	J	13	U	13	U	12	U	13	U	16	U	107	J	7.8	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	**25,300**		19	U	46.2	J	17	U	19	U	22	U	22	U	11	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	**23,600**		18	U	40.2	J	15	U	17	U	21	U	20	U	10	U
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	**22,000**		19	U	48.6	J	17	U	19	U	23	U	22	U	11	U
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	13,100		22	U	27.9	J	19	U	21	U	25	U	25	U	13	U
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	**16,400**		22	U	22	U	19	U	22	U	25	U	25	U	13	U
Benzyl Butyl Phthalate	85-68-7	—	—	—	—	—	29	U	34	U	34	U	29	U	33	U	39	U	39	U	20	U
Biphenyl (diphenyl)	92-52-4	—	—	—	—	—	107		6.8	U	6.7	U	5.9	U	6.6	U	7.8	U	7.7	U	3.9	U
Bis(2-chloroethoxy) methane	111-91-1	—	—	—	—	—	21	U	24	U	23	U	20	U	23	U	27	U	27	U	14	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	—	—	—	—	—	15	U	18	U	18	U	15	U	17	U	20	U	20	U	10	U
Bis(2-chloroisopropyl) ether	108-60-1	—	—	—	—	—	15	U	17	U	17	U	15	U	17	U	20	U	20	U	10	U
Bis(2-ethylhexyl) phthalate	117-81-7	—	—	—	—	—	45	U	52	U	51	U	45	U	51	U	60	U	59	U	30	U
Caprolactam	105-60-2	—	—	—	—	—	16	U	18	U	18	U	16	U	18	U	21	U	21	U	11	U
Carbazole	86-74-8	—	—	—	—	—	2,810		27	U	27	U	23	U	26	U	31	U	31	U	16	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	**30,600**		20	U	48	J	17	U	19	U	23	U	22	U	11	U
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	**535**		74	U	74	U	64	U	73	U	86	U	84	U	43	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	**4,960**		20	U	20	U	17	U	20	U	23	U	23	U	12	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	815		17	U	17	U	15	U	17	U	20	U	20	U	10	U
Diethyl Phthalate	84-66-2	—	—	—	—	—	17	U	20	U	20	U	17	U	20	U	23	U	23	U	12	U
Dimethyl Phthalate	131-11-3	—	—	—	—	—	18	U	21	U	20	U	18	U	20	U	24	U	23	U	12	U
Di-n-butyl phthalate	84-74-2	—	—	—	—	—	11	U	13	U	13	U	11	U	13	U	15	U	85.5	J	42.6	J
Di-n-octylphthalate	117-84-0	—	—	—	—	—	25	U	28	U	28	U	25	U	28	U	33	U	32	U	16	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	43,100		26	U	81.7		22	U	25	U	30	U	40.8	J	15	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	1,110		19	U	19	U	17	U	19	U	22	U	22	U	11	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	17	U	19	U	19	U	17	U	19	U	22	U	22	U	11	U
Hexachlorocyclopentadiene	77-47-4	—	—	—	—	—	52	U	60	U	59	U	52	U	58	U	69	U	68	U	34	U
Hexachloroethane	67-72-1	—	—	—	—	—	14	U	16	U	16	U	14	U	16	U	19	U	18	U	9.4	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	**15,200**		20	U	20	U	18	U	20	U	23	U	23	U	12	U
Isophorone	78-59-1	—	—	—	—	—	14	U	16	U	16	U	14	U	15	U	18	U	18	U	9.1	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	911		16	U	16	U	14	U	16	U	18	U	18	U	9.2	U
Nitrobenzene	98-95-3	—	—	—	—	—	15	U	17	U	17	U	15	U	17	U	19	U	19	U	9.8	U
N-Nitrosodi-n-Propylamine	621-64-7	—	—	—	—	—	12	U	14	U	14	U	12	U	14	U	16	U	16	U	8.2	U
N-Nitrosodiphenylamine	86-30-6	—	—	—	—	—	30	U	35	U	35	U	30	U	34	U	40	U	40	U	20	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	87	U	100	U	99	U	87	U	98	U	120	U	110	U	58	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	21,200		27	U	44.8	J	23	U	26	U	31	U	39.9	J	15	U
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	299		61	U	61	U	53	U	60	U	71	U	70	U	35	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	39,600		22	U	98.2		19	U	22	U	26	U	35.9	J	13	U
Metals, Target Analyte																						
Aluminum	7429-90-5	—	—	—	—	—	16,700,000		20,900,000		28,200,000		19,400,000		23,300,000		19,600,000	J	20,100,000		8,250,000	
Antimony	7440-36-0	—	—	—	—	—	1,000	B	620	B	540	U	580	B	670	B	640	UJ	590	U	360	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	**21,000**		8,600		**14,200**		10,500		12,000		9,400		10,500		2,100	B
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	162,000		47,000		77,500		49,200		51,600		50,400		50,600		32,200	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	850		1,100		1,500		990		1,200		960		1,000		520	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	430	B	310	B	360	B	220	B	260	B	290	B	340	B	160	B
Calcium	7440-70-2	—	—	—	—	—	3,470,000		2,380,000		4,170,000		2,540,000		2,610,000		2,890,000		4,930,000		1,500,000	
Chromium, Total	7440-47-3	—	—	—	—	—	34,000		35,000		44,500		35,200		37,200		34,500		38,300		19,500	
Cobalt	7440-48-4	—	—	—	—	—	8,200	B	10,800		13,800		10,100		11,400		9,900	B	11,400		9,400	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	43,300		17,700		38,200		16,700		17,300		23,700		15,900		18,000	
Iron	7439-89-6	—	—	—	—	—	35,600,000		32,800,000		38,600,000		39,300,000		35,500,000		28,600,000		36,900,000		12,500,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	**1,090,000**		24,000		**118,000**		20,900		22,500		**83,300**		20,500		10,600	
Magnesium	7439-95-4	—	—	—	—	—	4,790,000		7,180,000		8,590,000		6,810,000		7,910,000		6,220,000		6,910,000		3,290,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	217,000		370,000		312,000		356,000		395,000		289,000		434,000		410,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	**930**		70		**230**		60		58	B	180		59	B	11	B
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	24,900		**31,300**		**44,500**		29,500		**31,900**		**31,700**		**32,600**		**52,700**	
Potassium	7440-09-7	—	—	—	—	—	2,860,000		4,440,000		5,480,000		3,980,000		5,040,000		4,250,000	J	4,490,000		1,620,000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	1,500	B	680	B	660	U	560	U	610	B	490	U	450	U	270	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	680	B	490	B	560	B	530	B	590	B	380	U	350	U	210	U
Sodium	7440-23-5	—	—	—	—	—	510,000	B	1,360,000	B	1,200,000	B	934,000	B	1,470,000	B	1,220,000	B	1,020,000	B	224,000	B
Thallium	7440-28-0	—	—	—	—	—	760	B	800	U	820	U	700	U	760	U	400	U	360	U	220	U
Vanadium	7440-62-2	—	—	—	—	—	42,300		43,200		58,400		42,800		48,200		47,800		44,800		26,900	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	**408,000**		84,300		**113,000**		76,100		87,200		79,900		86,300		43,100	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables
Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
— = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results impacted
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.
*PE-28 was removed by over-excavation on 26 March 2015.

Table 7F
Summary of Post-Excavation Soil Analytical Results
EPA-9/EPA-10
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					EPA-9				EPA-10					
Location ID:		Protection of Public Health					PE-77		PE-78		PE-79		PE-80		PE-81	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB88203-3		JB88203-4		JB88203-7		JB88203-8		JB88203-9	
Sample Date:							2/12/2015		2/12/2015		2/12/2015		2/12/2015		2/12/2015	
Sampling Depth (ft bgs):							10		10		10		10		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.2	U	0.12	U	0.13	U	0.13	U	0.12	U
1,1,2,2-Tetrachloroethane	79-34-5	---	---	---	---	---	0.22	U	0.13	U	0.14	U	0.14	U	0.14	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	---	---	---	---	---	0.44	U	0.26	U	0.28	U	0.28	U	0.27	U
1,1,2-Trichloroethane	79-00-5	---	---	---	---	---	0.27	U	0.16	U	0.17	U	0.18	U	0.17	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.55	U	0.32	U	0.35	U	0.35	U	0.33	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.37	U	0.22	U	0.24	U	0.24	U	0.23	U
1,2,3-Trichlorobenzene	87-61-6	---	---	---	---	---	0.23	U	0.14	U	0.15	U	0.15	U	0.14	U
1,2,4-Trichlorobenzene	120-82-1	---	---	---	---	---	0.27	U	0.16	U	0.17	U	0.18	U	0.17	U
1,2-Dibromo-3-Chloropropane	96-12-8	---	---	---	---	---	0.79	U	0.47	U	0.51	U	0.51	U	0.49	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	---	---	---	---	---	0.24	U	0.14	U	0.15	U	0.15	U	0.14	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.25	U	0.15	U	0.16	U	0.16	U	0.15	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.18	U	0.1	U	0.11	U	0.11	U	0.11	U
1,2-Dichloroethane-D4	17060-07-0	---	---	---	---	---	56.9		52.3		51.5		54.7		54.8	
1,2-Dichloropropane	78-87-5	---	---	---	---	---	0.26	U	0.15	U	0.17	U	0.17	U	0.16	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.24	U	0.14	U	0.15	U	0.15	U	0.15	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.25	U	0.15	U	0.16	U	0.16	U	0.15	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	35	U	24	U	25	U	24	U	24	U
2-Hexanone	591-78-6	---	---	---	---	---	0.85	U	0.5	U	0.54	U	0.54	U	0.52	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	**62.7**		20.8		40.5		33.1		34.9	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.85	J	0.16	U	0.17	U	0.17	U	0.16	U
Bromochloromethane	74-97-5	---	---	---	---	---	0.37	U	0.22	U	0.23	U	0.24	U	0.22	U
Bromodichloromethane	75-27-4	---	---	---	---	---	0.37	U	0.22	U	0.23	U	0.24	U	0.22	U
Bromoform	75-25-2	---	---	---	---	---	0.16	U	0.096	U	0.1	U	0.1	U	0.099	U
Bromomethane	74-83-9	---	---	---	---	---	0.44	U	0.26	U	0.28	U	0.28	U	0.27	U
Carbon Disulfide	75-15-0	---	---	---	---	---	1.5	J	0.21	U	0.23	U	0.23	U	0.22	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.22	U	0.13	U	0.14	U	0.14	U	0.13	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.19	U	0.11	U	0.12	U	0.12	U	0.11	U
Chloroethane	75-00-3	---	---	---	---	---	0.36	U	0.22	U	0.23	U	0.23	U	0.22	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.16	U	0.093	U	0.1	U	0.1	U	0.096	U
Chloromethane	74-87-3	---	---	---	---	---	0.46	U	0.27	U	0.29	U	0.29	U	0.28	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.4	U	0.24	U	0.25	U	0.25	U	0.24	U
cis-1,3-Dichloropropene	10061-01-5	---	---	---	---	---	0.19	U	0.12	U	0.12	U	0.12	U	0.12	U
Cyclohexane	110-82-7	---	---	---	---	---	0.54	U	0.32	U	0.34	U	0.35	U	0.33	U
Dibromochloromethane	124-48-1	---	---	---	---	---	0.21	U	0.12	U	0.13	U	0.13	U	0.13	U
Dichlorodifluoromethane	75-71-8	---	---	---	---	---	0.79	U	0.47	U	0.51	U	0.51	U	0.49	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.16	U	0.096	U	0.1	U	0.1	U	0.099	U
Hexachlorobutadiene	87-68-3	---	---	---	---	---	15	U	10	U	11	U	10	U	10	U
Isopropylbenzene (Cumene)	98-82-8	---	---	---	---	---	0.23	U	0.14	U	0.15	U	0.15	U	0.14	U
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	0.34	U	0.2	U	0.22	U	0.22	U	0.21	U
Methyl Acetate	79-20-9	---	---	---	---	---	0.74	U	0.44	U	0.47	U	0.47	U	0.45	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	10.8	J	1.1	U	1.2	U	1.2	U	1.1	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	---	---	---	---	---	0.49	U	0.29	U	0.31	U	0.31	U	0.3	U
Methylcyclohexane	108-87-2	---	---	---	---	---	0.21	U	0.12	U	0.13	U	0.13	U	0.13	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	1.4	U	0.86	U	0.92	U	0.93	U	0.88	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	0.38	J	0.13	U	0.14	U	0.14	U	0.13	U
Styrene	100-42-5	---	---	---	---	---	0.21	U	0.13	U	0.14	U	0.14	U	0.13	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.25	U	0.15	U	0.16	U	0.16	U	0.15	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.3	U	0.18	U	0.19	U	0.19	U	0.18	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.23	U	0.13	U	0.14	U	0.15	U	0.14	U
Toluene-D8	2037-26-5	---	---	---	---	---	54.2		54.4		56.3		57		57.6	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.29	U	0.17	U	0.18	U	0.18	U	0.18	U
Trans-1,3-Dichloropropene	10061-02-6	---	---	---	---	---	0.26	U	0.15	U	0.16	U	0.17	U	0.16	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.3	U	0.18	U	0.19	U	0.19	U	0.18	U
Trichlorofluoromethane	75-69-4	---	---	---	---	---	0.25	U	0.15	U	0.16	U	0.16	U	0.15	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.21	U	0.13	U	0.14	U	0.14	U	0.13	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	0.38	J	0.13	U	0.14	U	0.14	U	0.13	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	---	---	---	17	U	11	U	12	U	11	U	12	U
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	---	---	---	56	U	38	U	39	U	38	U	39	U
2,4,5-Trichlorophenol	95-95-4	---	---	---	---	---	63	U	43	U	44	U	42	U	44	U
2,4,6-Trichlorophenol	88-06-2	---	---	---	---	---	51	U	35	U	36	U	34	U	35	U
2,4-Dichlorophenol	120-83-2	---	---	---	---	---	87	U	60	U	61	U	59	U	60	U
2,4-Dimethylphenol	105-67-9	---	---	---	---	---	91	U	62	U	64	U	61	U	63	U
2,4-Dinitrophenol	51-28-5	---	---	---	---	---	66	U	45	U	46	U	45	U	46	U
2,4-Dinitrotoluene	121-14-2	---	---	---	---	---	24	U	16	U	17	U	16	U	16	U
2,6-Dinitrotoluene	606-20-2	---	---	---	---	---	21	U	14	U	14	U	14	U	14	U
2-Chloronaphthalene	91-58-7	---	---	---	---	---	17	U	12	U	12	U	11	U	12	U
2-Chlorophenol	95-57-8	---	---	---	---	---	54	U	37	U	38	U	37	U	38	U
2-Fluorobiphenyl	321-60-8	---	---	---	---	---	32.2		37.8		34.7		37.3		28.4	
2-Fluorophenol	367-12-4	---	---	---	---	---	27.7		32.6		29.7		32		25.1	
2-Methylnaphthalene	91-57-6	---	---	---	---	---	30	U	21	U	21	U	20	U	21	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	61	U	42	U	43	U	42	U	43	U
2-Nitroaniline	88-74-4	---	---	---	---	---	24	U	16	U	17	U	16	U	17	U
2-Nitrophenol	88-75-5	---	---	---	---	---	57	U	39	U	40	U	39	U	40	U
3,3'-Dichlorobenzidine	91-94-1	---	---	---	---	---	14	U	9.4	U	9.7	U	9.3	U	9.5	U
3-Nitroaniline	99-09-2	---	---	---	---	---	22	U	15	U	15	U	15	U	15	U
4,6-Dinitro-2-Methylphenol	534-52-1	---	---	---	---	---	66	U	45	U	46	U	45	U	46	U

Table 7F
Summary of Post-Excavation Soil Analytical Results
EPA-9/EPA-10
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					EPA-9				EPA-10					
Location ID:		Protection of Public Health					PE-77		PE-78		PE-79		PE-80		PE-81	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB88203-3		JB88203-4		JB88203-7		JB88203-8		JB88203-9	
Sample Date:							2/12/2015		2/12/2015		2/12/2015		2/12/2015		2/12/2015	
Sampling Depth (ft bgs):							10		10		10		10		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																
4-Bromophenyl phenyl ether	101-55-3	---	---	---	---	---	20	U	13	U	14	U	13	U	14	U
4-Chloro-3-Methylphenol	59-50-7	---	---	---	---	---	54	U	37	U	38	U	37	U	38	U
4-Chloroaniline	106-47-8	---	---	---	---	---	17	U	12	U	12	U	12	U	12	U
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	---	---	16	U	11	U	11	U	11	U	11	U
4-Nitroaniline	100-01-6	---	---	---	---	---	21	U	14	U	15	U	14	U	15	U
4-Nitrophenol	100-02-7	---	---	---	---	---	91	U	63	U	64	U	62	U	63	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	16	U	11	U	11	U	11	U	11	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	17	U	12	U	12	U	12	U	12	U
Acetophenone	98-86-2	---	---	---	---	---	9.5	U	6.5	U	6.7	U	6.4	U	6.6	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	19	U	13	U	13	U	13	U	13	U
Atrazine	1912-24-9	---	---	---	---	---	11	U	7.3	U	7.5	U	7.2	U	7.4	U
Benzaldehyde	100-52-7	---	---	---	---	---	12	U	8.5	U	8.8	U	8.4	U	8.6	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	18	U	12	U	12	U	12	U	12	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	16	U	11	U	12	U	11	U	11	U
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	18	U	12	U	13	U	12	U	13	U
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	20	U	14	U	14	U	14	U	14	U
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	20	U	14	U	14	U	14	U	14	U
Benzyl Butyl Phthalate	85-68-7	---	---	---	---	---	31	U	21	U	22	U	21	U	22	U
Biphenyl (diphenyl)	92-52-4	---	---	---	---	---	6.3	U	4.3	U	4.4	U	4.2	U	4.4	U
Bis(2-chloroethoxy) methane	111-91-1	---	---	---	---	---	22	U	15	U	15	U	15	U	15	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	---	---	---	---	---	16	U	11	U	11	U	11	U	11	U
Bis(2-chloroisopropyl) ether	108-60-1	---	---	---	---	---	16	U	11	U	11	U	11	U	11	U
Bis(2-ethylhexyl) phthalate	117-81-7	---	---	---	---	---	48	U	33	U	34	U	32	U	33	U
Caprolactam	105-60-2	---	---	---	---	---	17	U	12	U	12	U	12	U	12	U
Carbazole	86-74-8	---	---	---	---	---	25	U	17	U	18	U	17	U	17	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	18	U	13	U	13	U	12	U	13	U
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	68	U	47	U	48	U	46	U	48	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	18	U	13	U	13	U	12	U	13	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	16	U	11	U	11	U	11	U	11	U
Diethyl Phthalate	84-66-2	---	---	---	---	---	18	U	13	U	13	U	12	U	13	U
Dimethyl Phthalate	131-11-3	---	---	---	---	---	19	U	13	U	13	U	13	U	13	U
Di-n-butyl phthalate	84-74-2	---	---	---	---	---	12	U	8.2	U	8.4	U	8.1	U	8.3	U
Di-n-octylphthalate	117-84-0	---	---	---	---	---	26	U	18	U	19	U	18	U	18	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	24	U	20.4	J	17	U	16	U	17	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	18	U	12	U	12	U	12	U	12	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	18	U	12	U	12	U	12	U	12	U
Hexachlorocyclopentadiene	77-47-4	---	---	---	---	---	55	U	38	U	39	U	37	U	38	U
Hexachloroethane	67-72-1	---	---	---	---	---	15	U	10	U	11	U	10	U	10	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	19	U	13	U	13	U	13	U	13	U
Isophorone	78-59-1	---	---	---	---	---	15	U	10	U	10	U	9.8	U	10	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	24.7	J	10	U	10	U	10	U	10	U
Nitrobenzene	98-95-3	---	---	---	---	---	16	U	11	U	11	U	11	U	11	U
N-Nitrosodi-n-Propylamine	621-64-7	---	---	---	---	---	13	U	9.1	U	9.3	U	8.9	U	9.2	U
N-Nitrosodiphenylamine	86-30-6	---	---	---	---	---	32	U	22	U	23	U	22	U	22	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	92	U	63	U	65	U	63	U	64	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	25	U	17	U	17	U	17	U	17	U
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	57	U	39	U	40	U	38	U	39	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	21	U	23.3	J	15	U	14	U	14	U
Metals, Target Analyte																
Aluminum	7429-90-5	---	---	---	---	---	14,400,000		5,740,000		8,020,000		6,340,000		6,390,000	
Antimony	7440-36-0	---	---	---	---	---	430	U	340	U	310	U	340	U	340	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	3,500		2,300	B	2,600		2,500		3,600	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	59,600		20,000	B	26,100		28,000		30,500	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	720		330		380		370		390	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	180	B	510	B	140	B	140	B	150	B
Calcium	7440-70-2	---	---	---	---	---	900,000		1,020,000		1,620,000		1,060,000		1,190,000	
Chromium, Total	7440-47-3	---	---	---	---	---	27,000		10,500		13,100		11,300		10,300	
Cobalt	7440-48-4	---	---	---	---	---	5,500	B	4,400	B	6,100		5,000	B	4,600	B
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	22,300		12,100		10,700		11,500		6,600	
Iron	7439-89-6	---	---	---	---	---	15,400,000		9,210,000		17,500,000		10,300,000		11,300,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	10,900		13,700		8,800		33,600		34,400	
Magnesium	7439-95-4	---	---	---	---	---	4,310,000		1,890,000		2,630,000		1,910,000		1,350,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	122,000		192,000		451,000		283,000		184,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	16	B	**370**		**430**		**1,700**		**700**	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	**34,100**		15,400		21,600		19,700		10,100	
Potassium	7440-09-7	---	---	---	---	---	2,020,000		785,000	B	985,000	B	885,000	B	789,000	B
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	570	B	570	B	580	B	410	U	410	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	510	B	230	B	330	B	400	B	200	B
Sodium	7440-23-5	---	---	---	---	---	558,000	B	282,000	B	307,000	B	204,000	B	276,000	B
Thallium	7440-28-0	---	---	---	---	---	650	U	520	U	480	U	510	U	510	U
Vanadium	7440-62-2	---	---	---	---	---	28,600		13,800		18,400		16,400		19,100	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	46,300		**276,000**		26,900		28,100		28,800	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
--- = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7G
Summary of Post-Excavation Soil Analytical Results
EPA-11
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					EPA-11											
Location ID:			Protection of Public Health				PE-82		PE-83		PE-84		PE-84 (DUP-4)		PE-85		PE-86	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB88203-10		JB88203-11		JB88317-1		JB88317-2		JB88317-3		JB88317-4	
Sample Date:							2/12/2015		2/12/2015		2/12/2015		2/12/2015		2/12/2015		2/12/2015	
Sampling Depth (ft bgs):							10		10		10		10		10		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																		
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.11	U	0.11	U	0.22	U	0.22	U	0.22	U	0.19	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	—	—	0.12	U	0.12	U	0.24	U	0.24	U	0.24	U	0.21	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	—	—	0.24	U	0.24	U	0.47	U	0.47	U	0.48	U	0.41	U
1,1,2-Trichloroethane	79-00-5	—	—	—	—	—	0.15	U	0.15	U	0.29	U	0.29	U	0.3	U	0.25	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.3	U	0.3	U	0.58	U	0.59	U	0.6	U	0.51	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.2	U	0.21	U	0.4	U	0.4	U	0.41	U	0.35	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	—	—	0.13	U	0.13	U	0.25	U	0.25	U	0.25	U	0.21	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	—	—	0.15	U	0.15	U	0.29	U	0.3	U	0.3	U	0.25	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	—	—	0.43	U	0.44	U	0.85	U	0.86	U	0.87	U	0.74	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	—	—	0.13	U	0.13	U	0.25	U	0.25	U	0.26	U	0.22	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.13	U	0.14	U	0.26	U	0.26	U	0.27	U	0.23	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.095	U	0.097	U	0.19	U	0.19	U	0.19	U	0.16	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	—	—	56.1		46.2		47.1		57.4		60.5		50.5	
1,2-Dichloropropane	78-87-5	—	—	—	—	—	0.14	U	0.14	U	0.28	U	0.28	U	0.29	U	0.24	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.13	U	0.13	U	0.25	U	0.26	U	0.26	U	0.22	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.14	U	0.14	U	0.27	U	0.27	U	0.28	U	0.23	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	22	U	23	U	32	U	35	U	35	U	33	U
2-Hexanone	591-78-6	—	—	—	—	—	0.46	U	0.47	U	0.9	U	0.91	U	0.93	U	0.79	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	20.6		16.5		**65.9**		**63.7**		**53.8**		31.6	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.14	U	0.15	U	0.28	U	0.29	U	2.3		0.25	U
Bromochloromethane	74-97-5	—	—	—	—	—	0.2	U	0.2	U	0.39	U	0.4	U	0.4	U	0.34	U
Bromodichloromethane	75-27-4	—	—	—	—	—	0.2	U	0.2	U	0.39	U	0.4	U	0.4	U	0.34	U
Bromoform	75-25-2	—	—	—	—	—	0.087	U	0.089	U	0.17	U	0.17	U	0.18	U	0.15	U
Bromomethane	74-83-9	—	—	—	—	—	0.24	U	0.24	U	0.47	U	0.48	U	0.49	U	0.41	U
Carbon Disulfide	75-15-0	—	—	—	—	—	0.2	U	0.2	U	5.6	J	4.5	J	7.5	J	7.2	
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.12	U	0.12	U	0.23	U	0.23	U	0.24	U	0.2	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.1	U	0.1	U	0.2	U	0.2	U	0.2	U	0.17	U
Chloroethane	75-00-3	—	—	—	—	—	0.2	U	0.2	U	0.39	U	0.39	U	0.4	U	0.34	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.085	U	0.087	U	0.17	U	0.17	U	0.17	U	0.15	U
Chloromethane	74-87-3	—	—	—	—	—	0.25	U	0.25	U	0.49	U	0.49	U	0.5	U	0.42	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.21	U	0.22	U	0.42	U	0.43	U	0.43	U	0.37	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	—	—	0.1	U	0.11	U	0.21	U	0.21	U	0.21	U	0.18	U
Cyclohexane	110-82-7	—	—	—	—	—	1.4	J	0.3	U	1.4	J	2	J	7.2	J	0.5	U
Dibromochloromethane	124-48-1	—	—	—	—	—	0.11	U	0.11	U	0.22	U	0.22	U	0.23	U	0.19	U
Dichlorodifluoromethane	75-71-8	—	—	—	—	—	0.43	U	0.44	U	0.85	U	0.85	U	0.87	U	0.74	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	10.2		0.089	U	0.17	U	0.17	U	12.3		4	
Hexachlorobutadiene	87-68-3	—	—	—	—	—	9.4	U	9.9	U	14	U	15	U	15	U	14	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	—	—	9.7		0.13	U	0.25	U	0.25	U	48.6		1.5	J
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	10.7		0.19	U	0.37	U	0.75	J	9		6.9	
Methyl Acetate	79-20-9	—	—	—	—	—	0.4	U	0.41	U	0.79	U	0.79	U	0.81	U	0.68	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	1	U	1	U	13.3	J	7.6	J	6.2	J	1.7	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	—	—	0.26	U	0.27	U	0.52	U	0.53	U	0.54	U	0.45	U
Methylcyclohexane	108-87-2	—	—	—	—	—	0.62	J	0.12	U	0.22	U	0.46	J	4.1	J	0.19	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	0.78	U	0.8	U	1.5	U	1.6	U	1.6	U	1.3	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	6.3		0.12	U	0.55	J	0.76	J	7.6		9.4	
Styrene	100-42-5	—	—	—	—	—	0.12	U	0.12	U	0.23	U	0.23	U	0.23	U	0.2	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.14	U	0.14	U	0.27	U	0.27	U	0.28	U	0.23	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.16	U	0.16	U	0.32	U	0.32	U	0.33	U	0.28	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.33	J	0.29	J	0.24	U	0.24	U	1.7		0.93	J
Toluene-D8	2037-26-5	—	—	—	—	—	56.9		51.4		50.5		56.9		57.2		50.9	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.15	U	0.16	U	0.31	U	0.31	U	0.31	U	0.27	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	—	—	0.14	U	0.14	U	0.27	U	0.28	U	0.28	U	0.24	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.16	U	0.16	U	0.32	U	0.32	U	0.33	U	0.28	U
Trichlorofluoromethane	75-69-4	—	—	—	—	—	0.14	U	0.14	U	0.27	U	0.27	U	0.28	U	0.23	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.12	U	0.12	U	0.23	U	0.23	U	0.24	U	0.2	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	17.1		0.12	U	0.9	J	1.5	J	16.6		16.3	
Semi-Volatiles, NJDEP/TCL/Part 375 List																		
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	—	—	10	U	11	U	15	U	17	U	16	U	15	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	—	—	35	U	37	U	51	U	55	U	55	U	52	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	—	—	39	U	41	U	58	U	62	U	62	U	58	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	—	—	32	U	34	U	47	U	51	U	50	U	47	U
2,4-Dichlorophenol	120-83-2	—	—	—	—	—	54	U	57	U	80	U	87	U	86	U	81	U
2,4-Dimethylphenol	105-67-9	—	—	—	—	—	57	U	60	U	83	U	90	U	90	U	84	U
2,4-Dinitrophenol	51-28-5	—	—	—	—	—	41	U	44	U	60	U	66	U	65	U	61	U
2,4-Dinitrotoluene	121-14-2	—	—	—	—	—	15	U	16	U	22	U	23	U	23	U	22	U
2,6-Dinitrotoluene	606-20-2	—	—	—	—	—	13	U	14	U	19	U	20	U	20	U	19	U
2-Chloronaphthalene	91-58-7	—	—	—	—	—	10	U	11	U	15	U	17	U	17	U	16	U
2-Chlorophenol	95-57-8	—	—	—	—	—	34	U	36	U	50	U	54	U	54	U	50	U
2-Fluorobiphenyl	321-60-8	—	—	—	—	—	35		38.7		42.7		39.9		40.4		41.9	
2-Fluorophenol	367-12-4	—	—	—	—	—	30.2		34		40.3		38.7		37.1		38.2	
2-Methylnaphthalene	91-57-6	—	—	—	—	—	103		20	U	28	U	30	U	2,890		28	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	38	U	41	U	57	U	61	U	61	U	57	U
2-Nitroaniline	88-74-4	—	—	—	—	—	15	U	16	U	22	U	24	U	24	U	22	U
2-Nitrophenol	88-75-5	—	—	—	—	—	36	U	38	U	53	U	57	U	57	U	53	U
3,3'-Dichlorobenzidine	91-94-1	—	—	—	—	—	8.6	U	9.1	U	13	U	14	U	14	U	13	U
3-Nitroaniline	99-09-2	—	—	—	—	—	13	U	14	U	20	U	21	U	21	U	20	U
4,6-Dinitro-2-Methylphenol	534-52-1	—	—	—	—	—	41	U	44	U	60	U	66	U	65	U	61	U
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	12	U	13	U	18	U	20	U	19	U	18	U

Table 7G
Summary of Post-Excavation Soil Analytical Results
EPA-11
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					EPA-11											
Location ID:		Protection of Public Health					PE-82		PE-83		PE-84		PE-84 (DUP-4)		PE-85		PE-86	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB88203-10		JB88203-11		JB88317-1		JB88317-2		JB88317-3		JB88317-4	
Sample Date:							2/12/2015		2/12/2015		2/12/2015		2/12/2015		2/12/2015		2/12/2015	
Sampling Depth (ft bgs):							10		10		10		10		10		10	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																		
4-Chloro-3-Methylphenol	59-50-7	---	---	---	---	---	34	U	36	U	50	U	54	U	54	U	50	U
4-Chloroaniline	106-47-8	---	---	---	---	---	11	U	11	U	16	U	17	U	17	U	16	U
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	---	---	10	U	11	U	15	U	16	U	16	U	15	U
4-Nitroaniline	100-01-6	---	---	---	---	---	13	U	14	U	19	U	21	U	21	U	20	U
4-Nitrophenol	100-02-7	---	---	---	---	---	57	U	60	U	84	U	91	U	91	U	85	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	35.5		10	U	14	U	30.8	J	718		15	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	11	U	11	U	16	U	17	U	17	U	16	U
Acetophenone	98-86-2	---	---	---	---	---	5.9	U	6.3	U	8.7	U	9.5	U	9.4	U	8.8	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	12	U	12	U	17	UJ	151	J	19	U	18	U
Atrazine	1912-24-9	---	---	---	---	---	6.6	U	7	U	9.8	U	11	U	11	U	9.9	U
Benzaldehyde	100-52-7	---	---	---	---	---	7.7	U	8.2	U	11	U	12	U	12	U	12	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	11	U	12	U	16	UJ	206	J	17	U	16	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	10	U	11	U	15	UJ	160	J	16	U	15	U
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	11	U	12	U	17	UJ	140	J	18	U	17	U
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	13	U	13	U	18	U	67		20	U	19	U
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	13	U	13	U	19	U	57.1		20	U	19	U
Benzyl Butyl Phthalate	85-68-7	---	---	---	---	---	19	U	21	U	29	U	31	U	31	U	29	U
Biphenyl (diphenyl)	92-52-4	---	---	---	---	---	3.9	U	4.1	U	5.8	U	6.2	U	6.2	U	5.8	U
Bis(2-chloroethoxy) methane	111-91-1	---	---	---	---	---	14	U	14	U	20	U	22	U	22	U	20	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	---	---	---	---	---	10	U	11	U	15	U	16	U	16	U	15	U
Bis(2-chloroisopropyl) ether	108-60-1	---	---	---	---	---	10	U	11	U	15	U	16	U	16	U	15	U
Bis(2-ethylhexyl) phthalate	117-81-7	---	---	---	---	---	30	U	32	U	44	U	47	U	47	U	44	U
Caprolactam	105-60-2	---	---	---	---	---	11	U	11	U	16	U	17	U	17	U	16	U
Carbazole	86-74-8	---	---	---	---	---	16	U	17	U	23	U	56.1	J	25	U	23	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	11	U	12	U	17	UJ	212	J	18	U	17	U
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	43	U	45	U	63	U	68	U	68	U	64	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	11	U	12	U	17	U	23.3	J	18	U	17	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	42.2	J	11	U	15	U	16	U	119		15	U
Diethyl Phthalate	84-66-2	---	---	---	---	---	11	U	12	U	17	U	18	U	18	U	17	U
Dimethyl Phthalate	131-11-3	---	---	---	---	---	12	U	13	U	17	U	19	U	19	U	18	U
Di-n-butyl phthalate	84-74-2	---	---	---	---	---	7.5	U	7.9	U	11	U	12	U	12	U	11	U
Di-n-octylphthalate	117-84-0	---	---	---	---	---	16	U	17	U	24	U	26	U	26	U	24	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	15	U	16	U	22	UJ	354	J	24	U	22	U
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	38.7		12	U	16	U	52.5	J	18	U	16	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	11	U	12	U	16	U	18	U	17	U	16	U
Hexachlorocyclopentadiene	77-47-4	---	---	---	---	---	34	U	36	U	51	U	55	U	55	U	51	U
Hexachloroethane	67-72-1	---	---	---	---	---	9.4	U	9.9	U	14	U	15	U	15	U	14	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	12	U	12	U	17	U	68.9		19	U	17	U
Isophorone	78-59-1	---	---	---	---	---	9.1	U	9.6	U	13	U	14	U	14	U	13	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	113		9.7	U	14	U	15	U	545		291	
Nitrobenzene	98-95-3	---	---	---	---	---	9.7	U	10	U	14	U	16	U	15	U	14	U
N-Nitrosodi-n-Propylamine	621-64-7	---	---	---	---	---	8.2	U	8.7	U	12	U	13	U	13	U	12	U
N-Nitrosodiphenylamine	86-30-6	---	---	---	---	---	20	U	21	U	30	U	32	U	32	U	30	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	58	U	61	U	85	U	92	U	92	U	86	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	63.3		16	U	23	UJ	454	J	372		23	U
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	35	U	37	U	52	U	56	U	56	U	53	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	13	U	14	U	19	UJ	420	J	21	U	19	U
Metals, Target Analyte																		
Aluminum	7429-90-5	---	---	---	---	---	8,450,000		5,580,000		18,700,000		19,000,000		17,400,000		18,700,000	
Antimony	7440-36-0	---	---	---	---	---	290	U	300	U	440	U	430	U	440	U	410	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	2,900		1,900	B	9,000		8,500		9,400		9,900	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	37,300		31,900		52,100		61,300		61,800		64,100	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	410		300		960		730		780		850	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	150	B	140	B	260	B	300	B	260	B	260	B
Calcium	7440-70-2	---	---	---	---	---	662,000		1,260,000		1,710,000		1,690,000		2,240,000		1,710,000	
Chromium, Total	7440-47-3	---	---	---	---	---	13,600		12,100		30,800		35,300		31,000		34,300	
Cobalt	7440-48-4	---	---	---	---	---	4,900	B	5,300	B	12,100		10,000		10,200		11,100	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	12,400		12,200		14,300		14,300		14,100		15,500	
Iron	7439-89-6	---	---	---	---	---	12,100,000		9,120,000		34,500,000		31,900,000		35,600,000		36,200,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	7,600		6,900		15,100		12,800		14,300		15,700	
Magnesium	7439-95-4	---	---	---	---	---	2,860,000		3,370,000		6,680,000		6,870,000		6,530,000		7,040,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	114,000		103,000		468,000		325,000		397,000		336,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	13	B	22	B	28	B	29	B	24	B	31	B
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	19,300		23,800		**32,400**		28,200		28,100		**31,200**	
Potassium	7440-09-7	---	---	---	---	---	1,140,000		1,150,000		4,040,000		4,370,000		3,800,000		4,170,000	
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	360	U	360	U	540	U	520	U	540	U	500	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	200	B	280	B	230	U	220	U	230	U	210	U
Sodium	7440-23-5	---	---	---	---	---	215,000	B	239,000	B	1,560,000	B	1,450,000	B	1,210,000	B	1,710,000	
Thallium	7440-28-0	---	---	---	---	---	440	U	450	U	670	U	650	U	670	U	630	U
Vanadium	7440-62-2	---	---	---	---	---	18,500		15,700		35,100		40,400		35,600		37,700	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	33,600		31,600		91,200		74,500		74,600		77,800	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
--- = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7H
Summary of Post-Excavation Soil Analytical Results
SB-3
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					SB-3									
Location ID:			Protection of Public Health				PE-33		PE-34		PE-35		PE-36		PE-37	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB87400-5		JB87400-2		JB87400-3		JB87400-6		JB87400-4	
Sample Date:							1/29/2015		1/29/2015		1/29/2015		1/29/2015		1/29/2015	
Sampling Depth (ft bgs):							7		7		7		7		7	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.23	U	0.28	U	0.21	U	0.26	U	0.14	U
1,1,2,2-Tetrachloroethane	79-34-5	---	---	---	---	---	0.25	U	0.31	U	0.23	U	0.29	U	0.16	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	---	---	---	---	---	0.5	U	0.61	U	0.46	U	0.57	U	0.31	U
1,1,2-Trichloroethane	79-00-5	---	---	---	---	---	0.31	U	0.38	U	0.29	U	0.35	U	0.19	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.62	U	0.76	U	0.57	U	0.7	U	0.38	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.43	U	0.52	U	0.39	U	0.48	U	0.26	U
1,2,3-Trichlorobenzene	87-61-6	---	---	---	---	---	0.26	U	0.32	U	0.24	U	0.3	U	0.16	U
1,2,4-Trichlorobenzene	120-82-1	---	---	---	---	---	0.31	U	0.38	U	0.29	U	0.35	U	0.19	U
1,2-Dibromo-3-Chloropropane	96-12-8	---	---	---	---	---	0.91	U	1.1	U	0.83	U	1	U	0.56	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	---	---	---	---	---	0.27	U	0.33	U	0.25	U	0.31	U	0.17	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.28	U	0.34	U	0.26	U	0.32	U	0.17	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.2	U	0.25	U	0.18	U	0.23	U	0.12	U
1,2-Dichloroethane-D4	17060-07-0	---	---	---	---	---	49.2		46.4		48.6		51.3		47.7	
1,2-Dichloropropane	78-87-5	---	---	---	---	---	0.3	U	0.36	U	0.27	U	0.34	U	0.18	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.27	U	0.33	U	0.25	U	0.31	U	0.17	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.29	U	0.35	U	0.26	U	0.32	U	0.18	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	35	U	41	U	31	U	37	U	26	U
2-Hexanone	591-78-6	---	---	---	---	---	0.97	U	1.2	U	0.89	U	1.1	U	0.59	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	38.5		3.2	U	37.3		27.7		29.9	
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.39	J	0.7	J	0.34	J	0.34	U	0.19	U
Bromochloromethane	74-97-5	---	---	---	---	---	0.42	U	0.51	U	0.38	U	0.47	U	0.26	U
Bromodichloromethane	75-27-4	---	---	---	---	---	0.42	U	0.51	U	0.38	U	0.47	U	0.26	U
Bromoform	75-25-2	---	---	---	---	---	0.18	U	0.23	U	0.17	U	0.21	U	0.11	U
Bromomethane	74-83-9	---	---	---	---	---	0.51	U	0.62	U	0.46	U	0.57	U	0.31	U
Carbon Disulfide	75-15-0	---	---	---	---	---	8.5	J	1.3	J	0.99	J	7.6	J	2.7	J
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.25	U	0.3	U	0.23	U	0.28	U	0.15	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.21	U	0.26	U	0.19	U	0.24	U	0.13	U
Chloroethane	75-00-3	---	---	---	---	---	0.41	U	0.51	U	0.38	U	0.47	U	0.25	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.18	U	0.22	U	0.16	U	0.2	U	0.11	U
Chloromethane	74-87-3	---	---	---	---	---	0.52	U	0.64	U	0.48	U	0.59	U	0.32	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.45	U	0.55	U	0.42	U	0.51	U	0.28	U
cis-1,3-Dichloropropene	10061-01-5	---	---	---	---	---	0.22	U	0.27	U	0.2	U	0.25	U	0.14	U
Cyclohexane	110-82-7	---	---	---	---	---	8.8		0.75	U	3.5	J	0.7	U	0.83	J
Dibromochloromethane	124-48-1	---	---	---	---	---	0.23	U	0.29	U	0.22	U	0.27	U	0.14	U
Dichlorodifluoromethane	75-71-8	---	---	---	---	---	0.9	U	1.1	U	0.83	U	1	U	0.56	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.18	U	0.23	U	0.17	U	0.21	U	0.11	U
Hexachlorobutadiene	87-68-3	---	---	---	---	---	15	U	17	U	13	U	16	U	11	U
Isopropylbenzene (Cumene)	98-82-8	---	---	---	---	---	0.27	U	0.33	U	0.24	U	0.3	U	0.16	U
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	0.57	J	0.48	U	0.36	U	0.45	U	0.24	U
Methyl Acetate	79-20-9	---	---	---	---	---	0.84	U	1	U	0.77	U	0.95	U	0.52	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	2.1	U	2.6	U	1.9	U	2.4	U	1.3	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	---	---	---	---	---	0.56	U	0.68	U	0.51	U	0.63	U	0.34	U
Methylcyclohexane	108-87-2	---	---	---	---	---	7.8	J	0.29	U	19.3		0.27	U	3.9	J
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	1.6	U	2	U	1.5	U	1.9	U	1	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	0.24	U	0.3	U	0.23	U	0.28	U	0.15	U
Styrene	100-42-5	---	---	---	---	---	0.24	U	0.3	U	0.22	U	0.28	U	0.15	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.29	U	0.35	U	0.27	U	0.33	U	0.18	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.34	U	0.42	U	0.31	U	0.38	U	0.21	U
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.26	U	0.32	U	0.24	U	0.29	U	0.16	U
Toluene-D8	2037-26-5	---	---	---	---	---	51.9		51.3		50.1		51.5		51.7	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.33	U	0.4	U	0.3	U	0.37	U	0.2	U
Trans-1,3-Dichloropropene	10061-02-6	---	---	---	---	---	0.29	U	0.36	U	0.27	U	0.33	U	0.18	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.34	U	0.42	U	0.31	U	0.39	U	0.21	U
Trichlorofluoromethane	75-69-4	---	---	---	---	---	0.29	U	0.35	U	0.27	U	0.33	U	0.18	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.24	U	0.3	U	0.23	U	0.28	U	0.15	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	0.57	J	0.3	U	0.23	U	0.28	U	0.15	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	---	---	---	17	U	19	U	15	U	17	U	12	U
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	---	---	---	56	U	64	U	50	U	58	U	41	U
2,4,5-Trichlorophenol	95-95-4	---	---	---	---	---	63	U	73	U	56	U	65	U	47	U
2,4,6-Trichlorophenol	88-06-2	---	---	---	---	---	51	U	59	U	46	U	53	U	38	U
2,4-Dichlorophenol	120-83-2	---	---	---	---	---	87	U	100	U	78	U	91	U	65	U
2,4-Dimethylphenol	105-67-9	---	---	---	---	---	91	U	110	U	81	U	95	U	68	U
2,4-Dinitrophenol	51-28-5	---	---	---	---	---	66	U	76	U	59	U	69	U	49	U
2,4-Dinitrotoluene	121-14-2	---	---	---	---	---	24	U	27	U	21	U	25	U	18	U
2,6-Dinitrotoluene	606-20-2	---	---	---	---	---	21	U	24	U	18	U	21	U	15	U
2-Chloronaphthalene	91-58-7	---	---	---	---	---	17	U	19	U	15	U	17	U	12	U
2-Chlorophenol	95-57-8	---	---	---	---	---	54	U	63	U	48	U	56	U	40	U
2-Fluorobiphenyl	321-60-8	---	---	---	---	---	32.9		30.9		32.1		32		32.1	
2-Fluorophenol	367-12-4	---	---	---	---	---	35.9		33.6		35.2		34.3		35.2	
2-Methylnaphthalene	91-57-6	---	---	---	---	---	30	U	35	U	27	U	31	U	22	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	62	U	71	U	55	U	64	U	46	U
2-Nitroaniline	88-74-4	---	---	---	---	---	24	U	28	U	21	U	25	U	18	U
2-Nitrophenol	88-75-5	---	---	---	---	---	57	U	66	U	51	U	60	U	43	U
3,3'-Dichlorobenzidine	91-94-1	---	---	---	---	---	14	U	16	U	12	U	14	U	10	U
3-Nitroaniline	99-09-2	---	---	---	---	---	22	U	25	U	19	U	23	U	16	U
4,6-Dinitro-2-Methylphenol	534-52-1	---	---	---	---	---	66	U	76	U	59	U	69	U	49	U

Table 7H
Summary of Post-Excavation Soil Analytical Results
SB-3
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					SB-3									
Location ID:			Protection of Public Health				PE-33		PE-34		PE-35		PE-36		PE-37	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB87400-5		JB87400-2		JB87400-3		JB87400-6		JB87400-4	
Sample Date:							1/29/2015		1/29/2015		1/29/2015		1/29/2015		1/29/2015	
Sampling Depth (ft bgs):							7		7		7		7		7	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																
4-Bromophenyl phenyl ether	101-55-3	---	---	---	---	---	20	U	23	U	18	U	20	U	15	U
4-Chloro-3-Methylphenol	59-50-7	---	---	---	---	---	54	U	63	U	48	U	56	U	40	U
4-Chloroaniline	106-47-8	---	---	---	---	---	17	U	20	U	15	U	18	U	13	U
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	---	---	16	U	19	U	15	U	17	U	12	U
4-Nitroaniline	100-01-6	---	---	---	---	---	21	U	24	U	19	U	22	U	16	U
4-Nitrophenol	100-02-7	---	---	---	---	---	91	U	110	U	82	U	95	U	68	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	16	U	18	U	14	U	16	U	12	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	17	U	20	U	15	U	18	U	13	U
Acetophenone	98-86-2	---	---	---	---	---	9.5	U	11	U	8.5	U	9.9	U	7.1	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	19	U	22	U	19.8	J	20	U	63	
Atrazine	1912-24-9	---	---	---	---	---	11	U	12	U	9.5	U	11	U	7.9	U
Benzaldehyde	100-52-7	---	---	---	---	---	12	U	14	U	11	U	13	U	9.2	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	18	U	29.6	J	35.6	J	18	U	89.3	
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	16	U	50.7	J	28.6	J	17	U	72.1	
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	18	U	41.8	J	33.5	J	19	U	66.6	
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	20	U	30.4	J	18	U	21	U	33.9	J
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	20	U	24	U	18	U	21	U	25.3	J
Benzyl Butyl Phthalate	85-68-7	---	---	---	---	---	31	U	36	U	28	U	33	U	23	U
Biphenyl (diphenyl)	92-52-4	---	---	---	---	---	6.3	U	7.3	U	5.6	U	6.5	U	4.7	U
Bis(2-chloroethoxy) methane	111-91-1	---	---	---	---	---	22	U	25	U	20	U	23	U	16	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	---	---	---	---	---	16	U	19	U	15	U	17	U	12	U
Bis(2-chloroisopropyl) ether	108-60-1	---	---	---	---	---	16	U	19	U	14	U	17	U	12	U
Bis(2-ethylhexyl) phthalate	117-81-7	---	---	---	---	---	48	U	62.4	J	43	U	50	U	35	U
Caprolactam	105-60-2	---	---	---	---	---	17	U	20	U	15	U	18	U	13	U
Carbazole	86-74-8	---	---	---	---	---	25	U	29	U	22	U	26	U	26.8	J
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	18	U	25.8	J	35	J	19	U	92.1	
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	69	U	79	U	90.5	J	72	U	51	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	18	U	21	U	17	U	19	U	14	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	16	U	19	U	14	U	17	U	12	U
Diethyl Phthalate	84-66-2	---	---	---	---	---	18	U	21	U	17	U	19	U	14	U
Dimethyl Phthalate	131-11-3	---	---	---	---	---	19	U	22	U	17	U	20	U	14	U
Di-n-butyl phthalate	84-74-2	---	---	---	---	---	12	U	14	U	11	U	13	U	8.9	U
Di-n-octylphthalate	117-84-0	---	---	---	---	---	26	U	30	U	24	U	27	U	20	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	24	U	28	U	85.3		25	U	161	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	18	U	21	U	25.9	J	19	U	36.3	J
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	18	U	20	U	16	U	18	U	13	U
Hexachlorocyclopentadiene	77-47-4	---	---	---	---	---	55	U	64	U	49	U	58	U	41	U
Hexachloroethane	67-72-1	---	---	---	---	---	15	U	17	U	13	U	16	U	11	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	19	U	37.7	J	17	U	20	U	30.9	J
Isophorone	78-59-1	---	---	---	---	---	15	U	17	U	13	U	15	U	11	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	15	U	17	U	22.2	J	15	U	11	U
Nitrobenzene	98-95-3	---	---	---	---	---	16	U	18	U	14	U	16	U	12	U
N-Nitrosodi-n-Propylamine	621-64-7	---	---	---	---	---	13	U	15	U	12	U	14	U	9.8	U
N-Nitrosodiphenylamine	86-30-6	---	---	---	---	---	32	U	37	U	29	U	34	U	24	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	92	U	110	U	83	U	96	U	69	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	25	U	28	U	101		26	U	226	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	57	U	66	U	51	U	59	U	42	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	21	U	24	U	78.4		22	U	185	
Metals, Target Analyte																
Aluminum	7429-90-5	---	---	---	---	---	16,400,000		10,400,000	J	21,700,000		17,300,000		6,580,000	
Antimony	7440-36-0	---	---	---	---	---	450	B	500	UJ	1,100	B	500	U	520	B
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	**13,800**		9,800		12,400		9,500		5,900	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	59,200		**481,000**		129,000		34,700	B	39,300	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	700		800		1,200		1,000		480	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	200	B	1,200		480	B	350	B	130	B
Calcium	7440-70-2	---	---	---	---	---	3,110,000		12,300,000	J	3,940,000		3,420,000		1,600,000	
Chromium, Total	7440-47-3	---	---	---	---	---	33,900		14,200		40,700		32,000		13,600	
Cobalt	7440-48-4	---	---	---	---	---	8,900		7,200	B	13,400		10,500		7,500	
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	15,000		23,700		**62,000**		14,200		12,800	
Iron	7439-89-6	---	---	---	---	---	30,800,000		11,500,000	J	35,600,000		33,200,000		15,800,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	27,400		**280,000**	**J**	**318,000**		20,700		**65,900**	
Magnesium	7439-95-4	---	---	---	---	---	5,790,000		1,120,000		6,620,000		6,760,000		2,270,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	310,000		320,000	J	397,000		373,000		359,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	37	B	90		**2,100**		43	B	180	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	23,000		17,400		**53,600**		28,200		24,800	
Potassium	7440-09-7	---	---	---	---	---	3,330,000		1,080,000	B	3,170,000		3,460,000		1,030,000	B
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	2,300	B	820	B	970	B	610	U	420	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	470	B	560	J	2,000		440	B	280	B
Sodium	7440-23-5	---	---	---	---	---	548,000	B	1,300,000	B	773,000	B	1,000,000	B	191,000	B
Thallium	7440-28-0	---	---	---	---	---	680	U	760	U	670	U	760	U	520	U
Vanadium	7440-62-2	---	---	---	---	---	48,700		34,400		51,800		37,200		20,400	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	56,200		73,900		**136,000**		86,100		37,500	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
--- = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

Table 7I
Summary of Post-Excavation Soil Analytical Results
Underground Storage Tanks
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					USTs			
Location ID:			Protection of Public Health				PE-UST-1		PEAOC5-UST1	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB87638-2		JB88317-10	
Sample Date:							2/5/2015		2/13/2015	
Sampling Depth (ft bgs):							8.5		11	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List										
1,1,1-Trichloroethane	71-55-6	680	100,000	100,000	500,000	1,000,000	0.2	U	0.13	U
1,1,2,2-Tetrachloroethane	79-34-5	---	---	---	---	---	0.22	U	0.15	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	---	---	---	---	---	0.43	U	0.29	U
1,1,2-Trichloroethane	79-00-5	---	---	---	---	---	0.27	U	0.18	U
1,1-Dichloroethane	75-34-3	270	19,000	26,000	240,000	480,000	0.54	U	0.36	U
1,1-Dichloroethene	75-35-4	330	100,000	100,000	500,000	1,000,000	0.37	U	0.24	U
1,2,3-Trichlorobenzene	87-61-6	---	---	---	---	---	0.23	U	0.15	U
1,2,4-Trichlorobenzene	120-82-1	---	---	---	---	---	0.27	U	0.18	U
1,2-Dibromo-3-Chloropropane	96-12-8	---	---	---	---	---	0.79	U	0.52	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	---	---	---	---	---	0.23	U	0.15	U
1,2-Dichlorobenzene	95-50-1	1,100	100,000	100,000	500,000	1,000,000	0.24	U	0.16	U
1,2-Dichloroethane	107-06-2	20	2,300	3,100	30,000	60,000	0.17	U	0.11	U
1,2-Dichloroethane-D4	17060-07-0	---	---	---	---	---	50.3		47.5	
1,2-Dichloropropane	78-87-5	---	---	---	---	---	0.26	U	0.17	U
1,3-Dichlorobenzene	541-73-1	2,400	17,000	49,000	280,000	560,000	0.24	U	0.16	U
1,4-Dichlorobenzene	106-46-7	1,800	9,800	13,000	130,000	250,000	0.25	U	0.16	U
1,4-Dioxane (p-Dioxane)	123-91-1	100	9,800	13,000	130,000	250,000	32	U	25	U
2-Hexanone	591-78-6	---	---	---	---	---	0.84	U	0.56	U
Acetone	67-64-1	50	100,000	100,000	500,000	1,000,000	26.1		4.9	J
Benzene	71-43-2	60	2,900	4,800	44,000	89,000	0.26	U	0.17	U
Bromochloromethane	74-97-5	---	---	---	---	---	0.36	U	0.24	U
Bromodichloromethane	75-27-4	---	---	---	---	---	0.36	U	0.24	U
Bromoform	75-25-2	---	---	---	---	---	0.16	U	0.11	U
Bromomethane	74-83-9	---	---	---	---	---	0.44	U	0.29	U
Carbon Disulfide	75-15-0	---	---	---	---	---	3.2	J	0.24	U
Carbon Tetrachloride	56-23-5	760	1,400	2,400	22,000	44,000	0.22	U	0.14	U
Chlorobenzene	108-90-7	1,100	100,000	100,000	500,000	1,000,000	0.18	U	0.12	U
Chloroethane	75-00-3	---	---	---	---	---	0.36	U	0.24	U
Chloroform	67-66-3	370	10,000	49,000	350,000	700,000	0.16	U	0.1	U
Chloromethane	74-87-3	---	---	---	---	---	0.45	U	0.3	U
cis-1,2-Dichloroethylene	156-59-2	250	59,000	100,000	500,000	1,000,000	0.39	U	0.26	U
cis-1,3-Dichloropropene	10061-01-5	---	---	---	---	---	0.19	U	0.13	U
Cyclohexane	110-82-7	---	---	---	---	---	0.53	U	0.35	U
Dibromochloromethane	124-48-1	---	---	---	---	---	0.2	U	0.13	U
Dichlorodifluoromethane	75-71-8	---	---	---	---	---	0.79	U	0.52	U
Ethylbenzene	100-41-4	1,000	30,000	41,000	390,000	780,000	0.16	U	0.11	U
Hexachlorobutadiene	87-68-3	---	---	---	---	---	14	U	11	U
Isopropylbenzene (Cumene)	98-82-8	---	---	---	---	---	0.23	U	0.32	J
m,p-Xylene (sum of isomers)	XYLMP	260	100,000	100,000	500,000	1,000,000	0.34	U	0.27	J
Methyl Acetate	79-20-9	---	---	---	---	---	0.73	U	0.48	U
Methyl ethyl ketone (2-Butanone)	78-93-3	120	100,000	100,000	500,000	1,000,000	4.7	J	1.2	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	---	---	---	---	---	0.49	U	0.32	U
Methylcyclohexane	108-87-2	---	---	---	---	---	0.21	U	0.14	U
Methylene Chloride	75-09-2	50	51,000	100,000	500,000	1,000,000	1.4	U	0.95	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	260	100,000	100,000	500,000	1,000,000	0.21	U	0.14	U
Styrene	100-42-5	---	---	---	---	---	0.21	U	0.14	U
Tert-Butyl Methyl Ether	1634-04-4	930	62,000	100,000	500,000	1,000,000	0.25	U	0.17	U
Tetrachloroethylene (PCE)	127-18-4	1,300	5,500	19,000	150,000	300,000	0.3	U	0.3	J
Toluene	108-88-3	700	100,000	100,000	500,000	1,000,000	0.23	U	0.87	J
Toluene-D8	2037-26-5	---	---	---	---	---	57.3		50.9	
Trans-1,2-Dichloroethene	156-60-5	190	100,000	100,000	500,000	1,000,000	0.28	U	0.19	U
Trans-1,3-Dichloropropene	10061-02-6	---	---	---	---	---	0.26	U	0.17	U
Trichloroethylene (TCE)	79-01-6	470	10,000	21,000	200,000	400,000	0.3	U	0.43	J
Trichlorofluoromethane	75-69-4	---	---	---	---	---	0.25	U	0.17	U
Vinyl Chloride	75-01-4	20	210	900	13,000	27,000	0.21	U	0.14	U
Xylenes, Total	1330-20-7	260	100,000	100,000	500,000	1,000,000	0.21	U	0.27	J
Semi-Volatiles, NJDEP/TCL/Part 375 List										
1,2,4,5-Tetrachlorobenzene	95-94-3	---	---	---	---	---	15	U	12	U
2,3,4,6-Tetrachlorophenol	58-90-2	---	---	---	---	---	51	U	39	U
2,4,5-Trichlorophenol	95-95-4	---	---	---	---	---	57	U	44	U
2,4,6-Trichlorophenol	88-06-2	---	---	---	---	---	47	U	36	U
2,4-Dichlorophenol	120-83-2	---	---	---	---	---	80	U	61	U
2,4-Dimethylphenol	105-67-9	---	---	---	---	---	83	U	64	U
2,4-Dinitrophenol	51-28-5	---	---	---	---	---	60	U	47	U
2,4-Dinitrotoluene	121-14-2	---	---	---	---	---	22	U	17	U
2,6-Dinitrotoluene	606-20-2	---	---	---	---	---	19	U	15	U
2-Chloronaphthalene	91-58-7	---	---	---	---	---	15	U	12	U
2-Chlorophenol	95-57-8	---	---	---	---	---	50	U	38	U
2-Fluorobiphenyl	321-60-8	---	---	---	---	---	28.4		40.6	
2-Fluorophenol	367-12-4	---	---	---	---	---	32.1		35.4	
2-Methylnaphthalene	91-57-6	---	---	---	---	---	28	U	21	U
2-Methylphenol (o-Cresol)	95-48-7	330	100,000	100,000	500,000	1,000,000	56	U	43	U
2-Nitroaniline	88-74-4	---	---	---	---	---	22	U	17	U
2-Nitrophenol	88-75-5	---	---	---	---	---	52	U	40	U
3,3'-Dichlorobenzidine	91-94-1	---	---	---	---	---	13	U	9.7	U
3-Nitroaniline	99-09-2	---	---	---	---	---	20	U	15	U
4,6-Dinitro-2-Methylphenol	534-52-1	---	---	---	---	---	60	U	47	U

Table 7I
Summary of Post-Excavation Soil Analytical Results
Underground Storage Tanks
363 Bond Street
Brooklyn, NY

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs					USTs			
Location ID:			Protection of Public Health				PE-UST-1		PEAOC5-UST1	
Lab Sample ID:	CAS Number	Unrestricted Use	Residential	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	JB87638-2		JB88317-10	
Sample Date:							2/5/2015		2/13/2015	
Sampling Depth (ft bgs):							8.5		11	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List										
4-Bromophenyl phenyl ether	101-55-3	---	---	---	---	---	18	U	14	U
4-Chloro-3-Methylphenol	59-50-7	---	---	---	---	---	50	U	38	U
4-Chloroaniline	106-47-8	---	---	---	---	---	16	U	12	U
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	---	---	15	U	11	U
4-Nitroaniline	100-01-6	---	---	---	---	---	19	U	15	U
4-Nitrophenol	100-02-7	---	---	---	---	---	84	U	64	U
Acenaphthene	83-32-9	20,000	100,000	100,000	500,000	1,000,000	14	U	11	U
Acenaphthylene	208-96-8	100,000	100,000	100,000	500,000	1,000,000	16	U	12	U
Acetophenone	98-86-2	---	---	---	---	---	8.7	U	6.7	U
Anthracene	120-12-7	100,000	100,000	100,000	500,000	1,000,000	17	U	13	U
Atrazine	1912-24-9	---	---	---	---	---	9.8	U	7.5	U
Benzaldehyde	100-52-7	---	---	---	---	---	11	U	8.8	U
Benzo(a)anthracene	56-55-3	1,000	1,000	1,000	5,600	11,000	16	U	49.9	
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	1,000	1,100	15	U	48.9	
Benzo(b)fluoranthene	205-99-2	1,000	1,000	1,000	5,600	11,000	17	U	58.8	
Benzo(g,h,i)perylene	191-24-2	100,000	100,000	100,000	500,000	1,000,000	18	U	35	J
Benzo(k)fluoranthene	207-08-9	800	1,000	3,900	56,000	110,000	19	U	17.6	J
Benzyl Butyl Phthalate	85-68-7	---	---	---	---	---	29	U	22	U
Biphenyl (diphenyl)	92-52-4	---	---	---	---	---	5.7	U	4.4	U
Bis(2-chloroethoxy) methane	111-91-1	---	---	---	---	---	20	U	15	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	---	---	---	---	---	15	U	11	U
Bis(2-chloroisopropyl) ether	108-60-1	---	---	---	---	---	15	U	11	U
Bis(2-ethylhexyl) phthalate	117-81-7	---	---	---	---	---	44	U	34	U
Caprolactam	105-60-2	---	---	---	---	---	16	U	12	U
Carbazole	86-74-8	---	---	---	---	---	23	U	18	U
Chrysene	218-01-9	1,000	1,000	3,900	56,000	110,000	17	U	55.1	
Cresols, m&p	MEPH1314	330	34,000	100,000	500,000	1,000,000	63	U	48	U
Dibenz(a,h)anthracene	53-70-3	330	330	330	560	1,100	17	U	13	U
Dibenzofuran	132-64-9	7,000	14,000	59,000	350,000	1,000,000	15	U	11	U
Diethyl Phthalate	84-66-2	---	---	---	---	---	17	U	13	U
Dimethyl Phthalate	131-11-3	---	---	---	---	---	17	U	13	U
Di-n-butyl phthalate	84-74-2	---	---	---	---	---	11	U	8.5	U
Di-n-octylphthalate	117-84-0	---	---	---	---	---	24	U	19	U
Fluoranthene	206-44-0	100,000	100,000	100,000	500,000	1,000,000	22	U	100	
Fluorene	86-73-7	30,000	100,000	100,000	500,000	1,000,000	16	U	13	U
Hexachlorobenzene	118-74-1	330	330	1,200	6,000	12,000	16	U	12	U
Hexachlorocyclopentadiene	77-47-4	---	---	---	---	---	51	U	39	U
Hexachloroethane	67-72-1	---	---	---	---	---	14	U	11	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	500	500	5,600	11,000	17	U	36.4	J
Isophorone	78-59-1	---	---	---	---	---	13	U	10	U
Naphthalene	91-20-3	12,000	100,000	100,000	500,000	1,000,000	14	U	10	U
Nitrobenzene	98-95-3	---	---	---	---	---	14	U	11	U
N-Nitrosodi-n-Propylamine	621-64-7	---	---	---	---	---	12	U	9.3	U
N-Nitrosodiphenylamine	86-30-6	---	---	---	---	---	30	U	23	U
Pentachlorophenol	87-86-5	800	2,400	6,700	6,700	55,000	85	U	65	U
Phenanthrene	85-01-8	100,000	100,000	100,000	500,000	1,000,000	23	U	55.9	
Phenol	108-95-2	330	100,000	100,000	500,000	1,000,000	52	U	40	U
Pyrene	129-00-0	100,000	100,000	100,000	500,000	1,000,000	19	U	94.4	
Metals, Target Analyte										
Aluminum	7429-90-5	---	---	---	---	---	16,900,000		10,800,000	
Antimony	7440-36-0	---	---	---	---	---	550	B	320	U
Arsenic	7440-38-2	13,000	16,000	16,000	16,000	16,000	12,900		4,300	
Barium	7440-39-3	350,000	350,000	400,000	400,000	10,000,000	42,800		43,300	
Beryllium	7440-41-7	7,200	14,000	72,000	590,000	2,700,000	680		380	
Cadmium	7440-43-9	2,500	2,500	4,300	9,300	60,000	79	U	250	B
Calcium	7440-70-2	---	---	---	---	---	1,850,000		967,000	
Chromium, Total	7440-47-3	---	---	---	---	---	33,400		14,800	
Cobalt	7440-48-4	---	---	---	---	---	9,900		4,800	B
Copper	7440-50-8	50,000	270,000	270,000	270,000	10,000,000	14,700		15,400	
Iron	7439-89-6	---	---	---	---	---	34,500,000		12,700,000	
Lead	7439-92-1	63,000	400,000	400,000	1,000,000	3,900,000	17,000		39,200	
Magnesium	7439-95-4	---	---	---	---	---	5,940,000		2,160,000	
Manganese	7439-96-5	1,600,000	2,000,000	2,000,000	10,000,000	10,000,000	290,000		224,000	
Mercury	7439-97-6	180	810	810	2,800	5,700	38	B	110	
Nickel	7440-02-0	30,000	140,000	310,000	310,000	10,000,000	28,000		14,000	
Potassium	7440-09-7	---	---	---	---	---	3,570,000		821,000	B
Selenium	7782-49-2	3,900	36,000	180,000	1,500,000	6,800,000	790	B	400	U
Silver	7440-22-4	2,000	36,000	180,000	1,500,000	6,800,000	220	U	170	U
Sodium	7440-23-5	---	---	---	---	---	1,230,000	B	262,000	B
Thallium	7440-28-0	---	---	---	---	---	650	U	490	U
Vanadium	7440-62-2	---	---	---	---	---	37,200		22,400	
Zinc	7440-66-6	109,000	2,200,000	10,000,000	10,000,000	10,000,000	62,600		87,900	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables
Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
--- = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample concentration for results impacted
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

TABLE 8
SUMMARY OF POST-REMEDIATION GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET
Brooklyn, New York

Location ID:			683-TW-1-20130319		684-TW-2-20130319		685-DUP-1-20130319 (TW-2)		693-TW-3-20130320		692-TW-4-20130320		691-TW-5-20130320		689-TW-6-20130320		690-TW-7-20130320		687-TW-8-20130319		686-TW-9-20130319		696-TW-10-20150323		694-TW-11-20130320		695-FIELD BLANK-20130320		688-TRIP BLANK-20130319		697-TB-2-20150323	
Sample ID:			15C0649-01		15C0649-02		15C0649-03		15C0649-11		15C0649-10		15C0649-09		15C0649-07		15C0649-08		15C0649-05		15C0649-04		15C0718-01		15C0649-12		15C0649-13		15C0649-06		15C0718-02	
Sample Date:			3/19/2015		3/19/2015		3/19/2015		3/20/2015		3/20/2015		3/20/2015		3/20/2015		3/20/2015		3/19/2015		3/19/2015		3/23/2015		3/20/2015		3/20/2015		3/19/2015		3/23/2015	
Units:	CAS No.	Ground Water Quality Standards ug/l	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q	ug/l	Q
Volatile Organic Compounds (VOCs)																																
1,1,1,2-Tetrachloroethane	630-20-6	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	71-55-6	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	79-34-5	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	79-00-5	1	***5***	***U***	0.5	U	0.5	U	***2.5***	***U***	***12***	***U***	***1***	***U***	***2.5***	***U***	0.5	U	***2.5***	***U***	***2.5***	***U***	0.5	U	***2.5***	***U***	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	75-34-3	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethene	75-35-4	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	87-61-6	5	***5***	***UJ***	0.5	UJ	0.5	UJ	2.5	UJ	***12***	***UJ***	1	UJ	2.5	UJ	0.5	UJ	2.5	UJ	2.5	UJ	0.5	UJ	2.5	UJ	0.5	UJ	0.5	UJ	0.5	UJ
1,2,3-Trichloropropane	96-18-4	0.04	***5***	***U***	***0.5***	***U***	***0.5***	***U***	***2.5***	***U***	***12***	***U***	***1***	***U***	***2.5***	***U***	***0.5***	***U***	***2.5***	***U***	***2.5***	***U***	***0.5***	***U***	***2.5***	***U***	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	120-82-1	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	95-63-6	5	**15**		0.5	U	0.5	U	3.1		***12***	***U***	1	U	**9**		0.5	U	2.5	U	2.5	U	0.5	U	4		0.5	U	0.5	U	0.5	U
1,2-Dibromo-3-Chloropropane	96-12-8	0.04	***5***	***U***	***0.5***	***U***	***0.5***	***U***	***10***	***U***	***12***	***U***	***4***	***U***	***10***	***U***	***2***	***U***	***10***	***U***	***10***	***U***	***2***	***U***	***10***	***U***	0.5	U	0.5	U	2	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.0006	***5***	***U***	***0.5***	***U***	***0.5***	***U***	***2.5***	***U***	***12***	***U***	***1***	***U***	***2.5***	***U***	***0.5***	***U***	***2.5***	***U***	***2.5***	***U***	***0.5***	***U***	***2.5***	***U***	0.5	U	0.5	U	0.5	U
1,2-Dichlorobenzene	95-50-1	3	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	107-06-2	0.6	***5***	***U***	0.5	U	0.5	U	***2.5***	***U***	***12***	***U***	***1***	***U***	***2.5***	***U***	0.5	U	***2.5***	***U***	***2.5***	***U***	0.5	U	***2.5***	***U***	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	78-87-5	1	***5***	***U***	0.5	U	0.5	U	***2.5***	***U***	***12***	***U***	***1***	***U***	***2.5***	***U***	0.5	U	***2.5***	***U***	***2.5***	***U***	0.5	U	***2.5***	***U***	0.5	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene (Mesitylene)	108-67-8	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	**8.8**		0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichlorobenzene	541-73-1	3	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
1,4-Dichlorobenzene	106-46-7	3	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
2-Hexanone	591-78-6	50	5	U	0.5	U	0.5	U	2.5	U	12	U	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	5.4		0.5	U	0.5	U	0.5	U
Acetone	67-64-1	50	**140**		3.1	U	3.6	U	**78**		**460**		34		**150**		7	U	**56**		**190**		2.9		**120**		1.2	J	1.4	J	2	U
Acrolein	107-02-8	5	***5***	***U***	0.5	U	0.5	U	***10***	***U***	***12***	***U***	4	U	***10***	***U***	2	U	***10***	***U***	***10***	***U***	2	U	***10***	***U***	0.5	U	0.5	U	2	U
Benzene	71-43-2	1	***5***	***U***	0.81		0.85		**1.6**	**J**	***12***	***U***	0.72	J	**3.8**		0.5	U	***2.5***	***U***	**4.4**		0.5	U	**1**	**J**	0.5	U	0.5	U	0.5	U
Bromochloromethane	74-97-5	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	75-27-4	50	5	U	0.5	U	0.5	U	2.5	U	12	U	1	U	2.5	U	0.5	U	2.5	U	2.5	U	1.2		2.5	U	0.5	U	0.5	U	0.5	U
Bromomethane	74-83-9	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Carbon Disulfide	75-15-0	---	5	U	0.5	U	0.5	U	2.5	U	12	U	1	U	2.2	J	0.34	J	2.5	U	2.2	J	0.5	U	1.4	J	0.5	U	0.5	U	0.5	U
Carbon Tetrachloride	56-23-5	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	108-90-7	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	75-00-3	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Chloroform	67-66-3	7	5	U	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	5.6		2.5	U	0.5	U	0.5	U	0.5	U
Chloromethane	74-87-3	---	5	U	0.5	U	0.5	U	2.5	U	12	U	1	U	2.5	U	5.2		2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Cis-1,2-Dichloroethylene	156-59-2	5	***5***	***U***	0.5	U	0.5	U	3.2		***12***	***U***	1	U	2.5	U	0.5	U	1.4	J	**28**		0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Cyclohexane	110-82-7	---	5	U	0.5	U	0.5	U	2.5	U	12	U	7.6		7.1		4.4		6.6		2	J	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	74-95-3	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	75-71-8	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	100-41-4	5	***5***	***U***	0.5	U	0.5	U	2.5	U	**26**		1	U	**10**	**B**	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	87-68-3	0.5	***5***	***U***	***0.5***	***U***	***0.5***	***U***	***2.5***	***U***	***12***	***U***	***1***	***U***	***2.5***	***U***	***0.5***	***U***	***2.5***	***U***	***2.5***	***U***	***0.5***	***U***	***2.5***	***U***	0.5	U	0.5	U	0.5	U
Isopropylbenzene (Cumene)	98-82-8	5	**6.5**		0.5	U	0.5	U	2.5	U	***12***	***U***	0.78	J	**6**		2.5		2.4	J	1.1	J	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
M And P Xylenes	179601-23-1	5	**12**		0.69	J	0.69	J	4.6	J	**23**	**J**	1.6	J	**13**		1	U	***5***	***U***	***5***	***U***	1	U	3.4	J	1	U	1	U	1	U
Methyl Ethyl Ketone (2-Butanone)	78-93-3	50	26		0.5	U	0.5	U	4.7	J	12	U	4	U	25		2	U	9	J	**50**		2	U	30		0.5	U	0.5	U	2	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	---	5	U	0.5	U	0.5	U	2.5	U	24	J	1	U	3.2	U	0.5	U	2.5	U	6.1	U	0.5	U	4	U	0.5	U	0.5	U	0.5	U
Methylcyclohexane	108-87-2	---	5	U	0.5	U	0.5	U	2.5	U	12	U	2.5		8.4		3.7		7.4		2.8	J	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Methylene Chloride	75-09-2	5	***20***	***U***	2	U	2	U	***10***	***U***	***50***	***U***	4	U	***10***	***U***	2	U	***10***	***U***	***10***	***U***	2	U	***10***	***U***	2	U	7		8.5	
N-Butylbenzene	104-51-8	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5		2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
N-Propylbenzene	103-65-1	5	**8.2**		0.5	U	0.5	U	2.5	U	***12***	***U***	0.66	J	**5.9**		0.95		1.5	J	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
O-Xylene (1,2-Dimethylbenzene)	95-47-6	5	***5***	***U***	0.5	U	0.5	U	2.5		***12***	***U***	0.7	J	**7.1**		0.5	U	2.5	U	1.4	J	0.5	U	2.5		0.5	U	0.5	U	0.5	U
P-Cymene (P-Isopropyltoluene)	CYMP	---	5	U	0.5	U	0.5	U	2.5	U	12	U	1	U	1.2	J	0.97		2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Sec-Butylbenzene	135-98-8	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	0.56	J	2.3	J	1.6		1.4	J	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Styrene	100-42-5	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
T-Butylbenzene	98-06-6	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1.1		2.1	J	2.1		1.4	J	1.6	J	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Tert-Butyl Methyl Ether	1634-04-4	---	5	U	0.5	U	0.5	U	2.5	UJ	12	U	1	UJ	2.5	UJ	0.5	UJ	2.5	UJ	2.5	UJ	0.5	UJ	2.5	U	0.5	U	0.5	U	0.5	UJ
Tetrachloroethylene (PCE)	127-18-4	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Toluene	108-88-3	5	***5***	***U***	0.7		0.62		2.5	U	***12***	***U***	1	U	4.4	U	0.5	U	2.5	U	3.1	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Trans-1,2-Dichloroethene	156-60-5	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene (TCE)	79-01-6	5	***5***	***U***	0.5	U	0.5	U	1	J	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	**10**		0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	75-69-4	5	***5***	***U***	0.5	U	0.5	U	2.5	U	***12***	***U***	1	U	2.5	U	0.5	U	2.5	U	2.5	U	0.5	U	2.5	U	0.5	U	0.5	U	0.5	U
Vinyl Chloride	75-01-4	2	***5***	***U***	0.5	U	0.5	U	***2.5***	***U***	***12***	***U***	1	U	***2.5***	***U***	0.5	U	***2.5***	***U***	**6.4**		0.5	U	***2.5***	***U***	0.5	U	0.5	U	0.5	U
Xylenes, Total	XYLENES	---	12	J	0.69	J	0.69	J	7.2	J	23	J	2.3	J	20		1.5	U	7.5	U	3.8	J	1.5	U	6	J	1.5	U	1.5	U	1.5	U
Semi-Volatile Organic Compounds (SVOCs)																																
2,4,5-Trichlorophenol	95-95-4	1	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2,4,6-Trichlorophenol	88-06-2	1	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2,4-Dichlorophenol	120-83-2	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2,4-Dimethylphenol	105-67-9	1	**8.27**		**5.18**	**J**	**7.62**		**16.4**		**17.5**		***5.41***	***U***	**21.3**		***5.41***	***U***	**53.7**	**J**	**42.8**	**J**	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2,4-Dinitrotoluene	121-14-2	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2,6-Dinitrotoluene	606-20-2	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2-Chlorophenol	95-57-8	1	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2-Methylnaphthalene	91-57-6	---	38		5.26	U	2.94	J	9.82		77.8		5.41	U	5.08	J	5.41	U	5.13	U	6.06	U	5.13	U	10.1		5.41	U	NA		NA	
2-Methylphenol (O-Cresol)	95-48-7	1	**21.2**		**3.03**	**J**	**4.65**	**J**	**15.2**		**11.2**		***5.41***	***U***	**8.65**		***5.41***	***U***	**5.73**	**J**	**29.5**		***5.13***	***U***	**28.1**		5.41	U	NA		NA	
2-Nitroaniline	88-74-4	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
2-Nitrophenol	88-75-5	1	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
3- And 4- Methylphenol (Total)	MEPH3MEPH4	---	47		5.26	U	5.26	U	5.41	U	5.41	U	5.41	U	5.13	U	5.41	U	5.13	U	6.06	U	5.13	U	5.71	U	5.41	U	NA		NA	
3,3'-Dichlorobenzidine	91-94-1	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
3-Nitroaniline	99-09-2	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
4-Nitroaniline	100-01-6	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
4-Nitrophenol	100-02-7	1	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
Acenaphthene	83-32-9	20	0.933		4.55		6.22		4.71		12		0.357		3.3		1.06		1.91		1.31		0.123		1.55		0.0541	U	NA		NA	
Acenaphthylene	208-96-8	---	0.333		0.179		0.232		0.789		0.0541	U	0.108		0.308		0.0865		0.215		0.4		0.0923		0.537		0.0541	U	NA		NA	
Acetophenone	98-86-2	---	5.56	U	5.26	U	5.26	U	5.41	U	5.41	U	5.41	U	5.13	U	5.41	U	5.13	U	3.75	J	5.13	U	3.91	J	5.41	U	NA		NA	
Anthracene	120-12-7	50	0.644		1.8		2.56		1.73		1.42		0.173		0.779		0.0541	U	0.667		0.594		0.256		0.594		0.0541	U	NA		NA	
Benzaldehyde	100-52-7	---	10.8		5.26	U	5.26	U	9.34		6.98		5.41	U	5.13	U	5.41	U	5.13	U	4.61	J	5.13	U	13.9		5.41	U	NA		NA	
Benzidine	92-87-5	5	***22.2***	***U***	***21.1***	***U***	***21.1***	***U***	***21.6***	***U***	***21.6***	***U***	***21.6***	***U***	***20.5***	***U***	***21.6***	***U***	***20.5***	***U***	***24.2***	***U***	***20.5***	***U***	***22.9***	***U***	21.6	U	NA		NA	
Benzo(A)Anthracene	56-55-3	0.002	***0.0556***	***UJ***	**0.126**	**J**	**0.189**	**J**	**0.519**	**J**	***0.0541***	***UJ***	***0.0541***	***UJ***	***0.0513***	***UJ***	***0.0541***	***UJ***	**0.174**	**J**	***0.0606***	***UJ***	**0.431**	**J**	***0.0571***	***UJ***	0.0541	UJ	NA		NA	
Benzo(A)Pyrene	50-32-8	ND	0.0556	U	0.0526	U	0.0526	U	0.443		0.0541	U	0.0541	U	0.0513	U	0.0541	U	0.103		0.0606	U	0.369	J	0.0571	U	0.0541	U	NA		NA	
Benzo(B)Fluoranthene	205-99-2	0.002	***0.0556***	***U***	***0.0526***	***U***	***0.0526***	***U***	**0.389**		***0.0541***	***U***	***0.0541***	***U***	***0.0513***	***U***	***0.0541***	***U***	**0.0821**		***0.0606***	***U***	**0.39**	**J**	***0.0571***	***U***	0.0541	U	NA		NA	
Benzo(G,H,I)Perylene	191-24-2	---	0.0556	U	0.0526	U	0.0526	U	0.119	J	0.0541	U	0.0541	U	0.0513	U	0.0541	U	0.0513	U	0.0606	UJ	0.267	J	0.0571	UJ	0.0541	UJ	NA		NA	
Benzo(K)Fluoranthene	207-08-9	0.002	***0.0556***	***U***	***0.0526***	***U***	***0.0526***	***U***	**0.346**		***0.0541***	***U***	***0.0541***	***U***	***0.0513***	***U***	***0.0541***	***U***	**0.0821**		***0.0606***	***U***	**0.308**	**J**	***0.0571***	***U***	0.0541	U	NA		NA	

TABLE 8
SUMMARY OF POST-REMEDIATION GROUNDWATER ANALYTICAL RESULTS
363 BOND STREET
Brooklyn, New York

Location ID: Sample ID: Sample Date: Units:	CAS No.	Ground Water Quality Standards ug/l	683-TW-1-20130319 15C0649-01 3/19/2015 ug/l	Q	684-TW-2-20130319 15C0649-02 3/19/2015 ug/l	Q	685-DUP-1-20130319 (TW-2) 15C0649-03 3/19/2015 ug/l	Q	693-TW-3-20130320 15C0649-11 3/20/2015 ug/l	Q	692-TW-4-20130320 15C0649-10 3/20/2015 ug/l	Q	691-TW-5-20130320 15C0649-09 3/20/2015 ug/l	Q	689-TW-6-20130320 15C0649-07 3/20/2015 ug/l	Q	690-TW-7-20130320 15C0649-08 3/20/2015 ug/l	Q	687-TW-8-20130319 15C0649-05 3/19/2015 ug/l	Q	686-TW-9-20130319 15C0649-04 3/19/2015 ug/l	Q	696-TW-10-20150323 15C0718-01 3/23/2015 ug/l	Q	694-TW-11-20130320 15C0649-12 3/20/2015 ug/l	Q	695-FIELD BLANK-20130320 15C0649-13 3/20/2015 ug/l	Q	688-TRIP BLANK-20130319 15C0649-06 3/19/2015 ug/l	Q	697-TB-2-20150323 15C0718-02 3/23/2015 ug/l	Q
Semi-Volatile Organic Compounds (SVOCs)																																
Benzyl Alcohol	100-51-6	---	102		5.26	U	5.26	U	67.7		33.8		5.41	U	24.9		5.41	U	7.46		49.1		5.13	U	140		5.41	U	NA		NA	
Biphenyl (Diphenyl)	92-52-4	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
Bis(2-Chloroethoxy) Methane	111-91-1	5	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	111-44-4	1	***5.56***	***U***	***5.26***	***U***	***5.26***	***U***	***5.41***	***U***	***5.41***	***U***	***5.41***	***U***	***5.13***	***U***	***5.41***	***U***	***5.13***	***U***	***6.06***	***U***	***5.13***	***U***	***5.71***	***U***	5.41	U	NA		NA	
Bis(2-Ethylhexyl) Phthalate	117-81-7	5	0.556	U	0.537		1.63		3.05		0.541	U	2.56		0.513	U	0.897		1.02		0.679		2.54	U	0.571	U	0.541	U	NA		NA	
Carbazole	86-74-8	---	5.56	U	5.85		8.16		7.03		5.41	U	5.41	U	5.13	U	5.41	U	5.13	U	6.06	U	5.13	U	5.71	U	5.41	U	NA		NA	
Chrysene	218-01-9	0.002	***0.0556***	***U***	**0.0947**		**0.137**		**0.411**		***0.0541***	***U***	***0.0541***	***U***	***0.0513***	***U***	***0.0541***	***U***	**0.133**		***0.0606***	***U***	**0.431**		***0.0571***	***U***	0.0541	U	NA		NA	
Dibenz(A,H)Anthracene	53-70-3	---	0.0556	U	0.0526	U	0.0526	U	0.0541	UJ	0.0541	U	0.0541	U	0.0513	U	0.0541	U	0.0513	U	0.0606	UJ	0.103	J	0.0571	UJ	0.0541	UJ	NA		NA	
Dibenzofuran	132-64-9	---	5.56	U	3.51	J	4.81	J	3.71	J	5.41	U	5.41	U	5.13	U	5.41	U	5.13	U	6.06	U	5.13	U	5.71	U	5.41	U	NA		NA	
Fluoranthene	206-44-0	50	0.278		2.05		2.98		1.86		0.854		0.119		0.513		0.0541	U	0.974		0.0606	U	1.09		0.389		0.0541	U	NA		NA	
Fluorene	86-73-7	50	1.23		4.25		5.87		3.71		6.77		0.3346	U	2.51		0.216	U	1.44		0.63		0.256		1.31	U	0.378		NA		NA	
Indeno(1,2,3-C,D)Pyrene	193-39-5	0.002	***0.0556***	***U***	***0.0526***	***U***	***0.0526***	***U***	**0.108**	**J**	***0.0541***	***U***	***0.0541***	***U***	***0.0513***	***U***	***0.0541***	***U***	***0.0513***	***U***	***0.0606***	***UJ***	**0.195**	**J**	***0.0571***	***UJ***	0.0541	UJ	NA		NA	
Naphthalene	91-20-3	10	**25.1**		7.99		**12**		**33.7**		**72.6**		0.908		**11.3**		0.292		0.41		3.42		0.144		**18.9**		0.0541	U	NA		NA	
Phenanthrene	85-01-8	50	2.32		10.6		14.6		6.23		7.89		0.27		2.77		0.0541	U	1.98		0.727		1.38		2.46		0.0541	U	NA		NA	
Phenol	108-95-2	1	**43.3**		***5.26***	***U***	***5.26***	***U***	**26.3**		**38.5**		***5.41***	***U***	**18.1**		***5.41***	***U***	**11.1**	**J**	**50.9**	**J**	***5.13***	***U***	**58.7**		5.41	U	NA		NA	
Pyrene	129-00-0	50	0.178		1.28		1.82		1.29		0.0541	U	0.108		0.369		0.0541	U	0.605		0.545		0.944		0.229		0.0541	U	NA		NA	
Metals																																
Aluminum	7429-90-5	---	251		18		10		388		187		58		1150		14		352		1480		8620		249		10	U	NA		NA	
Antimony	7440-36-0	3	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	5	U	NA		NA	
Arsenic	7440-38-2	25	7		4	U	4	U	4	U	7		4	U	6		4	U	4	U	11		9		5		4	U	NA		NA	
Barium	7440-39-3	1000	430		462		455		315		587		140		126		277		173		127		185		353		10	U	NA		NA	
Cadmium	7440-43-9	5	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	3	U	**5**		3	U	3	U	NA		NA	
Calcium	7440-70-2	---	454000		192000		191000		349000		586000		145000		212000		267000		193000		165000		89600		400000		50	U	NA		NA	
Chromium, Total	7440-47-3	50	22		5	U	5	U	24		12		5	U	5	U	5	U	5	U	5	U	23		28		5	U	NA		NA	
Cobalt	7440-48-4	---	5	U	5	U	5	U	5	U	8		5	U	5	U	5	U	5	U	5	U	6		5	U	5	U	NA		NA	
Copper	7440-50-8	200	75		4		3		58		94		6		8		4		5		32		50		78		3	U	NA		NA	
Iron	7439-89-6	300	**387**		**2730**		**2690**		**926**		**870**		**1730**		**613**		**360**		**4200**		**1260**		**10600**		**366**		20	U	NA		NA	
Lead	7439-92-1	25	**33**		3	U	3	U	**51**		21		7		5		3	U	14		8		**99**		17		3	U	NA		NA	
Magnesium	7439-95-4	35000	50	U	**76500**		**75700**		3750		3110		28800		84		**80700**		31000		320		8180		50	U	50	U	NA		NA	
Manganese	7439-96-5	300	5	U	**501**		**500**		15		18		**590**		5	U	**347**		**382**		5	U	**300**		5	U	5	U	NA		NA	
Nickel	7440-02-0	100	15		8		8		16		37		6		30		5	U	5	U	22		23		15		5	U	NA		NA	
Potassium	7440-09-7	---	146000		28900		28500		89100		147000		26300		134000		35600		29700		125000		3620		143000		50	U	NA		NA	
Selenium	7782-49-2	10	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	***10***	***U***	10	U	NA		NA	
Silver	7440-22-4	50	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	NA		NA	
Sodium	7440-23-5	20000	**415000**		**280000**		**275000**		**421000**		**590000**		**329000**		**496000**		**690000**		**410000**		**653000**		**23700**		**393000**		100	U	NA		NA	
Thallium	7440-28-0	0.5	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	***5***	***U***	5	U	NA		NA	
Vanadium	7440-62-2	---	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	18		25		21		10	U	10	U	NA		NA	
Zinc	7440-66-6	2000	17		13		12		16		17		17		17		12		18		10		285		10		10	U	NA		NA	

NOTES:
Groundwater Quality Standards are a combination of values from the NYSDEC Part 703, Table 1 (cf. section 703.5), last revised 17 January 2008 and NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, last revised June 2004
--- : No criteria established
*: Criteria based upon an assumed groundwater hardness.
ft bgs = feet below ground surface
ug/l= micrograms per liter.
Italicized and **Bold *results*** indicate Reporting Limit (RL) exceedances of the most stringent criteria.
Highlighted results indicate exceedances greater than ground water quality standards
NA - Compound not analyzed

Q is the Validator Qualifier Column with definitions as follows:
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the reporting limit (RL) or the sample concentration for results impacted by blank contamination
J: The analyte was detected in the sample. The result should be considered an estimate.
UJ : The analyte was not detected at a level greater than or equal to the RL; however, the reported RL is approximate and may be inaccurate or imprecise.
B: Analyte detected in the method blank
Data has been subject to third party validation.

TABLE 9A
HISTORICAL SOIL ANALYTICAL RESULTS
388 CARROLL STREET
(Historical Samples)
Brooklyn, New York

Consultant:		Subpart 375-6 (Revised Brownfields)			ELM						Zeb Environmental																	
Sample ID:		Protection of Public Health			SB-1/4-5		SB-6/4-6		P-10		P-1B		P-4		TP-1		TP-3		TP-8		Composite[2]		NE Corner		NW Corner		SE Corner		SW Corner	
Laboratory Sample Number:	CAS No.	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	207935-001		207935-006		1204165-3		1204166-1		1204166-7		C974508/1		C974508/2		C974508/5		C974508/7		0209069-02A/B		0209069-03A/B		0209069-04A/B		0209069-05A/B	
Sampling Date:					10/25/2004		10/25/2004		4/12/2012		4/11/2012		4/11/2012		10/26/1997		10/26/1997		10/26/1997		10/26/1997		9/20/2002		9/20/2002		9/20/2002		9/20/2002	
Sampling Depth (ft):					4-5		4-6		3-4		4-5		3.5-5																	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)																														
1,1,1-Trichloroethane	71-55-6	100,000	500,000	1,000,000	670	U	620	U	77	U	88.9	U	164	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,1-Dichloroethane	75-34-3	26,000	240,000	480,000	670	U	620	U	44.4	U	51.3	U	94.5	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,1-Dichloroethene	75-35-4	100,000	500,000	1,000,000	670	U	620	U	54.8	U	63.3	U	117	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Dichloroethane	107-06-2	3,100	30,000	60,000	670	U	620	U	74	U	85.5	U	158	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Dichloroethene (cis)	156-59-2	100,000	500,000	1,000,000	670	U	620	U	62.2	U	71.8	U	132	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Dichloroethene (trans)	156-60-5	100,000	500,000	1,000,000	670	U	620	U	40	U	46.2	U	85.1	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,3-Trichlorobenzene	87-61-6	---	---	---	NA		NA		53.3	U	221	J	113	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,3-Trichloropropane	96-18-4	---	---	---	NA		NA		470	J	504	J	170	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,4-Trichlorobenzene	120-82-1	---	---	---	NA		NA		66.6	U	146	J	142	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	95-63-6	52,000	190,000	380,000	NA		NA		249	J	75.2	U	401	J	1100		55		250		NA		5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	108-67-8	52,000	190,000	380,000	NA		NA		133	J	73.5	U	135	U	290		150		120		NA		5	U	5	U	5	U	5	U
4-Isopropyltoluene	99-87-6	---	---	---	NA		NA		718	J	58.1	U	1010	J	NA		NA		NA		NA		5	U	5	U	5	U	9.2	
Acetone	67-64-1	100,000	500,000	1,000,000	1700	U	1200	J	432	U	499	U	920	U	NA		NA		NA		NA		NA		NA		NA		NA	
Benzene	71-43-2	4,800	44,000	89,000	86	J	620	U	112	J	73.5	U	135	U	1100		270		1300		NA		5	U	5	U	5	U	5	U
n-Butylbenzene	104-51-8	100,000	500,000	1,000,000	NA		NA		483	J	703	J	320	J	4300		1100		990		NA		5	U	5	U	5	U	5	U
Carbon Disulfide	75-15-0	---	---	---	72	J	620	U	59.2	U	68.4	U	126	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
Carbon tetrachloride	56-23-5	2,400	22,000	44,000	670	U	620	U	65.1	U	75.2	U	139	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
Chlorobenzene	108-90-7	100,000	500,000	1,000,000	670	U	620	U	71	U	82.1	U	151	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
Chloroform	67-66-3	49,000	350,000	700,000	670	U	620	U	68.1	U	78.7	U	145	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
Diethylbenzene-p	105-05-5	---	---	---	NA		NA		351	J	66.7	U	123	U	NA		NA		NA		NA		NA		NA		NA		NA	
Ethylbenzene	100-41-4	41,000	390,000	780,000	8100		620	U	137	J	70.1	U	129	U	1200		95		360		NA		5	U	5	U	5	U	5	U
p-Ethyltoluene	622-96-8	---	---	---	NA		NA		317	J	66.7	U	222	J	NA		NA		NA		NA		NA		NA		NA		NA	
Isopropyl Benzene	98-82-8	---	---	---	NA		NA		226	J	298	J	139	U	4200		1200		1100		NA		5	U	5	U	5	U	5	U
p-Isopropyltoluene	99-87-6	---	---	---	NA		NA		718	J	58.1	U	1010	J	220		70		610		NA		NA		NA		NA		NA	
Methyl ethyl ketone (MEK / 2-butanone)	78-93-3	100,000	500,000	1,000,000	670	U	620	U	284	U	328	U	605	U	NA		NA		NA		NA		NA		NA		NA		NA	
Methylene chloride	75-09-2	100,000	500,000	1,000,000	110	JB	110	JB	57.7	U	66.7	U	123	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
4-Methyl-2-Pentanone	108-10-1	---	---	---	670	U	620	U	269	U	311	U	573	U	NA		NA		NA		NA		NA		NA		NA		NA	
Naphthalene	91-20-3	---	---	---	NA		NA		666	J	56.4	U	730	J	2100		380		350		NA		5	U	5	U	5	U	5	U
Propylbenzene-n	103-65-1	100,000	500,000	1,000,000	NA		NA		351	J	271	J	129	U	8400		2000		1400		NA		5	U	5	U	5	U	5	U
Sec-Butylbenzene	135-98-8	100,000	500,000	1,000,000	NA		NA		537	J	802	J	113	U	5800		1100		1100		NA		5	U	5	U	5	U	5	U
Tert-Butylbezene	98-06-6	100,000	500,000	1,000,000	NA		NA		375	J	285	J	139	U	2500		470		880		NA		9.1		5	U	5	U	5.4	
Tetrachloroethene	127-18-4	19,000	150,000	300,000	670	U	620	U	87.3	U	101	U	186	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
Toluene	108-88-3	100,000	500,000	1,000,000	220	J	620	U	102	J	76.9	U	142	U	760		110		280		NA		5	U	5	U	5	U	5	U
Trichloroethene	79-01-6	21,000	200,000	400,000	670	U	620	U	68.1	U	78.7	U	145	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
Tetramethylbenzene-1,2,4,5	95-93-2	---	---	---	NA		NA		2160		3170		1660		NA		NA		NA		NA		NA		NA		NA		NA	
Vinyl Chloride	75-01-4	900	13,000	27,000	670	U	620	U	63.6	U	73.5	U	135	U	NA		NA		NA		NA		5	U	5	U	5	U	5	U
1,2-Xylene (o-Xylene)	95-47-6	100,000	500,000	1,000,000	NA		NA		54.8	U	63.3	U	117	U	280		50	U	85		NA		5	U	5	U	5	U	5	U
1,3-Xylene (m-Xylene)	108-38-3	100,000	500,000	1,000,000	NA		NA		273	J	147	U	271	U	NA		NA		NA		NA		NA		NA		NA		NA	
Xylene (m,p-Xylene)	108-38-3	100,000	500,000	1,000,000	NA		NA		273	J	147	U	271	U	2400		270		650		NA		10	U	10	U	10	U	10	U
Xylene (total)	1330-20-7	100,000	500,000	1,000,000	520	J	620	U	NA		NA		NA		2700		310		730		NA		NA		NA		NA		NA	
Semi-Volatile Organic Compounds (SVOCs)																														
1,2-Dichlorobenzene	95-50-1	100,000	500,000	1,000,000	1700	U	410	U	36.6	U	42.3	U	38.9	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2-Diphenylhydrazine	122-66-7	---	---	---	NA		NA		35.8	U	41.3	U	38	U	NA		NA		NA		NA		NA		NA		NA		NA	
1,2,4-Trichlorobenzene	120-82-1	---	---	---	1700	U	410	U	49.3	U	171	J	52.4	U	NA		NA		NA		NA		NA		NA		NA		NA	
2-Methylnaphthalene	91-57-6	---	---	---	1000	J	2200		963		54.3	U	1030		NA		NA		NA		NA		NA		NA		NA		NA	
2-Nitrophenol	88-75-5	---	---	---	1700	U	410	U	36	U	41.6	U	38.3	U	NA		NA		NA		NA		NA		NA		NA		NA	
2,4-Dimethylphenol	105-67-9	---	---	---	1700	U	410	U	405	J	412	J	436	J	NA		NA		NA		NA		NA		NA		NA		NA	
2,6-Dinitrotoluene	606-20-2	---	---	---	1700	U	410	U	48.8	U	940		51.9	U	NA		NA		NA		NA		NA		NA		NA		NA	
3-Nitroanaline	99-09-2	---	---	---	8500	U	2000	U	505	J	293	J	21.7	U	NA		NA		NA		NA		NA		NA		NA		NA	
4-Chloroanaline	106-47-8	---	---	---	1700	U	410	U	45.1	U	702		549	J	NA		NA		NA		NA		NA		NA		NA		NA	
4-Nitroaniline	100-01-6	---	---	---	3500	U	810	U	116	U	342	J	361	J	NA		NA		NA		NA		NA		NA		NA		NA	
Acenaphthene	83-32-9	100,000	500,000	1,000,000	2200		620		1030		1010		802		1900		6500		5600		NA		170		300		330		460	
Acenaphthylene	208-96-8	100,000	500,000	1,000,000	960	J	210	J	40.8	U	47.1	U	43.3	U	NA		NA		NA		NA		94		270		190		300	
Anthracene	120-12-7	100,000	500,000	1,000,000	2100		150	J	52.7	U	60.9	U	56	U	1500		2100		3900		NA		250		610		370		1300	

TABLE 9A
HISTORICAL SOIL ANALYTICAL RESULTS
388 CARROLL STREET
(Historical Samples)
Brooklyn, New York

Consultant:		Subpart 375-6 (Revised Brownfields)			ELM		Zeb Environmental			Cosmos Environmental				Tradewinds			
Sample ID:		Protection of Public Health			SB-1/4-5	SB-6/4-6	P-10	P-1B	P-4	TP-1	TP-3	TP-8	Composite[2]	NE Corner	NW Corner	SE Corner	SW Corner
Laboratory Sample Number:	CAS No.	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	207935-001	207935-006	1204165-3	1204166-1	1204166-7	C974508/1	C974508/2	C974508/5	C974508/7	0209069-02A/B	0209069-03A/B	0209069-04A/B	0209069-05A/B
Sampling Date:					10/25/2004	10/25/2004	4/12/2012	4/11/2012	4/11/2012	10/26/1997	10/26/1997	10/26/1997	10/26/1997	9/20/2002	9/20/2002	9/20/2002	9/20/2002
Sampling Depth (ft):					4-5	4-6	3-4	4-5	3.5-5								
Units:		ug/kg	ug/kg	ug/kg	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q
Semi-Volatile Organic Compounds (SVOCs)																	
Benzo (a) pyrene	50-32-8	1,000	1,000	1,100	**1,700 J**	170 J	782	865	**1,150**	**2,800**	**1,500**	**3,700**	NA	880	**1,500**	**1,200**	**2,500**
Benzo (b) fluoranthene	205-99-2	1,000	5,600	11,000	**1,600 J**	410 U	630	592 J	**1,010**	**2,400 ^**	950 ^	**3,300 ^**	NA	**1,000**	**1,800**	**1,500**	**3,200**
Benzo (g,h,i) perylene	191-24-2	100,000	500,000	1,000,000	1300 J	130 J	814	886	1060	1100	600	1300	NA	650	1200	830	1900
Benzo (k) fluoranthene	207-08-9	3,900	56,000	110,000	890 J	130 J	615	601 J	1040	2400 ^	950 ^	3300 ^	NA	420	750	680	1600
Benzyl alcohol	100-51-6	---	---	---	1700 U	410 U	69.9 U	80.7 U	74.3 U	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-chloroethoxy)methane	111-91-1	---	---	---	1700 U	410 U	49.1 U	56.6 U	52.1 U	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-ethylhexyl)phthalate	117-81-7	---	---	---	1400 J	410 U	185 J	89.6 U	82.5 U	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzylphthalate	85-68-7	---	---	---	1700 U	410 U	62.6 U	72.2 U	66.5 U	NA	NA	NA	NA	NA	NA	NA	NA
Carbozole	86-74-8	---	---	---	380 J	410 U	68.2 U	78.8 U	72.5 U	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	3,900	56,000	110,000	2000	130 J	882	554 J	1400	2400	1300	**4,200**	NA	880	1400	1300	2900
Dibenzo (a,h) anthracene	53-70-3	330	560	1,100	***1700 U***	***410 U***	66.1 U	76.3 U	70.3 U	**480**	300 U	**710**	NA	190	**330**	250	**580**
Dibenzofuran	132-64-9	---	---	---	1000 J	160 J	549 J	45.7 U	42.1 U	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	100,000	500,000	1,000,000	5500	240 J	2000	952	3020	4300	2600	9200	NA	1600	2700	2800	6300
Fluorene	86-73-7	100,000	500,000	1,000,000	3000	300 J	1070	55 U	50.6 U	1700	3900	4000	NA	1100	290	330	550
Hexachloroethane	67-72-1	---	---	---	1700 U	410 U	999	60.9 U	56 U	NA	NA	NA	NA	NA	NA	NA	NA
Indeno (1,2,3-cd) pyrene	193-39-5	500	5,600	11,000	**840 J**	81 J	**582 J**	**744**	**780**	**1,100**	360	**1,200**	NA	**540**	**1,000**	**730**	**1,700**
Isophorone	78-59-1	---	---	---	1700 U	410 U	313 J	62.5 U	57.6 U	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	86-30-6	---	---	---	1700 U	410 U	64.6 U	74.6 U	68.6 U	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	100,000	500,000	1,000,000	1600 J	930	927	55 U	533 J	300 U	7800	300 U	NA	80 U	190	170	440
Nitrobenzene	98-95-3	---	---	---	1700 U	410 U	126 J	52.9 U	48.7 U	NA	NA	NA	NA	NA	NA	NA	NA
o-Cresol(s) (2-Methylphenol)	95-48-7	100,000	500,000	1,000,000	1700 U	410 U	42.4 U	49 U	45.1 U	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Cresol(s) (3&4-Methylphenol)	106-44-5	100,000	500,000	1,000,000	NA	NA	36.6 U	42.3 U	38.9 U	NA	NA	NA	NA	NA	NA	NA	NA
p-Cresol(s) (4-Methylphenol)	106-44-5	100,000	500,000	1,000,000	1700 U	410 U	36.6 U	42.3 U	38.9 U	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	87-86-5	6,700	6,700	55,000	***8500 U***	2000 U	449 U	518 U	477 U	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	100,000	500,000	1,000,000	5300	310 J	2360	2000	3460	5400	7100	22000	NA	810	2300	930	5600
Phenol	108-95-2	100,000	500,000	1,000,000	1700 U	410 U	30.9 U	35.7 U	32.9 U	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	100,000	500,000	1,000,000	5900	400 J	1940	1190	3910	6200	5700	13000	NA	1400	2300	2200	4300
TPH - Diesel Range Organics (DRO)																	
Fuel Oil #2		---	---	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	270000
Total DRO TPH		---	---	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	490000
Unknown DRO TPH		---	---	---	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220000
PCBs/Pesticides																	
Aroclor 1242	53469-21-9	1,000	1,000	25,000	150	21 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	12672-29-6	1,000	1,000	25,000	22 U	21 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	11096-82-5	1,000	1,000	25,000	98	21 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs/Pesticides	---	---	---	---	380		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals																	
Aluminum	7429-90-5	---	---	---	9,260,000	3,420,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	7440-38-2	16,000	16,000	16,000	9800 J	11100 J	NA	NA	NA	NA	NA	NA	1400	NA	NA	NA	NA
Barium	7440-39-3	400,000	400,000	10,000,000	202000	142000	NA	NA	NA	NA	NA	NA	28000	NA	NA	NA	NA
Beryllium	7440-41-7	72,000	590,000	2,700,000	2600 U	2800 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	7440-43-9	4,300	9,300	60,000	2200 J	4200 U	NA	NA	NA	NA	NA	NA	100 U	NA	NA	NA	NA
Calcium	7440-70-2	---	---	---	22,300,000	4230000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	7440-47-3				27200	8000	NA	NA	NA	NA	NA	NA	2800	NA	NA	NA	NA
Cobalt	7440-48-4	---	---	---	8500	4400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	7440-50-8	270,000	270,000	10,000,000	159000	204000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	7439-89-6	---	---	---	32,100,000	8290000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439-92-1	400,000	1,000,000	3,900,000	283,000	265000	NA	NA	NA	NA	NA	NA	6600	NA	NA	NA	NA
Magnesium	7439-95-4	---	---	---	5,990,000	948,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	7439-96-5	2,000,000	10,000,000	10,000,000	267000	141000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (elemental)	7439-97-6	810	2,800	5,700	**840**	**1,200**	NA	NA	NA	NA	NA	NA	**2,600**	NA	NA	NA	NA
Nickel	7440-02-0	310,000	310,000	10,000,000	34,500	10400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	7440-09-7	---	---	---	1980000	554,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	7782-49-2	180,000	1,500,000	6,800,000	20800 U	22,400 U	NA	NA	NA	NA	NA	NA	960	NA	NA	NA	NA
Silver	7440-22-4	180,000	1,500,000	6,800,000	3900 U	700 J	NA	NA	NA	NA	NA	NA	200 U	NA	NA	NA	NA
Sodium	7440-23-5	---	---	---	466000	407,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	7440-62-2	---	---	---	32000	16400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	7440-66-6	10,000,000	10,000,000	10,000,000	779000	106000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
Subpart 375-6 (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
--- : No criteria identified
Sample data for ELM, Cosmos, and Tradewind were provided in the Phase II Investigation Report, 400 Carroll Street by ELM dated May 2005.
Sample data for PW Grosser were provided in the PW Grosser Draft Subsurface Investigation Summary Report dated 16 June 2011.
Sample data for Zeb Environmental were provided in an environmental investigatiton provided by Sive Padget & Riesel, LLP.
ND:Not detected
NA: Not analyzed
E:Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument
J:Estimated result
U: Indicates that the result is lower than the MDL
B: Analyte detected in method blank
Italicized and **Bold *results*** indicate method detection limits (MDL) greater than or equal to the most stringent criteria.
Cosmos Environmental Services Samples:
^ : EcoTest Laboratories reported that it could not separate the isonomers for benzo(b)fluoranthene and benzo(k)fluoranthene. Therefore, the sum is split evenly between the two analytes.

TABLE 9B
Remaining Impacts in Soil
363 BOND STREET
(Historical Samples)
Brooklyn, New York

Consultant:	Subpart 375-6 (Revised Brownfields)			ELM									
Sample ID:	Protection of Public Health			MW-4/6-8		MW-4/12-14		MW-5/13-15		SB-2/10-12		SB-4/9-10.5	
Laboratory Sample Number:	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	209324-007		209324-008		209324-010		209324-014		209324-017	
Sampling Date:				4/20/2005		4/20/2005		4/20/2005		4/20/2005		4/21/2005	
Sampling Depth (ft bgs):				6-8'		12-14'		13-15'		10-12'		9-10.5'	
Units:	ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organic Compounds (VOCs)													
1,1-Dichloroethane	26,000	240,000	480,000	1.8	U	1.9	U	1.5	U	1.6	U	340	U
1,1-Dichloroethene	100,000	500,000	1,000,000	2.8	U	2.9	U	2.2	U	2.5	U	400	U
1,2-Dichloroethane	3,100	30,000	60,000	2.5	U	2.6	U	2	U	2.3	U	340	U
1,2-Dichloroethene (cis)	100,000	500,000	1,000,000	1.7	U	1.8	U	42		1.5	U	340	U
1,2-Dichloroethene (trans)	100,000	500,000	1,000,000	2	U	2	U	1.6	U	1.8	U	280	U
Acetone	100,000	500,000	1,000,000	2.4	U	2.5	U	16		2.1	U	800	U
Benzene	4,800	44,000	89,000	11		2	U	1.6	U	23		230	U
Carbon Disulfide	---	---	---	2.4	U	2.5	U	3.2	J	2.1	U	510	U
Carbon tetrachloride	2,400	22,000	44,000	3	U	3.1	U	2.4	U	2.7	U	570	U
Chloroform	49,000	350,000	700,000	1.6	U	1.6	U	1.2	U	1.4	U	400	U
Ethylbenzene	41,000	390,000	780,000	2.5	U	2.6	U	6.7		3.8	J	1300	J
Methyl ethyl ketone (MEK / 2-butanone)	100,000	500,000	1,000,000	3.3	U	3.4	U	2.6	U	2.9	U	680	U
Methylene chloride	100,000	500,000	1,000,000	5	UB	5.9	JB	8.9	JB	4.4	UB	380	JB
Styrene	---	---	---	1.4	U	1.5	U	1.1	U	1.3	U	280	U
Toluene	100,000	500,000	1,000,000	2.4	U	2.5	U	2.7	J	8.5		170	U
Trichloroethene	21,000	200,000	400,000	2.4	U	2.5	U	6.7		2.1	U	400	U
Vinyl Chloride	900	13,000	27,000	2.8	U	2.9	U	14		2.5	U	460	U
Xylene (total)	100,000	500,000	1,000,000	8.5		6.6	U	33		17		5700	
Semi-Volatile Organic Compounds (SVOCs)													
1,2-Dichlorobenzene	100,000	500,000	1,000,000	150	U	80	U	620	U	140	U	980	U
2-Methylnaphthalene	---	---	---	180	J	140	J	3200	J	390	J	50000	
4-Chloro-3-methylphenol	---	---	---	310	U	160	U	1300	U	ND		2000	U
Acenaphthene	100,000	500,000	1,000,000	150	U	79	U	6600		710	J	3000	J
Acenaphthylene	100,000	500,000	1,000,000	110	U	59	U	1300	J	330	J	720	U
Anthracene	100,000	500,000	1,000,000	260	J	100	J	13000		750	J	5500	J
Benzo (a) anthracene	1,000	5,600	11,000	480	J	190	J	**16,000**		**1,900**		**8,200**	
Benzo (a) pyrene	1,000	1,000	1,100	510	J	160	J	**14,000**		**2,200**		**7,800**	
Benzo (b) fluoranthene	1,000	5,600	11,000	450	J	180	J	**11,000**		**1,600**		**4,800**	**J**
Benzo (g,h,i) perylene	100,000	500,000	1,000,000	390	J	130	J	8200		1,300		3500	J
Benzo (k) fluoranthene	3,900	56,000	110,000	210	J	160	J	**10,000**		1,300		**5,100**	**J**
bis(2-ethylhexyl)phthalate	---	---	---	420	J	210	J	490	U	110	U	770	U
Carbozole	---	---	---	130	U	70	U	4100		460	J	2100	J
Chrysene	3,900	56,000	110,000	580	J	270	J	**18,000**		2,200		**7,900**	
Dibenzo (a,h) anthracene	330	560	1,100	150	J	53	U	**3,900**		**570**	**J**	**1,400**	**J**
Dibenzofuran	---	---	---	150	U	76	U	5300		600	J	2900	J
Di-n-butyl phthalate	---	---	---	130	J	63	U	490	U	110	U	770	U
Fluoranthene	100,000	500,000	1,000,000	1100		460	J	52000		3500		22000	
Fluorene	100,000	500,000	1,000,000	130	J	79	J	6800		850		4300	J
Indeno (1,2,3-cd) pyrene	500	5,600	11,000	300	J	110	J	**7,600**		**1,100**		**3,100**	**J**
Naphthalene	100,000	500,000	1,000,000	260	J	170	J	5900		1000		20000	
o-Cresol(s) (2-Methylphenol)	100,000	500,000	1,000,000	240	U	130	U	990	U	220	U	1600	U
p-Cresol(s) (4-Methylphenol)	100,000	500,000	1,000,000	490	U	260	U	2000	U	560	J	3100	U
Pentachlorophenol	6,700	6,700	55,000	790	U	410	U	3200	U	730	U	5000	U
Phenanthrene	100,000	500,000	1,000,000	900	J	430	J	49000		3100		23000	
Phenol	100,000	500,000	1,000,000	270	U	140	U	1100	U	240	U	1700	U
Pyrene	100,000	500,000	1,000,000	770	J	390	J	45000		3100		16000	
Pesticides													
4,4'-DDE	8,900	62,000	120,000	0.61	U	370		110		0.54	U	65	
4,4'-DDT	7,900	47,000	94,000	0.43	U	110		1.7	U	0.39	U	1.7	U
4,4'-DDD	13,000	92,000	180,000	0.53	U	5.5	U	2.1	U	0.48	U	2.1	U
Aldrin	97	680	1,400	0.5	U	5.2	U	2	U	0.44	U	17	
Alpha-BHC	480	3,400	6,800	0.39	U	4	U	1.5	U	0.34	U	1.6	U
Beta-BHC	360	3,000	14,000	0.38	U	3.9	U	13		0.34	U	1.5	U
Chlordane (alpha)	4,200	24,000	47,000	0.15	U	1.6	U	0.61	U	0.14	U	0.62	U
Delta-BHC	100,000	500,000	1,000,000	0.14	U	1.5	U	4.3	J	0.13	U	0.58	U
Dieldrin	200	1,400	2,800	0.45	U	4.7	U	1.8	U	0.4	U	1.8	U
Endosulfan I	24,000	200,000	920,000	0.21	U	2.1	U	0.82	U	0.18	U	38	
Endosulfan II	24,000	200,000	920,000	0.24	U	2.5	U	0.94	U	0.21	U	0.96	U
Endosulfan Sulfate	24,000	200,000	920,000	5.8		2.5	U	0.96	U	2.4	J	0.98	U
Endrin aldehyde	---	---	---	0.45	U	4.7	U	1.8	U	0.4	U	1.8	U
Endrin ketone	---	---	---	0.2	U	2.1	U	0.8	U	0.18	U	0.81	U
Heptachlor	2,100	15,000	29,000	0.21	U	2.2	U	0.83	U	0.19	U	0.85	U
Heptachlor epoxide	---	---	---	1.4	J	1.7	U	32		1.3	J	0.64	U
Lindane	1,300	9,200	23,000	0.21	U	2.2	U	0.84	U	0.19	U	5.5	J
Methoxychlor	---	---	---	15	J	31	U	86	J	2.6	U	12	U
Polychlorinated biphenyls (PCBs)													
Aroclor 1254	1,000	1,000	25,000	1.7	U	1.8	U	1.3	U	1.5	U	880	
Aroclor 1260	1,000	1,000	25,000	5.6	U	8	J	4.4	U	5	U	22	U
Metals													
Aluminum	---	---	---	4,830,000		5,170,000		1,960,000		4,300,000		4,060,000	
Arsenic	16,000	16,000	16,000	**17,000**		5100	J	2800	J	7700	J	2500	J
Barium	400,000	400,000	10,000,000	**502,000**		128000		28000		170000		47400	
Beryllium	72,000	590,000	2,700,000	800	U	710	U	600	U	670	U	540	U
Cadmium	4,300	9,300	60,000	1600	U	1600	J	1200	U	1300	U	**32,400**	
Calcium	---	---	---	6,960,000		46,700,000		15,300,000		16,900,000		4,820,000	
Chromium	110,000	400,000	800,000	9,400		7,100		4,400		6,800		10,700	
Cobalt	---	---	---	4,800		2,900		1,700	J	4,700		4,400	
Copper	270,000	270,000	10,000,000	67,700		23,300		16,500		33,300		27,900	
Iron	---	---	---	6,870,000		7,470,000		3,650,000		9,950,000		9,370,000	
Lead	400,000	1,000,000	3,900,000	**1,290,000**		201,000		37500		**1,450,000**		88,500	
Magnesium	---	---	---	1,170,000		2,030,000		2,450,000		1,170,000		2,790,000	
Manganese	2,000,000	10,000,000	10,000,000	168000		144000		62600		99000		136000	
Mercury (elemental)	810	2,800	5,700	**1,600**		**840**		120		380		460	
Nickel	310,000	310,000	10,000,000	12500		9600		4700	J	9700		20500	
Potassium	---	---	---	630000		681000		149000	J	425000		891000	
Selenium	180,000	1,500,000	6,800,000	2500	U	2300	U	1900	U	2200	U	1700	U
Silver	180,000	1,500,000	6,800,000	510	U	450	U	380	U	430	U	350	U
Sodium	---	---	---	984000		677000		417000		392000		566000	
Vanadium	---	---	---	23600		11800		5200		16900		20700	
Zinc	10,000,000	10,000,000	10,000,000	483,000		60,900		1,050,000		57,000		350,000	

NOTES:
Subpart 375-6 (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
--- : No criteria identified
ft bgs - feet below ground surface
NA: Not analyzed
J: Estimated value
U: Indicates that the result is lower than the MDL.

Analytical results were provided in the Phase II Investigation Report, 363 Bond Street by ELM dated May 2005.

Italicized and **Bold *results*** indicate method detection limits (MDL) greater than or equal to the most stringent criteria.

TABLE 9C
Remaining Impacts in Soil
363 BOND STREET
(Langan Investigations)
Brooklyn, New York

Investigation Phase:		Subpart 375-6 SCOs (Revised Brownfields)			Due Diligence						Remedial Investigation		Supplemental RI													
Address:		Protection of Public Health									363 Bond Street															
Location ID:					LSB-2	LSB-2	LSB-3	LSB-7	LSB-23	LSB-24	EPA-6 (363 BOND)	EPA-6 (363 BOND)	EPA-6 (363 BOND)	EPA-7 (363 BOND)	EPA-7 (363 BOND)	EPA-8 (363 BOND)	EPA-11 (363 BOND)	EPA-13 (363 BOND)	EPA-14 (363 BOND)	EPA-14 (363 BOND)	EPA-15 (363 BOND)	EPA-15 (363 BOND)	EPA-15 (363 BOND)		
Sample ID:	CAS No.	Restricted - Residential	Restricted - Commercial	Restricted - Industrial	003/004	005/006	009/010	073-LSB-7-20130906	076-LSB-23-20130906	086-LSB-24-20130909	485/EPA-6B-20141103	486/EPA-6C-20141103	487/EPA-6D-20141103	490/EPA-7B-20141103	491/EPA-7C-20141103	496/EPA-8C-20141103	508/EPA-11D-20141103	517/EPA-13C-20141103	512/EPA-14C-20141103	513/EPA-14D-20141103	519/EPA-15A-20141103	520/EPA-15B-20141103	522/DUP-1-20141103		
Sample Date:					8/21/2012	8/21/2012	8/22/2012	9/6/2013	9/6/2013	9/9/2013	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014	11/3/2014		
Sampling Depth/VOC Sampling Depth (ft bgs):					6.5-8.5/6.5-7	11.5-13.5/11.5-12	12-14/12-12.5	13-15/14-14.5	2-4/3-3.5	0-4/3.5-4	3-6 (VOCs 5.5-6)	6-9 (VOCs 7.5-8)	9-11.5 (VOCs 9-9.5)	3-6 (VOCs 5.5-6)	6-9 (VOCs 8.5-9)	6-9 (VOCs 7-7.5)	9-12 (VOCs 11.5-12)	6-9 (VOCs 7.5-8)	6-9 (VOCs 6.5-7)	9-12 (VOCs 9.5-10)	0-3 (VOCs 2.5-3)	3-6 (VOCs 5.5-6)	6-9 (VOCs 7-7.5)		
Units:		ug/kg	ug/kg	ug/kg	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q	ug/kg Q		
Volatile Organic Compounds (VOCs)																									
1,1,1-Trichloroethane	71-55-6	100,000	500,000	1,000,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
1,1-Dichloroethane	75-34-3	26,000	240,000	480,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
1,1-Dichloroethene	75-35-4	100,000	500,000	1,000,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
1,2,4-Trimethylbenzene	95-63-6	52,000	190,000	380,000	NA	NA	NA	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	3.4 J	2.1 U	15000 U	430 U	3.5 U	2.7 U	260 J	360 U		
1,2-Dichloroethane	107-06-2	3,100	30,000	60,000	1.1 U	1.1 U	64 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	***15000 U***	430 U	3.5 U	2.7 U	210 U	360 U		
1,4-Dioxane (P-Dioxane)	123-91-1	13,000	130,000	250,000	130 U	140 U	8000 U	12 UJ	26 UJ	27 U	6000 U	6400 U	64 U	42 U	55 U	50 U	41 U	***310000 U***	8600 U	71 U	55 U	4300 U	7200 U		
Acetone	67-64-1	100,000	500,000	1,000,000	25.4	35.7	640 U	11 J	65 J	150	600 U	640 U	12 J	12	34	23	5.7 J	31000 U	860 U	7.1 U	11 U	430 U	720 U		
Benzene	71-43-2	4,800	44,000	89,000	1.1 U	1.1 U	64 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	***15000 U***	430 U	3.5 U	2.7 U	1100	360 U		
Carbon Tetrachloride	56-23-5	2,400	22,000	44,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	***15000 U***	430 U	3.5 U	2.7 U	210 U	360 U		
Chloroform	67-66-3	49,000	350,000	700,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
Cis-1,2-Dichloroethylene	156-59-2	100,000	500,000	1,000,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	2400	2300	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
Ethylbenzene	100-41-4	41,000	390,000	780,000	1.1 U	1.1 U	64 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	4.3 J	2.1 U	15000 U	430 U	3.5 U	2.7 U	410 J	360 U		
M And P Xylenes	179601-23-1	100,000	500,000	100,000	1.1 U	1.1 U	64 U	2.2 U	4.9 U	5.2 U	600 U	640 U	6.4 U	4.2 U	5.5 U	5 U	4.1 U	31000 U	860 U	7.1 U	5.5 U	1200	720 U		
Methyl Ethyl Ketone (2-Butanone)	78-93-3	100,000	500,000	1,000,000	11 U	11 U	640 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	6.4	3.1 J	2.1 U	15000 U	430 U	23	2.7 U	210 U	360 U		
P-Cymene (P-Isopropyltoluene)	CYMP	---	---	---	NA	NA	NA	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
Toluene	108-88-3	100,000	500,000	1,000,000	1.1 U	1.1 U	64 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	1200	360 U		
Trans-1,2-Dichloroethene	156-60-5	100,000	500,000	1,000,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	2.7 U	210 U	360 U		
Trichloroethylene (TCE)	79-01-6	21,000	200,000	400,000	5.4 U	5.5 U	21.1 J	2.2 U	4.9 U	20	3800	3400	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	15000 U	430 U	3.5 U	4.1 J	210 U	360 U		
Vinyl Chloride	75-01-4	900	13,000	27,000	5.4 U	5.5 U	320 U	2.2 U	4.9 U	5.2 U	300 U	320 U	3.2 U	2.1 U	2.7 U	2.5 U	2.1 U	***15000 U***	430 U	3.5 U	2.7 U	210 U	360 U		
Semi-Volatile Organic Compounds (SVOCs)																									
2-Methylphenol (O-Cresol)	95-48-7	100,000	500,000	1,000,000	67 U	68 U	74 U	491 U	1220 U	444 UJ	44.7 U	50.5 U	51.9 U	50.4 U	125 U	26.8 U	122 U	1290 U	53.6 U	56.8 U	44.6 UJ	23.9 U	28.8 U		
Acenaphthene	83-32-9	100,000	500,000	1,000,000	184	235	1810	606 J	1500 J	324 J	1250	1430	67.8 J	769	1510	141	551	8100 J	53.6 U	111 J	127	23.9 U	28.8 U		
Anthracene	120-12-7	100,000	500,000	1,000,000	604	740	3230	1550	4210	414 J	1930	2550	148	2240	3180	296	1530	22700 J	385	147	340	52.6	28.8 U		
Benzo(A)Anthracene	56-55-3	1,000	5,600	11,000	**2,670**	**2,820**	**6,450**	**2,010**	**11,700**	558 J	**3290**	**3440**	274	**2360**	**6960**	386	**5950 J**	**33700 J**	646	687	**1500**	208	28.8 U		
Benzo(A)Pyrene	50-32-8	1,000	1,000	1,100	**3,080**	**2,910**	**6,170**	**1,980**	**9,820**	483 J	958 J	**1400**	267	**1930**	**1950**	364	**3450**	**23100 J**	417	**1240**	875	192	28.8 U		
Benzo(B)Fluoranthene	205-99-2	1,000	5,600	11,000	**3,000**	**2,840**	**4,960**	**1,230**	**9,010**	558 J	977 J	**2310**	161	**1880**	**3160**	324	**3030 J**	**16100 J**	315	708	996	149	28.8 U		
Benzo(G,H,I)Perylene	191-24-2	100,000	500,000	1,000,000	2,100	1,910	3,680	503 J	3,230	444 U	421 J	628	51.9 U	588	1090 J	113	1040	5660 J	90.6 J	349	359	78.2	28.8 U		
Benzo(K)Fluoranthene	207-08-9	3,900	56,000	110,000	1,360	1,370	**4,510**	1,160	**11,700**	433 J	1070	1940	230	1590	3130	315	2800 J	**20000 J**	415	1040	1270	178	28.8 U		
Chrysene	218-01-9	3,900	56,000	110,000	2,670	2,580	**6,090**	1,900	**9,590**	518 J	2940	**4360**	307	2700	**8120**	471	**7590 J**	**39900 J**	684	805	1950	245	28.8 U		
Cresols, M & P	MEPH1314	100,000	500,000	1,000,000	67 U	68 U	74 U	NA	NA	NA	44.7 U	50.5 U	51.9 U	50.4 U	125 U	26.8 U	122 U	1290 U	53.6 U	56.8 U	44.6 UJ	23.9 U	28.8 U		
DibenzI(A,H)Anthracene	53-70-3	330	560	1,100	**774**	**686**	**1,310**	245 U	**1,870 J**	222 U	207 J	**402**	51.9 U	313	**771 J**	72.6	**479 J**	**2630 J**	53.6 U	237	130	23.9 U	28.8 U		
Dibenzofuran	132-64-9	59,900	350,000	1,000,000	90.4	104	1170	623 J	1060 J	222 U	44.7 U	1090	51.9 U	796	510	64.5	247	5920 J	53.6 U	56.8 U	73.9 J	23.9 U	28.8 U		
Fluoranthene	206-44-0	100,000	500,000	1,000,000	5640	5240	16200	4140	18100	1350	6080	24700	481	7880	16000	990	12000	73200 J	1300	559	2010	385	28.8 U		
Fluorene	86-73-7	100,000	500,000	1,000,000	231	260	2050	1080	1210 J	382 J	1470	1630	67.8 J	879	1280	161	641	10500 J	53.6 U	90.6 J	95.3	23.9 U	28.8 U		
Hexachlorobenzene	118-74-1	1,200	6,000	12,000	67 U	68 U	74 U	245 U	612 U	222 U	57 J	50.5 U	51.9 U	50.4 U	125 U	26.8 U	183 J	***1290 UJ***	53.6 U	56.8 U	44.6 U	23.9 U	28.8 U		
Indeno(1,2,3-C,D)Pyrene	193-39-5	500	5,600	11,000	**1,910**	**1,750**	**3,550**	**594 J**	**3,230**	299 J	**516 J**	**688**	76.9 J	**643**	**1110 J**	121	**1180 J**	**6030 J**	89.7 J	439	334	67.5	28.8 U		
Naphthalene	91-20-3	100,000	500,000	1,000,000	56.3	77.1	1040	653 J	927 J	222 U	1360	1410	89.3 J	1280	288	26.8 U	205 J	1290 UJ	53.6 U	196	60.4 J	23.9 U	28.8 U		
Pentachlorophenol	87-86-5	6,700	6,700	55,000	330 U	340 U	370 U	491 U	1220 U	444 UJ	44.7 U	50.5 U	51.9 U	50.4 U	125 U	26.8 U	122 U	1290 U	53.6 U	56.8 U	44.6 UJ	23.9 U	28.8 U		
Phenanthrene	85-01-8	100,000	500,000	1,000,000	1910	2360	13300	4660	13700	1550	5440	30300	476	10100	14200	805	6940	68300 J	1190	348	1770	232	28.8 U		
Phenol	108-95-2	100,000	500,000	1,000,000	67 U	68 U	74 U	245 U	612 U	222 UJ	44.7 U	50.5 U	51.9 U	50.4 U	125 UJ	26.8 U	122 U	1290 U	53.6 U	56.8 U	44.6 UJ	23.9 U	28.8 U		
Pyrene	129-00-0	100,000	500,000	1,000,000	4300	4330	12100	3010	14800	1110	6780	41800	512	8890	20800	986	22700	77400 J	1430	656	2480	417	28.8 U		
Pesticides																									
Gamma Chlordane	12789-03-6	---	---	---	NA	NA	NA	1.93 U	2.4 U	1.74 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
4,4'-DDE	72-55-9	8,900	62,000	120,000	NA	NA	NA	1.93 U	2.4 U	3.44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
4,4'-DDT	50-29-3	7,900	47,000	94,000	NA	NA	NA	1.93 U	2.4 U	3.27	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Polychlorinated biphenyls (PCBs)																									
PCB-1254 (Aroclor 1254)	11097-69-1	1,000	1,000	25,000																					
Total PCBS	1336-36-3	1,000	1,000	25,000	NA	NA	NA	19.9 U	24.8 U	18 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Metals																									
Antimony	7440-36-0	---	---	---	NA	NA	NA	584 U	1040	528 U	535 U	605 U	620 U	603 U	596 U	986	584 U	617 U	641 U	680 U	533 U	768	690 U		
Arsenic	7440-38-2	16,000	16,000	16,000	NA	NA	NA	5540	9440	3790	3360	9650	2120	8540	12100	**67000**	6890	11000	8120	11000	3740	13100	6870		
Barium	7440-39-3	400,000	400,000	10,000,000	NA	NA	NA	29600	113000	127000	46800	266000	69200	70300	180000	**547000**	123000	62800	180000	306000	77400	93200	244000		
Beryllium	7440-41-7	72,000	590,000	2,700,000	NA	NA	NA	117 U	146 U	106 U	107 U	121 U	124 U	121 U	119 U	128 U	117 U	123 U	128 U	136 U	107 U	114 U	138 U		
Cadmium	7440-43-9	4,300	9,300	60,000	NA	NA	NA	351 U	**21,000**	**50,000**	321 U	363 U	372 U	362 U	357 U	385 U	351 U	370 U	1660	408 U	320 U	343 U	414 U		
Calcium	7440-70-2	---	---	---	NA	NA	NA	2840000	28400000	53500000	8210000	58800000	8070000	1520000	12600000	13300000	9240000	13400000	16100000	7350000	39300000	5030000	6960000		
Chromium, Total	7440-47-3	---	---	---	NA	NA	NA	9260	29900	19600	10600	15800	8360	12100	10800	13700	17300	8690	11600	13400	14000	11600	11700		
Cobalt	7440-48-4	---	---	---	NA	NA	NA	3960	4620	7950	5630	5580	4900	6070	5550	7730	6760	6810	5920	8660	7010	4960	7310		
Copper	7440-50-8	270,000	270,000	10,000,000	NA	NA	NA	13700	49000	135,000	20700	33300	10400	39600	38700	204000	26700	31100	61500	53000	71400	106000	90200		
Iron	7439-89-6	---	---	---	NA	NA	NA	8540000	13500000	12100000	9220000	10900000	9000000	15400000	12100000	28300000	13500000	27800000	9780000	20600000	12400000	13600000	10900000		
Lead	7439-92-1	400,000	1,000,000	3,900,000	NA	NA	NA	28900	167,000	110,000	36600	191000	29200	89000	**401000**	**2110000**	263000 B	161000	**3290000**	214000	142000	274000	384000		
Magnesium	7439-95-4	---	---	---	NA	NA	NA	2710000	5510000	3240000	4450000	9790000	2680000	2000000	2720000	2220000	2190000	1390000	1770000	1290000	3320000	2000000	1570000		
Manganese	7439-96-5	2,000,000	10,000,000	10,000,000	NA	NA	NA	108000	234000	119000	217000	462000	680000	472000	217000	427000	354000	118000	91800	180000	181000	130000	274000		
Mercury	7439-97-6	810	2,800	5,700	NA	NA	NA	119	1.17 U	67.1	96.5	756	**1380**	542	**976**	**2840**	**1160**	717	**1030**	717	273	**951**	**1320 J**		
Nickel	7440-02-0	310,000	310,000	10,000,000	NA	NA	NA	26600	16000	22100	35500	22300	20200	20500	21500	28100	34000	24200	19100	25600	21000	17900	25400		
Potassium	7440-09-7	---	---	---	NA	NA	NA	596000	969000	677000	926000	908000	710000	620000	803000	779000	868000	550000	685000	890000	1040000	1060000	840000		
Selenium	7782-49-2	180,000	1,500,000	6,800,000	NA	NA	NA	1170 U	1460 U	1370	4340	6830	3950	4970	4880	6640	4470	5130	4610	5150	4450	6050	3960		
Silver	7440-22-4	180,000	1,500,000	6,800,000	NA	NA	NA	584 U	728 U	528 U	535 U	605 U	620 U	603 U	596 U	641 U	584 U	617 U	641 U	680 U	533 U	572 U	690 U		
Sodium	7440-23-5	---	---	---	NA	NA	NA	364000	1260000	962000	324000	526000	285000	324000	478000	461000	396000	248000	430000	644000	550000	504000	590000		
Vanadium	7440-62-2	---	---	---	NA	NA	NA	13100	15800	11200	17700	20300	19000	21100	19200	33100	26400	18700	17300	29500	15000	22900	21900		
Zinc	7440-66-6	10,000,000	10,000,000	10,000,000	NA	NA	NA	22800	197,000	691,000	129000	552000	28000	51500	108000	543000	62300	94100	155000	71500	78100	128000	208000		

Notes:
Subpart 375-6 SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.
ft bgs - feet below ground surface
NA: Not analyzed
U: The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
J: The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
UJ: The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or imprecise.

Italicized and **Bold *results*** indicate Reporting Limits (RL) greater than or equal to the most stringent criteria.
Data has been subject to third party validation.

TABLE 9D
Remaining Impacts in Soil
363 BOND STREET/388 CARROLL STREET
(Confirmatory Post-Excavation Soil Samples)
Brooklyn, New York

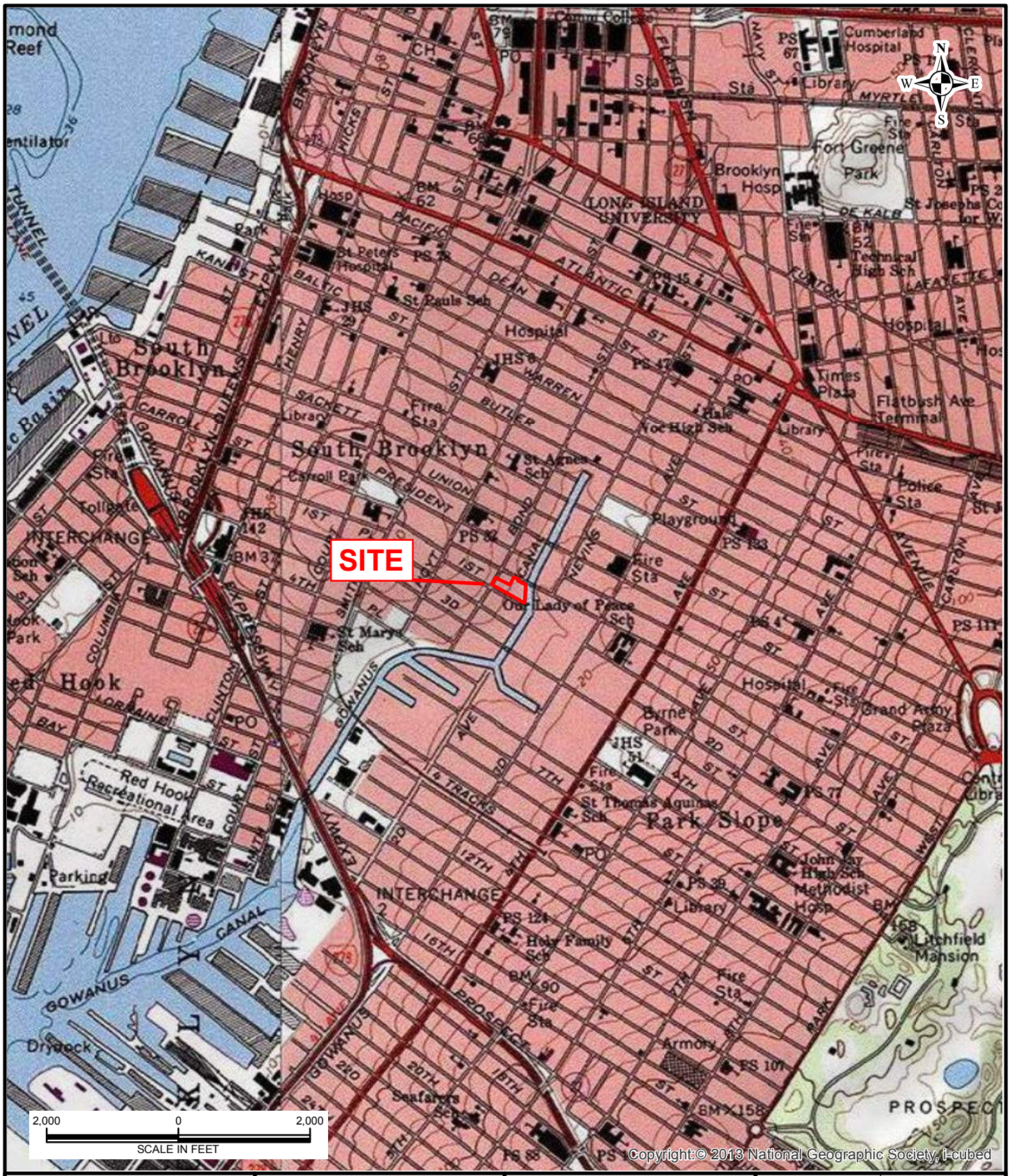
Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs			AOC-1				AOC-2		AOC-3										EPA-9/10		SB-3			
Location ID:		Protection of Public Health			PE-62		PE-67		PE-52		PE-11		PE-20		PE-20 (DUP-3)		PE-21		PE-27		PE-75		PE-80		PE-34		PE-35	
Lab Sample ID:	CAS Number	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB87193-1		JB86923-5		JB86806-2		JB87540-5		JB88089-3		JB88089-4		JB87638-1		JB87400-17		JB88203-1		JB88203-8		JB87400-2		JB87400-3	
Sample Date:					1/23/2015		1/21/2015		1/20/2015		2/3/2015		2/10/2015		2/10/2015		2/5/2015		1/30/2015		2/11/2015		2/12/2015		1/29/2015		1/29/2015	
Sampling Depth (ft bgs):					7		7		7		8.5		10		10		9		8.5		10		10		7		7	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Volatile Organics, NJDEP/TCL/Part 375 List																												
1,1,1-Trichloroethane	71-55-6	100,000	500,000	1,000,000	0.22	U	0.25	U	0.17	U	0.18	U	0.13	U	0.13	U	0.17	U	0.25	U	0.15	U	0.13	U	0.28	U	0.21	U
1,1,2,2-Tetrachloroethane	79-34-5	—	—	—	0.24	U	0.28	U	0.18	U	0.2	U	0.14	U	0.14	U	0.18	U	0.27	U	0.16	U	0.14	U	0.31	U	0.23	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	—	—	—	0.46	U	0.55	U	0.36	U	0.39	U	0.27	U	0.28	U	0.36	U	0.53	U	0.32	U	0.28	U	0.61	U	0.46	U
1,1,2-Trichloroethane	79-00-5	—	—	—	0.29	U	0.34	U	0.23	U	0.24	U	0.17	U	0.17	U	0.22	U	0.33	U	0.2	U	0.18	U	0.38	U	0.29	U
1,1-Dichloroethane	75-34-3	26,000	240,000	480,000	0.58	U	0.69	U	0.45	U	0.49	U	0.34	U	0.34	U	0.45	U	0.67	U	0.4	U	0.35	U	0.76	U	0.57	U
1,1-Dichloroethene	75-35-4	100,000	500,000	1,000,000	0.4	U	0.47	U	0.31	U	0.33	U	0.23	U	0.24	U	0.31	U	0.46	U	0.27	U	0.24	U	0.52	U	0.39	U
1,2,3-Trichlorobenzene	87-61-6	—	—	—	0.25	U	0.29	U	0.19	U	0.21	U	0.14	U	0.15	U	0.19	U	0.28	U	0.17	U	0.15	U	0.32	U	0.24	U
1,2,4-Trichlorobenzene	120-82-1	—	—	—	0.29	U	0.35	U	0.23	U	0.24	U	0.17	U	0.17	U	0.22	U	0.33	U	0.2	U	0.18	U	0.38	U	0.29	U
1,2-Dibromo-3-Chloropropane	96-12-8	—	—	—	0.85	U	1	U	0.66	U	0.71	U	0.49	U	0.5	U	0.65	U	0.97	U	0.58	U	0.51	U	1.1	U	0.83	U
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	—	—	—	0.25	U	0.3	U	0.2	U	0.21	U	0.15	U	0.15	U	0.19	U	0.29	U	0.17	U	0.15	U	0.33	U	0.25	U
1,2-Dichlorobenzene	95-50-1	100,000	500,000	1,000,000	0.26	U	0.31	U	0.2	U	0.22	U	0.15	U	0.16	U	0.2	U	0.3	U	0.18	U	0.16	U	0.34	U	0.26	U
1,2-Dichloroethane	107-06-2	3,100	30,000	60,000	0.19	U	0.22	U	0.15	U	0.16	U	0.11	U	0.11	U	0.14	U	0.21	U	0.13	U	0.11	U	0.25	U	0.18	U
1,2-Dichloroethane-D4	17060-07-0	—	—	—	49.8		46.3		48.2		50.5		46.8		47.2		48.1		49.5		52.6		54.7		46.4		48.6	
1,2-Dichloropropane	78-87-5	—	—	—	0.28	U	0.33	U	0.22	U	0.23	U	0.16	U	0.16	U	0.21	U	0.32	U	0.19	U	0.17	U	0.36	U	0.27	U
1,3-Dichlorobenzene	541-73-1	49,000	280,000	560,000	0.25	U	0.3	U	0.2	U	0.21	U	0.15	U	0.15	U	0.19	U	0.29	U	0.17	U	0.15	U	0.33	U	0.25	U
1,4-Dichlorobenzene	106-46-7	13,000	130,000	250,000	0.27	U	0.32	U	0.21	U	0.22	U	0.16	U	0.16	U	0.21	U	0.31	U	0.18	U	0.16	U	0.35	U	0.26	U
1,4-Dioxane (p-Dioxane)	123-91-1	13,000	130,000	250,000	32	U	32	U	30	U	34	U	24	U	22	U	27	U	35	U	24	U	24	U	41	U	31	U
2-Hexanone	591-78-6	—	—	—	0.9	U	1.1	U	0.7	U	0.75	U	0.53	U	0.54	U	0.69	U	1	U	0.62	U	0.54	U	1.2	U	0.89	U
Acetone	67-64-1	100,000	500,000	1,000,000	38.2		16.1	J	19.3		87.4		13.9	U	13.9	U	37.5		59.9		37		33.1		3.2	U	37.3	
Benzene	71-43-2	4,800	44,000	89,000	0.28	U	0.33	U	0.22	U	0.24	U	0.16	U	0.17	U	0.22	U	10.4		3.2		0.17	U	0.7	J	0.34	J
Bromochloromethane	74-97-5	—	—	—	0.39	U	0.46	U	0.3	U	0.33	U	0.23	U	0.23	U	0.3	U	0.45	U	0.27	U	0.24	U	0.51	U	0.38	U
Bromodichloromethane	75-27-4	—	—	—	0.39	U	0.46	U	0.3	U	0.33	U	0.23	U	0.23	U	0.3	U	0.45	U	0.27	U	0.24	U	0.51	U	0.38	U
Bromoform	75-25-2	—	—	—	0.17	U	0.2	U	0.13	U	0.14	U	0.1	U	0.1	U	0.13	U	0.2	U	0.12	U	0.1	U	0.23	U	0.17	U
Bromomethane	74-83-9	—	—	—	0.47	U	0.56	U	0.37	U	0.39	U	0.28	U	0.28	U	0.36	U	0.54	U	0.33	U	0.28	U	0.62	U	0.46	U
Carbon Disulfide	75-15-0	—	—	—	4	J	1	J	0.6	J	2.3	J	0.22	U	0.23	U	0.3	U	4.8	J	0.26	U	0.23	U	1.3	J	0.99	J
Carbon Tetrachloride	56-23-5	2,400	22,000	44,000	0.23	U	0.27	U	0.18	U	0.19	U	0.13	U	0.14	U	0.18	U	0.26	U	0.16	U	0.14	U	0.3	U	0.23	U
Chlorobenzene	108-90-7	100,000	500,000	1,000,000	0.2	U	0.23	U	0.15	U	0.17	U	0.12	U	0.12	U	0.15	U	0.23	U	0.14	U	0.12	U	0.26	U	0.19	U
Chloroethane	75-00-3	—	—	—	0.39	U	0.46	U	0.3	U	0.32	U	0.23	U	0.23	U	0.3	U	0.44	U	0.27	U	0.23	U	0.51	U	0.38	U
Chloroform	67-66-3	49,000	350,000	700,000	0.17	U	0.2	U	0.13	U	0.14	U	0.097	U	0.099	U	0.13	U	0.19	U	0.12	U	0.1	U	0.22	U	0.16	U
Chloromethane	74-87-3	—	—	—	0.48	U	0.57	U	0.38	U	0.41	U	0.28	U	0.29	U	0.37	U	0.56	U	0.33	U	0.29	U	0.64	U	0.48	U
cis-1,2-Dichloroethylene	156-59-2	100,000	500,000	1,000,000	0.42	U	0.5	U	0.33	U	0.35	U	0.25	U	0.25	U	0.32	U	0.48	U	0.29	U	0.25	U	0.55	U	0.42	U
cis-1,3-Dichloropropene	10061-01-5	—	—	—	0.21	U	0.24	U	0.16	U	0.17	U	0.12	U	0.12	U	0.16	U	0.24	U	0.14	U	0.12	U	0.27	U	0.2	U
Cyclohexane	110-82-7	—	—	—	1.9	J	6.2	J	1.7	J	0.48	U	0.33	U	0.34	U	0.44	U	53.9		0.57	J	0.35	U	0.75	U	3.5	J
Dibromochloromethane	124-48-1	—	—	—	0.22	U	0.26	U	0.17	U	0.18	U	0.13	U	0.13	U	0.17	U	0.25	U	0.15	U	0.13	U	0.29	U	0.22	U
Dichlorodifluoromethane	75-71-8	—	—	—	0.84	U	1	U	0.66	U	0.71	U	0.49	U	0.5	U	0.65	U	0.97	U	0.58	U	0.51	U	1.1	U	0.83	U
Ethylbenzene	100-41-4	41,000	390,000	780,000	0.17	U	1.6	J	0.13	U	0.14	U	0.1	U	0.1	U	0.13	U	1.2	J	0.4	J	0.1	U	0.23	U	0.17	U
Hexachlorobutadiene	87-68-3	—	—	—	14	U	14	U	13	U	14	U	10	U	9.6	U	11	U	15	U	10	U	10	U	17	U	13	U
Isopropylbenzene (Cumene)	98-82-8	—	—	—	0.25	U	7.2	J	0.19	U	0.21	U	0.14	U	0.15	U	0.19	U	5.4	J	0.49	J	0.15	U	0.33	U	0.24	U
m,p-Xylene (sum of isomers)	XYLMP	100,000	500,000	1,000,000	0.37	U	0.62	J	0.29	U	0.31	U	0.21	U	0.22	U	0.28	U	2.3		1.4		0.22	U	0.48	U	0.36	U
Methyl Acetate	79-20-9	—	—	—	0.78	U	0.93	U	0.61	U	0.66	U	0.46	U	0.47	U	0.6	U	0.9	U	0.54	U	0.47	U	1	U	0.77	U
Methyl ethyl ketone (2-Butanone)	78-93-3	100,000	500,000	1,000,000	2	U	2.3	U	1.5	U	18.8		1.1	U	1.2	U	9.3	J	11.2	J	1.4	U	1.2	U	2.6	U	1.9	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	—	—	—	0.52	U	0.62	U	0.41	U	0.44	U	0.3	U	0.31	U	0.4	U	0.6	U	0.36	U	0.31	U	0.68	U	0.51	U
Methylcyclohexane	108-87-2	—	—	—	0.3	J	14.3		1.5	J	0.19	U	0.13	U	0.13	U	0.17	U	54.4		0.38	J	0.13	U	0.29	U	19.3	
Methylene Chloride	75-09-2	100,000	500,000	1,000,000	1.5	U	1.8	U	1.2	U	1.3	U	0.9	U	0.91	U	1.2	U	1.8	U	1.1	U	0.93	U	2	U	1.5	U
o-Xylene (1,2-Dimethylbenzene)	95-47-6	100,000	500,000	1,000,000	0.23	U	1.1	J	0.18	U	0.19	U	0.13	U	0.14	U	0.18	U	2.6		2.4		0.14	U	0.3	U	0.23	U
Styrene	100-42-5	—	—	—	0.23	U	0.27	U	0.18	U	0.19	U	0.13	U	0.13	U	0.17	U	0.26	U	0.16	U	0.14	U	0.3	U	0.22	U
Tert-Butyl Methyl Ether	1634-04-4	100,000	500,000	1,000,000	0.27	U	0.32	U	0.21	U	0.23	U	0.16	U	0.16	U	0.21	U	0.7	J	0.19	U	0.16	U	0.35	U	0.27	U
Tetrachloroethylene (PCE)	127-18-4	19,000	150,000	300,000	0.32	U	0.37	U	0.25	U	0.26	U	0.18	U	0.19	U	0.24	U	0.36	U	0.22	U	0.19	U	0.42	U	0.31	U
Toluene	108-88-3	100,000	500,000	1,000,000	0.24	U	0.29	U	0.19	U	0.2	U	0.14	U	0.14	U	0.19	U	1.8	J	0.3	J	0.15	U	0.32	U	0.24	U
Toluene-D8	2037-26-5	—	—	—	51.7		51.9		52		57		56		56.4		56.4		56.6		55		57		51.3		50.1	
Trans-1,2-Dichloroethene	156-60-5	100,000	500,000	1,000,000	0.3	U	0.36	U	0.24	U	0.25	U	0.18	U	0.18	U	0.23	U	0.35	U	0.21	U	0.18	U	0.4	U	0.3	U
Trans-1,3-Dichloropropene	10061-02-6	—	—	—	0.27	U	0.32	U	0.21	U	0.23	U	0.16	U	0.16	U	0.21	U	0.31	U	0.19	U	0.17	U	0.36	U	0.27	U
Trichloroethylene (TCE)	79-01-6	21,000	200,000	400,000	0.32	U	0.38	U	0.25	U	0.27	U	0.19	U	0.19	U	0.24	U	0.36	U	0.22	U	0.19	U	0.42	U	0.31	U
Trichlorofluoromethane	75-69-4	—	—	—	0.27	U	0.32	U	0.21	U	0.23	U	0.16	U	0.16	U	0.21	U	0.31	U	0.19	U	0.16	U	0.35	U	0.27	U
Vinyl Chloride	75-01-4	900	13,000	27,000	0.23	U	0.27	U	0.18	U	0.19	U	0.13	U	0.14	U	0.18	U	0.26	U	0.16	U	0.14	U	0.3	U	0.23	U
Xylenes, Total	1330-20-7	100,000	500,000	1,000,000	0.23	U	1.7	J	0.18	U	0.19	U	0.13	U	0.14	U	0.18	U	4.8		3.8		0.14	U	0.3	U	0.23	U
Semi-Volatiles, NJDEP/TCL/Part 375 List																												
1,2,4,5-Tetrachlorobenzene	95-94-3	—	—	—	15	U	15	U	14	U	16	U	11	U	11	U	13	U	16	U	12	U	11	U	19	U	15	U
2,3,4,6-Tetrachlorophenol	58-90-2	—	—	—	50	U	51	U	47	U	53	U	38	U	36	U	43	U	55	U	39	U	38	U	64	U	50	U
2,4,5-Trichlorophenol	95-95-4	—	—	—	56	U	57	U	53	U	60	U	42	U	40	U	48	U	62	U	44	U	42	U	73	U	56	U
2,4,6-Trichlorophenol	88-06-2	—	—	—	46	U	47	U	43	U	49	U	34	U	32	U	39	U	50	U	35	U	34	U	59	U	46	U
2,4-Dichlorophenol	120-83-2	—	—	—	78	U	80	U	74	U	83	U	59	U	56	U	66	U	86	U	60	U	59	U	100	U	78	U
2,4-Dimethylphenol	105-67-9	—	—	—	82	U	83	U	77	U	87	U	61	U	58	U	69	U	90	U	63	U	61	U	110	U	81	U
2,4-Dinitrophenol	51-28-5	—	—	—	59	U	60	U	56	U	63	U	44	U	42	U	50	U	65	U	46	U	45	U	76	U	59	U
2,4-Dinitrotoluene	121-14-2	—	—	—	21	U	22	U	20	U	23	U	16	U	15	U	18	U	23	U	16	U	16	U	27	U	21	U
2,6-Dinitrotoluene	606-20-2	—	—	—	19	U	19	U	18	U	20	U	14	U	13	U	16	U	20	U	14	U	14	U	24	U	18	U
2-Chloronaphthalene	91-58-7	—	—	—	15	U	15	U	14	U	16	U	11	U	11	U	13	U	17	U	12	U	11	U	19	U	15	U
2-Chlorophenol	95-57-8	—	—	—	49	U	49	U	46	U	52	U	36	U	35	U	41	U	53	U	38	U	37	U	63	U	48	U
2-Fluorobiphenyl	321-60-8	—	—	—	29.9		29.8		29.4		29		41.8		37.4		29.4		29.6		38.5		37.3		30.9		32.1	
2-Fluorophenol	367-12-4	—	—	—	36		37.9		31.1		34.4		39.2		33.7		32.3		31.4		29.7		32		33.6		35.2	
2-Methylnaphthalene	91-57-6	—	—	—	27	U	28	U	26	U	29	U	20	UJ	445	J	23	U	30	U	268		20	U	35	U	27	U
2-Methylphenol (o-Cresol)	95-48-7	100,000	500,000	1,000,000	56	U	56	U	52	U	59	U	42	U	39	U	47	U	61	U	43	U	42	U	71	U	55	U
2-Nitroaniline	88-74-4	—	—	—	21	U	22	U	20	U	23	U	16	U	15	U	18	U	23	U	17	U	16	U	28	U	21	U
2-Nitrophenol	88-75-5	—	—	—	52	U	52	U	49	U	55	U	39	U	37	U	44	U	57	U	40	U	39	U	66	U	51	U

TABLE 9D
Remaining Impacts in Soil
363 BOND STREET/388 CARROLL STREET
(Confirmatory Post-Excavation Soil Samples)
Brooklyn, New York

Area of Concern:		NYSDEC Subpart 375-6 Remedial Program SCOs			AOC-1				AOC-2		AOC-3										EPA-9/10		SB-3			
Location ID:		Protection of Public Health			PE-62		PE-67		PE-52		PE-11		PE-20		PE-20 (DUP-3)		PE-21		PE-27		PE-75		PE-80		PE-34		PE-35	
Lab Sample ID:	CAS Number	Restricted-Residential	Restricted-Commercial	Restricted-Industrial	JB87193-1		JB86923-5		JB86906-2		JB87540-5		JB88089-3		JB88089-4		JB87638-1		JB87400-17		JB88203-1		JB88203-8		JB87400-2		JB87400-3	
Sample Date:					1/23/2015		1/21/2015		1/20/2015		2/3/2015		2/10/2015		2/10/2015		2/5/2015		1/30/2015		2/11/2015		2/12/2015		1/29/2015		1/29/2015	
Sampling Depth (ft bgs):					7		7		7		8.5		10		10		9		8.5		10		10		7		7	
Units:		ug/kg	ug/kg	ug/kg	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q	ug/kg	Q
Semi-Volatiles, NJDEP/TCL/Part 375 List																												
3,3'-Dichlorobenzidine	91-94-1	---	---	---	12	U	13	U	12	U	13	U	9.3	U	8.8	U	10	U	14	U	9.5	U	9.3	U	16	U	12	U
3-Nitroaniline	99-09-2	---	---	---	19	U	20	U	18	U	21	U	15	U	14	U	17	U	21	U	15	U	15	U	25	U	19	U
4,6-Dinitro-2-Methylphenol	534-52-1	---	---	---	59	U	60	U	56	U	63	U	44	U	42	U	50	U	65	U	46	U	45	U	76	U	59	U
4-Bromophenyl phenyl ether	101-55-3	---	---	---	18	U	18	U	17	U	19	U	13	U	13	U	15	U	19	U	14	U	13	U	23	U	18	U
4-Chloro-3-Methylphenol	59-50-7	---	---	---	49	U	49	U	46	U	52	U	36	U	35	U	41	U	53	U	38	U	37	U	63	U	48	U
4-Chloroaniline	106-47-8	---	---	---	16	U	16	U	15	U	17	U	12	U	11	U	13	U	17	U	12	U	12	U	20	U	15	U
4-Chlorophenyl phenyl ether	7005-72-3	---	---	---	15	U	15	U	14	U	16	U	11	U	10	U	12	U	16	U	11	U	11	U	19	U	15	U
4-Nitroaniline	100-01-6	---	---	---	19	U	19	U	18	U	20	U	14	U	13	U	16	U	21	U	15	U	14	U	24	U	19	U
4-Nitrophenol	100-02-7	---	---	---	82	U	84	U	78	U	87	U	62	U	58	U	70	U	90	U	63	U	62	U	110	U	82	U
Acenaphthene	83-32-9	100,000	500,000	1,000,000	14	U	115		13	U	15	U	11	UJ	430	J	12	U	15	U	1,540		11	U	18	U	14	U
Acenaphthylene	208-96-8	100,000	500,000	1,000,000	16	U	82		15	U	17	U	12	U	39.3		13	U	17	U	130		12	U	20	U	15	U
Acetophenone	98-86-2	---	---	---	8.6	U	8.7	U	8.1	U	9.1	U	6.4	U	6.1	U	7.3	U	9.4	U	6.6	U	6.4	U	11	U	8.5	U
Anthracene	120-12-7	100,000	500,000	1,000,000	17	U	241		16	U	18	U	14.5	J	280	J	14	U	19	U	2,940		13	U	22	U	19.8	J
Atrazine	1912-24-9	---	---	---	9.6	U	9.7	U	9.1	U	10	U	7.2	U	6.8	U	8.1	U	11	U	7.4	U	7.2	U	12	U	9.5	U
Benzaldehyde	100-52-7	---	---	---	11	U	11	U	30.8	J	12	U	8.4	U	7.9	U	9.5	U	12	U	8.6	U	8.4	U	14	U	11	U
Benzo(a)anthracene	56-55-3	1,000	5,600	11,000	16	U	189		15	U	17	U	46.1	J	239	J	20.1	J	46.2	J	**3,230**		12	U	29.6	J	35.6	J
Benzo(a)pyrene	50-32-8	1,000	1,000	1,100	15	U	186		14	U	16	U	36	J	221	J	16.7	J	51.2	J	**2,290**		11	U	50.7	J	28.6	J
Benzo(b)fluoranthene	205-99-2	1,000	5,600	11,000	16	U	117		15	U	17	U	36.7	J	215	J	23.5	J	55.2		**2,170**		12	U	41.8	J	33.5	J
Benzo(g,h,i)perylene	191-24-2	100,000	500,000	1,000,000	18	U	132		17	U	19	U	15.1	J	106	J	15	U	35.5	J	795		14	U	30.4	J	18	U
Benzo(k)fluoranthene	207-08-9	3,900	56,000	110,000	18	U	36.8	J	17	U	19	U	17.3	J	98.9	J	16	U	20	U	581		14	U	24	U	18	U
Benzyl Butyl Phthalate	85-68-7	---	---	---	28	U	29	U	27	U	30	U	21	U	20	U	24	U	31	U	22	U	21	U	36	U	28	U
Biphenyl (diphenyl)	92-52-4	---	---	---	5.6	U	5.7	U	5.3	U	6	U	4.2	U	73.9		4.8	U	6.2	U	40	J	4.2	U	7.3	U	5.6	U
Bis(2-chloroethoxy) methane	111-91-1	---	---	---	20	U	20	U	19	U	21	U	15	U	14	U	17	U	22	U	15	U	15	U	25	U	20	U
Bis(2-chloroethyl) ether (2-chloroethyl ether)	111-44-4	---	---	---	15	U	15	U	14	U	16	U	11	U	10	U	12	U	16	U	11	U	11	U	19	U	15	U
Bis(2-chloroisopropyl) ether	108-60-1	---	---	---	14	U	15	U	14	U	15	U	11	U	10	U	12	U	16	U	11	U	11	U	19	U	14	U
Bis(2-ethylhexyl) phthalate	117-81-7	---	---	---	43	U	44	U	41	U	46	U	32	U	30	U	36	U	47	U	33	U	32	U	62.4	J	43	U
Caprolactam	105-60-2	---	---	---	15	U	16	U	14	U	16	U	11	U	11	U	13	U	17	U	12	U	12	U	20	U	15	U
Carbazole	86-74-8	---	---	---	23	U	23	U	21	U	24	U	17	U	115		19	U	25	U	377		17	U	29	U	22	U
Chrysene	218-01-9	3,900	56,000	110,000	16	U	168		16	U	17	U	45	J	217	J	19.9	J	45	J	3,520		12	U	25.8	J	35	J
Cresols, m&p	MEPH1314	100,000	500,000	1,000,000	62	U	63	U	58	U	66	U	46	U	44	U	116		68	U	48	U	46	U	79	U	90.5	J
Dibenz(a,h)anthracene	53-70-3	330	560	1,100	17	U	17	U	16	U	18	U	12	U	30.7	J	14	U	18	U	302		12	U	21	U	17	U
Dibenzofuran	132-64-9	59,000	350,000	1,000,000	14	U	15	U	14	U	15	U	11	UJ	254	J	12	U	16	U	544		11	U	19	U	14	U
Diethyl Phthalate	84-66-2	---	---	---	17	U	17	U	16	U	18	U	12	U	12	U	14	U	18	U	13	U	12	U	21	U	17	U
Dimethyl Phthalate	131-11-3	---	---	---	17	U	17	U	16	U	18	U	13	U	12	U	15	U	19	U	13	U	13	U	22	U	17	U
Di-n-butyl phthalate	84-74-2	---	---	---	11	U	11	U	10	U	11	U	8.1	U	7.7	U	9.2	U	12	U	8.3	U	8.1	U	14	U	11	U
Di-n-octylphthalate	117-84-0	---	---	---	24	U	24	U	22	U	25	U	18	U	17	U	20	U	26	U	18	U	18	U	30	U	24	U
Fluoranthene	206-44-0	100,000	500,000	1,000,000	21	U	324		20	U	23	U	45.8	J	514	J	41.8		79.3		4,430		16	U	28	U	85.3	
Fluorene	86-73-7	100,000	500,000	1,000,000	16	U	182		15	U	17	U	12	UJ	349	J	14	U	17	U	1,540		12	U	21	U	25.9	J
Hexachlorobenzene	118-74-1	1,200	6,000	12,000	16	U	16	U	15	U	17	U	12	U	11	U	13	U	17	U	12	U	12	U	20	U	16	U
Hexachlorocyclopentadiene	77-47-4	---	---	---	50	U	50	U	47	U	53	U	37	U	35	U	42	U	54	U	38	U	37	U	64	U	49	U
Hexachloroethane	67-72-1	---	---	---	14	U	14	U	13	U	14	U	10	U	9.6	U	11	U	15	U	10	U	10	U	17	U	13	U
Indeno(1,2,3-c,d)pyrene	193-39-5	500	5,600	11,000	17	U	87.2		16	U	18	U	16.9	J	109	J	14	U	18	U	**822**		13	U	37.7	J	17	U
Isophorone	78-59-1	---	---	---	13	U	13	U	12	U	14	U	9.8	U	9.3	U	11	U	14	U	10	U	9.8	U	17	U	13	U
Naphthalene	91-20-3	100,000	500,000	1,000,000	13	U	14	U	13	U	14	U	43.8	J	1,950	J	11	U	39.1	J	947		10	U	17	U	22.2	J
Nitrobenzene	98-95-3	---	---	---	14	U	14	U	13	U	15	U	11	U	10	U	12	U	15	U	11	U	11	U	18	U	14	U
N-Nitrosodi-n-Propylamine	621-64-7	---	---	---	12	U	12	U	11	U	13	U	8.9	U	8.4	U	10	U	13	U	9.2	U	8.9	U	15	U	12	U
N-Nitrosodiphenylamine	86-30-6	---	---	---	29	U	30	U	27	U	31	U	22	U	21	U	25	U	32	U	22	U	22	U	37	U	29	U
Pentachlorophenol	87-86-5	6,700	6,700	55,000	83	U	85	U	79	U	88	U	62	U	59	U	71	U	91	U	64	U	63	U	110	U	83	U
Phenanthrene	85-01-8	100,000	500,000	1,000,000	22	U	639		21	U	24	U	48.9	J	1,160	J	39.2	J	57.8		17,300		17	U	28	U	101	
Phenol	108-95-2	100,000	500,000	1,000,000	51	U	52	U	48	U	54	U	38	U	36	U	43	U	56	U	39	U	38	U	66	U	51	U
Pyrene	129-00-0	100,000	500,000	1,000,000	19	U	552		18	U	20	U	48.9	J	548	J	31.9	J	84.5		8,370		14	U	24	U	78.4	
Metals, Target Analyte																												
Aluminum	7429-90-5	---	---	---	18,100,000		12,000,000		6,170,000		15,900,000		7,060,000		6,760,000		3,690,000		23,300,000		6,070,000		6,340,000		10,400,000	J	21,700,000	
Antimony	7440-36-0	---	---	---	420	U	460	B	370	U	430	U	340	U	330	U	7,700		960	B	320	U	340	U	500	UJ	1,100	B
Arsenic	7440-38-2	16,000	16,000	16,000	**18,900**		11,800		4,100		**19,600**		3,000		3,100		5,300		12,600		7,100		2,500		9,800		12,400	
Barium	7440-39-3	400,000	400,000	10,000,000	54,500		**505,000**		31,300		44,400		28,400		24,700		78,800		69,100		76,000		28,000		**481,000**		129,000	
Beryllium	7440-41-7	72,000	590,000	2,700,000	910		1,200		310		750		400		340		250	B	1,300		370		370		800		1,200	
Cadmium	7440-43-9	4,300	9,300	60,000	200	B	190	B	220	B	340	B	76	B	130	B	72	U	**12,000**		200	B	140	B	1,200		480	B
Calcium	7440-70-2	---	---	---	11,200,000		9,540,000		2,880,000		1,440,000		1,440,000		1,390,000		10,400,000		3,110,000		13,100,000		1,060,000		12,300,000	J	3,940,000	
Chromium, Total	7440-47-3	---	---	---	32,200		19,300		16,800		35,400		14,100		14,700		9,900		47,600		11,300		11,300		14,200		40,700	
Cobalt	7440-48-4	---	---	---	13,000		14,900		4,800	B	13,700		5,300	B	7,700		3,300	B	15,400		5,100	B	5,000	B	7,200	B	13,400	
Copper	7440-50-8	270,000	270,000	10,000,000	16,700		73,500		**274,000**		18,300		12,600		19,400		22,200		30,100		31,000		11,500		23,700		62,000	
Iron	7439-89-6	---	---	---	33,200,000		20,700,000		15,100,000		32,700,000		14,100,000		14,200,000		10,500,000		39,800,000		9,050,000		10,300,000		11,500,000	J	35,600,000	
Lead	7439-92-1	400,000	1,000,000	3,900,000	21,000		205,000		118,000		13,800		17,900		14,700		**410,000**		35,800		134,000		33,600		280,000	J	318,000	
Magnesium	7439-95-4	---	---	---	6,080,000		1,360,000		2,850,000		5,670,000		2,370,000		3,040,000		1,580,000		8,040,000		2,490,000		1,910,000		1,120,000		6,620,000	
Manganese	7439-96-5	2,000,000	10,000,000	10,000,000	375,000		645,000		140,000		265,000		191,000		149,000		109,000		409,000		182,000		283,000		320,000	J	397,000	
Mercury	7439-97-6	810	2,800	5,700	54		200		120		39	B	**1,200**		**1,100**		**850**		63		290		**1,700**		90		**2,100**	
Nickel	7440-02-0	310,000	310,000	10,000,000	30,300		27,700		23,000		29,100		23,500		32,200		13,500		39,600		16,200		19,700		17,400		53,600	
Potassium	7440-09-7	---	---	---	3,820,000		1,290,000	B	1,150,000	B	4,170,000		1,150,000	B	1,760,000		812,000	B	4,970,000		1,150,000	B	885,000	B	1,080,000	B	3,170,000	
Selenium	7782-49-2	180,000	1,500,000	6,800,000	520	U	980	B	450	U	950	B	420	U	400	U	840	B	770	B	1,100	B	410	U	820	B	970	B
Silver	7440-22-4	180,000	1,500,000	6,800,000	220	U	220	U	500	B	670	B	180	U	170	U	280	B	640	B	420	B	400	B	560	J	2,000	
Sodium	7440-23-5	---	---	---	983,000	B	1,270,000	B	288,000	B	1,630,000		415,000	B	372,000	B	1,180,000	B	1,990,000		556,000	B	204,000	B	1,300,000	B	773,000	B
Thallium	7440-28-0	---	---	---	640	U	650	U	560	U	660	U	520	U	500	U	590	U	770	U	490	U	510	U	760	U	670	U
Vanadium	7440-62-2	---	---	---	44,100		43,900		27,900		39,300		21,400		23,000		13,100		49,900		21,000		16,400		34,400		51,800	
Zinc	7440-66-6	10,000,000	10,000,000	10,000,000	73,100		63,000		141,000		61,200		31,300		34,500		67,300		157,000		263,000		28,100		73,900		136,000	

Notes:
NYSDEC Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs) (Revised Brownfields) criteria are from the Regulatory exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram
NA= analyte not analyzed
--- = indicates no regulatory limit has been established for this analyte
U= The analyte was analyzed for, but was not detected at, a level greater than or equal to the level of the RL or the sample
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample
B= The analyte was found in the analysis batch blank.
Data has been subject to third party validation.

FIGURES



LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

PROPOSED BOND STREET DEVELOPMENT

BLOCK No. 452, LOT No. 1

BROOKLYN

KINGS COUNTY NEW YORK

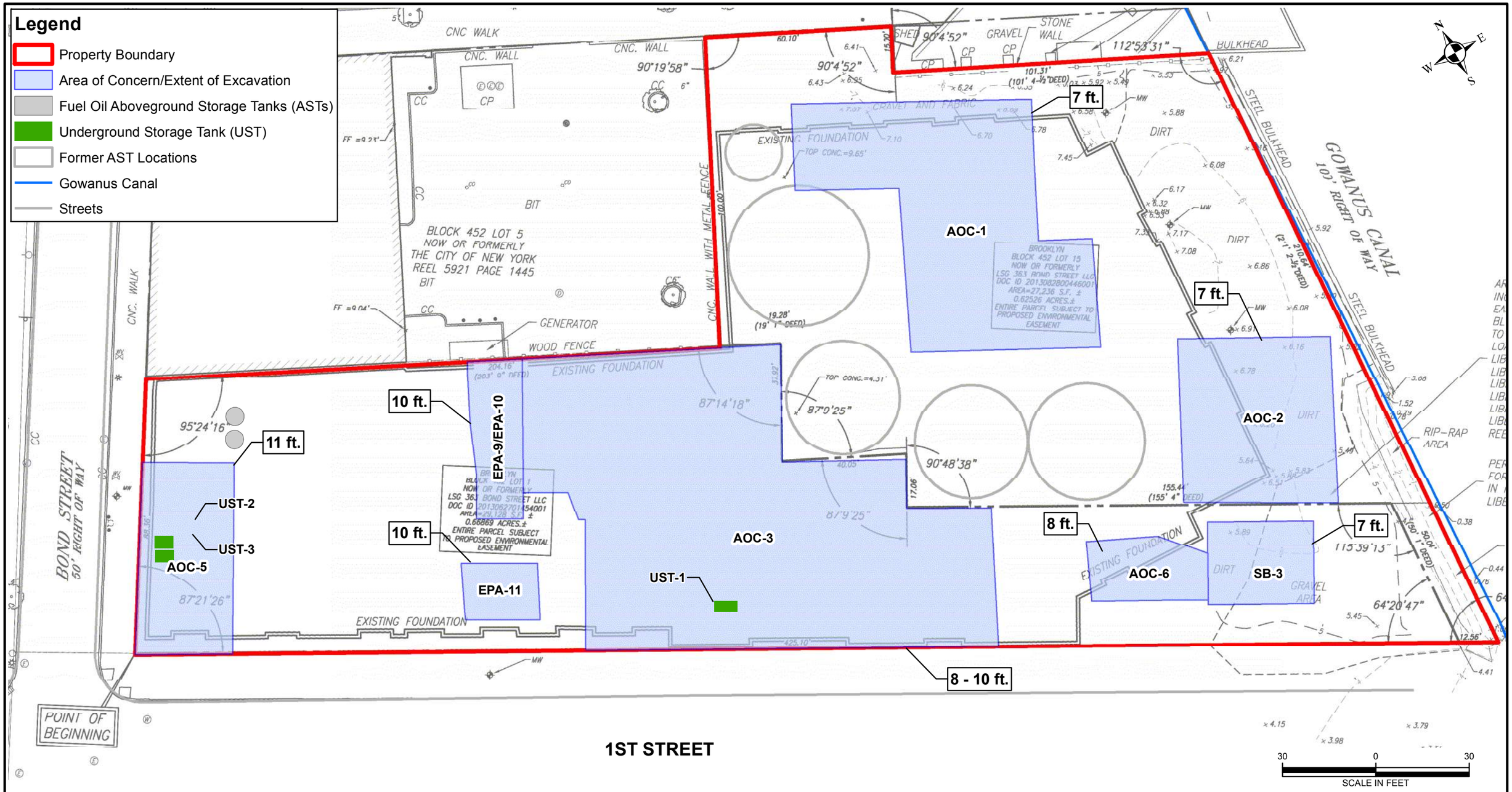
Drawing Title

SITE LOCATION MAP

Project No. 100287503	Figure 1
Date 10/19/2012	
Scale 1"=2000'	
Drawn By amf	
Last Revised 3/9/2015	

© 2013 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015-03 - 363 Bond SMP\Figure 1 - Site Location Plan.mxd



Notes:
1. Map features are based on aerial photographs, tax maps, and the following ELM reports: Phase II Investigation Report, 363 Bond Street (May 2005); and Phase II Investigation Report, 400 Carroll Street (May 2005).
2. AOC-1: Proposed Excavation Area - 388 Carroll Street, North; AOC-2: Proposed Excavation Area - 388 Carroll Street, South; AOC-3: Proposed Excavation Area - 363 Bond Street; AOC-5: Former UST Area; AOC-6: LSV-20.
3. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project	PROPOSED BOND STREET DEVELOPMENT BLOCK No. 452, LOT No. 1 BROOKLYN KINGS COUNTY NEW YORK
Drawing Title	SITE PLAN & EXCAVATION EXENTS
Project No.	100287501
Date	3/2/2015
Scale	1"=30'
Drawn By	atr
Last Revised	7/16/2015
Figure	2

© 2012 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 2 - Site Plan and Excavation Extents.mxd

Legend

- Soil Boring - Clay Is Present
- Soil Boring - Clay Is Not Present
- Soil Boring - Clay Is Not Present (Insufficient Boring Termination Depth)
- Clay Elevation Contour
- Area of Concern
- Property Boundary
- Gowanus Canal
- Streets

30 0 30
SCALE IN FEET

AOC-1
AOC-2
AOC-3
AOC-5
SB-1 (-3.5)
SB-2 (-2.0)
SB-3 (-10.0)
SB-4 (-3.5)
SB-5 (-10.5)
SB-6 (-3.5)
SB-7 (-3.5)
SB-8 (-10.0)
SB-9 (-3.0)
SB-10 (-4.5)
SB-11 (-4.0)
SB-12 (-4.5)
LB-1 (-5.5)
LB-2 (-6.0)
LB-3 (-5.5)
LB-4 (-5.5)
LB-5 (-5.0)
LB-6
LSB-1/LMW-7 (-1.5)
LSB-2 (-0.5)
LSB-3 (2.0)
LSB-4 (2.0)
LSB-5 (-0.5)
LSB-7
LSB-8
LSB-9
LSB-21
LSB-22/LMW-6
LSB-23
LSB-24
LSB-25
LSB-27 (-4.0)
LSB-10
MW-1 (-5.5)
MW-2 (-2.5)
MW-3 (-9.0)
MW-4 (-6.0)
MW-5 (-7.0)
BLB-3/LB-9 (-8.5)
BLB-4/LB-10
SLB-3 (-6.0)
SLB-4
SLB-5
BROOKLYN BLOCK 452 LOT 15 NOW OR FORMERLY LSG 363 BOND STREET LLC DOC ID 2013062701054001 AREA 29.128 S.F. ± 0.6688 ACRES ± EXISTING PARCEL SUBJECT TO PROPOSED ENVIRONMENTAL EASEMENT
BOND STREET 50' RIGHT OF WAY
GOWANUS CANAL 100' RIGHT OF WAY
1ST STREET
POINT OF BECINNING
EXISTING FOUNDATION
EXISTING BUILDING
STEEL BULKHEAD
BULKHEAD
CNC. WALL
CNC. WALL WITH METAL FENCE
WOOD FENCE
GENERATOR
GRAVEL
STONE WALL
DIRT
GRAVEL AREA
RIP-RAP AREA
REEL 5921 PAGE 1445
-2.0
-4.0
-6.0
-8.0
-10.0
0.0

Notes:
1. Map features are based on aerial photographs, tax maps, and the following ELM reports: Phase II Investigation Report, 363 Bond Street (May 2005); and Phase II Investigation Report, 400 Carroll Street (May 2005).
2. All ELM sample locations are approximate and based on the reports identified in Note 1.
3. AOC-1: Proposed Excavation Area - 388 Carroll Street, North; AOC-2: Proposed Excavation Area - 388 Carroll Street, South; AOC-3: Proposed Excavation Area - 363 Bond Street; AOC-5: Former UST Area
4. Clay elevation information obtained from Langan environmental and geotechnical boring logs and boring logs provided in the reports identified in Note 1.
5. Elevations are provided in Brooklyn Highway Datum.
6. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
SUBSURFACE CLAY LAYER ELEVATION CONTOUR MAP

Project No.	100287503
Date	11/12/2013
Scale	1"=30'
Drawn By	amf
Last Revised	7/16/2015

Figure 3

© 2013 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 3 - Clay Elevation Contour Map.mxd

Legend

- Monitoring Well Location (ELM)
- Monitoring Well Location (Langan)
- Groundwater Elevation Contour
- Inferred Groundwater Elevation Contour
- Groundwater Flow Direction
- (2.04) Groundwater Elevation
- Property Boundary
- Area of Concern
- Gowanus Canal
- Streets

CARROLL STREET
60' RIGHT OF WAY

BOND STREET
50' RIGHT OF WAY

1ST STREET

GOWANUS CANAL
100' RIGHT OF WAY

BLOCK 452 LOT 5
NOW OR FORMERLY
THE CITY OF NEW YORK
REEL 5921 PAGE 1445

BROOKLYN
BLOCK 452 LOT 15
NOW OR FORMERLY
LSG 363 BOND STREET LLC
DOC ID 2013082800446001
0.62526 ACRES.±
ENTIRE PARCEL SUBJECT TO
PROPOSED ENVIRONMENTAL
EASEMENT

BROOKLYN
BLOCK 452 LOT 1
NOW OR FORMERLY
LSG 363 BOND STREET LLC
DOC ID 2013062701044001
ENTIRE PARCEL SUBJECT
TO PROPOSED ENVIRONMENTAL
EASEMENT

AOC-1
AOC-2
AOC-3
AOC-5

LMW-10 (1.56)
LMW-9 (0.77)
LMW-6 (2.17)
MW-5 (0.80)
MW-4 (1.35)
MW-2 (1.77)
LMW-7 (0.26)
MW-3 (2.04)
MW-1 (0.63)

EXISTING BUILDING
EXISTING FOUNDATION
GENERATOR
WOOD FENCE
CNC WALL
CNC WALL WITH METAL FENCE
COBBLESTONE
BRIDGE MACHINERY
RR TRACKS (TYP.)
BULKHEAD
STEEL BULKHEAD
GRAVEL
STONE WALL
DIRT
RIP-RAP AREA
POINT OF BEGINNING

AREA SUBJECT TO INGRESS AND EASEMENTS IN BLOCK 452 LOT TO THE FORMER LOADING AREA
LIBER 8391 PAGE
LIBER 8433 PAGE
LIBER 9056 PAGE
LIBER 9056 PAGE
LIBER 9130 PAGE
REEL 2277 PAGE

PERMANENT EASEMENT FOR INGRESS AND EGRESS IN FAVOR OF BOND STREET LLC
LIBER 8391 PAGE

40 0 40
SCALE IN FEET

Notes:
1. Map features are based on aerial photographs, tax maps, and the following ELM reports: Phase II Investigation Report, 363 Bond Street (May 2005); and Phase II Investigation Report, 400 Carroll Street (May 2005).
2. All ELM sample locations are approximate and based on the reports identified in Note 1.
3. AOC-1: Proposed Excavation Area - 388 Carroll Street, North; AOC-2: Proposed Excavation Area - 388 Carroll Street, South; AOC-3: Proposed Excavation Area - 363 Bond Street; AOC-5: Former UST Area
4. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

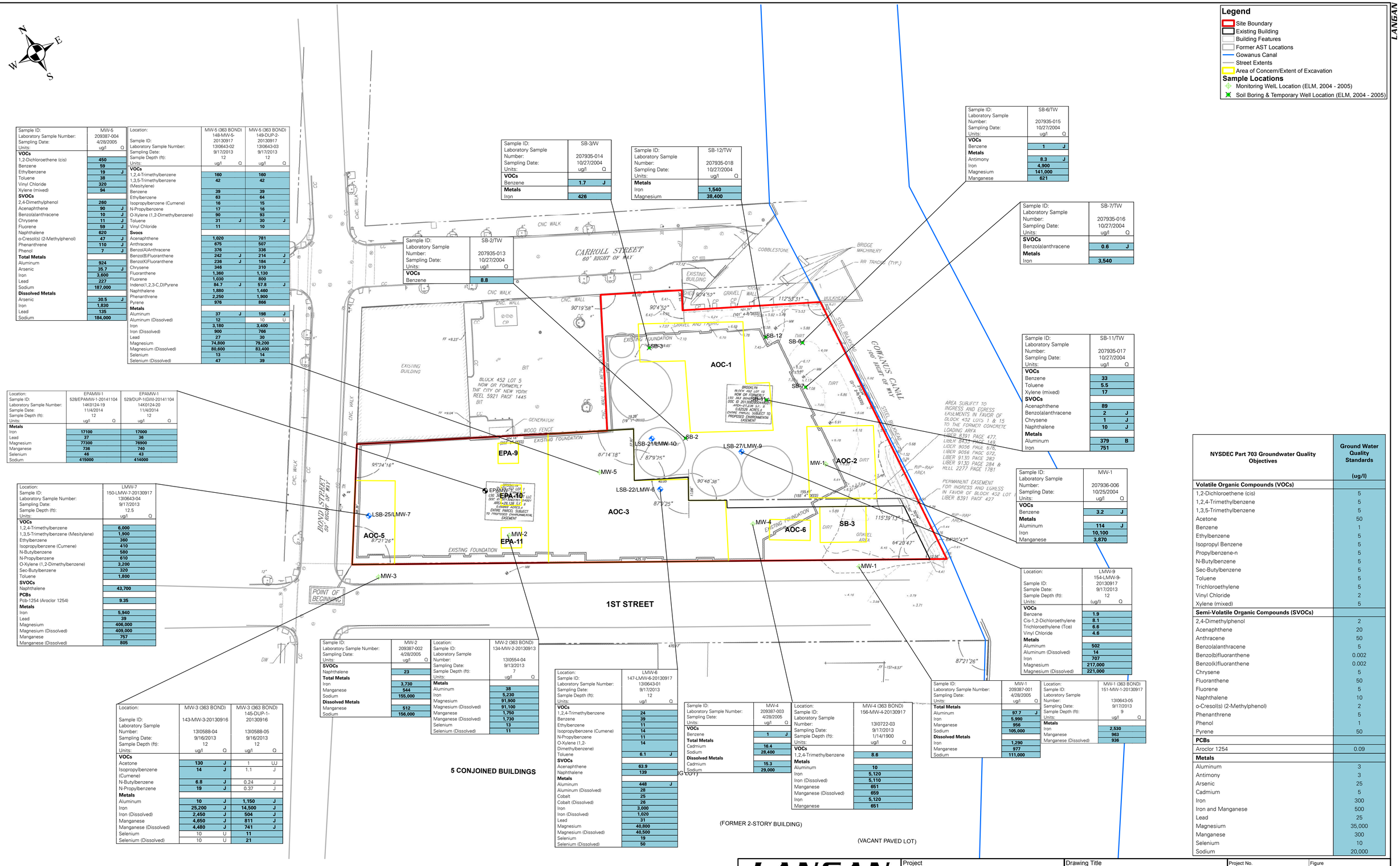
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
GROUNDWATER ELEVATION CONTOUR MAP

Project No.	100287503
Date	11/12/2013
Scale	1"=40'
Drawn By	atr
Last Revised	7/16/2015
Figure	4

© 2012 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 4 - Groundwater Contour Map.mxd



Sample ID:	MW-5
Laboratory Sample Number:	209387-004
Sampling Date:	4/28/2005
Units:	ug/l Q
VOCs	
1,2-Dichloroethene (cis)	450
Benzene	59
Ethylbenzene	19 J
Toluene	38
Vinyl Chloride	320
Xylene (mixed)	94
SVOCs	
2,4-Dimethylphenol	260
Acenaphthene	90 J
Benzo(a)anthracene	10 J
Chrysene	11 J
Fluorene	59 J
Naphthalene	620
o-Cresol(s) (2-Methylphenol)	47 J
Phenanthrene	110 J
Phenol	7 J
Total Metals	
Aluminum	924
Arsenic	35.7 J
Iron	3,600
Lead	227
Sodium	187,000
Dissolved Metals	
Arsenic	30.5 J
Iron	1,830
Lead	135
Sodium	184,000

Location:	MW-5 (363 BOND)		MW-5 (363 BOND)	
Sample ID:	148-MW-5-20130917		149-DUP-2-20130917	
Laboratory Sample Number:	13I0643-02		13I0643-03	
Sampling Date:	9/17/2013		9/17/2013	
Sample Depth (ft):	12		12	
Units:	ug/l	Q	ug/l	Q
VOCs				
1,2,4-Trimethylbenzene	160		160	
1,3,5-Trimethylbenzene (Mesitylene)	42		42	
Benzene	39		39	
Ethylbenzene	63		64	
Isopropylbenzene (Cumene)	16		15	
N-Propylbenzene	17		16	
O-Xylene (1,2-Dimethylbenzene)	90		93	
Toluene	31	J	30	J
Vinyl Chloride	11		10	
Svocs				
Acenaphthene	1,020		781	
Anthracene	675		507	
Benzo(A)Anthracene	376		336	
Benzo(B)Fluoranthene	242	J	214	J
Benzo(K)Fluoranthene	238	J	184	J
Chrysene	346		310	
Fluoranthene	1,360		1,130	
Fluorene	1,030		800	
Indeno(1,2,3-C,D)Pyrene	84.7	J	57.8	J
Naphthalene	1,880		1,460	
Phenanthrene	2,250		1,900	
Pyrene	976		866	
Metals				
Aluminum	37	J	198	J
Aluminum (Dissolved)	12		10	U
Iron	3,180		3,400	
Iron (Dissolved)	900		766	
Lead	27		30	
Magnesium	74,800		79,200	
Magnesium (Dissolved)	80,600		83,400	
Selenium	13		14	
Selenium (Dissolved)	47		39	

Sample ID:	SB-3/W
Laboratory Sample Number:	207935-014
Sampling Date:	10/27/2004
Units:	ug/l Q
VOCs	
Benzene	1.7 J
Metals	
Iron	426

Sample ID:	SB-12/TW
Laboratory Sample Number:	207935-018
Sampling Date:	10/27/2004
Units:	ug/l Q
Metals	
Iron	1,540
Magnesium	38,400

Sample ID:	SB-2/TW
Laboratory Sample Number:	207935-013
Sampling Date:	10/27/2004
Units:	ug/l Q
VOCs	
Benzene	8.8

Sample ID:	SB-6/TW
Laboratory Sample Number:	207935-015
Sampling Date:	10/27/2004
Units:	ug/l Q
VOCs	
Benzene	1 J
Metals	
Antimony	8.3 J
Iron	4,900
Magnesium	141,000
Manganese	621

Sample ID:	SB-7/TW
Laboratory Sample Number:	207935-016
Sampling Date:	10/27/2004
Units:	ug/l Q
SVOCs	
Benzo(a)anthracene	0.6 J
Metals	
Iron	3,540

Sample ID:	SB-11/TW
Laboratory Sample Number:	207935-017
Sampling Date:	10/27/2004
Units:	ug/l Q
VOCs	
Benzene	33
Toluene	5.5
Xylene (mixed)	17
SVOCs	
Acenaphthene	89
Benzo(a)anthracene	2 J
Chrysene	1 J
Naphthalene	10 J
Metals	
Aluminum	379 B
Iron	751

Location:	EPAMW-1	EPAMW-1
Sample ID:	528/EPAMW-1-20141104	529/DUP-1(GW)-20141104
Laboratory Sample Number:	14K0124-19	14K0124-20
Sample Date:	11/4/2014	11/4/2014
Sample Depth (ft):	12	12
Units:	ug/l Q	ug/l Q
Metals		
Iron	17100	17000
Lead	37	36
Magnesium	77300	76900
Manganese	736	740
Selenium	46	43
Sodium	415000	414000

Location:	LMW-7
Sample ID:	150-LMW-7-20130917
Laboratory Sample Number:	13I0643-04
Sampling Date:	9/17/2013
Sample Depth (ft):	12.5
Units:	ug/l Q
VOCs	
1,2,4-Trimethylbenzene	6,000
1,3,5-Trimethylbenzene (Mesitylene)	1,900
Ethylbenzene	360
Isopropylbenzene (Cumene)	410
N-Butylbenzene	580
N-Propylbenzene	610
O-Xylene (1,2-Dimethylbenzene)	3,200
Sec-Butylbenzene	320
Toluene	1,800
SVOCs	
Naphthalene	43,700
PCBs	
Pcb-1254 (Aroclor 1254)	9.35
Metals	
Iron	5,940
Lead	39
Magnesium	406,000
Magnesium (Dissolved)	409,000
Manganese	757
Manganese (Dissolved)	805

Sample ID:	MW-2
Laboratory Sample Number:	209387-002
Sampling Date:	4/28/2005
Units:	ug/l Q
SVOCs	
Naphthalene	23
Total Metals	
Iron	3,730
Manganese	544
Sodium	155,000
Dissolved Metals	
Manganese	512
Sodium	156,000

Location:	MW-2 (363 BOND)
Sample ID:	134-MW-2-20130913
Laboratory Sample Number:	13I0554-04
Sampling Date:	9/13/2013
Sample Depth (ft):	7
Units:	ug/l Q
Metals	
Aluminum	38
Iron	5,230
Magnesium	91,900
Magnesium (Dissolved)	91,100
Manganese	1,750
Manganese (Dissolved)	1,730
Selenium	13
Selenium (Dissolved)	11

Location:	MW-3 (363 BOND)		MW-3 (363 BOND)	
Sample ID:	143-MW-3-20130916		145-DUP-1-20130916	
Laboratory Sample Number:	13I0588-04		13I0588-05	
Sampling Date:	9/16/2013		9/16/2013	
Sample Depth (ft):	12		12	
Units:	ug/l	Q	ug/l	Q
VOCs				
Acetone	130	J	1	UJ
Isopropylbenzene (Cumene)	14	J	1.1	J
N-Butylbenzene	6.8	J	0.24	J
N-Propylbenzene	19	J	0.37	J
Metals				
Aluminum	10	J	1,150	J
Iron	25,200	J	14,500	J
Iron (Dissolved)	2,450	J	504	J
Manganese	4,650	J	811	J
Manganese (Dissolved)	4,480	J	741	J
Selenium	10	U	11	
Selenium (Dissolved)	10	U	21	

Location:	LMW-6
Sample ID:	147-LMW-6-20130917
Laboratory Sample Number:	13I0643-01
Sampling Date:	9/17/2013
Sample Depth (ft):	12
Units:	ug/l Q
VOCs	
1,2,4-Trimethylbenzene	24
Benzene	39
Ethylbenzene	11
Isopropylbenzene (Cumene)	14
N-Propylbenzene	11
O-Xylene (1,2-Dimethylbenzene)	14
Toluene	6.1 J
SVOCs	
Acenaphthene	63.9
Naphthalene	139
Metals	
Aluminum	448 J
Aluminum (Dissolved)	28
Cobalt	25
Cobalt (Dissolved)	26
Iron	3,000
Iron (Dissolved)	1,020
Lead	31
Magnesium	40,800
Magnesium (Dissolved)	40,500
Selenium	19
Selenium (Dissolved)	50

Sample ID:	MW-4
Laboratory Sample Number:	209387-003
Sampling Date:	4/28/2005
Units:	ug/l Q
VOCs	
Benzene	1 J
Total Metals	
Cadmium	16.4
Sodium	28,400
Dissolved Metals	
Cadmium	15.3
Sodium	29,000

Location:	MW-4 (363 BOND)
Sample ID:	156-MW-4-20130917
Laboratory Sample Number:	13I0722-03
Sampling Date:	9/17/2013
Sample Depth (ft):	1/14/1900
Units:	ug/l Q
VOCs	
1,2,4-Trimethylbenzene	8.6
Metals	
Aluminum	10
Iron	5,120
Iron (Dissolved)	5,110
Manganese	651
Manganese (Dissolved)	659
Iron	5,120
Manganese	651

Sample ID:	MW-1
Laboratory Sample Number:	209387-001
Sampling Date:	4/28/2005
Units:	ug/l Q
Total Metals	
Aluminum	97.7 J
Iron	5,990
Manganese	956
Sodium	105,000
Dissolved Metals	
Iron	1,290
Manganese	977
Sodium	111,000

Sample ID:	MW-1
Laboratory Sample Number:	207936-006
Sampling Date:	10/25/2004
Units:	ug/l Q
VOCs	
Benzene	3.2 J
Metals	
Aluminum	114 J
Iron	10,100
Manganese	3,870

Location:	LMW-9
Sample ID:	154-LMW-9-20130917
Sample Date:	9/17/2013
Sample Depth (ft):	12
Units:	(ug/l) Q
VOCs	
Benzene	1.9
Cis-1,2-Dichloroethylene	8.1
Trichloroethylene (Tce)	6.6
Vinyl Chloride	4.6
Metals	
Aluminum	502
Aluminum (Dissolved)	14
Iron	707
Magnesium	217,000
Magnesium (Dissolved)	221,000

Location:	MW-1 (363 BOND)
Sample ID:	151-MW-1-20130917
Laboratory Sample Number:	13I0643-05
Sampling Date:	9/17/2013
Sample Depth (ft):	9
Units:	ug/l Q
Metals	
Iron	2,530
Manganese	963
Manganese (Dissolved)	936

NYSDEC Part 703 Groundwater Quality Objectives	Ground Water Quality Standards (ug/l)
Volatile Organic Compounds (VOCs)	
1,2-Dichloroethene (cis)	5
1,2,4-Trimethylbenzene	5
1,3,5-Trimethylbenzene	5
Acetone	50
Benzene	1
Ethylbenzene	5
Isopropyl Benzene	5
Propylbenzene-n	5
N-Butylbenzene	5
Sec-Butylbenzene	5
Toluene	5
Trichloroethylene	5
Vinyl Chloride	2
Xylene (mixed)	5
Semi-Volatile Organic Compounds (SVOCs)	
2,4-Dimethylphenol	2
Acenaphthene	20
Anthracene	50
Benzo(a)anthracene	5
Benzo(b)fluoranthene	0.002
Benzo(k)fluoranthene	0.002
Chrysene	5
Fluoranthene	50
Fluorene	5
Naphthalene	10
o-Cresol(s) (2-Methylphenol)	2
Phenanthrene	5
Phenol	1
Pyrene	50
PCBs	
Aroclor 1254	0.09
Metals	
Aluminum	3
Antimony	3
Arsenic	25
Cadmium	5
Iron	300
Iron and Manganese	500
Lead	25
Magnesium	35,000
Manganese	300
Selenium	10
Sodium	20,000

Legend

- Site Boundary
- Existing Building
- Building Features
- Former AST Locations
- Gowanus Canal
- Street Extents
- Area of Concern/Extent of Excavation

Sample Locations

- Monitoring Well Location (ELM, 2004 - 2005)
- Soil Boring & Temporary Well Location (ELM, 2004 - 2005)

30 0 30
SCALE IN FEET

Notes:
1. Map features are based on aerial photographs, tax maps, and the following ELM reports: Phase II Investigation Report, 363 Bond Street (May 2005) and Phase II Investigation Report, 400 Carroll Street (May 2005).
2. All ELM sample locations are approximate and based on the reports identified in Note 1.
3. AOC-1: Proposed Excavation Area - 388 Carroll Street, North; AOC-2: Proposed Excavation Area - 388 Carroll Street, South; AOC-3: Proposed Excavation Area - 363 Bond Street; AOC-5: Former UST Area.; AOC-6: LSV-20.
4. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK VIRGINIA CALIFORNIA PENNSYLVANIA CONNECTICUT FLORIDA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

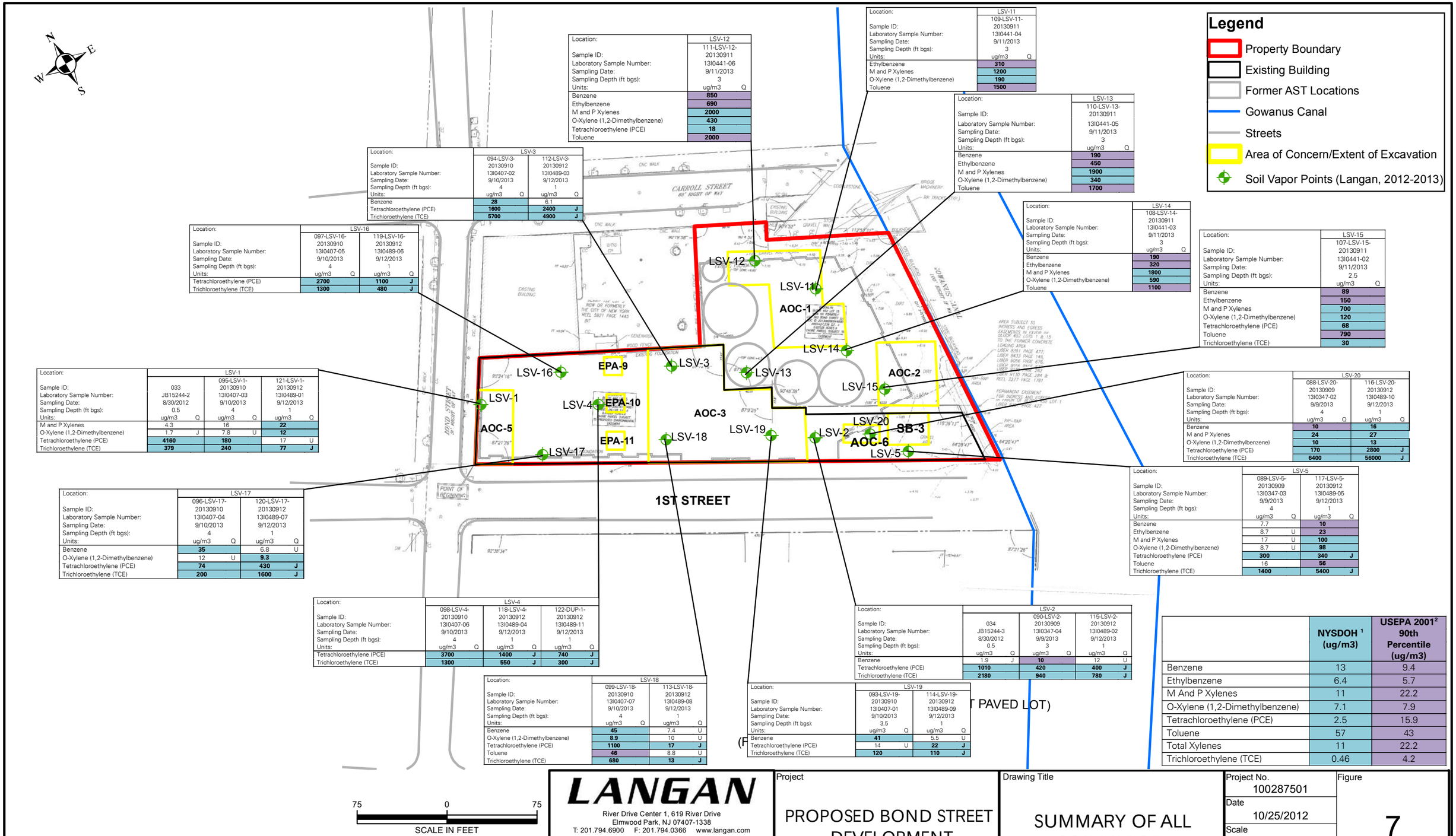
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
SUMMARY OF ALL GROUNDWATER ANALYTICAL RESULTS

Project No.	100287501
Date	5/8/2014
Scale	1"=30'
Drawn By	atr
Last Revised	7/16/2015
Figure	6

© 2015 Langan

Path: Y:\Langan.com\data\EP\data5\100287501\Arc\GIS\Arc\Map_Documents\2015 - 363 Bond SMP\Figure 6 - ALL GROUNDWATER DATA.mxd



Legend

- Property Boundary
- Existing Building
- Former AST Locations
- Gowanus Canal
- Streets
- Area of Concern/Extent of Excavation
- Soil Vapor Points (Langan, 2012-2013)

Location:	LSV-1		
Sample ID:	033	095-LSV-1-20130910	121-LSV-1-20130912
Laboratory Sample Number:	JB15244-2	13I0407-03	13I0489-01
Sampling Date:	8/30/2012	9/10/2013	9/12/2013
Sampling Depth (ft bgs):	0.5	4	1
Units:	ug/m3 Q	ug/m3 Q	ug/m3 Q
M and P Xylenes	4.3	16	**22**
O-Xylene (1,2-Dimethylbenzene)	1.7 J	7.8 U	**12**
Tetrachloroethylene (PCE)	**4160**	**180**	17 U
Trichloroethylene (TCE)	**379**	**240**	**77 J**

Location:	LSV-2		
Sample ID:	034	090-LSV-2-20130909	115-LSV-2-20130912
Laboratory Sample Number:	JB15244-3	13I0347-04	13I0489-02
Sampling Date:	8/30/2012	9/9/2013	9/12/2013
Sampling Depth (ft bgs):	0.5	3	1
Units:	ug/m3 Q	ug/m3 Q	ug/m3 Q
Benzene	1.9 J	**10**	12 U
Tetrachloroethylene (PCE)	**1010**	**420**	**400 J**
Trichloroethylene (TCE)	**2180**	**940**	**780 J**

Location:	LSV-3	
Sample ID:	094-LSV-3-20130910	112-LSV-3-20130912
Laboratory Sample Number:	13I0407-02	13I0489-03
Sampling Date:	9/10/2013	9/12/2013
Sampling Depth (ft bgs):	4	1
Units:	ug/m3 Q	ug/m3 Q
Benzene	**28**	6.1
Tetrachloroethylene (PCE)	**1600**	**2400 J**
Trichloroethylene (TCE)	**5700**	**4900 J**

Location:	LSV-4		
Sample ID:	098-LSV-4-20130910	118-LSV-4-20130912	122-DUP-1-20130912
Laboratory Sample Number:	13I0407-06	13I0489-04	13I0489-11
Sampling Date:	9/10/2013	9/12/2013	9/12/2013
Sampling Depth (ft bgs):	4	1	1
Units:	ug/m3 Q	ug/m3 Q	ug/m3 Q
Tetrachloroethylene (PCE)	**3700**	**1400 J**	**740 J**
Trichloroethylene (TCE)	**1300**	**550 J**	**300 J**

Location:	LSV-5	
Sample ID:	089-LSV-5-20130909	117-LSV-5-20130912
Laboratory Sample Number:	13I0347-03	13I0489-05
Sampling Date:	9/9/2013	9/12/2013
Sampling Depth (ft bgs):	4	1
Units:	ug/m3 Q	ug/m3 Q
Benzene	7.7	**10**
Ethylbenzene	8.7 U	**23**
M and P Xylenes	17 U	**100**
O-Xylene (1,2-Dimethylbenzene)	8.7 U	**98**
Tetrachloroethylene (PCE)	**300**	**340 J**
Toluene	16	**56**
Trichloroethylene (TCE)	**1400**	**5400 J**

Location:	LSV-11
Sample ID:	109-LSV-11-20130911
Laboratory Sample Number:	13I0441-04
Sampling Date:	9/11/2013
Sampling Depth (ft bgs):	3
Units:	ug/m3 Q
Ethylbenzene	**310**
M and P Xylenes	**1200**
O-Xylene (1,2-Dimethylbenzene)	**190**
Toluene	**1500**

Location:	LSV-12
Sample ID:	111-LSV-12-20130911
Laboratory Sample Number:	13I0441-06
Sampling Date:	9/11/2013
Sampling Depth (ft bgs):	3
Units:	ug/m3 Q
Benzene	**850**
Ethylbenzene	**690**
M and P Xylenes	**2000**
O-Xylene (1,2-Dimethylbenzene)	**430**
Tetrachloroethylene (PCE)	**18**
Toluene	**2000**

Location:	LSV-13
Sample ID:	110-LSV-13-20130911
Laboratory Sample Number:	13I0441-05
Sampling Date:	9/11/2013
Sampling Depth (ft bgs):	3
Units:	ug/m3 Q
Benzene	**190**
Ethylbenzene	**450**
M and P Xylenes	**1900**
O-Xylene (1,2-Dimethylbenzene)	**340**
Toluene	**1700**

Location:	LSV-14
Sample ID:	108-LSV-14-20130911
Laboratory Sample Number:	13I0441-03
Sampling Date:	9/11/2013
Sampling Depth (ft bgs):	3
Units:	ug/m3 Q
Benzene	**190**
Ethylbenzene	**320**
M and P Xylenes	**1800**
O-Xylene (1,2-Dimethylbenzene)	**590**
Toluene	**1100**

Location:	LSV-15
Sample ID:	107-LSV-15-20130911
Laboratory Sample Number:	13I0441-02
Sampling Date:	9/11/2013
Sampling Depth (ft bgs):	2.5
Units:	ug/m3 Q
Benzene	**89**
Ethylbenzene	**150**
M and P Xylenes	**700**
O-Xylene (1,2-Dimethylbenzene)	**120**
Tetrachloroethylene (PCE)	**68**
Toluene	**790**
Trichloroethylene (TCE)	**30**

Location:	LSV-16	
Sample ID:	097-LSV-16-20130910	119-LSV-16-20130912
Laboratory Sample Number:	13I0407-05	13I0489-06
Sampling Date:	9/10/2013	9/12/2013
Sampling Depth (ft bgs):	4	1
Units:	ug/m3 Q	ug/m3 Q
Tetrachloroethylene (PCE)	**2700**	**1100 J**
Trichloroethylene (TCE)	**1300**	**480 J**

Location:	LSV-17	
Sample ID:	096-LSV-17-20130910	120-LSV-17-20130912
Laboratory Sample Number:	13I0407-04	13I0489-07
Sampling Date:	9/10/2013	9/12/2013
Sampling Depth (ft bgs):	4	1
Units:	ug/m3 Q	ug/m3 Q
Benzene	**35**	6.8 U
O-Xylene (1,2-Dimethylbenzene)	12 U	**9.3**
Tetrachloroethylene (PCE)	**74**	**430 J**
Trichloroethylene (TCE)	**200**	**1600 J**

Location:	LSV-18	
Sample ID:	099-LSV-18-20130910	113-LSV-18-20130912
Laboratory Sample Number:	13I0407-07	13I0489-08
Sampling Date:	9/10/2013	9/12/2013
Sampling Depth (ft bgs):	4	1
Units:	ug/m3 Q	ug/m3 Q
Benzene	**45**	7.4 U
O-Xylene (1,2-Dimethylbenzene)	**8.9**	10 U
Tetrachloroethylene (PCE)	**1100**	**17 J**
Toluene	**46**	8.8 U
Trichloroethylene (TCE)	**680**	**13 J**

Location:	LSV-19	
Sample ID:	093-LSV-19-20130910	114-LSV-19-20130912
Laboratory Sample Number:	13I0407-01	13I0489-09
Sampling Date:	9/10/2013	9/12/2013
Sampling Depth (ft bgs):	3.5	1
Units:	ug/m3 Q	ug/m3 Q
Benzene	**41**	5.5 U
Tetrachloroethylene (PCE)	14 U	**22 J**
Trichloroethylene (TCE)	**120**	**110 J**

Location:	LSV-20	
Sample ID:	088-LSV-20-20130909	116-LSV-20-20130912
Laboratory Sample Number:	13I0347-02	13I0489-10
Sampling Date:	9/9/2013	9/12/2013
Sampling Depth (ft bgs):	4	1
Units:	ug/m3 Q	ug/m3 Q
Benzene	**10**	**16**
M and P Xylenes	**24**	**27**
O-Xylene (1,2-Dimethylbenzene)	**10**	**13**
Tetrachloroethylene (PCE)	**170**	**2800 J**
Trichloroethylene (TCE)	**6400**	**56000 J**

	NYSDOH [1] (ug/m3)	USEPA 2001[2] 90th Percentile (ug/m3)
Benzene	13	9.4
Ethylbenzene	6.4	5.7
M And P Xylenes	11	22.2
O-Xylene (1,2-Dimethylbenzene)	7.1	7.9
Tetrachloroethylene (PCE)	2.5	15.9
Toluene	57	43
Total Xylenes	11	22.2
Trichloroethylene (TCE)	0.46	4.2

75 0 75

SCALE IN FEET

Notes:
1. Map features are based on aerial photographs, tax maps, and the following ELM reports: Phase II Investigation Report, 363 Bond Street (May 2005) and Phase II Investigation Report, 400 Carroll Street (May 2005).
2. AOC-1: Proposed Excavation Area - 400 Carroll Street, North; AOC-2: Proposed Excavation Area - 400 Carroll Street, South; AOC-3: Proposed Excavation Area - 363 Bond Street; AOC-5: Former UST Area; AOC-6: LSV-20.
3. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

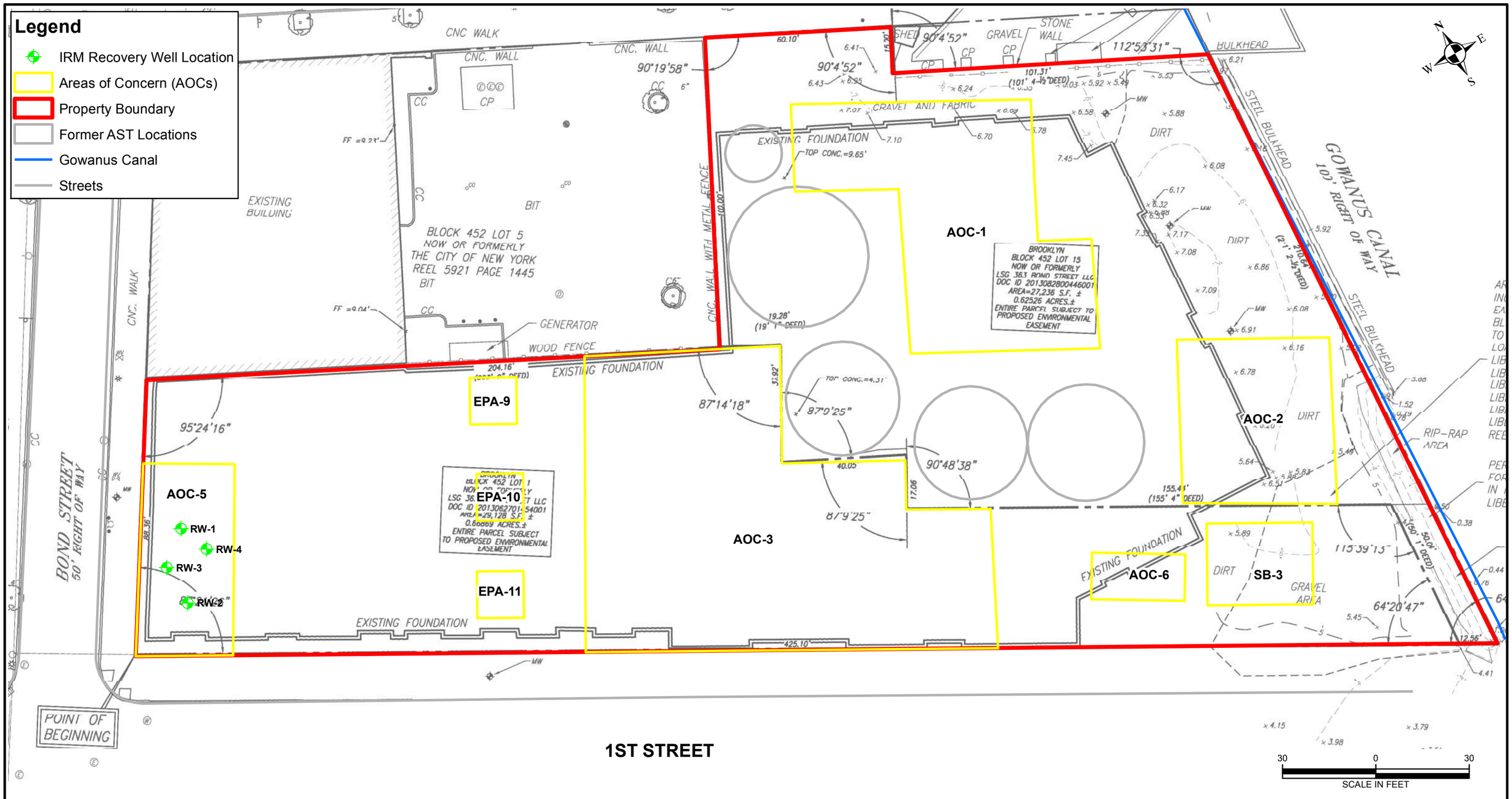
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
SUMMARY OF ALL SOIL VAPOR ANALYTICAL RESULTS

Project No. 100287501
Date 10/25/2012
Scale 1"=75'
Drawn By atr
Submission Date 7/16/2015
Figure 7

©2012 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 7 - Summary of All Soil Vapor Anayltical Results.mxd



Notes:
1. Map features are based on aerial photographs, tax maps, and the following ELM reports: Phase II Investigation Report, 363 Bond Street (May 2005); and Phase II Investigation Report, 400 Carroll Street (May 2005).
2. AOC-1: Proposed Excavation Area - 388 Carroll Street, North; AOC-2: Proposed Excavation Area - 388 Carroll Street, South; AOC-3: Proposed Excavation Area - 363 Bond Street; AOC-5: Former UST Area; AOC-6: LSV-20.
3. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

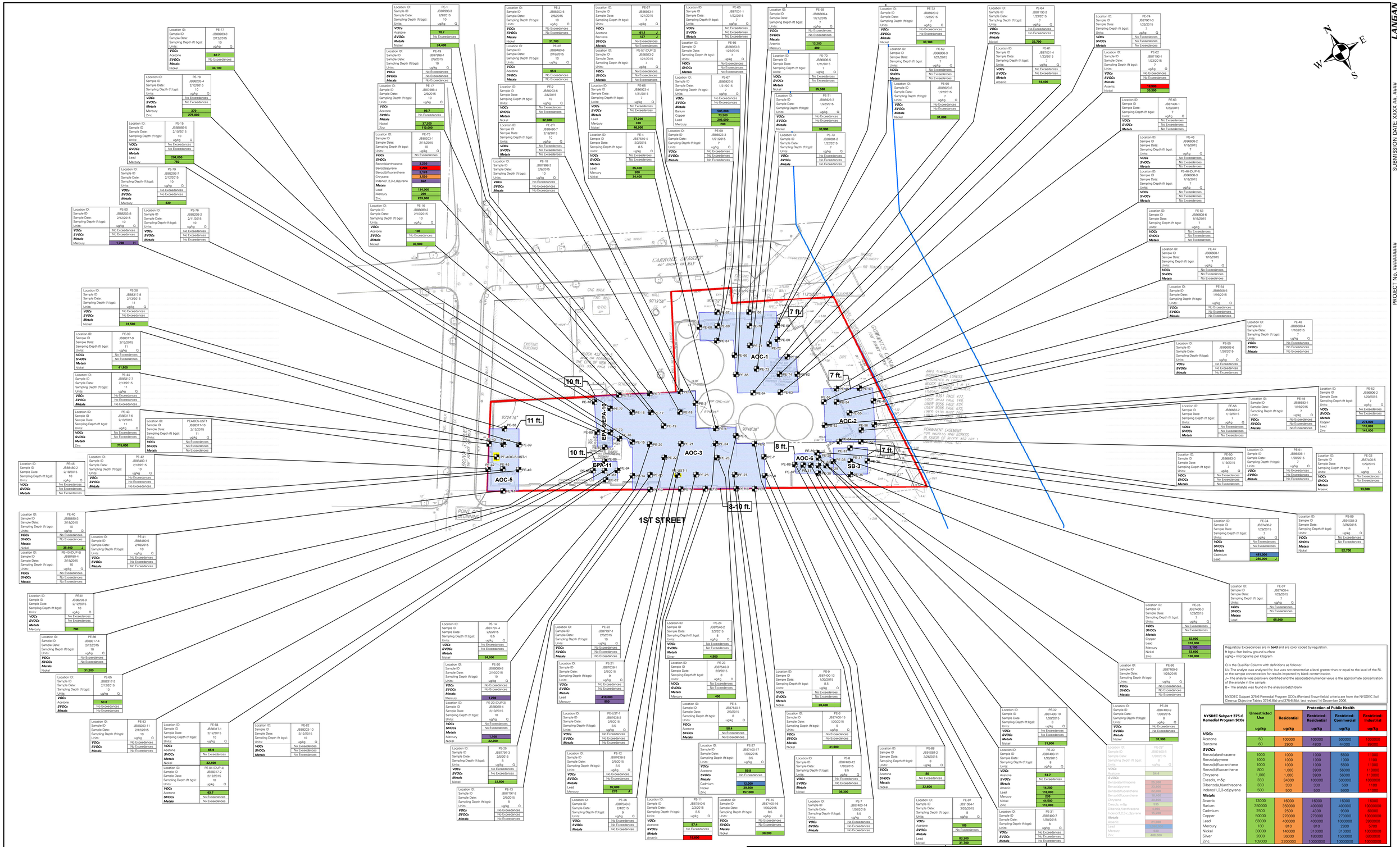
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
IRM RECOVERY WELL LOCATION PLAN

Project No.	Figure
100287501	8
Date: 3/2/2015	
Scale: 1"=30'	
Drawn By: atr	
Last Revised: 7/16/2015	

© 2012 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 8 - IRM Recovery Well Location Plan.mxd



Location ID:	PE-1
Sample ID	JB87998-3
Sample Date:	2/9/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**78.7**
SVOCs	No Exceedances
Metals	
Nickel	**34,400**

Location ID:	PE-77
Sample ID	JB88203-3
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**62.7**
SVOCs	No Exceedances
Metals	
Nickel	**34,100**

Location ID:	PE-19
Sample ID	JB87998-1
Sample Date:	2/9/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-78
Sample ID	JB88203-4
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**270**
Zinc	**276,000**

Location ID:	PE-17
Sample ID	JB87998-4
Sample Date:	2/9/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**99.7**
SVOCs	No Exceedances
Metals	
Nickel	**37,200**
Zinc	**110,000**

Location ID:	PE-15
Sample ID	JB88099-5
Sample Date:	2/10/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Lead	**294,000**
Mercury	**760**

Location ID:	PE-79
Sample ID	JB88203-7
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**430**

Location ID:	PE-75
Sample ID	JB88203-1
Sample Date:	2/11/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	
Benzo(a)anthracene	**2,230**
Benzo(a)pyrene	**2,200**
Benzo(b)fluoranthene	**2,170**
Chrysene	**3,520**
Indeno(1,2,3-c,d)pyrene	**822**
Metals	
Lead	**134,000**
Mercury	**250**
Zinc	**263,000**

Location ID:	PE-16
Sample ID	JB88099-2
Sample Date:	2/10/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**108**
SVOCs	No Exceedances
Metals	
Nickel	**33,900**

Location ID:	PE-80
Sample ID	JB88203-8
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**1,700 H**

Location ID:	PE-76
Sample ID	JB88203-2
Sample Date:	2/11/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-38
Sample ID	JB88317-8
Sample Date:	2/13/2015
Sampling Depth (ft bgs):	11
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,500**

Location ID:	PE-39
Sample ID	JB88317-9
Sample Date:	2/13/2015
Sampling Depth (ft bgs):	11
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**41,800**

Location ID:	PE-44
Sample ID	JB88317-7
Sample Date:	2/13/2015
Sampling Depth (ft bgs):	11
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**32,400**

Location ID:	PE-43
Sample ID	JB88317-6
Sample Date:	2/13/2015
Sampling Depth (ft bgs):	11
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Zinc	**715,000**

Location ID:	PEAOCS-UST1
Sample ID	JB88317-10
Sample Date:	2/13/2015
Sampling Depth (ft bgs):	11
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-45
Sample ID	JB88480-2
Sample Date:	2/18/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-42
Sample ID	JB88480-1
Sample Date:	2/18/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-40
Sample ID	JB88480-3
Sample Date:	2/18/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**35,400 J**

Location ID:	PE-40 (DUP-5)
Sample ID	JB88480-4
Sample Date:	2/18/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-41
Sample ID	JB88480-5
Sample Date:	2/18/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-81
Sample ID	JB88203-9
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**700**

Location ID:	PE-85
Sample ID	JB88317-2
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**53.8**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-48
Sample ID	JB88317-4
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,200**

Location ID:	PE-83
Sample ID	JB88203-11
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-84
Sample ID	JB88317-1
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**65.9**
SVOCs	No Exceedances
Metals	
Nickel	**32,400**

Location ID:	PE-84 (DUP-4)
Sample ID	JB88317-2
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**83.7**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-82
Sample ID	JB88203-10
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	
Mercury	**1,100**
Metals	**32,200**

Location ID:	PE-25
Sample ID	JB87797-3
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**32,800**

Location ID:	PE-13
Sample ID	JB87797-2
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-26
Sample ID	JB87540-8
Sample Date:	2/4/2015
Sampling Depth (ft bgs):	9
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-3
Sample ID	JB88203-5
Sample Date:	2/6/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,700**

Location ID:	PE-3R
Sample ID	JB88480-6
Sample Date:	2/18/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	
Acetone	**95.9**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-2
Sample ID	JB88203-6
Sample Date:	2/6/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**32,900**

Location ID:	PE-2R
Sample ID	JB88480-7
Sample Date:	2/19/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-18
Sample ID	JB87998-2
Sample Date:	2/9/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-67
Sample ID	JB88023-1
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	
Acetone	**61.1 J**
Benzene	**1.07 J**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-67 (DUP-2)
Sample ID	JB88023-2
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-68
Sample ID	JB88023-4
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Lead	**77,200**
Mercury	**320**
Nickel	**46,900**

Location ID:	PE-4
Sample ID	JB87540-4
Sample Date:	2/3/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Lead	**85,400**
Mercury	**300**
Nickel	**34,400**

Location ID:	PE-65
Sample ID	JB87001-1
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-66
Sample ID	JB86923-8
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-64
Sample ID	JB86923-7
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Barium	**500,000**
Copper	**73,500**
Lead	**205,000**
Mercury	**200**
Nickel	**30,900**

Location ID:	PE-69
Sample ID	JB86923-3
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-58
Sample ID	JB86806-4
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Arsenic	**13,200**
Mercury	**480**

Location ID:	PE-70
Sample ID	JB86806-5
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**35,500**

Location ID:	PE-71
Sample ID	JB86923-7
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**30,900**

Location ID:	PE-73
Sample ID	JB87001-2
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-72
Sample ID	JB86923-9
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**33,100**

Location ID:	PE-59
Sample ID	JB86806-3
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-60
Sample ID	JB86923-6
Sample Date:	1/22/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,800**

Location ID:	PE-64
Sample ID	JB87192-2
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**32,700**

Location ID:	PE-61
Sample ID	JB87001-4
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Arsenic	**14,400**

Location ID:	PE-74
Sample ID	JB87001-3
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Arsenic	**10,900**
Nickel	**30,300**

Location ID:	PE-62
Sample ID	JB87193-1
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Arsenic	**10,900**
Nickel	**30,300**

Location ID:	PE-63
Sample ID	JB87400-1
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-46
Sample ID	JB86608-2
Sample Date:	1/16/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-46 (DUP-1)
Sample ID	JB86608-3
Sample Date:	1/16/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-63
Sample ID	JB86608-4
Sample Date:	1/16/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-47
Sample ID	JB86608-1
Sample Date:	1/16/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-54
Sample ID	JB86608-5
Sample Date:	1/16/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-48
Sample ID	JB86609-4
Sample Date:	1/16/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-55
Sample ID	JB86663-6
Sample Date:	1/20/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-52
Sample ID	JB86806-2
Sample Date:	1/20/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Copper	**274,000**
Lead	**118,000**
Zinc	**141,000**

Location ID:	PE-49
Sample ID	JB86683-1
Sample Date:	1/19/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-56
Sample ID	JB86663-2
Sample Date:	1/19/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-50
Sample ID	JB86683-3
Sample Date:	1/19/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-51
Sample ID	JB86806-1
Sample Date:	1/20/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-33
Sample ID	JB87400-5
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Arsenic	**13,800**

Location ID:	PE-34
Sample ID	JB87400-2
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Cadmium	**481,000**
Lead	**280,000 J**

Location ID:	PE-89
Sample ID	JB91084-3
Sample Date:	3/26/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**52,700**

Location ID:	PE-37
Sample ID	JB87400-4
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Lead	**65,900**

Location ID:	PE-35
Sample ID	JB87400-3
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Copper	**82,000**
Lead	**315,000**
Mercury	**2,100**
Nickel	**53,600**
Zinc	**136,000**

Location ID:	PE-36
Sample ID	JB87400-6
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-29
Sample ID	JB87400-9
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,300**

Location ID:	PE-32
Sample ID	JB87400-10
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,800**

Location ID:	PE-30
Sample ID	JB87400-11
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	
Acetone	**51.7**
SVOCs	No Exceedances
Metals	
Arsenic	**14,200**
Lead	**118,000**
Mercury	**230**
Nickel	**44,500**
Zinc	**113,000**

Location ID:	PE-31
Sample ID	JB87400-7
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-9
Sample ID	JB87400-13
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-6
Sample ID	JB87400-15
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	9
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,900**

Location ID:	PE-8
Sample ID	JB87400-12
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**36,300**

Location ID:	PE-88
Sample ID	JB91084-2
Sample Date:	3/26/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	
Acetone	**80**
SVOCs	No Exceedances
Metals	
Nickel	**32,600**

Location ID:	PE-87
Sample ID	JB91084-1
Sample Date:	3/26/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	
Acetone	**185**
SVOCs	No Exceedances
Metals	
Lead	**83,300**
Nickel	**31,700**

Location ID:	PE-24
Sample ID	JB87540-2
Sample Date:	2/3/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Silver	**4,800**

Location ID:	PE-23
Sample ID	JB87540-3
Sample Date:	2/3/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**460**

Location ID:	PE-5
Sample ID	JB87540-1
Sample Date:	2/3/2015
Sampling Depth (ft bgs):	9
Units:	ug/kg Q
VOCs	
Acetone	**58.4**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-27
Sample ID	JB87400-17
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	
Acetone	**59.5**
SVOCs	No Exceedances
Metals	
Cadmium	**12,000**
Nickel	**39,600**
Zinc	**157,000**

Location ID:	PE-11
Sample ID	JB87540-5
Sample Date:	2/3/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	
Acetone	**87.4**
SVOCs	No Exceedances
Metals	
Arsenic	**10,600**

Location ID:	PE-10
Sample ID	JB87400-16
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**30,200**

Location ID:	PE-7
Sample ID	JB87400-14
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	
Acetone	**91.8**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-22
Sample ID	JB87938-1
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**410,000**
	850

Location ID:	PE-21
Sample ID	JB87938-1
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-20
Sample ID	JB88099-3
Sample Date:	2/10/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**1,200**

Location ID:	PE-20 (DUP-3)
Sample ID	JB88099-4
Sample Date:	2/10/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Mercury	**1,100**
Nickel	**32,200**

Location ID:	PE-14
Sample ID	JB87797-4
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**34,000**

Location ID:	PE-22
Sample ID	JB87797-1
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-UST-1
Sample ID	JB87638-2
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-12
Sample ID	JB87638-3
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Lead	**92,600**
Mercury	**270 J**

Location ID:	PE-9
Sample ID	JB87400-13
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-6
Sample ID	JB87400-15
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	9
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**31,900**

Location ID:	PE-8
Sample ID	JB87400-12
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	No Exceedances
SVOCs	No Exceedances
Metals	
Nickel	**36,300**

Location ID:	PE-7
Sample ID	JB87400-14
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
VOCs	
Acetone	**91.8**
SVOCs	No Exceedances
Metals	No Exceedances

Location ID:	PE-87
Sample ID	JB91084-1
Sample Date:	3/26/2015
Sampling Depth (ft bgs):	8
Units:	ug/kg Q
VOCs	
Acetone	**185**
SVOCs	No Exceedances
**

Location ID:	684-TW-2-20130319		685-DUP-1-20130319 (TW-2)	
Sample ID:	15C0649-02		15C0649-03	
Sample Date:	3/19/2015		3/19/2015	
Units:	ug/l	Q	ug/l	Q
Volatile Organic Compounds	No Exceedances		No Exceedances	
Semi-Volatile Organic Compounds				
2,4-Dimethylphenol	**5.18**	**J**	**7.62**	
2-Methylphenol (O-Cresol)	**3.03**	**J**	**4.65**	**J**
Benzo(A)Anthracene	**0.126**		**0.189**	
Chrysene	**0.0947**		**0.137**	
Naphthalene	7.99		**12**	
Metals				
Iron	**2730**		**2690**	
Magnesium	**76500**		**75700**	
Manganese	**501**		**500**	
Sodium	**280000**		**275000**	

Location ID:	693-TW-3-20130320		
Sample ID:	15C0649-11		
Sample Date:	3/20/2015		
Units:	ug/l	Q	
Volatile Organic Compounds			
Acetone	**78**		
Benzene	**1.6**	**J**	
Semi-Volatile Organic Compounds			
2,4-Dimethylphenol	**16.4**		
2-Methylphenol (O-Cresol)	**15.2**		
Benzo(A)Anthracene	**0.519**	**J**	
Benzo(B)Fluoranthene	**0.389**		
Benzo(K)Fluoranthene	**0.346**		
Chrysene	**0.411**		
Indeno(1,2,3-C,D)Pyrene	**0.108**		
Naphthalene	**33.7**		
Phenol	**26.3**		
Metals			
Iron	**926**		
Lead	**51**		
Sodium	**421000**		

Location ID:	689-TW-6-20130320	
Sample ID:	15C0649-07	
Sample Date:	3/20/2015	
Units:	ug/l	Q
Volatile Organic Compounds		
1,2,4-Trimethylbenzene	**9**	
1,3,5-Trimethylbenzne (Mesitylene)	**8.8**	
Acetone	**150**	
Benzene	**3.8**	
Ethylbenzene	**10**	**B**
Isopropylbenzene (Cumene)	**6**	
M and P Xylenes	**13**	
N-Propylbenzene	**5.9**	
O-Xylene (1,2-Dimethylbenzene)	**7.1**	
Semi-Volatile Organic Compounds		
2,4-Dimethylphenol	**21.3**	
2-Methylphenol (O-Cresol)	**8.65**	
Naphthalene	**11.3**	
Phenol	**18.1**	
Metals		
Iron	**613**	
Sodium	**496000**	

Location ID:	690-TW-7-20130320	
Sample ID:	15C0649-08	
Sample Date:	3/20/2015	
Units:	ug/l	Q
Volatile Organic Compounds	No Exceedances	
Semi-Volatile Organic Compounds	No Exceedances	
Metals		
Iron	**360**	
Magnesium	**80700**	
Manganese	**347**	
Sodium	**690000**	

Location ID:	687-TW-8-20130319	
Sample ID:	15C0649-05	
Sample Date:	3/19/2015	
Units:	ug/l	Q
Volatile Organic Compounds		
Acetone	**56**	
Semi-volatile Organic Compounds		
2,4-Dimethylphenol	**53.7**	**J**
2-Methylphenol (O-Cresol)	**5.73**	**J**
Benzo(A)Anthracene	**0.174**	**J**
Benzo(B)Fluoranthene	**0.0821**	
Benzo(K)Fluoranthene	**0.0821**	
Chrysene	**0.133**	
Phenol	**11.1**	**J**
Metals		
Iron	**4200**	
Manganese	**382**	
Sodium	**410000**	

Location ID:	683-TW-1-20130319	
Sample ID:	15C0649-01	
Sample Date:	3/19/2015	
Units:	ug/l	Q
Volatile Organic Compounds		
1,2,4-Trimethylbenzene	**15**	
Acetone	**140**	
Isopropylbenzene (Cumene)	**6.5**	
M And P Xylenes	**12**	
N-Propylbenzene	**8.2**	
Semi-Volatile Organic Compounds		
2,4-Dimethylphenol	**8.27**	
2-Methylphenol (O-Cresol)	**21.2**	
Naphthalene	**25.1**	
Phenol	**43.3**	
Metals		
Aluminum	**251**	
Iron	**387**	
Lead	**33**	
Sodium	**415000**	

Location ID:	686-TW-9-20130319	
Sample ID:	15C0649-04	
Sample Date:	3/19/2015	
Units:	ug/l	Q
Volatile Organic Compounds		
Acetone	**190**	
Benzene	**4.4**	
Cis-1,2-Dichloroethylene	**28**	
Methyl Ethyl Ketone (2-Butanone)	**50**	
Trichloroethylene (TCE)	**10**	
Vinyl Chloride	**6.4**	
Semi-volatile Organic Compounds		
2,4-Dimethylphenol	**42.8**	**J**
2-Methylphenol (O-Cresol)	**29.5**	
Phenol	**50.9**	**J**
Metals		
Iron	**1260**	
Sodium	**653000**	

Location ID:	694-TW-11-20130320	
Sample ID:	15C0649-12	
Sample Date:	3/20/2015	
Units:	ug/l	Q
Volatile Organic Compounds		
Acetone	**120**	
Benzene	**1**	**J**
Semi-volatile Organic Compounds		
2-Methylphenol (O-Cresol)	**28.1**	
Naphthalene	**18.9**	
Phenol	**58.7**	
Metals		
Aluminum	**249**	
Iron	**366**	
Sodium	**393000**	

Location ID:	692-TW-4-20130320	
Sample ID:	15C0649-10	
Sample Date:	3/20/2015	
Units:	ug/l	Q
Volatile Organic Compounds		
Acetone	**460**	
Ethylbenzene	**26**	
M And P Xylenes	**23**	**J**
Semi-volatile Organic Compounds		
2,4-Dimethylphenol	**17.5**	
2-Methylphenol (o-Cresol)	**11.2**	
Naphthalene	**72.6**	
Phenol	**38.5**	
Metals		
Iron	**870**	
Sodium	**590000**	

Location ID:	691-TW-5-20130320	
Sample ID:	15C0649-09	
Sample Date:	3/20/2015	
Units:	ug/l	Q
Volatile Organic Compounds	No Exceedances	
Semi-Volatile Organic Compounds	No Exceedances	
Metals		
Iron	**1730**	
Manganese	**590**	
Sodium	**329000**	

Location ID:	696-TW-10-20150323	
Sample ID:	15C0718-01	
Sample Date:	3/23/2015	
Units:	ug/l	Q
Volatile Organic Compounds	No Exceedances	
Semi-volatile Organic Compounds		
Benzo(A)Anthracene	**0.431**	**J**
Benzo(B)Fluoranthene	**0.39**	**J**
Benzo(K)Fluoranthene	**0.308**	**J**
Chrysene	**0.431**	
Indeno(1,2,3-CD)Pyrene	**0.195**	**J**
Metals		
Cadmium	**5**	
Iron	**10600**	
Lead	**99**	
Manganese	**300**	
Sodium	**23700**	

Groundwater Quality Standards	ug/l
Volatile Organic Compounds	
1,2,4-Trimethylbenzene	5
1,3,5-Trimethylbenzne (Mesitylene)	5
Acetone	50
Benzene	1
Ethylbenzene	5
Isopropylbenzene (Cumene)	5
Methyl Ethyl Ketone (2-Butanone)	5
M And P Xylenes	5
O-Xylene (1,2-Dimethylbenzene)	5
N-Propylbenzene	5
Cis-1,2-Dichloroethylene	5
Trichloroethylene (TCE)	5
Vinyl Chloride	2
Semi-Volatile Organic Compounds	
2,4-Dimethylphenol	2
2-Methylphenol (O-Cresol)	2
Benzo(A)Anthracene	0.002
Benzo(B)Fluoranthene	0.002
Benzo(K)Fluoranthene	0.002
Chrysene	0.002
Indeno(1,2,3-C,D)Pyrene	0.002
Naphthalene	10
Phenol	1
Metals	
Cadmium	5
Lead	25
Iron	300
Magnesium	35000
Manganese	500
Sodium	20000

Legend

- Property Boundary
- IRM Recovery Well Location
- Monitoring Well Location
- Area of Concern/Extent of Excavation
- Underground Storage Tank (UST)
- Former AST Locations
- Gowanus Canal
- Streets

Notes:
1. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

SCALE IN FEET: 40 0 40

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

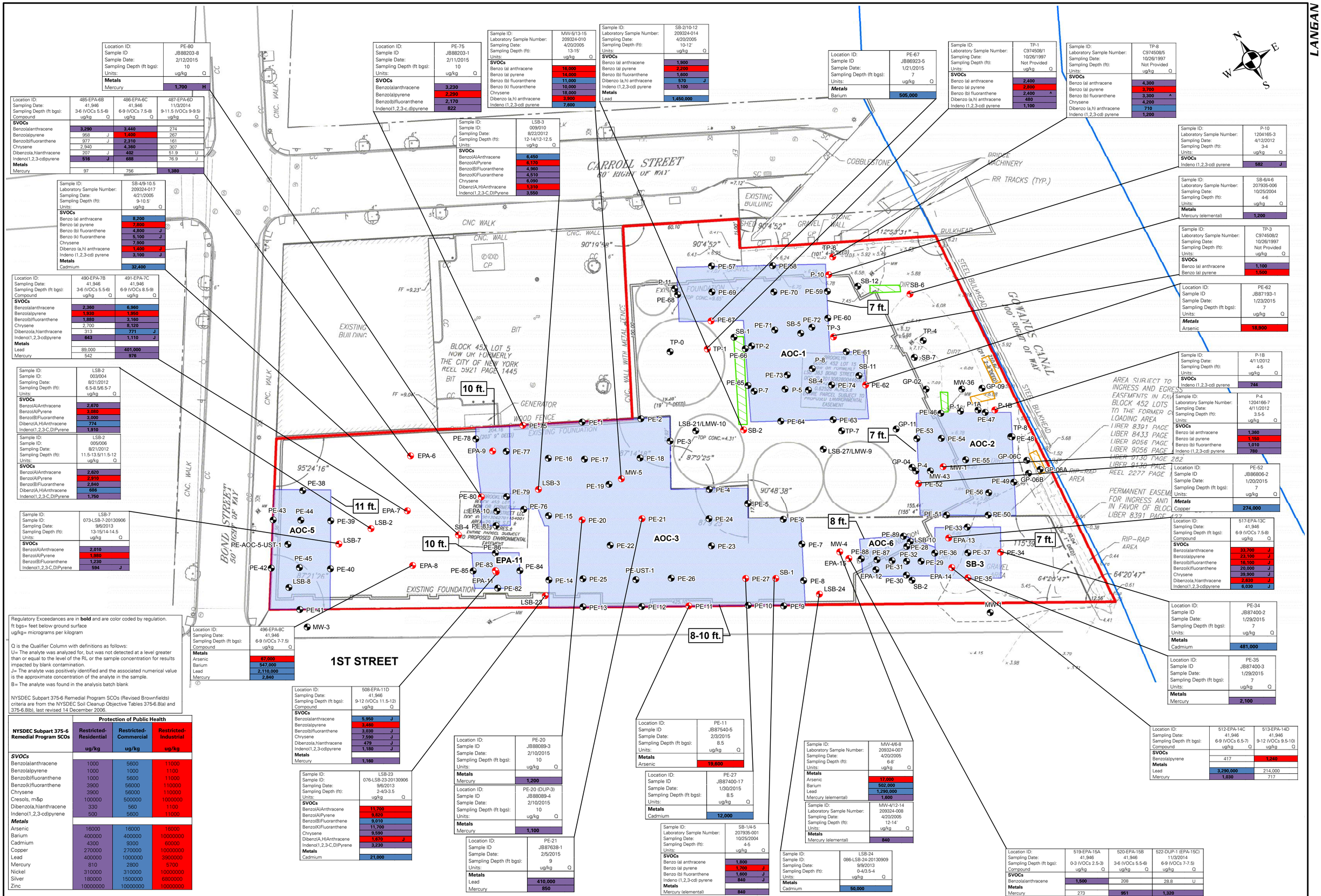
Project: 363 BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title: Baseline Groundwater Analytical Results

Project No. 100287501
Figure 10
Date 3/2/2015
Scale 1"=40'
Drawn By atr
Last Revised 7/16/2015

© 2012 Langan

Path: \\Langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 10 - Baseline Groundwater Analytical Summary.mxd



Location ID:	PE-80
Sample ID	JB88203-8
Sample Date:	2/12/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
Metals	
Mercury	1,700 H

Location ID:	485-EPA-6B	486-EPA-6C	487-EPA-6D
Sampling Date:	41,946	41,946	11/3/2014
Sampling Depth (ft bgs):	3-6 (VOCs 5.5-6)	6-9 (VOCs 7.5-8)	9-11.5 (VOCs 9-9.5)
Compound	ug/kg Q	ug/kg Q	ug/kg Q
SVOCs			
Benzo(a)anthracene	3,290	3,440	274
Benzo(a)pyrene	958 J	1,400	267
Benzo(b)fluoranthene	977 J	2,310	161
Chrysene	2,940	4,360	307
Dibenzo(a,h)anthracene	207 J	402	51.9 U
Indeno(1,2,3-cd)pyrene	516 J	688	76.9 J
Metals			
Mercury	97	756	1,380

Sample ID:	SB-4/9-10.5
Laboratory Sample Number:	209324-017
Sampling Date:	4/21/2005
Sampling Depth (ft):	9-10.5'
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	8,200
Benzo (a) pyrene	7,800
Benzo (b) fluoranthene	4,900 J
Benzo (k) fluoranthene	5,100 J
Chrysene	7,900
Dibenzo (a,h) anthracene	1,400 J
Indeno (1,2,3-cd) pyrene	3,100 J
Metals	
Cadmium	32,400

Location ID:	490-EPA-7B	491-EPA-7C
Sampling Date:	41,946	41,946
Sampling Depth (ft bgs):	3-6 (VOCs 5.5-6)	6-9 (VOCs 8.5-9)
Compound	ug/kg Q	ug/kg Q
SVOCs		
Benzo(a)anthracene	2,360	6,960
Benzo(a)pyrene	1,930	1,950
Benzo(b)fluoranthene	1,880	3,160
Chrysene	2,700	8,120
Dibenzo(a,h)anthracene	313	771 J
Indeno(1,2,3-cd)pyrene	643	1,110 J
Metals		
Lead	89,000	401,000
Mercury	542	976

Sample ID:	LSB-2
Sample ID:	003/004
Sampling Date:	8/21/2012
Sampling Depth (ft):	6.5-8.5/6.5-7
Units:	ug/kg Q
SVOCs	
Benzo(A)Anthracene	2,670
Benzo(A)Pyrene	3,080
Benzo(B)Fluoranthene	3,000
Dibenz(A,H)Anthracene	774
Indeno(1,2,3-C,D)Pyrene	1,910

Sample ID:	LSB-2
Sample ID:	005/006
Sampling Date:	8/21/2012
Sampling Depth (ft):	11.5-13.5/11.5-12
Units:	ug/kg Q
SVOCs	
Benzo(A)Anthracene	2,620
Benzo(A)Pyrene	2,910
Benzo(B)Fluoranthene	2,840
Dibenz(A,H)Anthracene	686
Indeno(1,2,3-C,D)Pyrene	1,750

Sample ID:	LSB-7
Sample ID:	073-LSB-7-20130906
Sampling Date:	9/6/2013
Sampling Depth (ft):	13-15/14-14.5
Units:	ug/kg Q
SVOCs	
Benzo(A)Anthracene	2,010
Benzo(A)Pyrene	1,980
Benzo(B)Fluoranthene	1,230
Indeno(1,2,3-C,D)Pyrene	594 J

Location ID:	PE-75
Sample ID	JB88203-1
Sample Date:	2/11/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
SVOCs	
Benzo(a)anthracene	3,230
Benzo(a)pyrene	2,290
Benzo(b)fluoranthene	2,170
Indeno(1,2,3-c,d)pyrene	822

Sample ID:	MW-5/13-15
Laboratory Sample Number:	209324-010
Sampling Date:	4/20/2005
Sampling Depth (ft):	13-15'
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	16,000
Benzo (a) pyrene	14,000
Benzo (b) fluoranthene	11,000
Benzo (k) fluoranthene	10,000
Chrysene	18,000
Dibenzo (a,h) anthracene	3,900
Indeno (1,2,3-cd) pyrene	7,600

Sample ID:	LSB-3
Sample ID:	009/010
Sampling Date:	8/22/2012
Sampling Depth (ft):	12-14/12-12.5
Units:	ug/kg Q
SVOCs	
Benzo(A)Anthracene	6,450
Benzo(A)Pyrene	6,170
Benzo(B)Fluoranthene	4,960
Benzo(K)Fluoranthene	4,510
Chrysene	6,090
Dibenz(A,H)Anthracene	1,310
Indeno(1,2,3-C,D)Pyrene	3,550

Sample ID:	SB-2/10-12
Laboratory Sample Number:	209324-014
Sampling Date:	4/20/2005
Sampling Depth (ft):	10-12'
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	1,900
Benzo (a) pyrene	2,200
Benzo (b) fluoranthene	1,600
Dibenzo (a,h) anthracene	570 J
Indeno (1,2,3-cd) pyrene	1,100
Metals	
Lead	1,450,000

Location ID:	PE-67
Sample ID	JB86923-5
Sample Date:	1/21/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Barium	505,000

Sample ID:	TP-1
Laboratory Sample Number:	C974508/1
Sampling Date:	10/26/1997
Sampling Depth (ft):	Not Provided
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	2,400
Benzo (a) pyrene	2,800
Benzo (b) fluoranthene	2,400 ^
Dibenzo (a,h) anthracene	480
Indeno (1,2,3-cd) pyrene	1,100

Sample ID:	TP-8
Laboratory Sample Number:	C974508/5
Sampling Date:	10/26/1997
Sampling Depth (ft):	Not Provided
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	4,300
Benzo (a) pyrene	3,700
Benzo (b) fluoranthene	3,300 ^
Chrysene	4,200
Dibenzo (a,h) anthracene	710
Indeno (1,2,3-cd) pyrene	1,200

Sample ID:	P-10
Laboratory Sample Number:	1204165-3
Sampling Date:	4/12/2012
Sampling Depth (ft):	3-4
Units:	ug/kg Q
SVOCs	
Indeno (1,2,3-cd) pyrene	582 J

Sample ID:	SB-6/4-6
Laboratory Sample Number:	207935-006
Sampling Date:	10/25/2004
Sampling Depth (ft):	4-6
Units:	ug/kg Q
Metals	
Mercury (elemental)	1,200

Sample ID:	TP-3
Laboratory Sample Number:	C974508/2
Sampling Date:	10/26/1997
Sampling Depth (ft):	Not Provided
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	1,100
Benzo (a) pyrene	1,500

Location ID:	PE-62
Sample ID	JB87193-1
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Arsenic	18,900

Sample ID:	P-1B
Sampling Date:	4/11/2012
Sampling Depth (ft):	4-5
Units:	ug/kg Q
SVOCs	
Indeno (1,2,3-cd) pyrene	744

Sample ID:	P-4
Laboratory Sample Number:	1204166-7
Sampling Date:	4/11/2012
Sampling Depth (ft):	3.5-5
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	1,360
Benzo (a) pyrene	1,150
Benzo (b) fluoranthene	1,010
Indeno (1,2,3-cd) pyrene	780

Location ID:	PE-52
Sample ID	JB86806-2
Sample Date:	1/20/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Copper	274,000

Location ID:	517-EPA-13C
Sampling Date:	41,946
Sampling Depth (ft bgs):	6-9 (VOCs 7.5-8)
Compound	ug/kg Q
SVOCs	
Benzo(a)anthracene	33,700 J
Benzo(a)pyrene	23,100 J
Benzo(b)fluoranthene	16,100 J
Benzo(k)fluoranthene	20,000 J
Chrysene	39,900 J
Dibenzo(a,h)anthracene	2,630 J
Indeno(1,2,3-cd)pyrene	6,030 J

Location ID:	PE-34
Sample ID	JB87400-2
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Cadmium	481,000

Location ID:	PE-35
Sample ID	JB87400-3
Sample Date:	1/29/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Mercury	2,100

Location ID:	512-EPA-14C	513-EPA-14D
Sampling Date:	41,946	41,946
Sampling Depth (ft bgs):	6-9 (VOCs 6.5-7)	9-12 (VOCs 9.5-10)
Compound	ug/kg Q	ug/kg Q
SVOCs		
Benzo(a)pyrene	417	1,240
Metals		
Lead	3,290,000	214,000
Mercury	1,030	717

Location ID:	519-EPA-15A	520-EPA-15B	522-DUP-1 (EPA-15C)
Sampling Date:	41,946	41,946	11/3/2014
Sampling Depth (ft bgs):	0-3 (VOCs 2.5-3)	3-6 (VOCs 5.5-6)	6-9 (VOCs 7-7.5)
Compound	ug/kg Q	ug/kg Q	ug/kg Q
SVOCs			
Benzo(a)anthracene	1,500	208	28.8 U
Metals			
Mercury	273	951	1,320

Location ID:	496-EPA-8C
Sampling Date:	41,946
Sampling Depth (ft bgs):	6-9 (VOCs 7-7.5)
Compound	ug/kg Q
Metals	
Arsenic	67,000
Barium	547,000
Lead	2,110,000
Mercury	2,840

Location ID:	508-EPA-11D
Sampling Date:	41,946
Sampling Depth (ft bgs):	9-12 (VOCs 11.5-12)
Compound	ug/kg Q
SVOCs	
Benzo(a)anthracene	5,950 J
Benzo(a)pyrene	3,460
Benzo(b)fluoranthene	3,030 J
Chrysene	7,590 J
Dibenzo(a,h)anthracene	479 J
Indeno(1,2,3-cd)pyrene	1,180 J
Metals	
Mercury	1,160

Location ID:	PE-20
Sample ID	JB88089-3
Sample Date:	2/10/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
Metals	
Mercury	1,200

Location ID:	PE-20 (DUP-3)
Sample ID	JB88089-4
Sample Date:	2/10/2015
Sampling Depth (ft bgs):	10
Units:	ug/kg Q
Metals	
Mercury	1,100

Sample ID:	LSB-23
Sample ID:	076-LSB-23-20130906
Sampling Date:	9/6/2013
Sampling Depth (ft):	2-4/3-3.5
Units:	ug/kg Q
SVOCs	
Benzo(A)Anthracene	11,700
Benzo(A)Pyrene	9,820
Benzo(B)Fluoranthene	9,010
Benzo(K)Fluoranthene	11,700
Chrysene	9,590
Dibenz(A,H)Anthracene	1,670 J
Indeno(1,2,3-C,D)Pyrene	3,230
Metals	
Cadmium	21,000

Location ID:	PE-21
Sample ID	JB87638-1
Sample Date:	2/5/2015
Sampling Depth (ft bgs):	9
Units:	ug/kg Q
Metals	
Lead	410,000
Mercury	850

Location ID:	PE-11
Sample ID	JB87540-5
Sample Date:	2/3/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
Metals	
Arsenic	19,600

Location ID:	PE-27
Sample ID	JB87400-17
Sample Date:	1/30/2015
Sampling Depth (ft bgs):	8.5
Units:	ug/kg Q
Metals	
Cadmium	12,000

Sample ID:	SB-1/4-5
Laboratory Sample Number:	207935-001
Sampling Date:	10/25/2004
Sampling Depth (ft):	4-5
Units:	ug/kg Q
SVOCs	
Benzo (a) anthracene	1,800
Benzo (a) pyrene	1,700 J
Benzo (b) fluoranthene	1,600 J
Indeno (1,2,3-cd) pyrene	840 J
Metals	
Mercury (elemental)	840

Sample ID:	MW-4/6-8
Laboratory Sample Number:	209324-007
Sampling Date:	4/20/2005
Sampling Depth (ft):	6-8'
Units:	ug/kg Q
Metals	
Arsenic	17,000
Barium	502,000
Lead	1,290,000
Mercury (elemental)	1,600

Sample ID:	MW-4/12-14
Laboratory Sample Number:	209324-008
Sampling Date:	4/20/2005
Sampling Depth (ft):	12-14'
Units:	ug/kg Q
Metals	
Mercury (elemental)	840

Sample ID:	LSB-24
Sample ID:	086-LSB-24-20130909
Sampling Date:	9/9/2013
Sampling Depth (ft):	0-4/3.5-4
Units:	ug/kg Q
Metals	
Cadmium	50,000

Location ID:	P-10
Sample ID	JB87193-3
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Arsenic	18,900

Location ID:	P-1B
Sample ID	JB87193-2
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Arsenic	18,900

Location ID:	P-4
Sample ID	JB87193-4
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Arsenic	18,900

Location ID:	P-1A
Sample ID	JB87193-5
Sample Date:	1/23/2015
Sampling Depth (ft bgs):	7
Units:	ug/kg Q
Metals	
Arsenic	18,900

Regulatory Exceedances are in **bold** and are color coded by regulation.
ft bgs= feet below ground surface
ug/kg= micrograms per kilogram

Q is the Qualifier Column with definitions as follows:
U= The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
J= The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
B= The analyte was found in the analysis batch blank

NYSDEC Subpart 375-6 Remedial Program SCOs (Revised Brownfields) criteria are from the NYSDEC Soil Cleanup Objective Tables 375-6.8(a) and 375-6.8(b), last revised 14 December 2006.

NYSDEC Subpart 375-6 Remedial Program SCOs	Protection of Public Health		
	Restricted-Residential	Restricted-Commercial	Restricted-Industrial
	ug/kg	ug/kg	ug/kg
SVOCs			
Benzo(a)anthracene	1000	5600	11000
Benzo(a)pyrene	1000	1000	1100
Benzo(b)fluoranthene	1000	5600	11000
Benzo(k)fluoranthene	3900	56000	110000
Chrysene	3900	56000	110000
Cresols, m&p	100000	500000	1000000
Dibenzo(a,h)anthracene	330	560	1100
Indeno(1,2,3-cd)pyrene	500	5600	11000
Metals			
Arsenic	16000	16000	16000
Barium	400000	400000	10000000
Cadmium	4300	9300	60000
Copper	270000	270000	10000000
Lead	400000	1000000	3900000
Mercury	810	2800	5700
Nickel	310000	310000	10000000
Silver	180000	1500000	6800000
Zinc	10000000	10000000	10000000

Notes:
1. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

Legend

- Sample Location With No Remaining Contamination Above the Restricted Residential RUSCOs;
- Sample Location With Remaining
- Property Boundary
- Area of Concern/Extent of Excavation
- Gowanus Canal

0 30 60
SCALE IN FEET

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK VIRGINIA CALIFORNIA PENNSYLVANIA CONNECTICUT FLORIDA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan

Project
363 BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

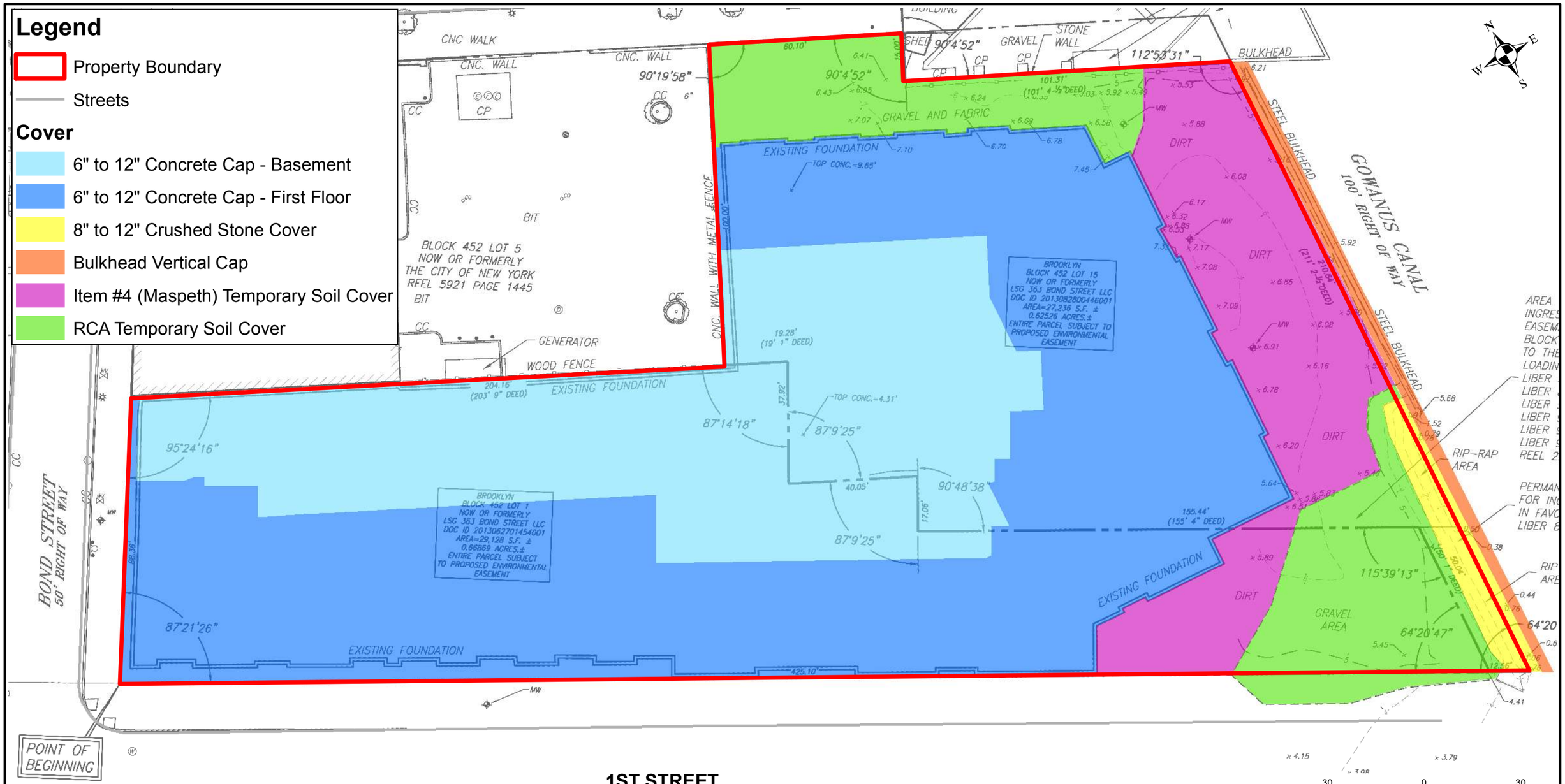
Drawing Title
REMAINING CONTAMINATION ABOVE THE RESTRICTED RESIDENTIAL RUSCOS AFTER REMEDIATION

Project No.	100287501
Date	3/17/2015
Scale	1"=30'
Drawn By	ATR
Last Revised	7/16/2015

Figure 11

© 2013 Langan

Path: \\Langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 11 - Remaining Contamination Above the Restricted Residential RUSCOs After Remediation.mxd



Notes:

1. 6" to 12" Concrete Cap – Basement is comprised of the 6" to 12" concrete slab underlain by Grace Vapor Barrier System.
2. 6" to 12" Concrete Cap – First Floor is comprised of the 6" to 12" concrete slab underlain by Stego 15-mil Vapor Barrier.
3. 8" to 12" Crushed Stone Cover is comprised of 8" to 12" crushed stone supplied by Tilcon New York, Inc. underlain by a demarcation layer.
4. Bulkhead Vertical Cap is comprised of AZ38-700N double sheets, AZ19-700 double sheets, and manufactured sand material supplied by Tilcon New York, Inc.
5. Item #4 (Maspeth) Temporary Soil Cover is comprised of 2 feet of Item #4 supplied by the Maspeth Recycling Center underlain by a demarcation layer.
6. RCA Temporary Soil Cover is comprised of 2 feet of RCA underlain by a demarcation layer.
7. Site survey basemap from "CAP AS-BUILT," by Langan, dated 16 July 2015.

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com

Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project	363 BOND STREET DEVELOPMENT BLOCK No. 452, LOT No. 1 BROOKLYN KINGS COUNTY NEW YORK
Drawing Title	COVER SYSTEM MAP
Project No.	100287501
Date	3/2/2015
Scale	1"=30'
Drawn By	atr
Last Revised	7/16/2015
Figure	12

© 2012 Langan

Path: \\Langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2015 - 363 Bond SMP\Figure 12 - Cover System Map.mxd

APPENDIX A

Environmental Easement

LANGAN

WRITTEN DESCRIPTION OF BLOCK 452 LOTS 1 & 15 AND THE EASEMENT PERIMETER:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY SIDE OF 1ST STREET AND THE EASTERLY SIDE OF BOND STREET;

THENCE ALONG THE NORTHERLY SIDE OF 1ST STREET A DISTANCE OF 437.66' TO A POINT ALONG THE GOWANUS CANAL;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 64°20'47" ALONG THE WESTERLY SIDE OF THE GOWANUS CANAL A DISTANCE OF 210.64'

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 112°53' 31" BOUNDED NORTHERLY BY BLOCK 452 LOT 19 A DISTANCE OF 101.31' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°55'08" BOUNDED EASTERLY BY BLOCK 452 LOT 19 A DISTANCE OF 15.00' TO A POINT IN THE SOUTHERLY SIDE OF CARROLL STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°4'52" ALONG THE SOUTHERLY SIDE OF CARROLL STREET A DISTANCE OF 60.10' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°19'58" BOUNDED WESTERLY BY BLOCK 452 LOT 5 A DISTANCE OF 100.00' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°40'02" BOUNDED NORTHERLY BY BLOCK 452 LOT 5 A DISTANCE OF 204.16' TO A POINT IN THE EASTERLY SIDE OF BOND STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 95°24'16" ALONG THE EASTERLY SIDE OF BOND STREET A DISTANCE OF 88.36' TO THE POINT OF BEGINNING AND CREATING AN INTERIOR ANGLE OF 87°21'26" WITH THE FIRST DESCRIBED LINE.

CONTAINING APPROXIMATELY 56,364 SQUARE FEET (1.29394 ACRES).

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, DEED INFORMATION AND THE FOLLOWING REFERENCES:
   - A. SECTION MAP 23
   - B. CURRENT TAX MAPS
   - C. FOR BLOCK 458 LOT 1 – CHICAGO TITLE INSURANCE COMPANY TITLE NO. 3411–00259, EFFECTIVE DATE NOVEMBER 4, 2011.
   - D. SURVEY RELATED EXCEPTIONS:

     EXCEPTION 6 – ORDER FOR PERMANENT CITY WATER TUNNEL IN FAVOR OF THE CITY OF NEW YORK FOR CITY TUNNEL NO. 3 STAGE 2. CRFN 2010000249407. AS DEPICTED ON SURVEY
   - E. FOR BLOCK 452 LOT 1 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901209, EFFECTIVE DATE NOVEMBER 22, 2011.

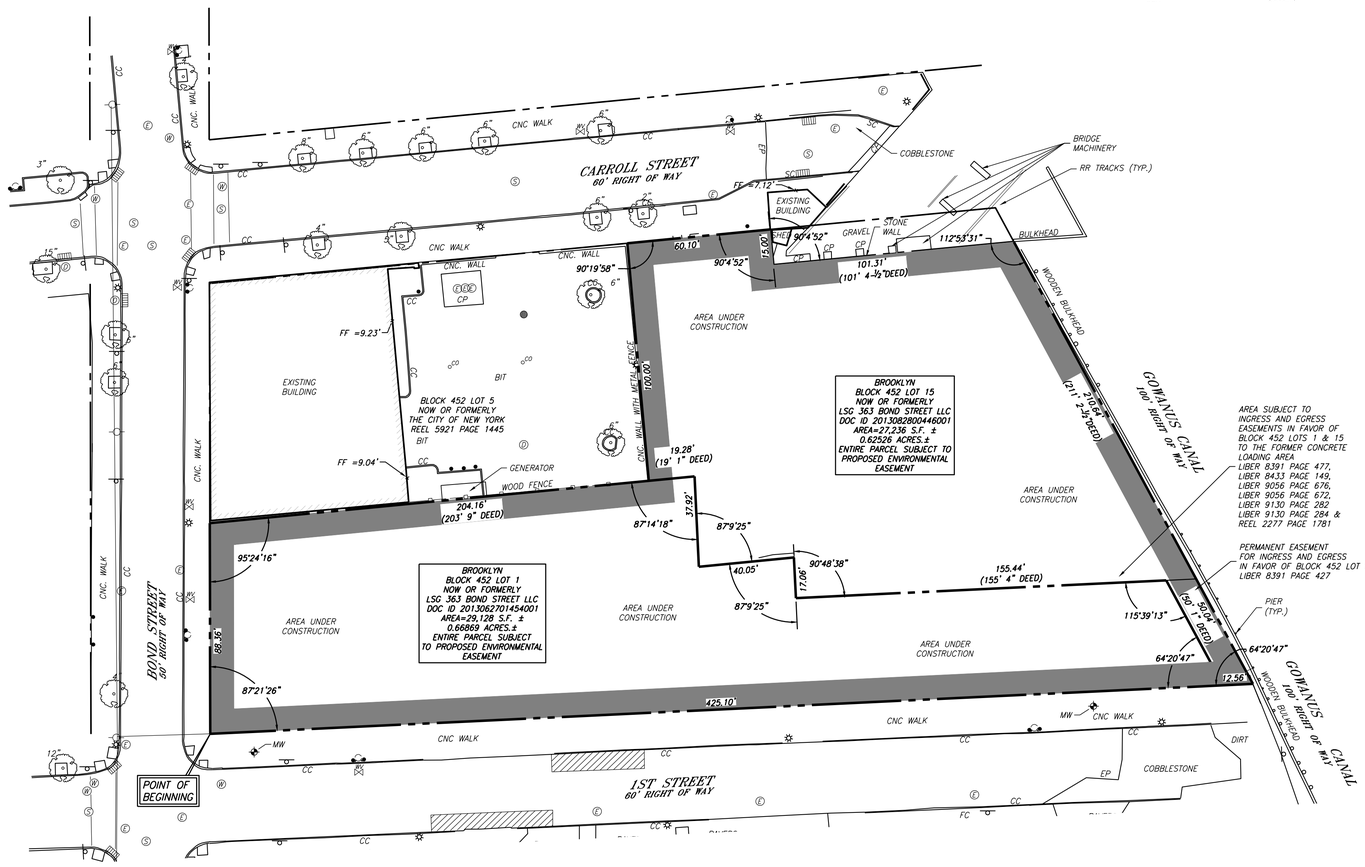
     SURVEY RELATED EXCEPTIONS:

     EXCEPTIONS 5–9. EASEMENTS AND RIGHTS FOR DRIVEWAY RIGHTS AND RIGHTS OF INGRESS AND EGRESS FOR AND AROUND THE EXISTING CONCRETE LOADING AREA LOCATED AT THE NORTHEAST CORNER OF BLOCK 452 LOT 1. REFERENCE DOCUMENTS AND LOCATIONS ARE DEPICTED ON THE SURVEY.
   - F. FOR BLOCK 452 LOT 15 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901583, EFFECTIVE DATE JANUARY 10, 2012.

     NO SURVEY RELATED EXCEPTIONS:
   - G. MAP TITLED "CITY OF NEW YORK COUNTY OF KINGS, TAX BLOCK 452 & 458" SCALE 1"=20' DATED MAY 5, 2012 BY MONTROSE SURVEYING CO., LLP.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO NEW YORK EAST STATE PLANE COORDINATE SYSTEM NAD 83 AS ESTABLISHED THROUGH GPS METHODS.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE BROOKLYN HIGHWAY DATUM (BHD) WITH A CONVERSION OF +2.56' + BHD = NGVD 29. THIS CONVERSION WAS ESTABLISHED ON THE HALCROW PLANS WHICH HAVE BEEN SUBMITTED FOR PREVIOUS EPA/DEC SUBMISSIONS FOR THIS SITE.
4. ESTABLISHED LEGAL GRADES SHOWN PER FINAL SECTION MAP #23 DATED 8/10/95. ELEVATIONS PUBLISHED ON MAP #23 REFER TO THE BROOKLYN HIGHWAY DATUM AND ARE IN REFERENCE TO THE TOP OF CURB ELEVATION.
5. STREET NAMES AND AND R.O.W WIDTHS, BLOCK, AND LOT NUMBERS AS PER CURRENT TAX MAPS.
6. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN, ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C.. FIELD WORK COMPLETED DURING THE MONTHS OF DECEMBER 2012 AND JANUARY 2013.
7. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.
8. AS PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP TITLED CITY OF NEW YORK, NEW YORK, BRONX, RICHMOND, NEW YORK, QUEENS, AND KING COUNTIES PANEL NUMBER 211 OF 457, MAP NUMBER 360497 PANEL 0211F, EFFECTIVE DATE SEPTEMBER 5, 2007. PORTIONS OF THE PROJECT AREA ARE WITHING THE DOTTED ZONE X, AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AND PORTIONS OF THE PROJECT AREA ARE WITHIN ZONE AE, WITH A BASE FLOOD ELEVATION OF 10 (NGVD 29). THE DELINEATION OF THE ZONE X AND ZONE AE LINE IS DEPICTED ON THE SURVEY.
9. PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
10. THE GOWANUS CANAL IS A WATER COURSE ON THE PROPERTY AS SHOWN ON THE SURVEY.
11. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB–DIVISION 2 OF N.Y STATE EDUCATION LAW ARTICLE 145.
12. THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.

LEGEND (NOT SHOWN TO SCALE)

	HYDRANT	G	GAS LINE
	STREET LIGHT	W	WATER LINE
	AREA LIGHT	E	ELECTRIC LINE
	SIGNAL POLE	T	TELEPHONE LINE
	POLE	S	COMBINED SEWER LINE
	ANCHOR POLE	D	DRAINAGE LINE
	MANHOLE (TYPE AS LABELED)		OVERHEAD WIRE
	WATER VALVE		GUIDE RAIL (TYPE AS NOTED)
	GAS VALVE		FENCE (TYPE AS NOTED)
	UNKNOWN VALVE		TREE LINE
	CATCH BASIN		EASEMENT LINE
×322.35	SPOT ELEVATION		PROPERTY LINE
	CLEAN OUT		RIGHT-OF-WAY LINE
	TREE	322	CONTOUR LINE
BM-1	BENCH MARK	EP	EDGE OF PAVEMENT
	SIGN	SWS	SINGLE WHITE STRIPE
	BOLLARD	DYS	DOUBLE YELLOW STRIPE
	SPAN POLE	BC	BITUMINOUS CURB
	TRANSFORMER	SC	STONE CURB
	MONITOR WELL	CC	CONCRETE CURB
WD	WOOD	GC	GRANITE CURB
CP	CONCRETE PAD	DW	DETECTABLE WARNING
FM	FENCE METAL	EW	EDGE OF WALK
FC	FENCE CHAIN LINK	BIT	BITUMINOUS
FS	FENCE STOCKADE	CNC	CONCRETE
LG	ESTABLISHED LEGAL GRADE	ENC	ENCROACHES
		CLR	CLEARS



30 0 15 30
SCALE IN FEET

10 0 10
SCALE IN METERS

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV.

Date	Description	No.

REVISIONS

"I HEREBY STATE THAT THIS PLAN IS BASED ON A FIELD SURVEY MADE BY ME OR UNDER MY IMMEDIATE SUPERVISION IN ACCORDANCE WITH NYSPLS CODE OF PRACTICE FOR LAND SURVEYS, AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, AND IN MY PROFESSIONAL OPINION, CORRECTLY REPRESENTS THE CONDITIONS FOUND ON THE DATE OF THE FIELD SURVEY AT THE SUBJECT PROPERTY"

ANDREW G. IVES DATE
PROFESSIONAL LAND SURVEYOR
STATE LIC. No. 50794

AREA SUBJECT TO INGRESS AND EGRESS EASEMENTS IN FAVOR OF BLOCK 452 LOTS 1 & 15 TO THE FORMER CONCRETE LOADING AREA
LIBER 8391 PAGE 477,
LIBER 8433 PAGE 149,
LIBER 9056 PAGE 676,
LIBER 9056 PAGE 672,
LIBER 9130 PAGE 282
LIBER 9130 PAGE 284 &
REEL 2277 PAGE 1781

PERMANENT EASEMENT FOR INGRESS AND EGRESS IN FAVOR OF BLOCK 452 LOT 1 LIBER 8391 PAGE 427

LANGAN
555 Long Wharf Drive, New Haven, CT 06511
T: 203.562.5771 F: 203.789.6142 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

363 BOND ST. & 388-400 CARROLL ST.

BROOKLYN

KINGS COUNTY NEW YORK

EASEMENT MAP

100287503		Drawing No.
APRIL 28, 2015		EA101
1"=30'		
RLH	AGI	

©2015 Langan

100287503

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument.The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2015070100881001003E8B67

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 10**

Document ID: 2015070100881001 Document Date: 06-01-2015 Preparation Date: 07-07-2015
Document Type: EASEMENT
Document Page Count: 9

PRESENTER:
MADISON TITLE AGENCY, LLC
(PICK-UP-SDS) AS AGENT FOR
1125 OCEAN AVENUE
LAKEWOOD, NJ 08701
212-808-9400
BAILAB@MADISONTITLE.COM

RETURN TO:
PAM HORN
460 PARK AVENUE, 13TH FLOOR
LIGHTSTONE GROUP
NEW YORK, NY 10022
MTANY-104769 NK

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BROOKLYN	452	1	Entire Lot		363 BOND STREET

Property Type: APARTMENT BUILDING

Borough	Block	Lot		Unit	Address
BROOKLYN	452	15	Entire Lot		388-400 CARROLL STREET

Property Type: NON-RESIDENTIAL VACANT LAND

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year_____ Reel____ Page_____ *or* File Number_____

PARTIES

GRANTOR/SELLER:
LSG 363 BOND STREET LLC
C/O LIGHTSTONE GROUP, LLC, 460 PARK AVENUE
NEW YORK, NY 10022

GRANTEE/BUYER:
PEOPLE OF STATE OF NEW YORK BY
COMMISSIONER, DEPT
625 BROADWAY
ALBANY, NY 12233

FEES AND TAXES

Mortgage :		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	85.00
Affidavit Fee:	$	0.00

Filing Fee:	$	100.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 07-09-2015 12:57
City Register File No.(CRFN): **2015000236153**

City Register Official Signature

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made as of this 1st day of June, 2015 between Owner(s) LSG 363 Bond Street LLC, having an office at c/o The Lightstone Group, LLC, 460 Park Avenue, County of New York, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 363 Bond Street and 388-400 Carroll Street in the City of New York, County of Kings and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel numbers: Block 452 Lots 1 and 15, being the same as that property conveyed to Grantor by deeds dated June 26, 2013 and August 19, 2013 and recorded in the City Register of the City of New York in Instrument No. 2013062701454001 and 2013082800446001, respectively. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.293 +/- acres, and is hereinafter more fully described in the Land Title Survey dated April 28, 2015 prepared by Andrew G. Ives, Professional Land Surveyor for Langan Engineering and Environmental Services, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the

protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C224173-07-13 as amended April 2, 2014, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C224173
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation

NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

LSG 363 Bond Street LLC:

By: _____

Print Name: Joseph E. Teichman

Title: EVP and General Counsel Date: 5-12-2015

Grantor's Acknowledgment

STATE OF NEW ~~YORK~~ JERSEY)
) ss:
COUNTY OF OCEAN)

On the 12th day of May, in the year 2015, before me, the undersigned, personally appeared Joseph E. Teichman personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New ~~York~~ Jersey

MIRIAM ELLINSON
Notary Public, State of New Jersey
My Commission Expires
December 09, 2015

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 1st day of June, in the year 2015, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Andrew Guglielmi
Notary Public - State of New York

ANDREW O. GUGLIELMI
Notary Public, State of New York
No. 02GU6177593
Qualified in Albany County
Commission Expires November 13, 2015

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at the intersection of the northerly side of 1st Street and the easterly side of Bond Street;

THENCE along the northerly side of 1st Street a distance of 437.66' to a point along the Gowanus Canal;

THENCE turning an interior angle to the right of 64°20'47" along the westerly side of the Gowanus Canal a distance of 210.64';

THENCE turning an interior angle to the right of 112°53'31" bounded northerly by Block 452 Lot 19 a distance of 101.31' to a point;

THENCE turning an interior angle to the right of 269°55'08" bounded easterly by Block 452 Lot 19 a distance of 15.00' to a point in the southerly side of Carroll Street;

THENCE turning an interior angle to the right of 90°4'52" along the southerly side of Carroll Street a distance of 60.10' to a point;

THENCE turning an interior angle to the right of 90°19'58" bounded westerly by Clock 452 Lot 5 a distance of 100.00' to a point;

THENCE turning an interior angle to the right of 269°40'02" bounded northerly by Block 452 Lot 5 a distance of 204.16' to a point in the easterly side of Bond Street;

THENCE turning an interior angle to the point of 95°24'16" along the easterly side of Bond Street a distance of 88.36' to the point of beginning and creating an interior angle of 87°21'26" with the first described line.

Containing approximately 56,364 square feet (1.29394 Acres).

APPENDIX B

Metes and Bounds

LANGAN

29 August 2014
100287503

WRITTEN DESCRIPTION
BLOCK 452 LOT 1
BROOKLYN, NEW YORK

Beginning at the intersection of the northerly side of 1st Street and the easterly side of Bond Street;

Thence along the northerly side of 1st Street a distance of 437.66' to a point along the Gowanus Canal;

Thence turning an interior angle to the right of 64°20'47" along the westerly side of the Gowanus Canal a distance of 210.64'

Thence turning an interior angle to the right of 112°53' 31" bounded northerly by Block 452 Lot 19 a distance of 101.31' to a point;

Thence turning an interior angle to the right of 269°55'08" bounded easterly by Block 452 Lot 19 a distance of 15.00' to a point in the southerly side of Carroll Street;

Thence turning an interior angle to the right of 90°4'52" along the southerly side of Carroll Street a distance of 60.10' to a point;

Thence turning an interior angle to the right of 90°19'58" bounded westerly by Block 452 Lot 5 a distance of 100.00' to a point;

Thence turning an interior angle to the right of 269°40'02" bounded northerly by Block 452 Lot 5 a distance of 204.16' to a point in the easterly side of Bond Street;

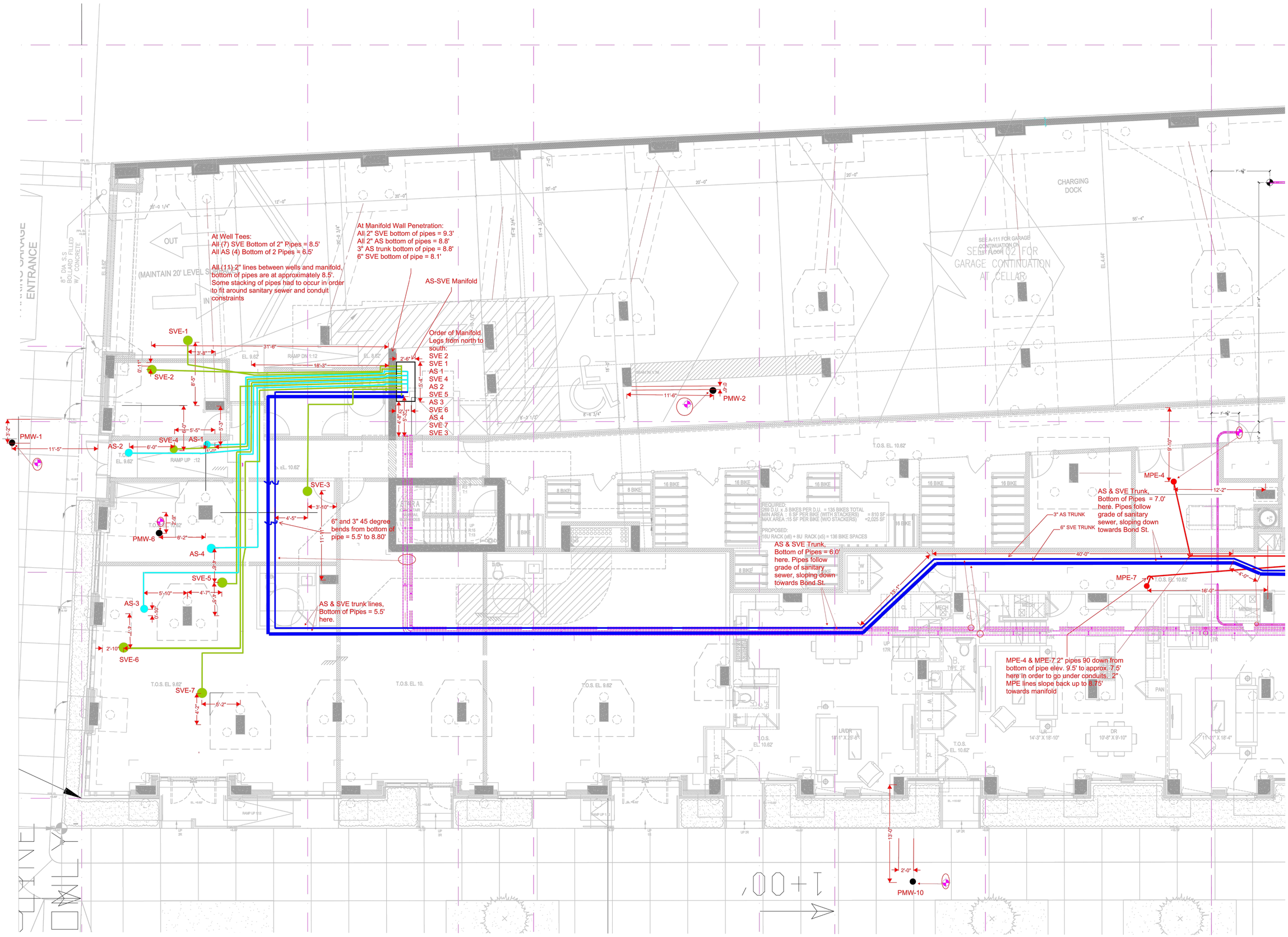
Thence turning an interior angle to the right of 95°24'16" along the easterly side of Bond Street a distance of 88.36' to the point of beginning and creating an interior angle of 87°21'26" with the first described line.

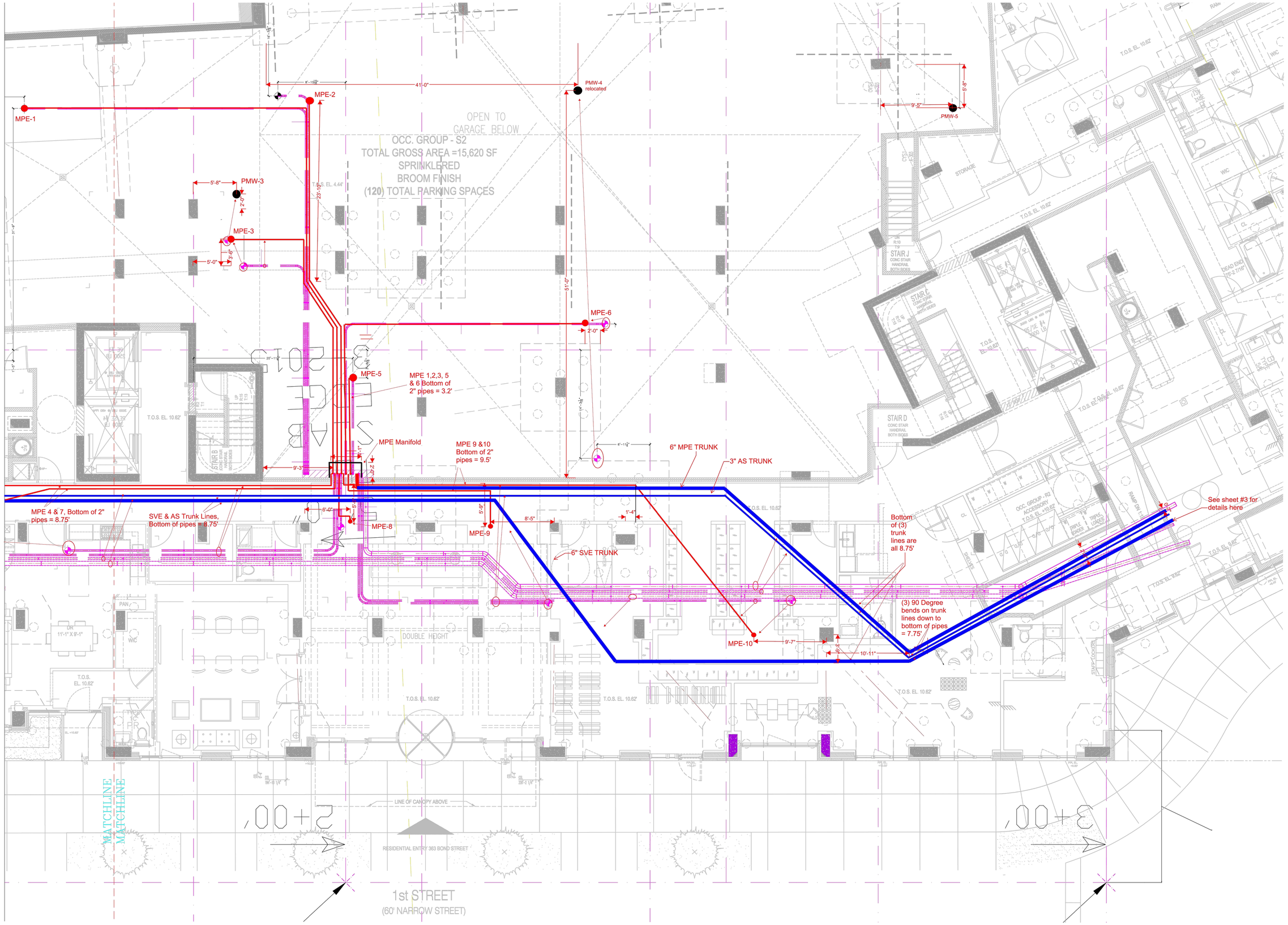
Containing approximately 56,364 square feet (1.29394 acres).

APPENDIX C

Groundwater Remediation Infrastructure As-Built Drawings

LANGAN


At Well Tees:
All (7) SVE Bottom of 2" Pipes = 8.5'
All AS (4) Bottom of 2 Pipes = 6.5'
All (11) 2" lines between wells and manifold, bottom of pipes are at approximately 8.5'. Some stacking of pipes had to occur in order to fit around sanitary sewer and conduit constraints
At Manifold Wall Penetration:
All 2" SVE bottom of pipes = 9.3'
All 2" AS bottom of pipes = 8.8'
3" AS trunk bottom of pipe = 8.8'
6" SVE bottom of pipe = 8.1'
AS-SVE Manifold
Order of Manifold Legs from north to south:
SVE 2
SVE 1
AS 1
SVE 4
AS 2
SVE 5
AS 3
SVE 6
AS 4
SVE 7
SVE 3
SVE-1
SVE-2
SVE-3
SVE-4
SVE-5
SVE-6
SVE-7
AS-1
AS-2
AS-3
AS-4
PMW-1
PMW-2
PMW-6
PMW-10
MPE-4
MPE-7
6" and 3" 45 degree bends from bottom of pipe = 5.5' to 8.80'
AS & SVE trunk lines, Bottom of Pipes = 5.5' here.
AS & SVE Trunk, Bottom of Pipes = 6.0' here. Pipes follow grade of sanitary sewer, sloping down towards Bond St.
AS & SVE Trunk, Bottom of Pipes = 7.0' here. Pipes follow grade of sanitary sewer, sloping down towards Bond St.
3" AS TRUNK
6" SVE TRUNK
MPE-4 & MPE-7 2" pipes 90 down from bottom of pipe elev. 9.5' to approx. 7.5' here in order to go under conduits. 2" MPE lines slope back up to 8.75' towards manifold
CHARGING DOCK
SEE A-111 FOR GARAGE CONTINUATION ON 1ST FLOOR
SEE A-102 FOR GARAGE CONTINUATION AT CELLAR
OUT
IN
(MAINTAIN 20' LEVEL STACKING)
8" DIA. S.S. BOLLARD FILLED W/ CONCRETE
T.O.S. EL. 9.62'
T.O.S. EL. 10.62'
T.O.S. EL. 10.
RAMP DN 1:12
RAMP UP 1:12
RAMP UP 1:10
REQUIRED:
269 D.U. x .5 BIKES PER D.U. = 135 BIKES TOTAL
MIN AREA : 6 SF PER BIKE (WITH STACKERS) = 810 SF
MAX AREA :15 SF PER BIKE (W/O STACKERS) =2,025 SF
PROPOSED:
16U RACK (x6) + 8U RACK (x5) = 136 BIKE SPACES
LR/DR 19'-1" X 25'-8"
LR 14'-3" X 18'-10"
DR 10'-8" X 9'-10"
LR 11'-1" X 18'-4"
PAN
MECH
Proposed Lines & Wells
As-Built Trunk Lines
As-Built 2" MPE Lines
As-Built 2" SVE Lines
As-Built 2" AS Lines
As-Built PMWs
Note:
1. Proposed AS & SVE 2" well lines not shown for clarity
SCALE IN FEET
WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.
STATE OF NEW YORK STEWART H. ABRAMS 078833 LICENSED PROFESSIONAL ENGINEER
SIGNATURE
DATE SIGNED
STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1
LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A. Langan Engineering and Environmental Services, Inc. Langan Engineering and Environmental Services, Inc. of Connecticut, LLC Langan International LLC Authorized Users of Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400
AWT Environmental Services, Inc.
P.O. Box 120
Saymerville, NJ 08871
(732) 613-1600
(732) 613-1538 fax
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK
Drawing Title
AS-BUILT GROUNDWATER REMEDIATION SYSTEM MANIFOLD PIPING LAYOUT (1/4)
Project No. 100287501
Date 09/17/15
Scale AS SHOWN
Drawn By MA
Checked By OU
Submission Date 09/21/15
Drawing No. 1
Sheet 1 of 6
Filename: Y:\langan.com\data\EPIdata\81\100287501\Cadd Data - 100287501\SheetFiles\363 RA design\363 Bond Street Layout As-Builts 091715.dwg Date: 9/21/2015 Time: 15:34 User: mambrouch Style Table: Langan.stb Layout: GWRS-1
LANGAN
SUBMISSION DATE: XXXX ##, ####
PROJECT NO. ########



Proposed Lines & Wells
As-Built Trunk Lines
As-Built 2" MPE Lines
As-Built 2" SVE Lines
As-Built 2" AS Lines
As-Built PMWs

Note:
1. Proposed AS & SVE 2" well lines not shown for clarity

SCALE IN FEET

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

SIGNATURE DATE SIGNED
STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CC, Inc.
Langan International LLC
Langan UK Limited
NJ CERTIFICATE OF AUTHORIZATION No: 24GA27996400

AWT Environmental Services, Inc.
P.O. Box 76
Seymour, NJ 08871
(732) 613-1600
(732) 613-1536 fax

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

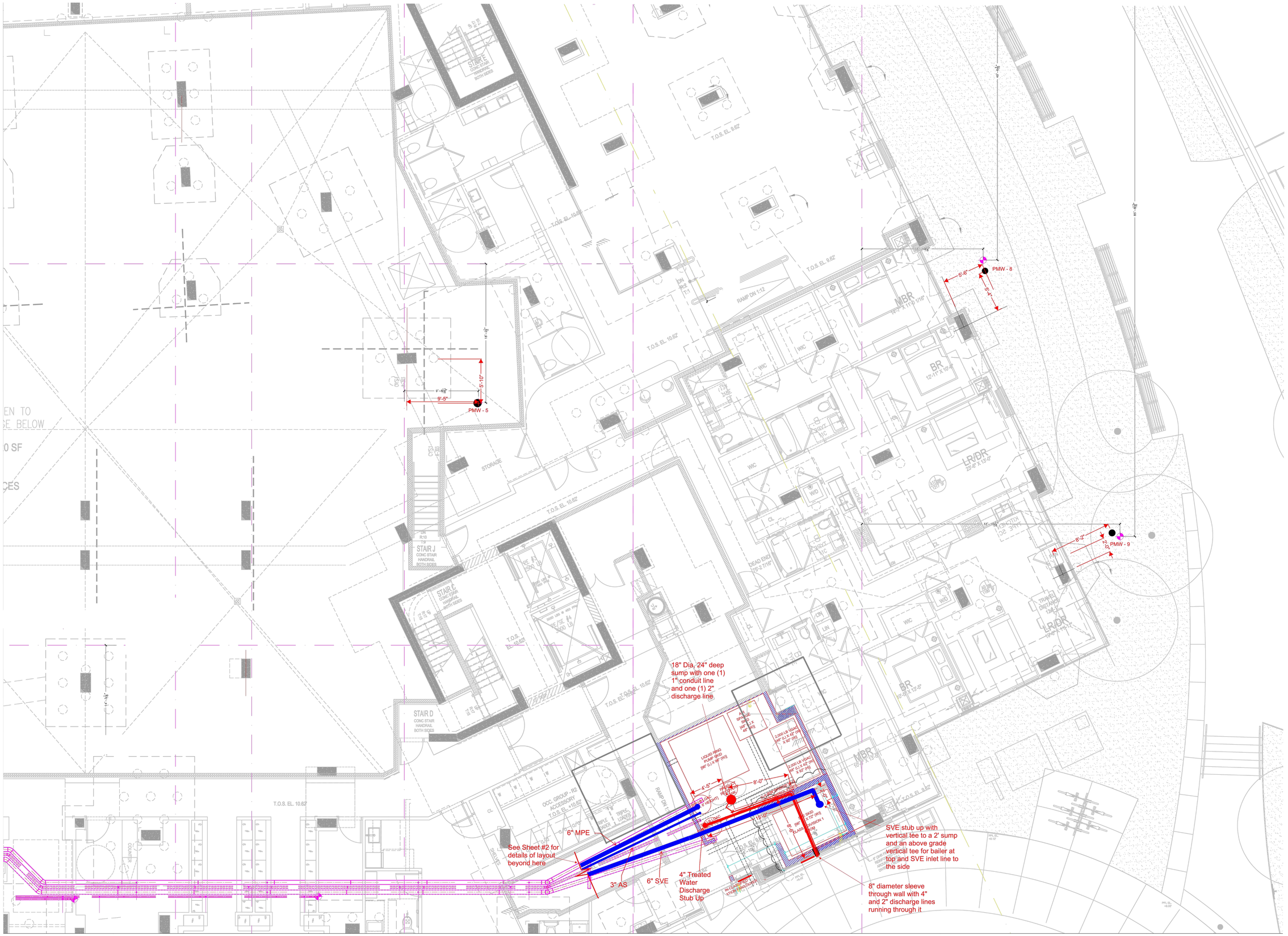
Drawing Title
AS-BUILT GROUNDWATER REMEDIATION SYSTEM MANIFOLD PIPING LAYOUT (2/4)

Project No.	100287501
Date	09/17/15
Scale	AS SHOWN
Drawn By	MA
Checked By	OU
Submission Date	09/21/15

Drawing No. 2
Sheet 2 of 6

Filename: \\langan.com\data\EP\data5\100287501\Cadd Data - 100287501\SheetFiles\363 RA design\363 Bond Street Layout As-Built 091715.dwg Date: 9/21/2015 Time: 15:30 User: mambruch Style Table: Langan.stb Layout: GWRS 2

LANGAN
SUBMISSION DATE: XXXX ##, ####
PROJECT NO. #########



Proposed Lines & Wells
As-Built Trunk Lines
As-Built 2" MPE Lines
As-Built 2" SVE Lines
As-Built 2" AS Lines
As-Built PMWs

Note:
1. Proposed AS & SVE 2" well lines not shown for clarity

SCALE IN FEET

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

STATE OF NEW YORK — STEWART HARRIS ABRAMS — 078833 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED
STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying, Landscape Architecture, D.P.C.
Langan E.S. and Environmental Services, Inc.
Langan CT, Inc.
Langan Holding Co. LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

AWT Environmental Services, Inc.
P.O. Box 128
Seymville, NJ 08871
(732) 613-1660
(732) 613-1536 fax

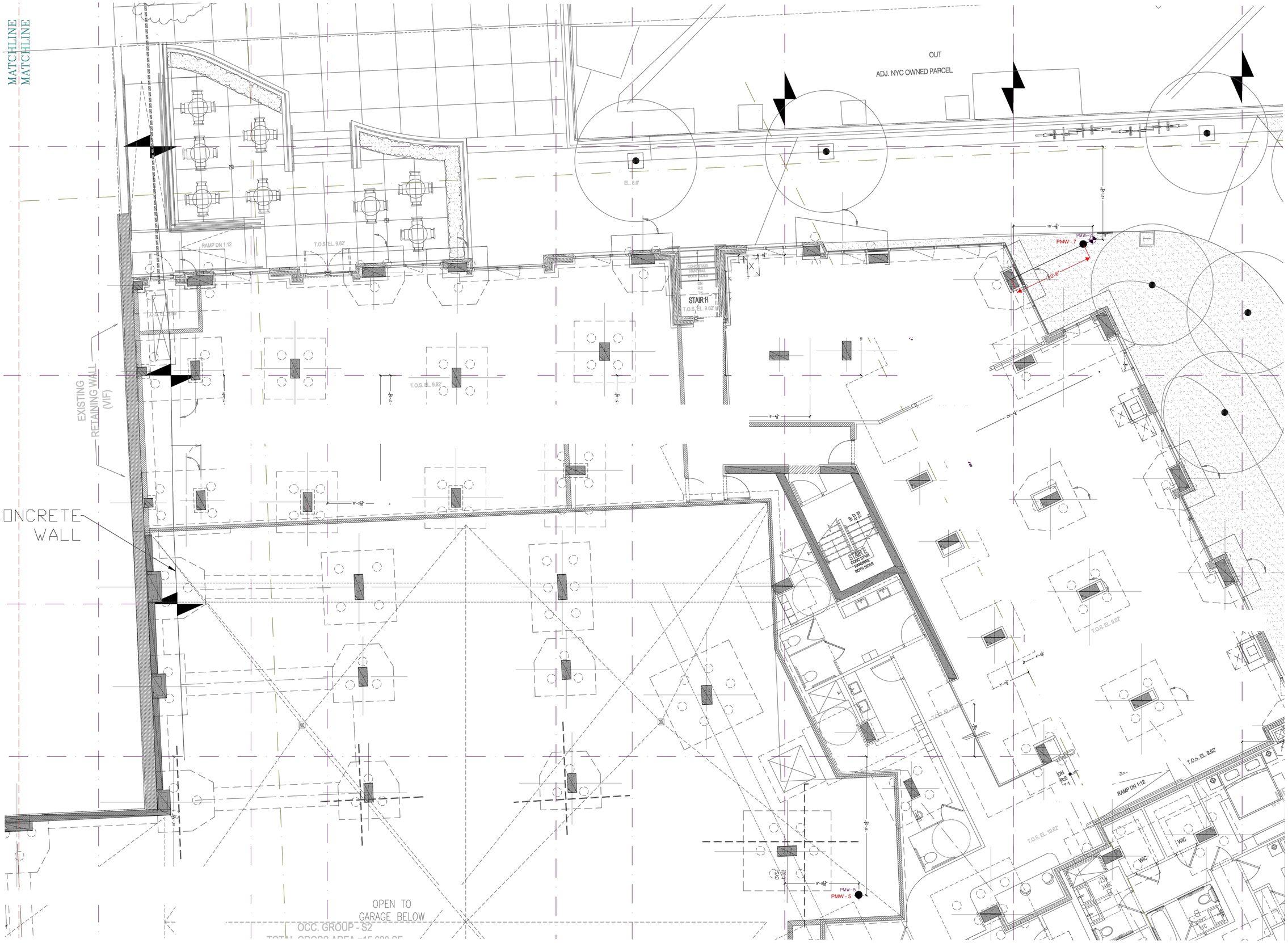
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
AS-BUILT GROUNDWATER REMEDIATION SYSTEM MANIFOLD PIPING LAYOUT (3/4)

Project No. 100287501	Drawing No. 3
Date 09/17/15	
Scale AS SHOWN	
Drawn By MA / Checked By OU	
Submission Date 09/21/15	Sheet 3 of 6

Filename: \\langan.com\data\EPdata\b100287501\CadD Data - 100287501\Sheet Files\383 RA design\383 Bond Street Layout As-Built\ 09171 5.dwg Date: 9/21/2015 Time: 15:36 User: mambroch Style Table: Langan.stb Layout: GWRS 3

LANGAN
PROJECT NO. ######## SUBMISSION DATE: XXXX ##, ####



- Proposed Lines & Wells
- As-Built Trunk Lines
- As-Built 2" MPE Lines
- As-Built 2" SVE Lines
- As-Built 2" AS Lines
- As-Built PMWs

Note:
1. This Sheet #4 is shown only for location of PMW-5 & PMW-7

SCALE IN FEET

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

SIGNATURE DATE SIGNED
STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. is a professional corporation. Langan Engineering and Environmental Services, Inc. Langan Engineering and Environmental Services, Inc. is a professional limited liability company. Langan International LLC is a Delaware limited liability company.
NJ CERTIFICATE OF AUTHORIZATION No: 24GA27996400

AWT Environmental Services, Inc.
P.O. Box 135
Sayreville, NJ 08871
(732) 613-1060
(732) 613-1536 fax

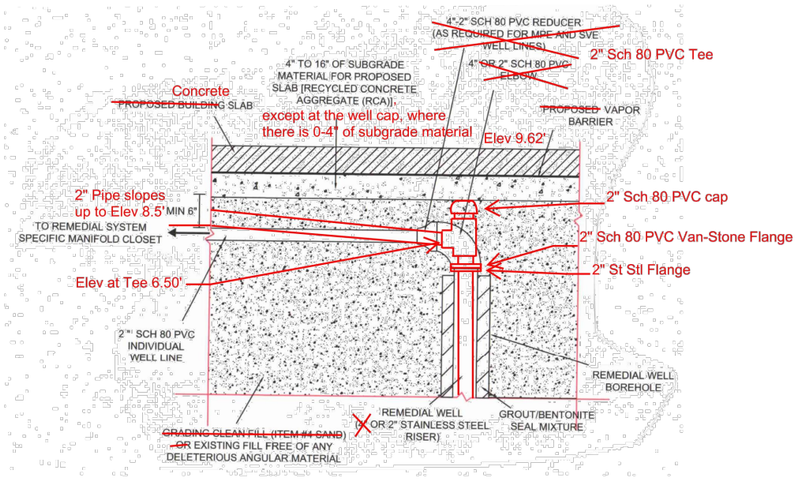
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
KINGS COUNTY BROOKLYN NEW YORK

Drawing Title
AS-BUILT GROUNDWATER REMEDIATION SYSTEM MANIFOLD PIPING LAYOUT (4/4)

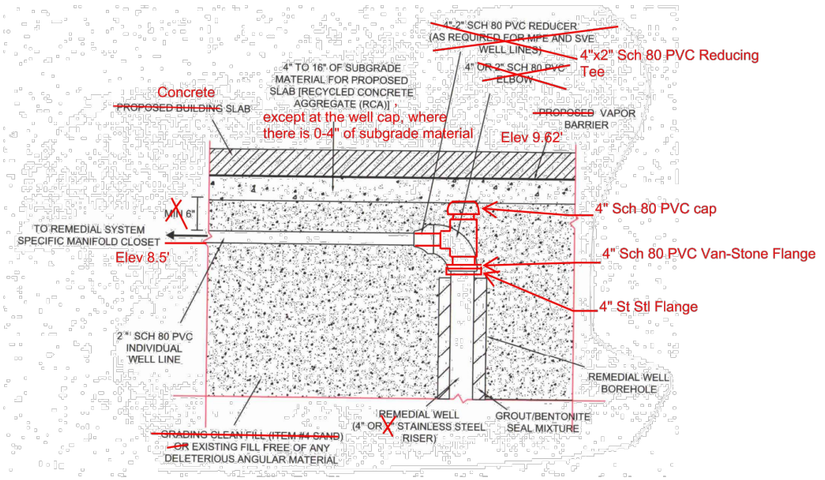
Project No. 100287501	Drawing No. 4
Date 09/17/15	
Scale AS SHOWN	
Drawn By MA / Checked By OU	
Submission Date 09/21/15	Sheet 4 of 6

LANGAN
PROJECT NO. ######## SUBMISSION DATE: XXXX ##, ####

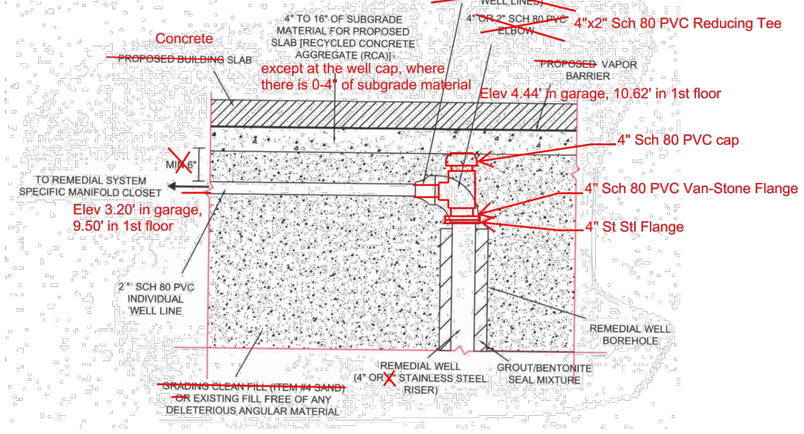
Filename: \\langan.com\data\EP\data5\100287501\Cadd Data - 100287501\SheetFiles\363 RA design\363 Bond Street Layout As-Builts 091715.dwg Date: 9/21/2015 Time: 15:37 User: mambruch Style Table: Langan.stb Layout: GWRS 4



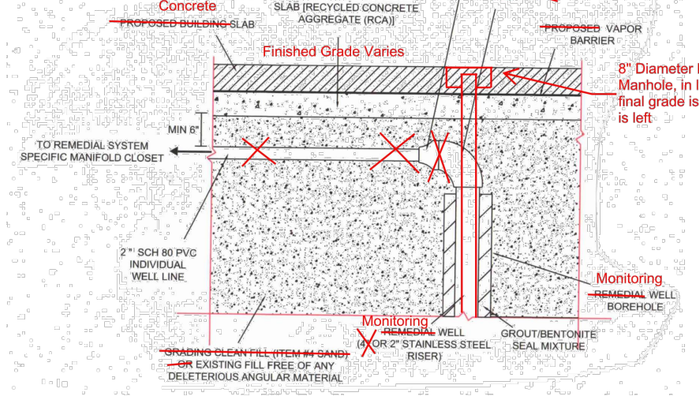
AS Well Pipe Connection, Typical Detail



SVE Well Pipe Connection, Typical Detail



MPE Well Pipe Connection, Typical Detail



PMW Well Pipe Connection, Typical Detail

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

Notes:
1. Original details above taken from Langan Drawings,100% Design, Dated 2/12/15
2. Deviations from original design are shown in red.
3. Only fill used in GW Treatment wells was existing fill free of any deleterious angular material
4. Details are not to scale.

AWT Environmental Services, Inc.
P.O. Box 128
Sayreville, NJ 08871

(732) 613-1660
(732) 613-1536 fax

STATE OF NEW YORK STEWART HARRIS ABRAMS 078833 LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED

STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

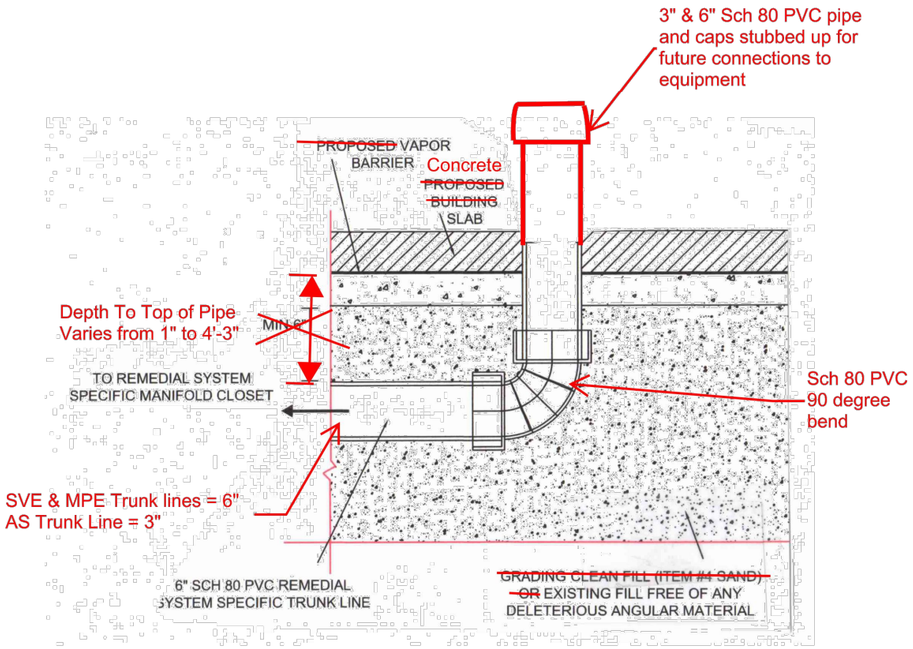
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
AS-BUILT GROUNDWATER REMEDIATION SYSTEM MANIFOLD PIPING DETAILS (1/2)

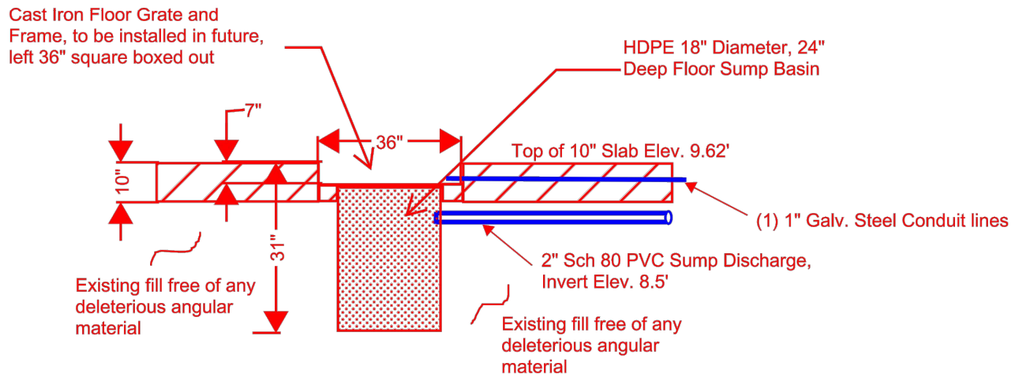
Project No. 100287501	Drawing No. 5
Date 09/17/15	
Scale NTS	
Drawn By MA / Checked By OU	
Submission Date 09/21/15	Sheet 5 of 6

© 2014 Langan

Filename: \\langan.com\data\EP\data5\100287501\Cadd Data - 100287501\SheetFiles\363 RA design\363 Bond Street As-Built Figures 091715.dwg Date: 9/21/2015 Time: 15:55 User: mambrusch Style Table: Langan.stb Layout: GW Specs 1



Remedial Trunk Line Typical Detail



Equipment Room Sump Detail

Notes:
1. Original details above taken from Langan Drawings,100% Design, Dated 2/12/15
2. Deviations from original design are shown in red.
3. The Equipment Room Sump was not in the original design.
4. Only fill used in GW Treatment wells was existing fill free of any deleterious angular material
5. Details are not to scale.

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

AWT Environmental Services, Inc.
P.O. Box 128
Sayreville, NJ 08871

(732) 613-1660
(732) 613-1536 fax

SIGNATURE DATE SIGNED
STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
AS-BUILT GROUNDWATER REMEDIATION SYSTEM MANIFOLD PIPING DETAILS (2/2)

Project No. 100287501	Drawing No. 6
Date 09/17/15	
Scale NTS	
Drawn By MA / Checked By OU	
Submission Date 09/21/15	Sheet 6 of 6

© 2014 Langan

Filename: \\langan.com\data\EP\data5\100287501\Cadd Data - 100287501\SheetFiles\363 RA design\363 Bond Street As-Built Figures 091715.dwg Date: 9/21/2015 Time: 15:56 User: mambrusch Style Table: Langan.stb Layout: GW Specs 2 (2)

Client & Job # LETTIRE 14041 Driller S. Schultz ID#

Well Permit# Local Well ID MPE-1
Well Owner LETTERI Site Address 363 BOLD ST
Date Well Started 05-08-15 Date Well Finished 05-08-15

Drilling Method: ~~HSA~~ Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 10.5 Ft.

Grout Method: Pressure Gravity Displacement Other

Protective Cover: Flush N/A In. Stick Up In.

		Depth to Top	Depth to Bottom	Diameter
Bore Hole	Auger / Rotary	0 Ft.	14 Ft.	12 In.
	Auger / Rotary	Ft.	Ft.	In.

	Material & Rating	Depth to Top	Depth to Bottom	Diameter
Casing	sch 80 ~~Sch 40~~ PVC	0 Ft.	1.5 Ft.	4 In.
	stainless	1.5 Ft.	2.5 Ft.	4 In.
	SUMP	10	12	4

	Material	Depth to Top	Depth to Bottom	Diameter	Slot#
Screen	stainless	2.5 Ft.	10 Ft.	4 In.	0.20
		Ft.	Ft.	In.	

	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Material #
Gravel Pack	0.5 Ft.	14 Ft.	12 In.	4 In.	#2
	Ft.	Ft.	In.	In.	

Grout	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Bent	Portland	Water
	0 Ft	0.5 Ft.	12 In.	4 In.	100 Lb	~ Lb	5 Gal
	Ft	Ft.	In.	In.	Lb	Lb	Gal

Additional Information:

Static Water Level Ft M-Scope/Tape Period of Dev. Hrs Pump / Bailer

Drill Rig: Acker Soil Scout GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OL	Fill
5	6	BLACK	SM	
6	14	Gray	CL	

Coordinates E/X N/Y PDOP (Accuracy) Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building

Client & Job # Lefteri/14041 Driller S. Schultz ID#

Well Permit# Local Well ID MPE-2
Well Owner Lefteri Site Address
Date Well Started 04-24-2015 Date Well Finished 04-24-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 10.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) Rotary	0	Ft.	14	Ft.	12	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Sch 80 / ~~Sch 40~~ PVC	0	Ft.	1.5	Ft.	4	In.
	Stainless	1.5	Ft.	2.5	Ft.	4	In.
	Sump	10		12		4	

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2.5	Ft.	10	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	0.5	Ft.	14	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	0.5	Ft.	12	In.	4	In.	100	Lb	-	Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information:

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	
5	6	Black	SM	
6	14	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID MPE-3
Well Owner _____ Site Address _____
Date Well Started 04-23-2015 Date Well Finished 04-23-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 10.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	14	Ft.	12	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Sch 80 ~~Sch 40~~ PVC	0	Ft.	1.5	Ft.	4	In.
	Stainless	1.5	Ft.	2.5	Ft.	4	In.
	Sump	10		12			

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2.5	Ft.	10	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	0.5	Ft.	14	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	0.5	Ft.	12	In.	4	In.	100	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5	6	Gray	SM	
6	14	Black	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Lefferi/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID MPE-4
Well Owner _____ Site Address _____
Date Well Started 06-13-2015 Date Well Finished 06-13-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 18 Ft. Total Depth Well 16.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	18	Ft.	5	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Sch80 ~~Sch40~~ PVC	0	Ft.	1	Ft.		In.
	Stainless	1	Ft.	7	Ft.		In.
	Sump	14.5		16.5			

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	7	Ft.	14.5	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	5	Ft.	18	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	5	Ft.	12	In.	4	In.	500	Lb		Lb	50	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	12 ft	Brown	OT	Fill
12	14	Black	SM	
14	18	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri / 14041 Driller S. Schultz ID#

Well Permit# Local Well ID MPE-5
Well Owner Site Address
Date Well Started 04/23-2015 Date Well Finished 04-23-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 10.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush ____ In. Stick Up ____ In.

Bore Hole	Depth to Top	Depth to Bottom	Diameter
(Auger) / Rotary	0 Ft.	14 Ft.	12 In.
Auger / Rotary	Ft.	Ft.	In.

Casing	Material & Rating	Depth to Top	Depth to Bottom	Diameter
	sch 80 / ~~Sch 40~~ PVC	0 Ft.	1.5 Ft.	4 In.
	Stainless	1.5 Ft.	2.5 Ft.	4 In.
	sump	10	12	

Screen	Material	Depth to Top	Depth to Bottom	Diameter	Slot#
	Stainless	2.5 Ft.	10 Ft.	4 In.	0.20
		Ft.	Ft.	In.	

Gravel Pack	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Material #
	0.5 Ft.	14 Ft.	12 In.	4 In.	#2
	Ft.	Ft.	In.	In.	

Grout	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Bent	Portland	Water
	0 Ft	0.5 Ft.	12 In.	4 In.	100 Lb	Lb	5 Gal
	Ft	Ft.	In.	In.	Lb	Lb	Gal

Additional Information:

Static Water Level ____ Ft M-Scope/Tape Period of Dev. ____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5	6	Black	SM	
6	14	Gray	CL	

Coordinates E/X ____ N/Y ____ PDOP (Accuracy) ____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building ____

Client & Job # Lefteri / 14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID MPE-6
Well Owner _____ Site Address _____
Date Well Started 04-22-2015 Date Well Finished 04-23-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 10.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

Bore Hole		Depth to Top		Depth to Bottom		Diameter	
(Auger) / Rotary		0	Ft.	14	Ft.	12	In.
Auger / Rotary			Ft.		Ft.		In.

Casing	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
	Sch 80 / ~~Sch 40~~ PVC	0.5	Ft.	3.5	Ft.	4	In.
	Stainless	3.5	Ft.	4.5	Ft.	4	In.
	Sump	14		12			

Screen	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
	Stainless	4.5	Ft.	12	Ft.	4	In.	020
			Ft.		Ft.		In.	

Gravel Pack	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
	0.5	Ft.	14	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

Grout	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
	0	Ft	0.5	Ft.	12	In.	4	In.	100	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5	6	Black	SM	
6	14	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID MDE-7

Well Owner _____ Site Address _____

Date Well Started 06-01-2015 Date Well Finished 06-01-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 18 Ft. Total Depth Well 16.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	18	Ft.	12	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Sch 80 / ~~Sch 40~~ PVC	0	Ft.	1	Ft.	4	In.
	Stainless	1	Ft.	7	Ft.	4	In.
	Sump	14.5		16.5			

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	7	Ft.	14.5	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	5	Ft.	18	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	5	Ft.	12	In.	4	In.	500	Lb		Lb	50	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	12 ft	Brown	OT	Fill
12	14	Black	SM	
14	18	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Lefteri/14041 Driller S. Schultz ID#

Well Permit# Local Well ID MPE-8
Well Owner Site Address
Date Well Started 05/28/2015 Date Well Finished 05/28-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 18 Ft. Total Depth Well 16.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush ____ In. Stick Up ____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	18	Ft.	12	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	sch 80 / ~~Sch 40~~ PVC	0	Ft.	1	Ft.	4	In.
	Stainless	1	Ft.	7	Ft.		In.
	Sump	14.5		16.5			

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	7	Ft.	14.5	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	5	Ft.	18	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	5	Ft.	12	In.	4	In.	500	Lb		Lb	50	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information:

Static Water Level ____ Ft M-Scope/Tape Period of Dev. ____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	12 ft	Brown	OT	Fill
12	14	Black	SM	
14	18	Gray	CL	

Coordinates E/X ____ N/Y ____ PDOP (Accuracy) ____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building ____

Client & Job # Lefteri / 14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID MPE-9
Well Owner _____ Site Address _____
Date Well Started 05/28 - 2015 Date Well Finished 05-28-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 18 Ft. Total Depth Well 16.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	18	Ft.	12	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Sch 80 / ~~Sch 40~~ PVC	0	Ft.	1	Ft.	4	In.
	Stainless	1	Ft.	7	Ft.		In.
	Sump	14.5		16.5			

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	7	Ft.	14.5	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	5	Ft.	18	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	5	Ft.	12	In.	4	In.	500	Lb		Lb	50	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft.	12 ft.	Brown	OT	Fill
12	14	Black	SM	
14	18	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID MPE-10
Well Owner _____ Site Address _____
Date Well Started 05-29-2015 Date Well Finished 05-29-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 18 Ft. Total Depth Well 16.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	18	Ft.	12	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Sch 80 / ~~Sch 40~~ PVC	0	Ft.	1	Ft.	4	In.
	Stainless	1	Ft.	7	Ft.		In.
	Sump	14.5		16.5			

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	7	Ft.	14.5	Ft.	4	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	5	Ft.	18	Ft.	12	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	5	Ft.	12	In.	4	In.	500	Lb		Lb	50	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level _____ Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft.	12 ft.	Brown	OT	Fill
12	14	Black	SM	
14	18	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/1404 Driller Steven Schultz ID# _____

Well Permit# _____ Local Well ID PMW-1

Well Owner _____ Site Address _____

Date Well Started 07/09/2015 Date Well Finished 07/09/2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 15 Ft. Total Depth Well 15 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: (Flush) 8 In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	15	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	5	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	5	Ft.	15	Ft.	2	In.	.020
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	2	Ft.	15	Ft.	6	In.	2	In.	Morie #2
		Ft.		Ft.		In.		In.	

Grout	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
	0	Ft	2	Ft.	6	In.	2	In.	50	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5 ft	6 ft	Black	SM	
6 ft	15 ft	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/1404 Driller Steven Schultz ID# _____

Well Permit# _____ Local Well ID PMW-2

Well Owner _____ Site Address _____

Date Well Started 05/27/2015 Date Well Finished 05/27/2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 12 Ft. Total Depth Well 12 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: (Flush) 8 In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	12	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	12	Ft.	2	In.	.020
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1	Ft.	12	Ft.	6	In.	2	In.	Morie #2
		Ft.		Ft.		In.		In.	

Grout	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
	0	Ft	1	Ft.	6	In.	2	In.	50	Lb		Lb	2	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5 ft	6 ft	Black	SM	
6 ft	12 ft	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller Steven Schultz ID# _____

Well Permit# _____ Local Well ID PMW-3

Well Owner _____ Site Address _____

Date Well Started 05/12/2015 Date Well Finished 05/12/2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 12 Ft. Total Depth Well 12 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: (Flush) 8 In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	12	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	12	Ft.	2	In.	.020
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1	Ft.	12	Ft.	6	In.	2	In.	Morie #2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	1	Ft.	6	In.	2	In.	50	Lb		Lb	2	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5 ft	6 ft	Black	SM	
6 ft	12 ft	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller Steven Schultz ID# _____

Well Permit# _____ Local Well ID PMW - 4

Well Owner _____ Site Address _____

Date Well Started 05/12/2015 Date Well Finished 05/12/2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 12 Ft. Total Depth Well 12 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: (Flush) 8 In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	12	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	12	Ft.	2	In.	.020
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1	Ft.	12	Ft.	6	In.	2	In.	Morie #2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	1	Ft.	6	In.	2	In.	50	Lb		Lb	2	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 7 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5 ft	6 ft	Black	SM	
6 ft	12 ft	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller Steven Schultz ID# _____

Well Permit# _____ Local Well ID PMW-5

Well Owner _____ Site Address _____

Date Well Started 05/12/2015 Date Well Finished 05/12/2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 12 Ft. Total Depth Well 12 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: (Flush) 8 In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	12	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	12	Ft.	2	In.	.020
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1	Ft.	12	Ft.	6	In.	2	In.	Morie #2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	1	Ft.	6	In.	2	In.	50	Lb		Lb	2	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5 ft	6 ft	Black	SM	
6 ft	12 ft	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE - 14014 Driller J. DIXON ID# _____

Well Permit# PMW-6 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-12-15 Date Well Finished 06-12-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth ~~14~~ Ft. Total Depth Well ~~12~~ +2 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush 8" left for letting In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	14	Ft.	8	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	stainless /Sch 40	+2	Ft.	4	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	stainless	4	Ft.	14	Ft.	2	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1	Ft.	14	Ft.	8	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	1	Ft.	8	In.	2	In.	50	Lb	~	Lb	~	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 5 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	FILL
5	8	BLACK	SM	
8	14	GRAY	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID PMW-7

Well Owner _____ Site Address _____

Date Well Started 07-08-2015 Date Well Finished 07-08-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 12 Ft. Total Depth Well 12 Ft.

Grout Method: Pressure Gravity Displacement Other

Protective Cover: Flush _____ In. Stick Up 36 In. metal casing

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	12	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	12	Ft.	2	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1	Ft.	12	Ft.	6	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

Grout	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
	0	Ft	1	Ft.	6	In.	2	In.	50	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft.	5 ft	Brown	OT	Fill
5	6	Black	SM	
6	12	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Lefteri/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID PM W-8
Well Owner _____ Site Address _____
Date Well Started 07-08-2015 Date Well Finished 07-08-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 14 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up 12 In. Metal casing

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	14	Ft.	6	In.
	~~Auger~~ / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	4	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	4	Ft.	14	Ft.	2	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	2	Ft.	14	Ft.	6	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	2	Ft.	6	In.	2	In.	50	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft.	5 ft.	Brown	OT	Fill
5	6	Black	SM	
6	14	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Lefteri/14041 Driller S. Schultz ID# _____

Well Permit# _____ Local Well ID PMW-9
Well Owner _____ Site Address _____
Date Well Started 07-08-2015 Date Well Finished 07-08-2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 14 Ft. Total Depth Well 14 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush _____ In. Stick Up 12 In. metal casing

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	14	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless/Sch 40	0	Ft.	4	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	4	Ft.	14	Ft.	2	In.	0.20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	2	Ft.	14	Ft.	6	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	2	Ft.	6	In.	2	In.	50	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft.	5 ft.	Brown	OT	Fill
5	6	Black	SM	
6	14	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Letteri/1404 Driller Steven Schultz ID# _____

Well Permit# _____ Local Well ID PMW-10

Well Owner _____ Site Address _____

Date Well Started 07/09/2015 Date Well Finished 07/09/2015

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 15 Ft. Total Depth Well 15 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: (Flush) 8 In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	15	Ft.	6	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	5	Ft.	2	In.
			Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	5	Ft.	15	Ft.	2	In.	.020
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter	Inner Diameter	Material #
Gravel Pack	2	Ft.	15	Ft.	6 In.	2 In.	Morie #2
		Ft.		Ft.	In.	In.	

Grout	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
	0	Ft	2	Ft.	6	In.	2	In.	50	Lb		Lb	5	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 4 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: (Acker Soil Scout) GeoProbe 7822 Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0 ft	5 ft	Brown	OT	Fill
5 ft	6 ft	Black	SM	
6 ft	15 ft	Gray	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# SVE-1 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-10-15 Date Well Finished 06-10-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	8	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	4	In.
	+ PVC		Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	7	Ft.	4	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1.6	Ft.	7	Ft.	10	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0.6	Ft	1.6	Ft.	10	In.	4	In.	50	Lb	-	Lb	-	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	Fill
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Lethine 14014 Driller J. Dixon ID# _____

Well Permit# SVE-2 Local Well ID _____
Well Owner Lethine Site Address 363 Bond St
Date Well Started 06-10-15 Date Well Finished 06-10-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	8	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	4	In.
	+ PVC		Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	7	Ft.	4	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1.6	Ft.	7	Ft.	10	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0.6	Ft	1.6	Ft.	10	In.	4	In.	50	Lb	1	Lb	6	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	FILL
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# SVE-3 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-10-15 Date Well Finished 06-10-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	8	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	4	In.
	+ PVC		Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	7	Ft.	4	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1.6	Ft.	7	Ft.	10	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0.6	Ft	1.6	Ft.	10	In.	4	In.	50	Lb	-	Lb	-	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	Fill
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# SVE-4 Local Well ID _____
Well Owner LETTIRE Site Address 363 BOND ST
Date Well Started 06-11-15 Date Well Finished 06-11-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	8	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	4	In.
	+ PVC		Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	7	Ft.	4	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1.6	Ft.	7	Ft.	10	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0.6	Ft	1.6	Ft.	10	In.	4	In.	50	Lb	-	Lb	-	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	Fill
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# SVE-5 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-10-15 Date Well Finished 06-10-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top	Depth to Bottom	Diameter
Bore Hole	(Auger) / Rotary	0 Ft.	8 Ft.	10 In.
	Auger / Rotary	_____ Ft.	_____ Ft.	_____ In.

	Material & Rating	Depth to Top	Depth to Bottom	Diameter
Casing	Stainless /Sch 40	0 Ft.	2 Ft.	4 In.
	+ PVC	_____ Ft.	_____ Ft.	_____ In.

	Material	Depth to Top	Depth to Bottom	Diameter	Slot#
Screen	Stainless	2 Ft.	7 Ft.	4 In.	20
	_____	_____ Ft.	_____ Ft.	_____ In.	_____

	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Material #
Gravel Pack	1.6 Ft.	7 Ft.	10 In.	4 In.	#2
	_____ Ft.	_____ Ft.	_____ In.	_____ In.	_____

Grout	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Bent	Portland	Water
	0.6 Ft	1.6 Ft.	10 In.	4 In.	50 Lb	- Lb	- Gal
	_____ Ft	_____ Ft.	_____ In.	_____ In.	_____ Lb	_____ Lb	_____ Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	FILL
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# SVE-6 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-13-15 Date Well Finished 06-13-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top	Depth to Bottom	Diameter
Bore Hole	(Auger) / Rotary	0 Ft.	8 Ft.	10 In.
	Auger / Rotary	_____ Ft.	_____ Ft.	_____ In.

	Material & Rating	Depth to Top	Depth to Bottom	Diameter
Casing	Stainless /Sch 40	0 Ft.	2 Ft.	4 In.
	+PVC	_____ Ft.	_____ Ft.	_____ In.

	Material	Depth to Top	Depth to Bottom	Diameter	Slot#
Screen	Stainless	2 Ft.	7 Ft.	4 In.	20
	_____	_____ Ft.	_____ Ft.	_____ In.	_____

	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Material #
Gravel Pack	1.6 Ft.	7 Ft.	10 In.	4 In.	#2
	_____ Ft.	_____ Ft.	_____ In.	_____ In.	_____

Grout	Depth to Top	Depth to Bottom	Outer Diameter	Inner Diameter	Bent	Portland	Water
	0 Ft	1.6 Ft.	10 In.	4 In.	50 Lb	- Lb	- Gal
	_____ Ft	_____ Ft.	_____ In.	_____ In.	_____ Lb	_____ Lb	_____ Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	Fill
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# SVE-7 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-13-15 Date Well Finished 06-13-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 8 Ft. Total Depth Well 8 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	8	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	0	Ft.	2	Ft.	4	In.
	+ PVC		Ft.		Ft.		In.

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	2	Ft.	7	Ft.	4	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	1.6	Ft.	7	Ft.	10	In.	4	In.	#2
		Ft.		Ft.		In.		In.	

Grout	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
	0	Ft	1.6	Ft.	10	In.	4	In.	50	Lb	—	Lb	—	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level N/A Ft M-Scope/Tape Period of Dev. N/A Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	Fill
5	8	BLACK	SM	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Appendix Q - Groundwater Treatment Infrastructure As-Built Drawings and Photo Log
Leak Testing Results
363 Bond Street
Brooklyn, New York
Langan Project No. 100287501
July 2015

Test Location	Date	Initial Pressure (psi)	Final Pressure (psi)	Test Duration (min)	Pass/Fail
Air Sparge Trunk Line	July 1, 2015	5	5	15	Pass
AS-1	July 1, 2015	5	5	15	Pass
AS-2	July 1, 2015	5	5	15	Pass
AS-3	July 1, 2015	5	5	15	Pass
AS-4	July 1, 2015	5	5	15	Pass
SVE Trunk Line	July 1, 2015	5	4	15	**Fail**
	July 14, 2015	***See note 3***			Minor Leaks
SVE-1	July 1, 2015	-	-	-	-
SVE-2	July 1, 2015	6	6	15	Pass
SVE-3	July 1, 2015	5	5	15	Pass
SVE-4	July 1, 2015	5	5	14	Pass
SVE-5	July 1, 2015	5	5	15	Pass
SVE-6	July 1, 2015	5	5	15	Pass
SVE-7	July 1, 2015	5	5	15	Pass
MPE Trunk Line	June 20, 2015	5	4	15	**Fail**
	July 14, 2015	***See note 3***			Minor Leaks
MPE-1	April 25 and May 11, 2015	5	5	15	Pass
MPE-2	April 25, 2015	5	5	15	Pass
MPE-3	April 25, 2015	5	5	15	Pass
MPE-4	June 17, 2015	5	5	15	Pass
MPE-5	April 25, 2015	5	5	15	Pass
MPE-6	April 25, 2015	5	5	15	Pass
MPE-7	June 17, 2015	5	5	21	Pass
MPE-8	June 15, 2015	5	5	45	Pass
MPE-9	June 15, 2015	6	6	18	Pass
MPE-10	June 15, 2015	5	5	16	Pass

Notes:
psi - pounds per square inch pressure
IWC - inches of water column vacuum
scfm - standard cubic feet per minute
min - minute
SVE - soil vapor extraction
AS - air sparge
MPE - multi-phase extraction

1. To determine the integrity of each remedial well line and remedial trunk line and associated connections a pressure test was conducted at each point. Pressure was applied to each line, the line was isolated and then monitored to identify any change in pressure with time. If pressure remained constant with time, it was determiend that the pipe and associated connections were free of damage and/or defect and passed the pressure test.

2. The SVE-1 remedial well line was covered during the pouring of the building slab, prior to the completion of a pressure test.

3. Both the SVE and MPE trunk lines did not pass the initial pressure testing. As a result, additional testing was conducted to determine the potential cause and magnitude of the leak. This involved active leak testing, in which vacuum and pressure were actively applied to each remedial trunk line and the air flow moving through the pipe, induced as a result of the active extraction and injection, was measured using an anemometer (i.e.,TSI 9555). Assuming no leaks within the pipe, applying vacuum and/or pressure on a solid pipe would result in zero air flow; however, with the presence of leaks there will be air flow, the magnitude of which will be determined based on the extensiveness of the leaks (i.e., more leaks will result in more flow). The results of this additional testing are included in the table below.

Test Location	Date	Pressure (IWC)	Vacuum (IWC)	Air Flow Rate (scfm)	Pass/Fail
SVE Trunk Line	July 14, 2015	-	60	5.0	Minor Leaks
		60	-	1.0	
MPE Trunk Line	July 14, 2015	-	61	1.6	Minor Leaks
		65	-	1.5	

Appendix Q - Groundwater Treatment Infrastructure As-Built Drawings and Photo Log
Leak Testing Data Analysis and Conclusions
363 Bond Street
Brooklyn, New York
Langan Project No. 100287501
July 2015

Process equipment sizing/design specifications:

- MPE design total air flow rate = 50 scfm
- SVE design total air flow rate = 250 scfm
- Air sparge design total air flow rate = 100 scfm

Based on the above presented leak testing (pressure and vacuum testing) data and the process equipment sizing/design specifications of the MPE, SVE, and air sparge systems, it is anticipated that the observed minor leaking air flow rate through the MPE and SVE trunk lines (i.e., 1.5 to 5 scfm maximum), if remains consistent and does not worsen over time, will not affect the performance and effectiveness of the remediation MPE and SVE systems.

The following action items, however, are proposed to address the minor leaks observed during the leak testing:

1. Continued monitoring of the MPE and SVE remediation systems (i.e., differential pressure across the trunk lines) will be performed during the operation, maintenance, and monitoring (OM&M) site checks to assess the future conditions of these leaks (i.e., leak in vacuum or air flow) through the MPE and SVE trunk lines and to ensure that these leaks are not affecting the performance and effectiveness of the remediation systems.

2. The active sub-slab depressurization system (SSDS) process equipment (i.e., fans) must be wired such that in the case of building power failure/interruption, they remain operational through the use of building backup generator power. The fans must remain operational at all times. The continuous operation of the SSDS fans will maintain a negative pressure (i.e., vacuum) underneath the building slab and vapor barrier. This will provide continuous mitigation of potential vapors that may accumulate underneath the building slab overtime, as a result of 1) potential sub-slab volatile organic compound (VOC) impacts and/or 2) potential minor vapor leaks through the MPE or SVE trunk lines in the case these systems are temporarily shut down due to any electrical power interruption conditions. The revised SSDS design showing the required SSDS fans interlock with the building backup generator power is attached.

Langan Leak Test Documentation

Location 363 Bond St Date 25 Apr 2015

Project / Client 1

Weather: Sunny, 40°F 50°F Scale

0730 - Jessica Fiscia (JF) of Largan onsite for env. oversight
- RVC onsite
- JF called into talk AMS 4,5
0800 - RVC begins rebar & grading OFF & LFT
0810 - AWT onsite
- manifold may need to get moved
- wait on response from Tony of Letitne Inc. > not onsite
0900 Tony calls Jim? AWT to say pipes in manifold need to be 14.5" off wall
- AWT sets up for pressure test: deploys plugs & gauge above screen and set @30psi
0920 - AWT measures where to cut 2" lines so manifold is 14.5" off wall
930 - AWT cuts MPE lines and reattachs ~~3.5'~~ were cutoff from each line (see 4/24 notes for original lengths)
1045 - test MPE-5, 6, 2 1st
- 5 psi 15 minutes
- no bubbling/leaks observed
1100 - 5 psi maintained @ MPE-5, 6, 2
- test complete
- cut down verticals
1122 - begin to test MPE-6, 1, 3
- MPE-1 not installed left to test only applies to pipe up to the cap

Location _____ Date _____

Project / Client _____

- no bubbles at any of the fittings
- 1 fitting along MPE-6 line has been backfilled, so can't check

1137 - 15 minutes done, 5 psi maintained @ MPE-6, 1, 3
- test complete
- AWT cuts all wells to final elevation → cap right on top of T
  → MPE-6, 5, 3, 2 cut

1200 - AWT gets verticals in place @ manifold
- maintain 6.5" distance between verticals
- RNC (w/ AWT's approval) begins backfilling w/ ~~sand~~ 3P gravel around MPE lines

1235 - AWT offsite

1305 - RNC offsite

1330 - JF offsite

Location 363 Bond Street Date 5/11/15

Project / Client

Weather Cloudy 70's - 80's F Scale

0630 - [illegible] (SF) of Langan onsite for env. oversight
- JF calls + install AMS 4,5
- RWC onsite ; PACE onsite

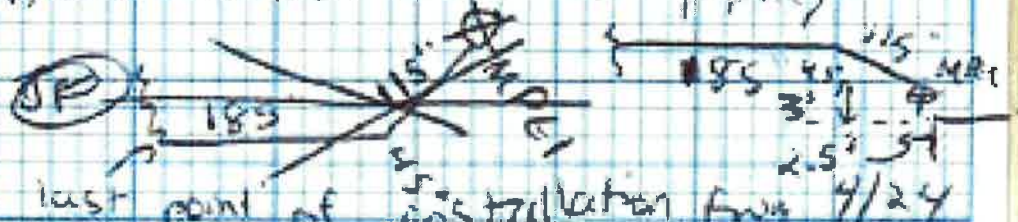
0700 - RWC begins pile cap excavation in CI for manhole/rebar, grading GF7

0730 - AWT onsite to install MW 4,5 and maybe -3

0800 - JF calls Matt Ambruch to confirm depths, JF also call Chris McMahon
- Matt will check w/ Owner

0900 Owner says leave as is
- Chris will talk to Owner
- John from AWT onsite to install MPE-1 piping

1000 - still waiting on OK to drill
- Chris says screen should be 10' long and installed @ 2' above water table (so 2' below slab)
- Chris + Owner will talk + tell AWT
- AWT installs MPE-1 piping



1100 - Owner sends AWT email w/ modifications
- Bauder wants to hold off work until letter approved
- AWT drillers offsite
- 2 workers from AWT stay to pressure test MPE-1

Location 363 Bond Street Date 5/11/15

Project / Client 100287504

1120 - apply 5 psi pressure + start pressure test; no bubbling @ fittings

1135 - pressure test complete
- 5 psi maintained

1140 - cut down MPE-1 to put cap

1210 - JNT offsite
- Onavis asks what to do w/ bricks from wall along C1 boundary w/ FDNY building, they are not impacted but they are mixed in with soil so if ~~they~~ they can keep it onsite
- Onavis says yes
- 1 truckload of #2 Filpro sand onsite, leave sand on poly sheets

1800 - break

1530 - resume pile cap excavation + rebar/formwork in C1

1730 - RNC done for day
- JT stays for daily report

1800 - JT offsite

Location _____ Date June 19, 2015

Project / Client _____

0630 Christie B Madsen (CBM) of Langan onsite for env. oversight
- CBM calibrates + installs AMS 4+5
- RNK onsite for site grading, formwork, stripping
- ANT onsite to run SSDS piping + pressure test MPE 8,9,10

0830 - ANT sets up pressure test at MPE-8

0920 pressure at 5psi maintained for 15min test passed

0950 ANT sets up test on MPE-10 pressure of 5 psi applied to line

1011 pressure test passed 5psi 15mins

- ANT sets up pressure test at MPE-9

1028 test begin at ~7.5 psi

1043. maintained at 7.5psi - test passed

1130 ANT installs

120

Location _____ Date Jan 17, 2015

Project / Client _____

1145 AWT onsite to install lateral liner + pressure test MPE-4 + MPE-7

1317 pressure test on MPE-7 5psi applied

1333 pressure testing successful 5psi held for >15mins

1345 pressure test on MPE-4

1400 5psi applied 5psi held for >15min test passed

1445 end of concrete pour - grades clean with RCT

1515 end of work - CSM offsite

CBM

126

Location 363 Bond Date 6/28/15

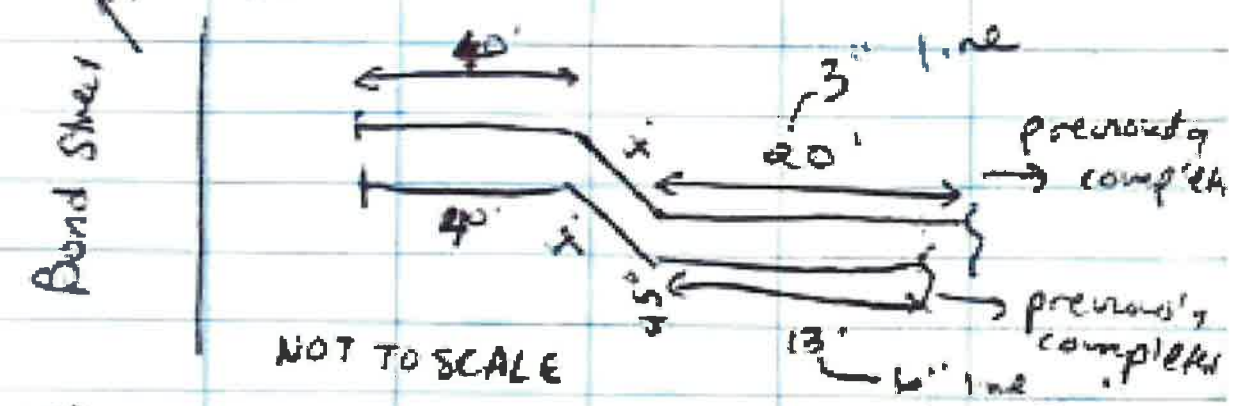
Project / Client 10028 7501

0750 - Jessica Frisina (JF) of Langan onsite for env. oversight
- RNC onsite
- JF calib + installs AMS 4,5

0800 - RNC begins work: grading / moving soil from ~~GF to~~ (JF) (GF) to C. formwork/rebar

0830 - ~~RNC onsite~~ (JF) AMT onsite

0915 - begin extending 3" and 6" AS/SVE lines



~~1000 - stop extending pipe for today~~ (JF)

1015 - stop extending pipe for today
- prep to pressure test trunk lines for AS/SVE and MPE as well as discharge line

1057 - begin pressure test at 3" and 6" AS/SVE lines @ 5 psi

1113 - both lines still @ 5 psi, test passed

Location: 363 Bond Date: 6/10/15

Project / Client: 100287501

Scale

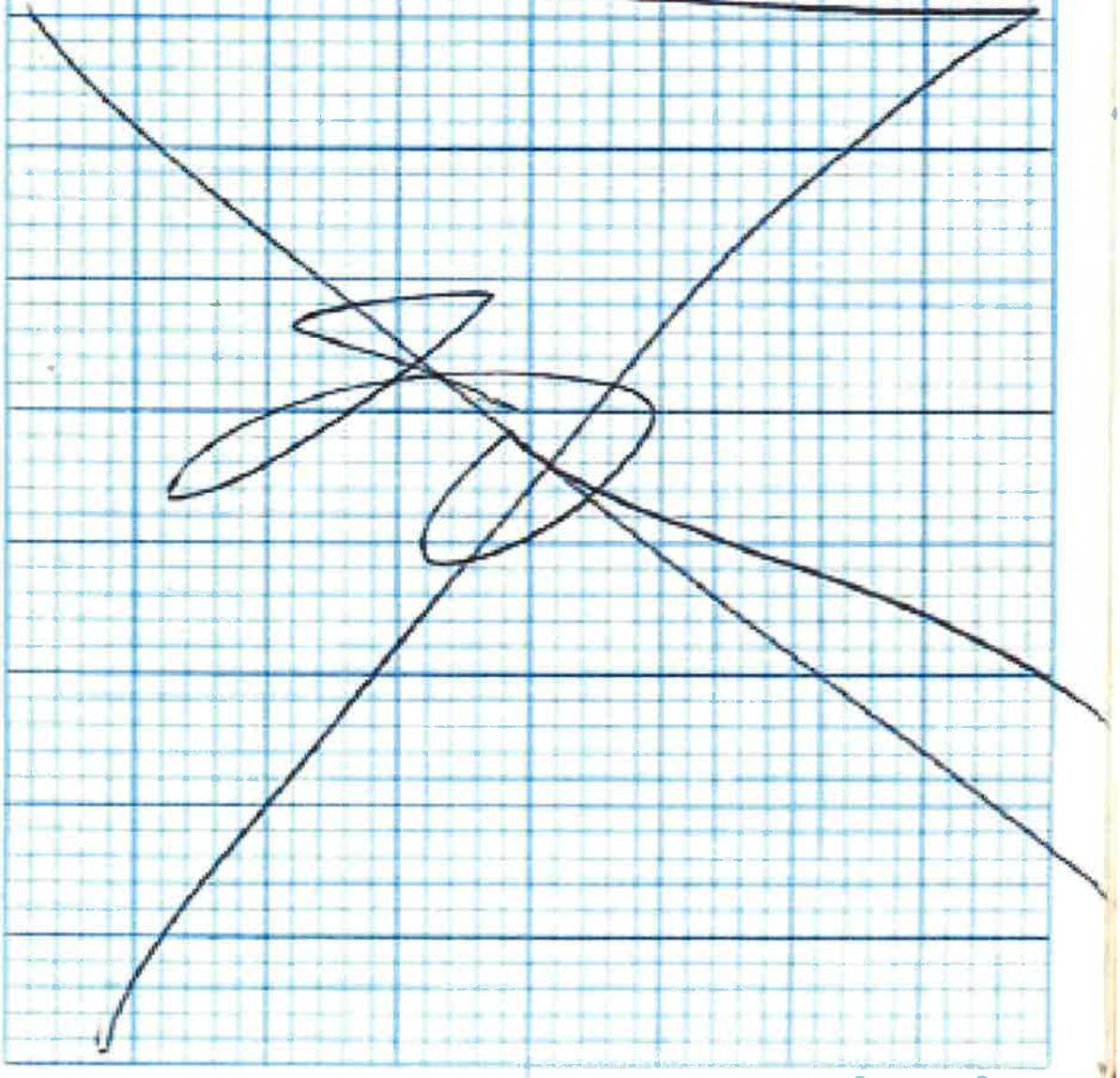
1121 - pressure test @ 6' MPE line @ 5 psi

1138 - pressure = 4 psi, test FAILED
- will retest Monday

1150 - HWT offsite
- RNC continues for rework/rebar and grading 1st floor

1300 - RNC offsite

1310 - JF offsite



132

Location 363 Broad St Date 6/29/2015

Project / Client

0630 Christie B Madsen (CBM) of Langan onsite for env. oversight
- CBM calibrates + installs AMS 415 ANT
- RNC, PACE, Amber onsite
  - grading, vapor barrier
  - rebar
  - plumbing
  - conduits
  - laying SSDS and lateral SVE + AS wells piping
0750 Anthony Raposo (AR) of Langan onsite
0955 ANT pressure tests MPE truck line
  5psi applied
1010 3.5psi at the end of the test
1300 CBM + AR Setup Smoke tests
1330 Omar Upal (OU) of ANT onsite
- CBM + OU + Rob Gaub (RG) of ANT walk site

BNT begins pressure testing

pass	well	psi	start time	end time	end psi
✓	AS-1	5	1145	1200	5
retest	AS-2	5	1205	1220	4
retest	AS-3	RETEST [illegible]			-
retest	AS-4	~~RETEST [illegible]~~			-
—	SVE-1	under slab			
retest	SVE-2	X	~~[illegible]~~		
~~✓~~	~~SVE-3~~	~~5~~	~~[illegible]~~		
✓	SVE-4	5	1325	1342	5
✓	SVE-5	5	1436	1451	5
✓	SVE-6	5	1413	1428	5
~~—~~	~~SVE-7~~	~~5~~	~~[illegible]~~		
**	SVE-6" trunk	5	1554	1609	4
✓	AS-3 trunk	5	1630	1645	5
✓	AS-3	5	1255	1308	5
~~—~~	~~AS-4~~		~~[illegible]~~		
~~—~~	~~AS-1~~				
✓	AS-4	5	1401	1416	5
✓	SVE-7	5	1414	1429	5
✓	SVE-3	5	1445	1500	5
~~—~~	~~SVE-2~~				
~~—~~	~~AS-2~~				

Location: _____ Date: 1 July 2015

Project / Client: _____

~~Subject~~

AS-3 & AS-4 and AS-2 fail

- no pressure in AS-3 or AS-4
- AWT retests using compressor (bigger) to get pressure

~~Pass | Well | psi | start | end | psi~~

Pass	Well	psi	Start	end	psi
AS-2		5	1520	15 <>	535
SVE-2		6	1506	1521	6

- All AS+SVE lines passed except for 6" SVE trench line - will not hold up pore

1630 AWT offsite
- RNC return + vapor barrier

SITE – LETTIRE CONSTRUCTION
ADDRESS – 363 BOND STREET, BROOKLYN, NY
DATE – 7/14/15
AWT PERSONNEL – JOHN. L, ROB. G, ROB. W
LANGAN ENGINEER – MATT A.

TIME	LINE ID	PRESSURE/VACUUM (INWC)	SUCTION POINT	MANIFOLD CLOSOUT	FLOW (SCFM)
12:30	MPE TRUNK	VAC	60	60	—
12:45	MPE TRUNK	PRESSURE	60	60	—
13:00	SVE TRUNK	PRESSURE	61	61	—
13:15	SVE TRUNK	VAC	60	60	—
14:30	SVE TRUNK	VAC	—	60	5 SCFM
14:45	SVE TRUNK	PRESSURE (DILUTION LINE CLOSED)	—	56	1 SCFM
15:00	MPE TRUNK	PRESSURE (TRIP BLOWER WHEN NO BLEED OFF AIR)	—	65	1.5 SCFM
15:15	MPE TRUNK	VAC (TRIP BLOWER WITH NO DILUTION)	—	61	1.65 SCFM

Notes:
1. FLOW RECORDED WITH ANEMOMETER TSI 9555 & PRESSURE/VACUUM WITH 0-100INWC MAGNEHELIC
2. POSSIBLE LEAK AT MANIFOLD CLOSOUT/MAGNEHELIC CONNECTION DURING 14:30 TEST; TRIED TO FORCE, BUT NO MORE SITE POWER

LEAK TESTING FIELD LOG	BY MA DATE 7/14/15	PROJ. NO. 100287501
	CKD. DATE	SHEET OF

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

AWT Leak Test Documentation

PRESSURE TEST SHEET

SITE: **Client** Lettire Construction **Address** 363 Bond Street, Brooklyn, NY

DATE: 04-25-15

AWT PERSONNEL: J. LOW C ENGINEER WITNESS:

LINE ID	START TEST		STEP 2		STEP 3		END TEST		PASS/FAIL
	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	
MP-5	10:45	5 PSI					11:00	5 PSI	PASS
MP-2	10:45	5					11:00	5	PASS
MP-3	11:22	5					11:35	5	PASS
MP-1	11:22	5					11:35	5	PASS
MP-6	11:22	5					11:35	5	PASS

NOTES:

PRESSURE TEST SHEET

SITE: **Client** Lettire Construction **Address** 363 Bond Street, Brooklyn, NY

DATE: 05-11-15

AWT PERSONNEL: John Lonc ENGINEER WITNESS: Jessica Friscia

LINE ID	START TEST		STEP 2		STEP 3		END TEST		PASS/FAIL
	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	
MPE1	11:20	11:39							Pass

NOTES:

PRESSURE TEST SHEET

SITE: **Client** Lettire Construction **Address** 363 Bond Street, Brooklyn, NY

DATE: 06-15-15

AWT PERSONNEL: J. Howe

~~ENGINEER~~ WITNESS: Christ B Madsen

LINE ID	START TEST		STEP 2		STEP 3		END TEST		PASS/FAIL
	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	
MPE 8	8:30	5 psi					9:15	5.05 I	Pass
MPE 9	10:30	6 PSI					10:48	6 psi	Pass
MPE 10	9:55	5 psi					10:11	5 psi	Pass
MPE-4									
MPE 7									

NOTES:

PRESSURE TEST SHEET

SITE: **Client** Lettire Construction **Address** 363 Bond Street, Brooklyn, NY

DATE: 06-17-15

AWT PERSONNEL: J. Lokic ENGINEER WITNESS: Gustav Modrn

LINE ID	START TEST		STEP 2		STEP 3		END TEST		PASS/FAIL
	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	
Pipe-7	13:17	5 psi					13:38	6 psi	pass
Pipe-4	13:45	5 psi					14:00	5 psi	pass

NOTES:

PRESSURE TEST SHEET

SITE: **Client** Lettire Construction **Address** 363 Bond Street, Brooklyn, NY

DATE: 06-20-15

AWT PERSONNEL: J. Bonic ENGINEER WITNESS: [signature]

LINE ID	START TEST		STEP 2		STEP 3		END TEST		PASS/FAIL
	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	
AS-3"	10:57	5 psi					11:14	5 psi	pass
SVF 6"	10:57	5 psi					11:14	5 psi	pass
MPE-6"	11:21	5 psi					11:38	~~4~~ psi	~~pass~~ Fail

NOTES:

PRESSURE TEST SHEET

SITE: Client Lettire Construction Address 363 Bond Street, Brooklyn, NY

DATE: 07-01-15

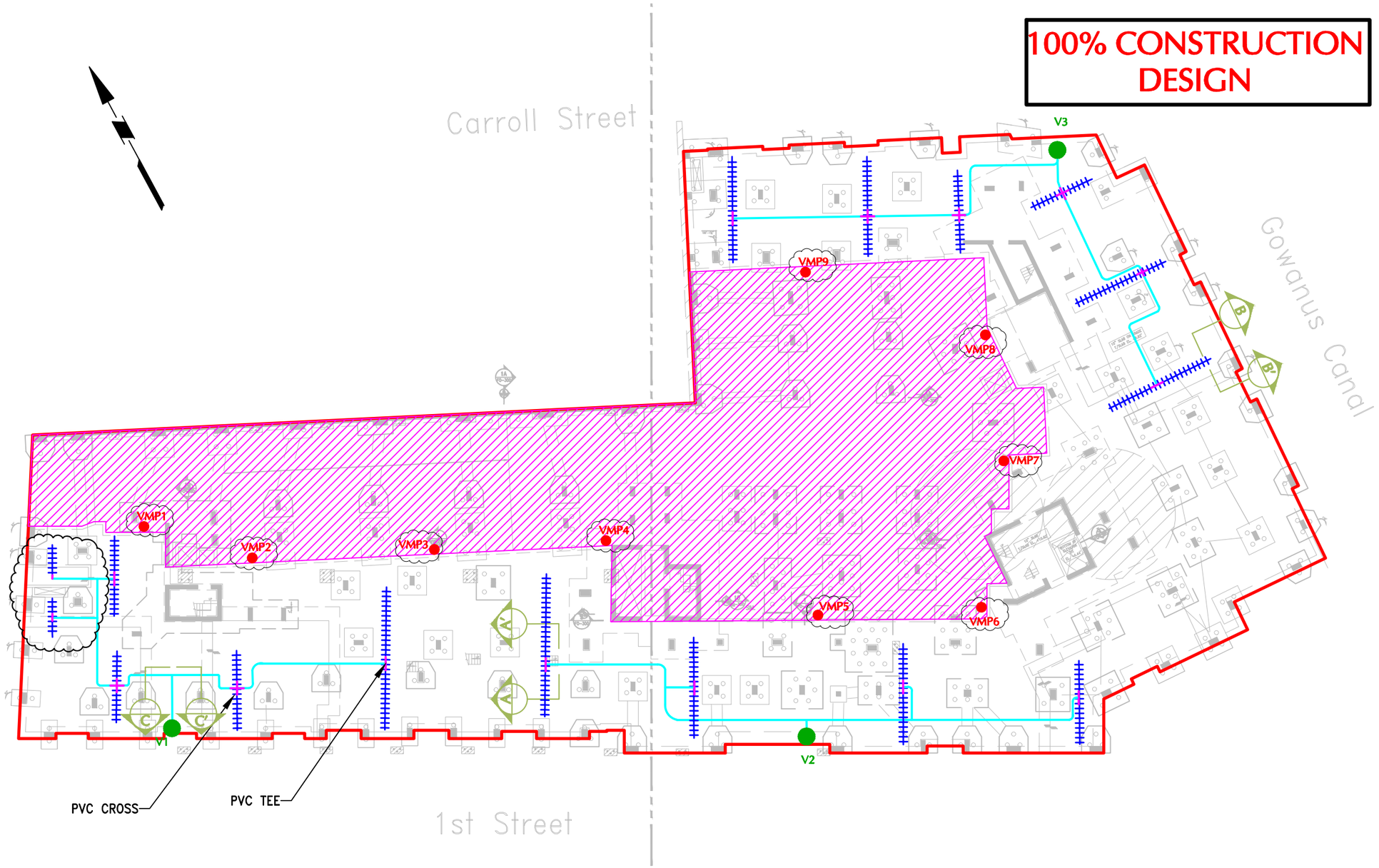
AWT PERSONNEL: D. Lonis ENGINEER WITNESS: Justin B Meadow

LINE ID	START TEST		STEP 2		STEP 3		END TEST		PASS/FAIL
	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	TIME	PRESSURE	
3" AS	10:30	5 psi					10:46	5 psi	Pass
6" SVE	10:30	5 psi					1046	4 psi	Fail
AS-1	11:45	5psi					12:00	5 psi	PASS
AS-2	1520	5psi					1535	5psi	PASS
AS 3	12:53	5psi					13:04	5 psi	PASS
AS 4	14:01	5psi					14:16	5psi	PASS
SVE 1	N/A	* UNDER SLAB; INACCESSIBLE							
SVE 2	1506	6psi					1521	6psi	PASS
SVE 3	1445	5psi					1500	5psi	PASS
SVE 4	13:28	5psi					13:42	5 psi	PASS
SVE 5	1436	5psi					1451	5psi	PASS
SVE 6	14:13	5 psi					14:28	5 psi	PASS
SVE 7	14:14	5 psi					14:29	5 psi	PASS
6" SVE	15:54	5 psi					16:09	4 psi	Fail

NOTES:

Revised SSDS Design July 15, 2015

100% CONSTRUCTION DESIGN



LEGEND:

- BUILDING EXTERIOR
- BASEMENT GARAGE
- PROPOSED BELOW GRADE HORIZONTAL WELL SSDS SCREEN (4" SCHEDULE 80 PVC, 10-SLOT)
- PROPOSED BELOW GRADE PVC PIPE (4" SCHEDULE 80 PVC)
- V3 — PROPOSED VENT PIPE WITH "T" FITTING AND ISOLATION BALL VALVE (OVERHEAD VERTICAL MANIFOLD, 4" CAST IRON PIPE)
- VMP7 — PROPOSED VACUUM MONITORING POINT

NOTES:

1. THE HORIZONTAL SSDS PIPING FOR EACH INDIVIDUAL SSDS WILL STUB ABOVE THE SLAB, WHERE IT WILL CONNECT TO THE RESPECTIVE VERTICAL VENT PIPES (V1 THROUGH V3) AND RUN VERTICALLY TO THE ROOF OF THE BUILDING. THE LOCATION AND DETAILS OF THE REQUIRED PENETRATIONS WILL BE COORDINATED WITH THE ARCHITECTS AND STRUCTURAL ENGINEERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING ALL REQUIRED PENETRATIONS.
2. THE VERTICAL VENT PIPES WILL BE INSTALLED IN CONJUNCTION WITH THE COMPLETION OF EACH FLOOR OF THE PROPOSED BUILDING. FOLLOWING THE COMPLETION OF THE BUILDING, THE SSDS PROCESS EQUIPMENT WILL BE PLACED ON THE ROOF OF THE BUILDING AND FINAL CONNECTIONS WITH THE VERTICAL VENT PIPES (V1 THROUGH V3) WILL BE COMPLETED BY THE CONTRACTOR. EACH VENT PIPE (V1 THROUGH V3) WILL BE MOUNTED TO AN INLINE FAN ON THE ROOF OF THE PROPOSED BUILDING. ALL FANS MUST BE WIRED SUCH THAT IN THE CASE OF BUILDING POWER FAILURE/INTERRUPTION, THEY REMAIN OPERATIONAL THROUGH THE USE OF BUILDING BACKUP GENERATOR POWER. THE FANS MUST REMAIN OPERATIONAL AT ALL TIMES.
3. ALL ABOVE GRADE VERTICAL VENT PIPING WILL BE 4" CAST IRON TO THE ROOF. ALL BELOW GRADE PIPING WILL BE SCHEDULE 80 PVC.
4. FINAL LOCATION OF PROPOSED HORIZONTAL WELLS AND VACUUM MONITORING POINTS ARE SUBJECT TO CHANGE BASED ON FINAL ARCHITECTURAL AND STRUCTURAL PLANS; HOWEVER, THE MAXIMUM ALLOWABLE DISTANCE BETWEEN ANY TWO HORIZONTAL SSDS WELL SCREENS IS 60 FEET. IN ADDITION, DUE TO THE FINAL USE OF THE BUILDING (I.E., RESIDENTIAL), THE VACUUM MONITORING POINTS MUST BE INSTALLED THROUGH THE BASEMENT/GARAGE LEVEL WALLS, BELOW THE FIRST FLOOR SLAB WITHIN THE RCA/FILL MATERIAL LAYER (I.E., APPROXIMATELY 6 INCHES BELOW THE BOTTOM OF THE SLAB).
5. SSDS HORIZONTAL SCREENS VARY FROM 20 FEET TO 40 FEET IN LENGTH.
6. AVERAGE RADIUS OF INFLUENCE FOR EACH HORIZONTAL SSDS WELL SCREENS IS 20 FEET.
7. PRIOR TO THE CONSTRUCTION OF THE PROPOSED BUILDING SLAB A VAPOR BARRIER WILL BE INSTALLED THROUGHOUT THE ENTIRE BUILDING. IN ADDITION, A WATERPROOFING BARRIER WILL BE INSTALLED BENEATH THE GARAGE AND ANY OTHER AREAS OF THE BUILDING THAT WILL BE CONSTRUCTED BELOW THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD PLAIN ELEVATION OR SUBMERGED IN GROUNDWATER.
8. AN SSDS SYSTEM WILL BE INSTALLED THROUGHOUT THE BUILDING, WITH THE EXCEPTION OF THE GARAGE AREA. THE PROPOSED VENTILATION SYSTEM IN THE GARAGE WILL ADDRESS ANY POTENTIAL SOIL VAPOR INTRUSION CONDITIONS IN THIS AREA.

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

30 0 15 30
SCALE IN FEET

SIGNATURE DATE SIGNED

STEWART ABRAMS
PROFESSIONAL ENGINEER NY Lic. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

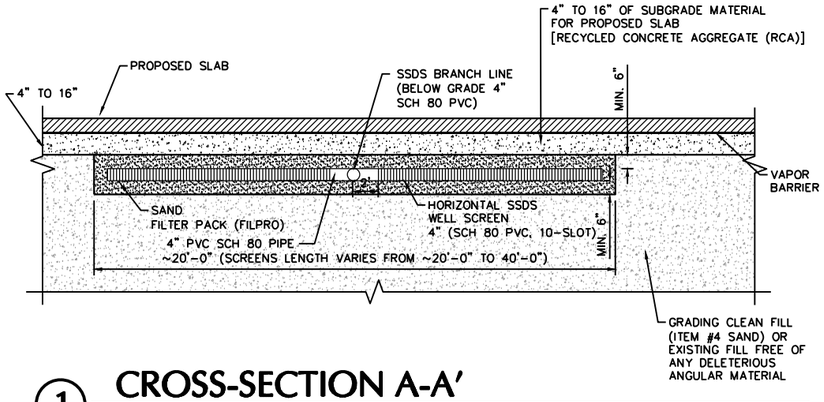
Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
PROPOSED SSDS MANIFOLD LAYOUT
363 BOND STREET & 388 CARROLL STREET

Project No. 100287501	Drawing No. 02.01
Date 02/03/15	
Scale AS SHOWN	
Drawn By MA / Checked By OU	
Submission Date 07/15/15	

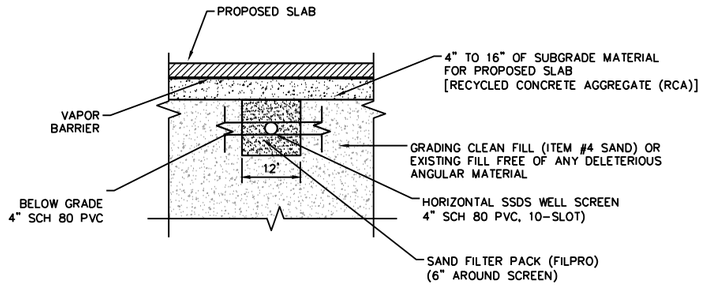
© 2014 Langan

Filename: \\Langan.com\data\EP\data5\100287501\Cadd Data - 100287501\Dwg\363 Bond St SSDS\100% SSDS Design Construction Spec Revised 071515.dwg Date: 7/15/2015 Time: 13:27 User: mambrusch Style Table: ---- Layout: ANSIB-BL



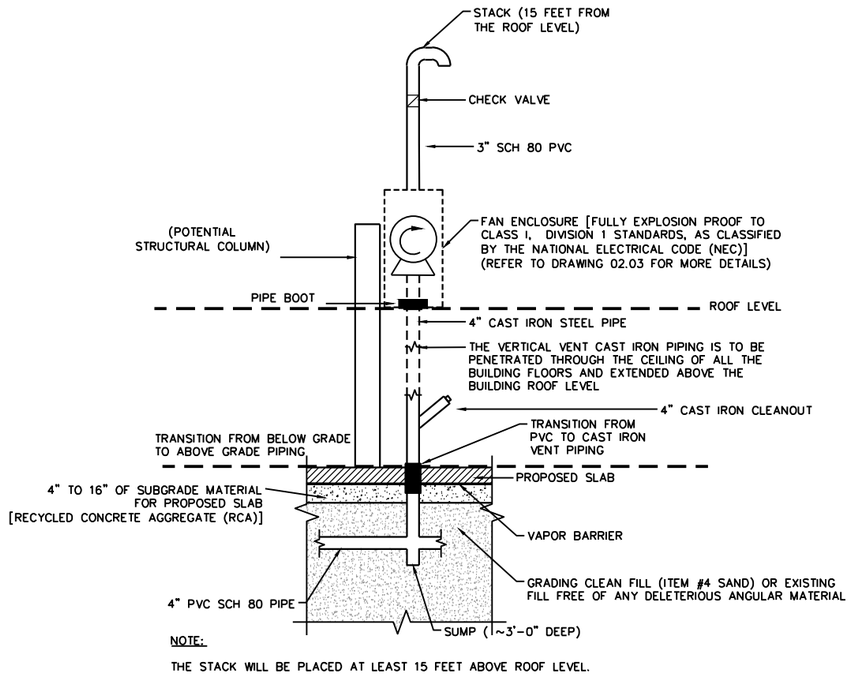
1 CROSS-SECTION A-A'

N.T.S



2 CROSS-SECTION B-B'

N.T.S



3 CROSS-SECTION C-C'

N.T.S

100% CONSTRUCTION DESIGN

NOTES:

1. VAPOR BARRIER:

- VAPOR BARRIER WILL CONSIST OF 15 MIL STEGO WRAP MANUFACTURED MEMBRANE WITH HIGH GRADE PRIME VIRGIN POLYOLEFIN RESINS.
- ALL JOINTS/SEAMS BOTH LATERAL AND BUTT SHOULD BE OVERLAPPED A MINIMUM OF SIX INCHES AND TAPED USING STEGO TAPE.
- ALL PIPE, DUCTING, REBAR, WIRE PENETRATIONS AND BLOCKOUTS SHOULD BE SEALED USING STEGO MASTIC SPRAY (USE OF STEGO TAPE AT PENETRATIONS IS NOT RECOMMENDED).
- ALL STRUCTURAL PILES WILL HAVE VAPOR BARRIER OVERLAP, FOLLOWED BY STEGO TAPE, FOLLOWED BY STEGO MASTIC SPRAY.

2. STACK REQUIREMENTS:

THE SSDS STACK MUST BE LOCATED:
- ABOVE THE EAVE OF THE ROOF;
- TEN FEET OR MORE FROM ANY WINDOW, DOOR, OR OTHER OPENINGS (I.E., OPERABLE SKYLIGHT, OR AIR INTAKE) INTO CONDITIONED SPACES OF THE STRUCTURE; AND
- 10 FEET OR MORE FROM ANY OPENING INTO AN ADJACENT BUILDING.

3. THE CONTRACTOR/EQUIPMENT FABRICATOR SHALL SUBMIT A COMPLETE ENGINEERING SUBMITTAL PACKAGE FOR ALL PROCESS EQUIPMENT AND INSTRUMENTATION (I.E., SSDS INDUSTRIAL RADIAL FANS, FAN CONTROL AND ELECTRICAL PANELS, AIR FLOW RATE METER, VACUUM GAUGES, PRESSURE GAUGES, SAMPLE PORTS, ETC.) TO THE OWNER'S ENGINEER FOR AUTHORIZATION. THE ENGINEERING SUBMITTAL PACKAGE MUST INCLUDE AT A MINIMUM: 1) EQUIPMENT CUT SHEETS, 2) MATERIAL AND PERFORMANCE SPECIFICATIONS, 3) PERFORMANCE CHARTS FOR ALL MOTORS, 4) CONTROL AND ELECTRICAL PANEL DESIGN, AND 5) ELECTRICAL LINE DIAGRAM(S) FOR ALL ELECTRICAL EQUIPMENT INCLUDING CONTROL PANELS AND ELECTRICAL PANELS.

4. THE HORIZONTAL SSDS PIPING FOR EACH INDIVIDUAL SSDS WILL STUB ABOVE THE SLAB, WHERE IT WILL CONNECT TO THE RESPECTIVE VERTICAL VENT PIPES (V1 THROUGH V3) AND RUN VERTICALLY TO THE ROOF OF THE BUILDING. THE LOCATION AND DETAILS OF THE REQUIRED PENETRATIONS WILL BE COORDINATED WITH THE ARCHITECTS AND STRUCTURAL ENGINEERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING ALL REQUIRED PENETRATIONS.

5. THE VERTICAL PIPES WILL BE INSTALLED IN CONJUNCTION WITH THE COMPLETION OF EACH FLOOR OF THE PROPOSED BUILDING. FOLLOWING THE COMPLETION OF THE BUILDING, THE SSDS PROCESS EQUIPMENT WILL BE PLACED ON THE ROOF OF THE BUILDING AND FINAL CONNECTIONS WITH THE VERTICAL VENT PIPES (V1 THROUGH V3) WILL BE COMPLETED BY THE CONTRACTOR. EACH VENT PIPE (V1 THROUGH V3) WILL BE MOUNTED TO AN INLINE FAN ON THE ROOF OF THE PROPOSED BUILDING.

6. PROCESS EQUIPMENT FOR THE ACTIVE SSDS SHALL CONSIST OF THREE F-1 INLINE INDUSTRIAL RADIAL FANS (FULLY EXPLOSION PROOF TO CLASS I, DIVISION 1 STANDARDS, AS CLASSIFIED BY THE NATIONAL ELECTRICAL CODE [NEC]). ALL FANS MUST BE WIRED SUCH THAT IN THE CASE OF BUILDING POWER FAILURE/INTERRUPTION, THEY REMAIN OPERATIONAL THROUGH THE USE OF BUILDING BACKUP GENERATOR POWER. THE FANS MUST REMAIN OPERATIONAL AT ALL TIMES.

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

SIGNATURE DATE SIGNED

STEWART ABRAMS
PROFESSIONAL ENGINEER NY Lic. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
PROPOSED SSDS MANIFOLD DETAILS
363 BOND STREET & 388 CARROLL STREET

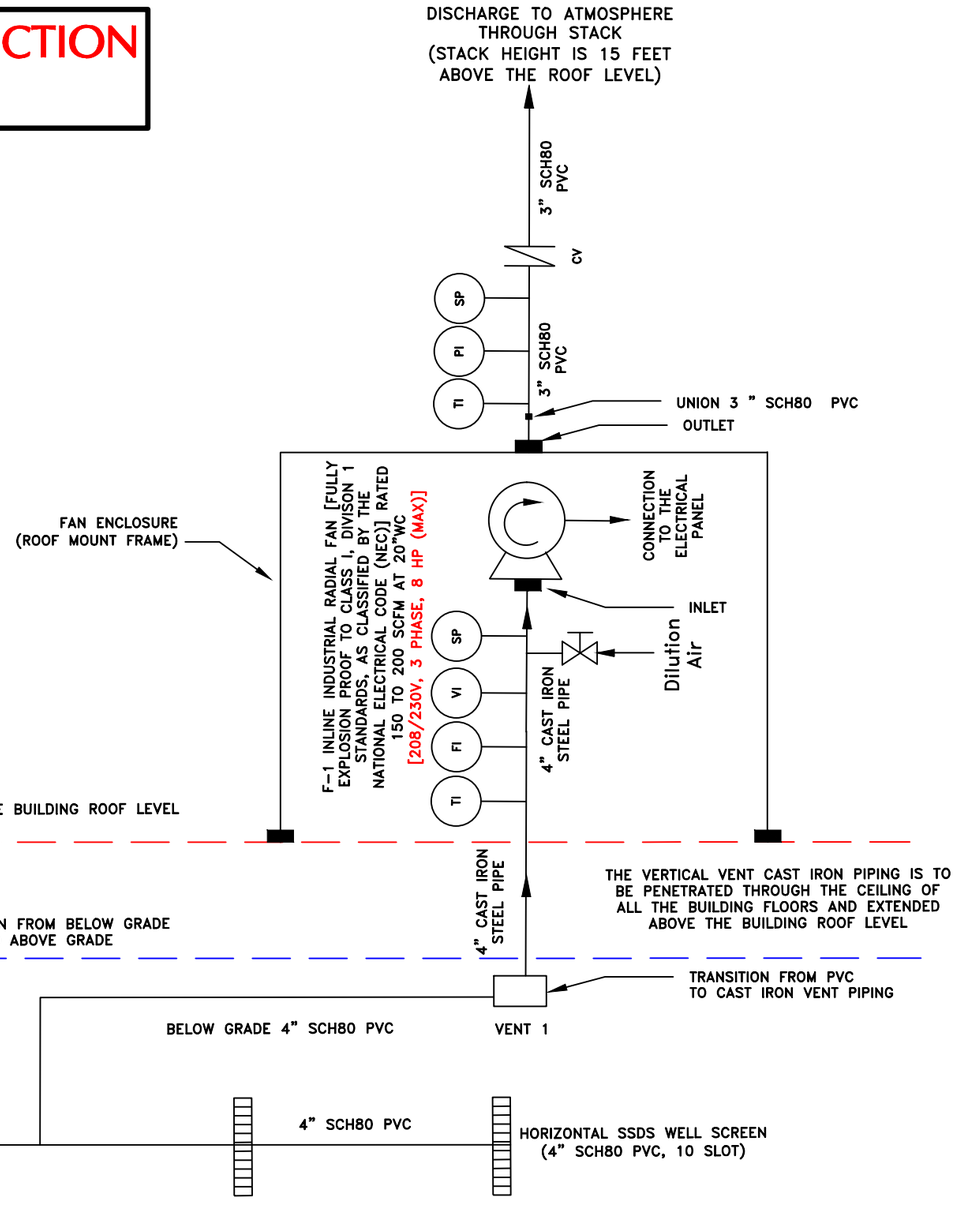
Project No.	100287501
Date	02/03/15
Scale	N.T.S
Drawn By	MA
Checked By	OU
Last Revised	07/15/15

Drawing No. 02.02

© 2014 Langan

Filename: \\Langan.com\data\EP\data5\100287501\Cadd Data - 100287501\Dwg\363 Bond St SSDS\100% SSDS Manifold Construction Spec Revised 071515.dwg Date: 7/15/2015 Time: 13:27 User: mambrusch Style Table: Langan.stb Layout: ANSIB-BL

100% CONSTRUCTION DESIGN



1. THE PROPOSED SSDS PROCESS SCHEMATIC IS SUBJECT TO CHANGE DURING THE FABRICATION/CONSTRUCTION PHASE.

2. THE CONTRACTOR/EQUIPMENT FABRICATOR SHALL SUBMIT A COMPLETE ENGINEERING SUBMITTAL PACKAGE FOR ALL PROCESS EQUIPMENT AND INSTRUMENTATION (I.E., SSDS INDUSTRIAL RADIAL FANS, FAN CONTROL AND ELECTRICAL PANELS, AIR FLOW RATE METER, VACUUM GAUGES, PRESSURE GAUGES, SAMPLE PORTS, ETC.) TO THE OWNER'S ENGINEER AT LEAST THREE WEEKS PRIOR TO THE START OF EQUIPMENT FABRICATION ACTIVITIES FOR AUTHORIZATION. THE ENGINEERING SUBMITTAL PACKAGE MUST INCLUDE AT A MINIMUM: 1) EQUIPMENT CUT SHEETS, 2) MATERIAL AND PERFORMANCE SPECIFICATIONS, 3) PERFORMANCE CHARTS FOR ALL MOTORS, 4) CONTROL AND ELECTRICAL PANEL DESIGN, AND 5) ELECTRICAL LINE DIAGRAM(S) FOR ALL ELECTRICAL EQUIPMENT INCLUDING CONTROL PANELS AND ELECTRICAL PANELS. THE OWNER'S ENGINEER WILL COMMENT AND/OR AUTHORIZE THE ENGINEERING SUBMITTAL PACKAGE WITHIN FIVE BUSINESS DAYS FROM RECEIPT, AS APPLICABLE.

3. THE HORIZONTAL SSDS PIPING FOR EACH INDIVIDUAL SSDS WILL STUB ABOVE THE SLAB, WHERE IT WILL CONNECT TO THE RESPECTIVE VERTICAL VENT PIPES (V1 THROUGH V3) AND RUN VERTICALLY TO THE ROOF OF THE BUILDING. THE LOCATION OF THE REQUIRED PENETRATIONS WILL BE COORDINATED WITH THE ARCHITECTS AND STRUCTURAL ENGINEERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY SEALING ALL REQUIRED PENETRATIONS.

4. THE VERTICAL VENT PIPES WILL BE INSTALLED IN CONJUNCTION WITH THE COMPLETION OF EACH FLOOR OF THE PROPOSED BUILDING. FOLLOWING THE COMPLETION OF THE BUILDING, THE SSDS PROCESS EQUIPMENT WILL BE PLACED ON THE ROOF OF THE BUILDING AND FINAL CONNECTIONS WITH THE VERTICAL VENT PIPES (V1 THROUGH V3) WILL BE COMPLETED BY THE CONTRACTOR. EACH VENT PIPE (V1 THROUGH V3) WILL BE MOUNTED TO AN INLINE FAN ON THE ROOF OF THE PROPOSED BUILDING.

5. A TYPICAL SSDS PROCESS EQUIPMENT SCHEMATIC (FOR VENT V1) IS PROVIDED HEREIN. THE DESIGN SSDS PROCESS SCHEMATICS FOR VENTS V2 AND V3 ARE SIMILAR TO THE VENT V1.

6. PROCESS EQUIPMENT FOR THE ACTIVE SSDS SHALL CONSIST OF THREE F-1 INLINE INDUSTRIAL RADIAL FANS (FULLY EXPLOSION PROOF TO CLASS I, DIVISION 1 STANDARDS, AS CLASSIFIED BY THE NATIONAL ELECTRICAL CODE [NEC]). ALL FANS MUST BE WIRED SUCH THAT IN THE CASE OF BUILDING POWER FAILURE/INTERRUPTION, THEY REMAIN OPERATIONAL THROUGH THE USE OF BUILDING BACKUP GENERATOR POWER. THE FANS MUST REMAIN OPERATIONAL AT ALL TIMES.

KEY:

BV	BALL VALVE
CV	CHECK VALVE
FI	FLOW INDICATOR
F1	ROOF MOUNTED INLINE INDUSTRIAL RADIAL FAN ON VENT PIPE V1
HP	HORSEPOWER
PI	PRESSURE INDICATOR
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SP	SAMPLE PORT
SSDS	SUB-SLAB DEPRESSURIZATION SYSTEM
TI	TEMPERATURE INDICATOR
V	VOLT
VI	VACUUM INDICATOR

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

SIGNATURE DATE SIGNED

STEWART ABRAMS
PROFESSIONAL ENGINEER NY Lic. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 &15
BROOKLYN
KINGS COUNTY NEW YORK

Drawing Title
PROPOSED TYPICAL SSDS PROCESS SCHEMATIC
363 BOND STREET & 388 CARROLL STREET

Project No. 100287501	Drawing No. 02.03
Date 02/03/15	
Scale N.T.S.	
Drawn By MA / Checked By OU	
Last Revised 07/15/15	

© 2014 Langan

Filename: \\Langan.com\data\EP\data5\100287501\Cadd Data - 100287501\Dwg\363 Bond St SSDS\100% Process & Instrumentation Diagram Construction Spec Revised 071515.dwg Date: 7/15/2015 Time: 13:27 User: mambrusch Style Table: Langan.stb Layout: 8_Proposed

Client & Job # LETTIRE 14014 Driller J. DIXON ID# _____

Well Permit# AS-1 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOD ST

Date Well Started 06-11-15 Date Well Finished 06-11-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 20 Ft. Total Depth Well 18.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	20	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	5	Ft.	11.5	Ft.	2	In.
	+ PVC	0	Ft.	5	Ft.	2	In.
	SUMP	16.5		18.5		2	

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	11.5	Ft.	16.5	Ft.	2	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	11	Ft.	20	Ft.	10	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	5	Ft	11	Ft.	10	In.	2	In.	150	Lb	—	Lb	—	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 5 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROW	OT	Riv
5	8	BLACK	SM	
8	20	GRY	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble . Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # Lettire 14014 Driller J. DIXON ID# _____

Well Permit# AS-2 Local Well ID _____
Well Owner LETTIRE Site Address 363 BOND ST
Date Well Started 06-11-15 Date Well Finished 06-11-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 20 Ft. Total Depth Well 18.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	20	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 80	5	Ft.	11.5	Ft.	2	In.
	+ PVC	0	Ft.	5	Ft.	2	In.
	SUMP	16.5		18.5		2	

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	11.5	Ft.	16.5	Ft.	2	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	11	Ft.	20	Ft.	10	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	0	Ft	20	Ft.	10	In.	2	In.	150	Lb	~	Lb	~	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 5 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	FILL
5	8	BLACK	SM	
8	20	GREY	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETTIRE - 14014 Driller J. DIXON ID# _____

Well Permit# AS-3 Local Well ID _____

Well Owner LETTIRE Site Address 363 BOND ST

Date Well Started 06-12-15 Date Well Finished 06-12-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 19 Ft. Total Depth Well 18.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush NA In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	19	Ft.	10	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	stainless /Sch 40 80	5	Ft.	11.5	Ft.	2	In.
	+ PVC	+1	Ft.	5	Ft.	2	In.
	stainless	16.5		18.5		2	

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	stainless	11.5	Ft.	16.5	Ft.	2	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	11	Ft.	19	Ft.	10	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	2.5	Ft	19	Ft.	10	In.	2	In.	100	Lb	—	Lb	—	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 5 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	Fill
5	8	BLACK	SM	
8	19	GREY	CL	

Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.

GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

Client & Job # LETIRE 14014 Driller J. DIXON ID# _____

Well Permit# AS-4 Local Well ID _____
Well Owner LETIRE Site Address 363 BOND ST
Date Well Started 06-12-15 Date Well Finished 06-12-15

Drilling Method: (HSA) Air Rotary HSA/Air Mud DP Hand Dug

Drill to Depth 19 Ft. Total Depth Well 18.5 Ft.

Grout Method: Pressure (Gravity) Displacement Other

Protective Cover: Flush N/A In. Stick Up _____ In.

		Depth to Top		Depth to Bottom		Diameter	
Bore Hole	(Auger) / Rotary	0	Ft.	19	Ft.	8	In.
	Auger / Rotary		Ft.		Ft.		In.

	Material & Rating	Depth to Top		Depth to Bottom		Diameter	
Casing	Stainless /Sch 40	5	Ft.	11.5	Ft.	2	In.
	+ PVC	+1	Ft.	5	Ft.	2	In.
	SUMP	16.5		18.5		2	

	Material	Depth to Top		Depth to Bottom		Diameter		Slot#
Screen	Stainless	11.5	Ft.	16.5	Ft.	2	In.	20
			Ft.		Ft.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Material #
Gravel Pack	11	Ft.	19	Ft.	10	In.	2	In.	#2
		Ft.		Ft.		In.		In.	

	Depth to Top		Depth to Bottom		Outer Diameter		Inner Diameter		Bent		Portland		Water	
Grout	2.5	Ft	11	Ft.	10	In.	2	In.	150	Lb	~	Lb	~	Gal
		Ft		Ft.		In.		In.		Lb		Lb		Gal

Additional Information: _____

Static Water Level 5 Ft M-Scope/Tape Period of Dev. _____ Hrs Pump / Bailer

Drill Rig: Acker Soil Scout (GeoProbe 7822) Simco 2800 AMS 9600 Direct Push 5410-Kart Hand Dig

Geologic Log

Depth To Top	Depth to Bottom	Color	USGS Symbol	Add. Descrip.
0	5	BROWN	OT	FILL
5	8	BLACK	SM	
8	19	GREY	CL	

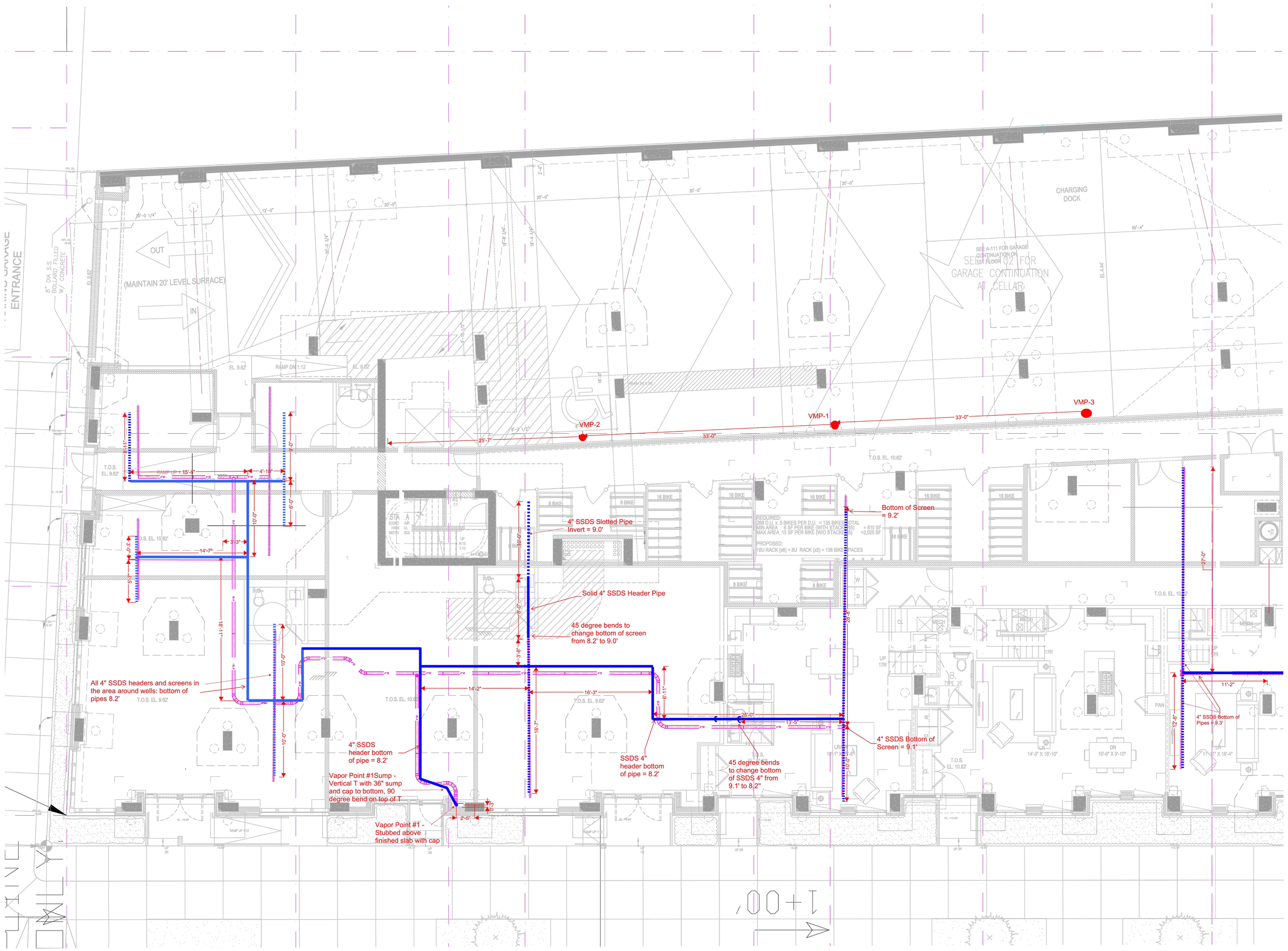
Coordinates E/X _____ N/Y _____ PDOP (Accuracy) _____ Ft.
GPS Mfr: Tremble Model: GEO XM Accuracy Units: Feet Point of Reference: Well

Distance from Road or Building _____

APPENDIX D

SSDS As-Built Drawings

LANGAN



Proposed SSDS Headers & Screens

As-Built SSDS Headers

As-Built SSDS Screen

As-Built Vapor Monitoring Points

SCALE IN FEET

4 0 2 4

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

STATE OF NEW YORK — STEWART HARRIS ABRAMS — 078833 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED

STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN

River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. d.a. Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. Langan Engineering and Environmental Services, Inc. Langan CC, Inc. Langan International LLC. Langan Treaty, Inc.

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

AWT Environmental Services, Inc.
P.O. Box 128
Saylorville, NJ 08871

(732) 613-1600
(732) 613-1636 fax

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

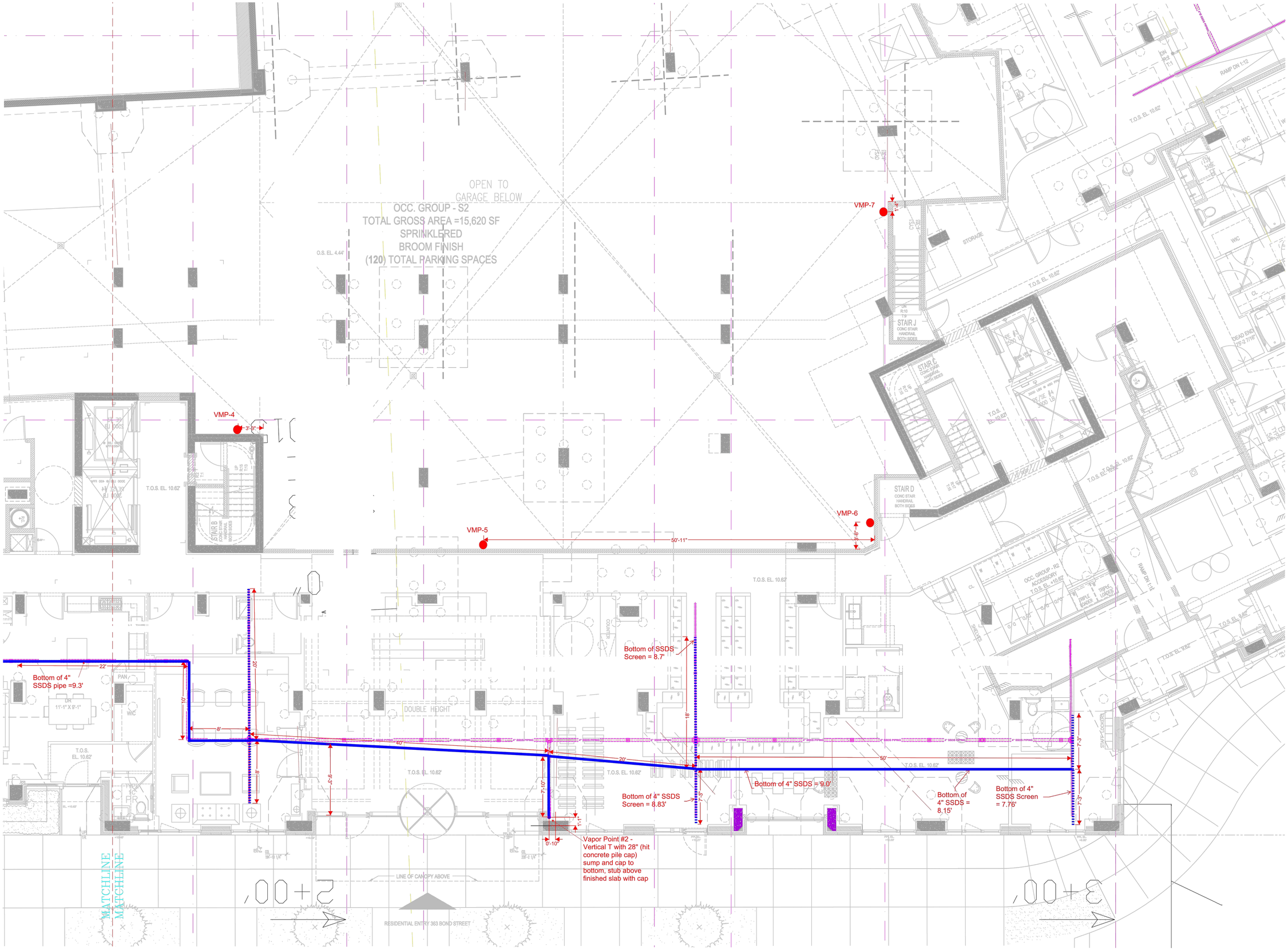
Drawing Title
AS-BUILT SSDS MANIFOLD PIPING LAYOUT (1/4)

Project No.	100287501
Date	09/17/15
Scale	AS SHOWN
Drawn By / Checked By	MA / OU
Submission Date	09/21/15
Drawing No.	1
Sheet	1 of 11

Filename: \\langan.com\data\EP\data\5\100287501\Cadd Data - 100287501\Sheet Files\363 RA design\363 Bond Street Layout As-Built\s 091715.dwg, Date: 9/21/2015 Time: 15:27 User: mambruoch Style Table: Langan.stb Layout: SSDS 1

PROJECT NO. ######### SUBMISSION DATE: XXXX ##, ####

LANGAN



Proposed SSDS Headers & Screens

As-Built SSDS Headers

As-Built SSDS Screen

As-Built Vapor Monitoring Points

SCALE IN FEET

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

STATE OF NEW YORK — STEWART HARRIS ABRAMS — 078833 — PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED

STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN

River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO
WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan Holding Co., LLC, Inc.
Langan International LLC

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

AWT Environmental Services, Inc.
P.O. Box 126
Seymville, NJ 08871

(732) 613-1660
(732) 613-1539 fax

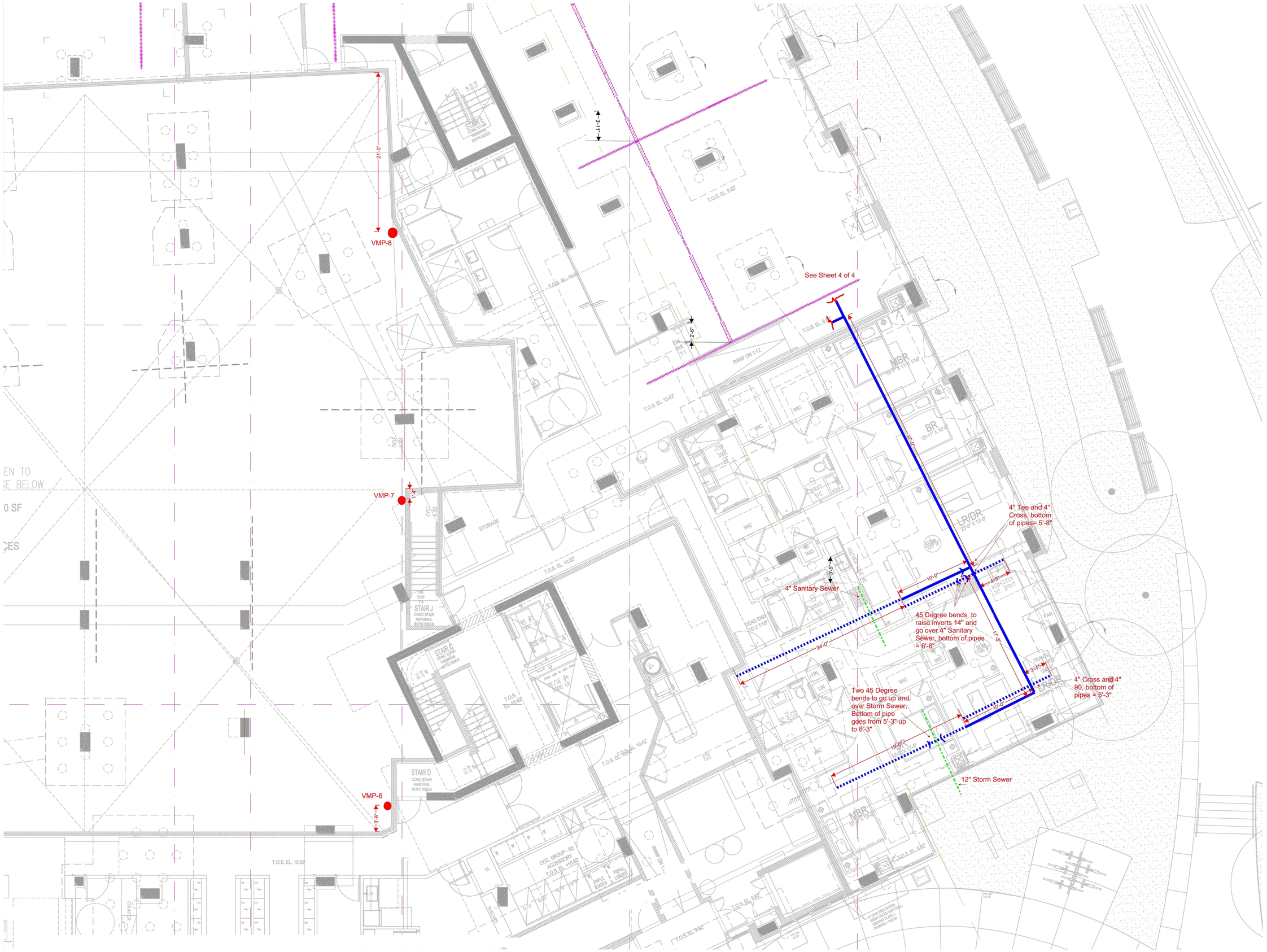
Project	PROPOSED BOND STREET DEVELOPMENT BLOCK No. 452, LOT No. 1 & 15 BROOKLYN KINGS COUNTY NEW YORK
Drawing Title	AS-BUILT SSDS MANIFOLD PIPING LAYOUT (2/4)
Project No.	100287501
Date	09/17/15
Scale	AS SHOWN
Drawn By / Checked By	MA / OU
Submission Date	09/21/15
Drawing No.	2
Sheet	2 of 11

LANGAN

SUBMISSION DATE: XXXX ##, ####

PROJECT NO. ########

Filename: \\langan.com\data\EP\data5\100287501\Cadd Data - 100287501\Sheet\Rel\363 RA design\363 Bond Street Layout As-Builts 091715.dwg Date: 9/21/2015 Time: 15:28 User: mambrusch Style Table: Langan.stb Layout: SSDS 2



Proposed SSDS Headers & Screens

As-Built SSDS Headers

As-Built SSDS Screen

As-Built Vapor Monitoring Points

SCALE IN FEET

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

STATE OF NEW YORK — STEWART HARRIS ABRAMS — 078833 — LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED

STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN

River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

NEW JERSEY . NEW YORK . CONNECTICUT . PENNSYLVANIA . OHIO
WASHINGTON, DC . FLORIDA . TEXAS . NORTH DAKOTA . CALIFORNIA
ABU DHABI . ATHENS . DOHA . DUBAI . ISTANBUL . PANAMA

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan UK Ltd.
Langan International LLC

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

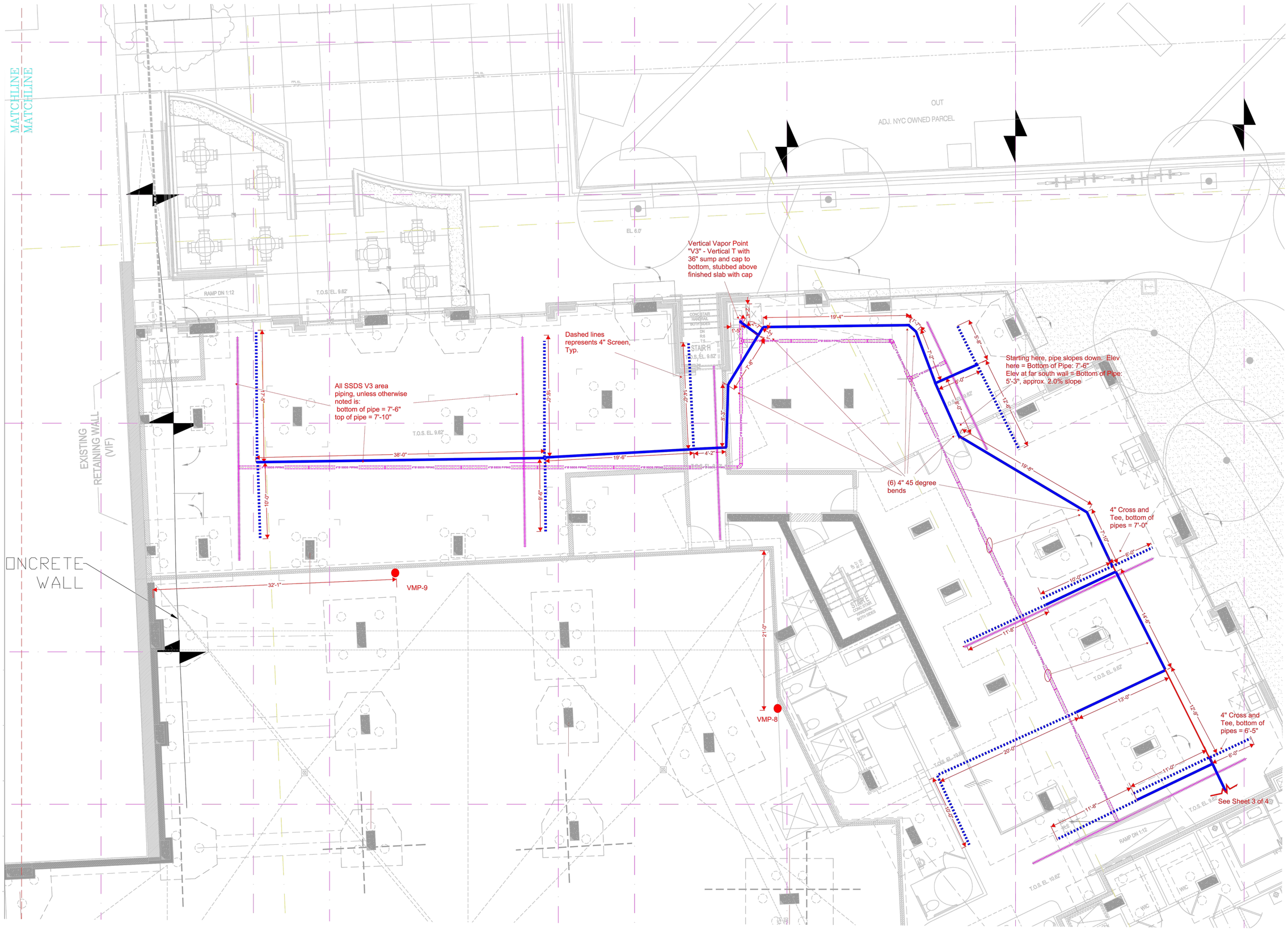
AWT Environmental Services, Inc.
P.O. Box 129
Seymville, NJ 08871

(732) 613-1660
(732) 613-1536 fax

Project	PROPOSED BOND STREET DEVELOPMENT BLOCK No. 452, LOT No. 1 & 15 BROOKLYN KINGS COUNTY NEW YORK
Drawing Title	AS-BUILT SSDS MANIFOLD PIPING LAYOUT (3/4)
Project No.	100287501
Date	09/17/15
Scale	AS SHOWN
Drawn By	MA
Checked By	OU
Submission Date	09/21/15
Drawing No.	3
Sheet	3 of 11

LANGAN
PROJECT NO. ######## SUBMISSION DATE: XXXXX ##, ####

Filename: I:\langan.com\data\EP\data\5\100287501\Cadd Data - 100287501\Sheet\Rev\363 RA design\363 Bond Street Layout As-Builts 091715.dwg Date: 9/21/2015 Time: 15:28 User: mambrusch Style Table: Langan.stb Layout: SSDS 3



Proposed SSDS Headers & Screens
As-Built SSDS Headers
As-Built SSDS Screen
As-Built Vapor Monitoring Points

SCALE IN FEET

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

STATE OF NEW YORK STEWART HARRIS ABRAMS 078833 LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED

STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A. Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. Langan Engineering and Environmental Services, Inc. Langan CT, Inc. Langan International LLC
NJ CERTIFICATE OF AUTHORIZATION No: 24GA27996400

AWT Environmental Services, Inc.
P.O. Box 128
Bayonville, NJ 08871
(732) 615-1650
(732) 615-1536 fax

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY NEW YORK

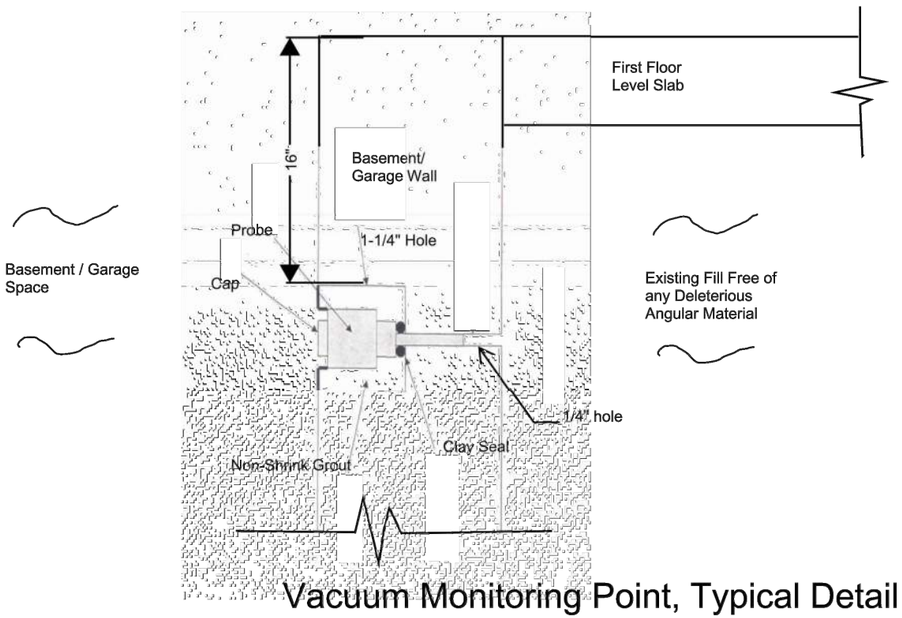
Drawing Title
AS-BUILT SSDS MANIFOLD PIPING LAYOUT (4/4)

Project No.	100287501
Date	09/17/15
Scale	AS SHOWN
Drawn By	MA
Checked By	OU
Submission Date	09/21/15

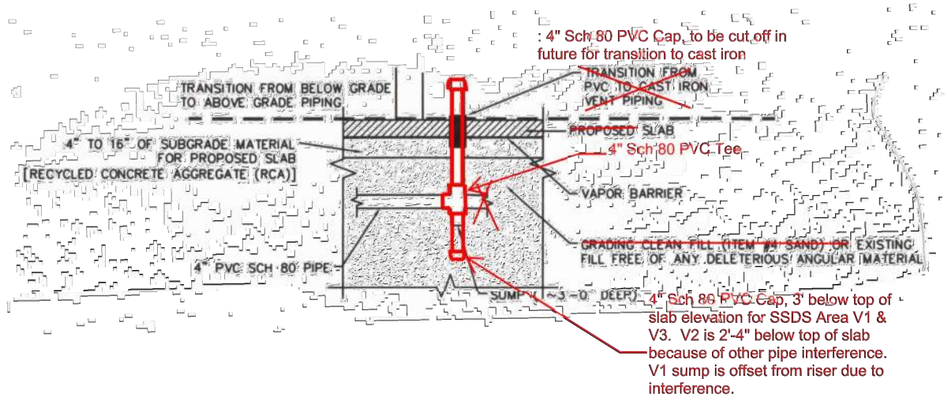
Drawing No. 4
Sheet 4 of 11

LANGAN
SUBMISSION DATE: XXXX ##, ####
PROJECT NO. #########

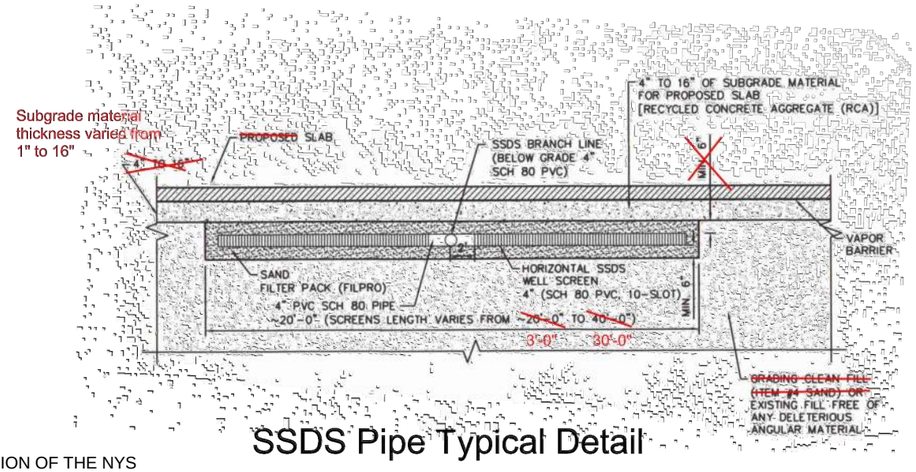
Filename: \\langan.com\data\EP\data51\100287501\Cadd Data - 100287501\Sheet Files\363 RA design\363 Bond Street Layout As-Builts 091715.dwg Date: 9/21/2015 Time: 15:29 User: mambruoch Style Table: Langan.stb Layout: SSDS 4



Vacuum Monitoring Point, Typical Detail



SSDS Vent Pipe Riser, Typical Detail



SSDS Pipe Typical Detail

Notes:
1. Original details above taken from Langan Drawings,100% Design, Dated 2/12/15
2. Deviations from original design are shown in red.
3. The only clean fill used was #4 Sand (Filpro). This was used around the SSDS screens only.
4. Details are not to scale.

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

AWT Environmental Services, Inc.
P.O. Box 128
Sayreville, NJ 08871

(732) 613-1660
(732) 613-1536 fax

STATE OF NEW YORK · STEWART HARRIS ABRAMS · 078833 · LICENSED PROFESSIONAL ENGINEER

SIGNATURE DATE SIGNED

STEWART ABRAMS, PROFESSIONAL ENGINEER
NEW YORK LIC. No. 078833-1

LANGAN
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407
T: 201.794.6900 F: 201.794.0366 www.langan.com

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
PROPOSED BOND STREET DEVELOPMENT
BLOCK No. 452, LOT No. 1 & 15
BROOKLYN
KINGS COUNTY **NEW YORK**

Drawing Title
AS-BUILT SSDS MANIFOLD PIPING DETAILS

Project No. 100287501	Drawing No. 5
Date 09/17/15	
Scale NTS	
Drawn By MA / Checked By OU	
Submission Date 09/21/15	Sheet 5 of 11

© 2014 Langan

Filename: \\langan.com\data\EP\data5\100287501\Cadd Data - 100287501\SheetFiles\363 RA design\363 Bond Street As-Built Figures 091715.dwg Date: 9/21/2015 Time: 16:02 User: mambrusch Style Table: Langan.stb Layout: SSDS Specs

APPENDIX E

Vapor Barrier and Waterproofing Specs

LANGAN

STEGO® WRAP VAPOR BARRIER

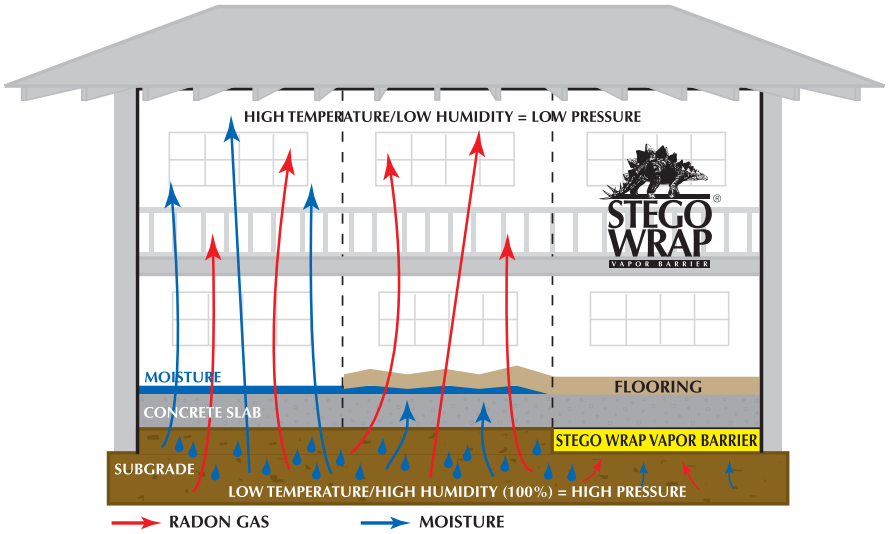
ASTM E 1745 Class A-B-C Compliant

STEGO® WRAP VAPOR BARRIER

is made with our proven trade secret blend of prime virgin resins and additives. Stego Wrap Vapor Barrier is an ASTM E 1745 Class A Vapor Barrier (Below 0.01 perms). We focus on producing a product that will maintain its extremely low permeance for the life of a building. The protection of Stego Wrap Vapor Barrier provides the flexibility to change flooring types and overall building use without worrying about below-slab moisture vapor.

FEATURES & BENEFITS

- Unsurpassed Permeance Characteristics
- Life of the Building Protection
- Exceptional Tear and Puncture Resistance
- Easy, Reliable Installation
- Competitively Priced
- Available Nationwide
- Local Support



Regardless of the location of the water table, humidity below concrete slabs approximates 100%. Typical below slab vapor pressure is more than twice that of building interiors at room temperature, creating vapor drive from the substrate, up through the slab, and into the building.

THE STEGO® ADVANTAGES

SUPERIOR DEFENSE Against Floor Failures:

Experts say "the need for a vapor barrier (as opposed to a vapor retarder) is becoming increasingly clear." Concrete Construction Magazine, August 2003, p.18.

Infiltration of moisture through concrete slabs is a major building defect liability. Stego Wrap Vapor Barrier has an extremely low permeance preventing water vapor, soil gases (i.e. Radon), alkaline salts and soil sulfates from compromising the integrity of the building envelope and leading to serious problems with the concrete slab, floor coverings and indoor air quality. Stego Wrap Vapor Barrier is the best protection against these costly failures.

MOLD PREVENTION:

Mold needs three things to survive: moisture, sustained temperature (between 50° and 122° F), and a food source (dust, drywall, etc.). In any given building environment, contractors can only control one of these variables: moisture. Mold spores are present in 100% of building interiors. If moisture is allowed into your building environment, mold can and will grow. Toxic molds like Stachybotyrus can be fatal for nearly 5% of people (Institute of Medicine 1993), and cause a variety of serious health problems in others. Several recent well-publicized cases involving toxic mold have resulted in multimillion-dollar insurance settlements. Many of the nation's leading Insurance companies have severely limited or removed coverage for mold claims fearing that these claims will bankrupt their companies. Now more than ever, it is critically important that extra attention be paid to preventing the intrusion of moisture vapor from your below-slab environment. Stego Wrap Vapor Barrier offers the level of protection that many architects are now seeking and is considered to be inexpensive insurance against these costly failures.

LONGEVITY AND STRENGTH:

Stego Wrap Vapor Barrier is NOT made with recycled materials and will not degrade. Prime, virgin resins are the key. Molecules within Stego Wrap "interlock" to provide strength, durability and unprecedented resistance to moisture vapor and radon gas. Stego Wrap's puncture resistance is excellent. Stego Wrap will not tear, crack, flake, snag or puncture, even when 18,000 lb. laser-screed machines are driving directly across the barrier (see the reverse side for Stego Wrap Vapor Barrier's specifications).

Stego Industries, LLC · San Clemente, CA
Tel: 949-257-4100 · Toll Free: 877-464-7834 · Fax: 949-257-4113
www.stegoindustries.com

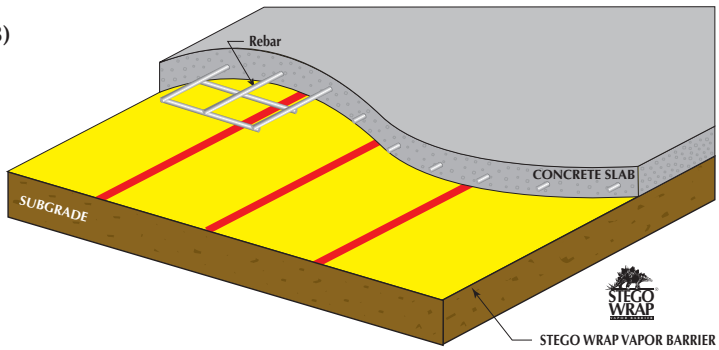
STEGO® WRAP VAPOR BARRIER SPECIFICATIONS

PROPERTIES	TEST METHOD	ASTM E 1745 Class A Requirements	TEST RESULT	EXPLANATION
Permeance	ASTM F 1249	0.1 perms	0.0086 perms * 0.0036 WVTR	Very impermeable to water vapor
Puncture Resistance	ASTM D 1709	2200 grams	Method B 2266 grams	Resistant to puncturing from construction abuse
Tensile Strength	ASTM D 882	45.0 lbf./in.	70.6 lbf./in.	Will not tear easily
Permeance After Conditioning (ASTM E 1745 Sections 7.1.2 - 7.1.5)	ASTM E 154 section 8	0.1 perms	0.0098 perms	Permeance after wetting, drying, and soaking
	ASTM E 154 section 11	0.1 perms	0.0091 perms	Permeance after heat conditioning
	ASTM E 154 section 12	0.1 perms	0.0097 perms	Permeance after low temperature conditioning
	ASTM E 154 section 13	0.1 perms	0.0095 perms	Permeance after soil organism exposure
Methane Transmission Rate	ASTM D 1434		**GTR = 192.8 mL(STP)/m^2*day	Greatly impedes the transmission of methane gas
Radon Diffusion Coefficient			5.5 x $10^{-14}$$m^2$/second	Greatly impedes the transmission of radon gas
Thickness			15 mils	Stronger, tougher and less permeable than much thicker membranes
Roll Dimensions			14 ft. X 140 ft.	1,960 ft^2/roll - allows for a minimum of seams
Roll Weight			140 lbs.	Easy to unroll and install

Note: perm unit = grains/(ft^2 *hr* in.Hg) * WVTR = water vapor transmission rate **GTR = Gas Transmission Rate

INSTALLATION INSTRUCTIONS: (Based on ASTM E 1643)

Unroll Stego Wrap over the area where the slab is to be placed. Stego Wrap should completely cover the concrete placement area. Overlap seams 6 inches and tape using Stego Tape. All penetrations and blockouts should be sealed using a combination of Stego Wrap, Stego Tape and/or Stego Mastic. If the Stego Wrap is damaged, cut a piece from the Stego Wrap roll, place over the damaged area, and tape around all edges. Concrete may be placed directly on Stego Wrap. For additional information, please refer to Stego's complete installation instructions.



STEGO® TAPE:

STEGO WRAP RED POLYETHYLENE TAPE (3.75" x 180'/roll) is specially designed to seal seams and penetrations on Stego Wrap installations. The acrylic, pressure-sensitive adhesive provides permanent bonding and quick-stick properties. The area to be bonded should be free of dust, dirt and moisture.

WARRANTY:

STEGO INDUSTRIES, LLC believes, to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions and installations are not within our control, STEGO INDUSTRIES, LLC does not guarantee results from use of the information provided and disclaims all liability from any loss or damage. NO WARRANTY EXPRESS OR IMPLIED IS GIVEN AS TO THE MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, OR OTHERWISE WITH RESPECT TO THE PRODUCTS REFERRED TO.

Note: Test results above are for Stego Wrap products made as of March 15, 2013. If you have product made prior to March 15, 2013, please refer to Stego literature dated 10/12 for representative test results or call your local Stego Representative with questions.

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

Stego Industries, LLC · San Clemente, CA
Tel: 949-257-4100 · Toll Free: 877-464-7834 · Fax: 949-257-4113 · www.stegoindustries.com

04/2013

Stego® Wrap Vapor Barrier

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name
Stego Wrap Vapor Barrier

2. Manufacturer
Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description
USES: Stego Wrap Vapor Barrier is used as a below-slab vapor barrier.
COMPOSITION: Stego Wrap Vapor Barrier is a multi-layer plastic extrusion manufactured with only high grade prime, virgin, polyolefin resins.
ENVIRONMENTAL FACTORS:
Stego Wrap Vapor Barrier can be used in systems for the control of soil gases (radon, methane), soil poisons (oil by-products) and sulfates.

5. Installation
UNDER SLAB: Unroll Stego Wrap Vapor Barrier over an aggregate, sand or tamped earth base. Overlap all seams a minimum of six inches and tape using Stego Tape or Crete Claw® Tape. All penetrations must be sealed using a combination of Stego Wrap and Stego accessories.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost
Stego Wrap Vapor Barrier is available nationally via building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' sales department.

7. Warranty
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance
None required.

9. Technical Services
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or via the website.

10. Filing Systems
- Stego Industries' website
- Buildsite
- 4Specs

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGO WRAP VAPOR BARRIER

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E 1745 Class A, B & C – Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F 1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0086 perms *0.0036 WVTR
Puncture Resistance	ASTM D 1709 – Test Methods for Impact Resistance of Plastic Film by Free-Falling Dart Method	2266 grams
Tensile Strength	ASTM D 882 – Test Method for Tensile Properties of Thin Plastic Sheeting	70.6 lbf/in.
Permeance After Conditioning (ASTM E 1745 Sections 7.1.2 - 7.1.5)	ASTM E 154 Section 8, F 1249 – Permeance after wetting, drying, and soaking ASTM E 154 Section 11, F 1249 – Permeance after heat conditioning ASTM E 154 Section 12, F 1249 – Permeance after low temperature conditioning ASTM E 154 Section 13, F 1249 – Permeance after soil organism exposure	0.0098 perms 0.0091 perms 0.0097 perms 0.0095 perms
Methane Transmission Rate	ASTM D 1434 – Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting	**192.8 GTR mL(STP)/m²*day
Radon Diffusion Coefficient		5.5 x 10^{-14} m²/second
Thickness	ACI 302.1R-04 – Minimum Thickness (10 mils)	15 mils
Roll Dimensions		14 ft. wide x 140 ft. long or 1,960 ft²
Roll Weight		140 lbs.

Note: perm unit = grains/(ft² *hr* in.Hg) * WVTR = Water Vapor Transmission Rate ** GTR = Gas Transmission Rate

Note: Test results above are for Stego Wrap products made as of March 15, 2013. If you have product made prior to March 15, 2013 please refer to Stego literature dated 10/12 for representative test results or call your local Stego Representative with questions.

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

Stego® Mastic

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name

Stego Mastic

2. Manufacturer

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description

USES: Stego Mastic is designed to be used as a waterproofing and vapor retardant membrane for use in conjunction with Stego Wrap 10-mil and 15-mil Vapor Retarder/Barrier. Stego Mastic can be used as an alternate to boots for pipe penetrations in Stego Wrap Vapor Barrier.

COMPOSITION: Stego Mastic is a medium-viscosity, water-based, polymer-modified anionic bitumin-ous/ asphalt emulsion, which exhibits bonding, elongation and water-proofing characteristics.

SIZE: Stego Mastic comes in five-gallon buckets.

4. Technical Data

APPLICABLE STANDARDS:

American Society for Testing and Materials (ASTM)

- ASTM D 412 Standard Test Method for Vulcanized Rubber and Therm-oplastic Elastomers - Tension
- ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth under Concrete Slabs, on Walls, or as Ground Cover
- ASTM G 23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials (Withdrawn 2000)
- ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM D 751 Standard Test Methods for Coated Fabrics
- ASTM D 1434 Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting
- ASTM C 836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Water-proofing Membrane for Use with Separate Wearing Course.
- ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.

5. Installation

PREPARATION:

- A test application simulating the project environment should always be done prior to final usage of Stego Mastic.
- All Surfaces should be dry and free of loose materials, oils and other contaminants. The surfaces should be cleaned in the same fashion as the test surface in order to ensure proper results.
- Store above 40°F

PENETRATIONS:

For small pipe and rebar penetrations in Stego Wrap Vapor Barrier cut Stego Wrap just big enough for the pene-tration. Liberally apply Stego Mastic around the penetration to keep the integrity of the membrane intact. Stego Mastic can be applied by brush, roller, or sprayer.

NOTES: 1) For larger penetrations or wide cut-outs of Stego Wrap, use Stego Wrap and Stego Tape to repair and seal. 2) Solvent-based products should not be applied over this product. 3)Clean all tools with kerosene and/or oil-based cleaners.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost

Stego Mastic is available nationally via building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' sales department.

7. Warranty

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchan-tability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance

None required.

9. Technical Services

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or by visiting the website.

10. Filing Systems

- Stego Industries' website
- Buildsite

TABLE 1: PHYSICAL PROPERTIES OF STEGO MASTIC

Property and Test	Stego Mastic
Tensile/Elongation, ASTM D 412	32 psi / 3860%
Resistance to Decay, ASTM E 154	9% perm loss
Accelerated Aging, ASTM G 23	No Effect
Permeance, ASTM E 96	0.17 Perms
Hydrostatic Water Pressure, ASTM D 751	28 psi
Methane Transmission Rate, ASTM D 1434	0
Adhesion to Concrete & Masonry, ASTM C 836	7 lbf./in.
Hardness, ASTM C 836	85
Crack Bridging, ASTM C 836	No Cracking
Low Temp Flexibility, ASTM C 836	No Cracking at -20°C
Resistance to Acids:	
Acetic	30%
Sulfuric and Hydrochloric	15%
Temperature Effect:	
Stable	248°F
Flexible	13°F

Note: perm unit = grains/(ft² *hr* in.Hg)

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

Stego® Tape

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name
Stego Tape

2. Manufacturer
Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description
USES: Stego Tape is a low permeance tape designed for protective sealing, hanging, seaming, splicing, and patching applications where a highly conformable material is required. It has been engineered to bond specifically to Stego Wrap, making it ideal for sealing Stego Wrap seams and penetrations.

COMPOSITION: Stego Tape is composed of polyethylene film and an acrylic, pressure-sensitive adhesive.

SIZE: Stego Tape is 3.75" wide and 180' long. Stego Tape ships 12 rolls in a case.

4. Technical Data
APPLICABLE STANDARDS:

Pressure Sensitive Tape Council (PSTC)

- PSTC 101 – International Standard for Peel Adhesion of Pressure Sensitive Tape

American Society for Testing & Materials (ASTM)

- ASTM E 1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs

5. Installation
SEAMS:

Overlap Stego Wrap six inches and seal with Stego Tape. Make sure the area of adhesion is free from dust, dirt, moisture and frost to allow maximum adhesion of the pressure sensitive tape.

PIPE PENETRATION SEALING

1) Install Stego Wrap around pipe by slitting/cutting material
2) If void space around pipe is minimal, seal around base of pipe with Stego Tape (Stego Mastic can be used for additional coverage)

DETAIL PATCH FOR PIPE PENETRATION SEALING

1) Cut a piece of Stego Wrap that creates a six inch overlap around all edges of the void space
2) Cut an "X" in the center of the detail patch
3) Slide detail patch over pipe, secure tightly
4) Tape down all sides of detail patch with Stego Tape
5) Seal around base of pipe with Stego Tape (Stego Mastic can be used for additional coverage)

Stego Tape should be installed above 40°F. In temperatures below 40°F, take extra care to remove moisture or frost from the area of adhesion.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost
Stego Tape is available nationally via building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' sales department.

7. Warranty
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance
None required.

9. Technical Services
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or by visiting the website.

10. Filing Systems
- Stego Industries' website
- Buildsite

TABLE 1: PHYSICAL PROPERTIES OF STEGO TAPE

PROPERTY	RESULTS
Total Thickness	6 mils
Permeance	0.03 perms
Tensile Strength	17 lbs./in. width
Elongation (at break) MD	1060%
Adhesion (20 min dwell ss, PSTC 101)	95-oz./in. width
Ultraviolet Resistance	Excellent

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

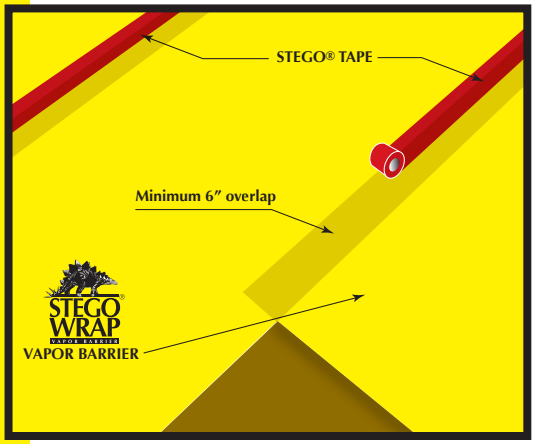
PART 1

STEGO WRAP VAPOR BARRIER/RETARDER INSTALLATION INSTRUCTIONS

STEGO® INDUSTRIES, LLC

IMPORTANT: Please read these installation instructions completely, prior to beginning any Stego Wrap installation. The following installation instructions are based on ASTM E 1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs. If project specifications call for compliance with ASTM E 1643, then be sure to review the specific installation sections outlined in the standard along with the techniques referenced in these instructions.

FIGURE 1: UNDER-SLAB INSTALLATION



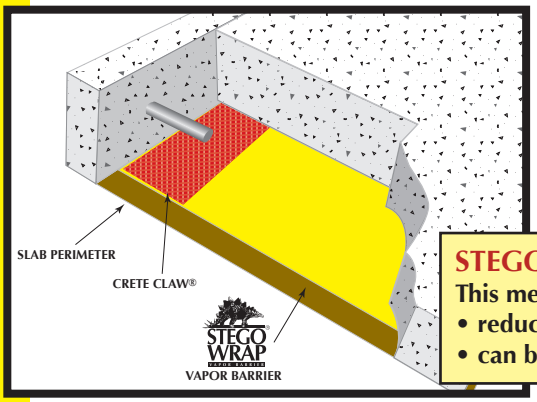
UNDER-SLAB INSTRUCTIONS:

1. Stego Wrap can be installed over an aggregate, sand, or tamped earth base. It is not necessary to have a cushion layer or sand base, as Stego Wrap is tough enough to withstand rugged construction environments.
2. Unroll Stego Wrap over the area where the slab is to be placed. Stego Wrap should completely cover the concrete placement area. All joints/seams both lateral and butt should be overlapped a minimum of six inches and taped using Stego Tape.

NOTE: The area of adhesion should be free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive tape.

3. ASTM E 1643 requires sealing the perimeter of the slab. *Extend vapor retarder over footings and seal to foundation wall, grade beam, or slab at an elevation consistent with the top of the slab or terminate at impediments such as waterstops or dowels.* Consult the structural engineer of record before proceeding.

FIGURE 2a: SEAL TO SLAB AT PERIMETER



SEAL TO SLAB AT PERIMETER:*

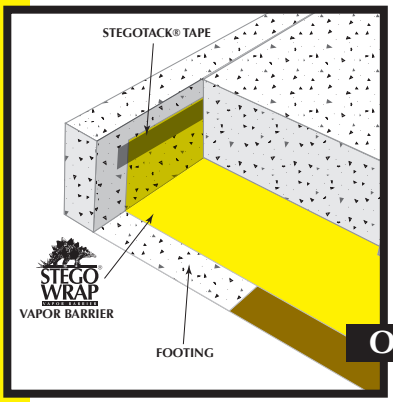
NOTE: Clean the surface of Stego Wrap to ensure that the area of adhesion is free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive adhesive.

a. Install Crete Claw® on the entire perimeter edge of Stego Wrap.

b. Prior to the placement of concrete, ensure that the top of Crete Claw is free of dirt, debris, or mud to maximize the bond to the concrete.

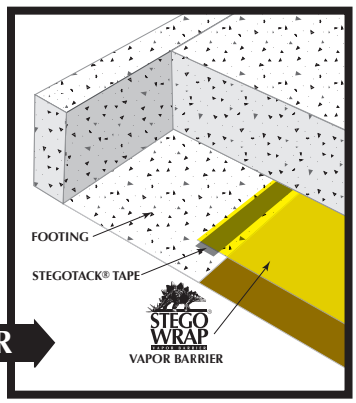
STEGO LABOR SAVER!
This method not only complies with ASTM E 1643, but it also:
- **reduces labor compared to other perimeter sealing techniques.**
- **can be used even without an existing wall or footing, unlike alternatives.**

FIGURE 2b: SEAL TO PERIMETER WALL



OR

FIGURE 2c: SEAL TO FOOTING



OR SEAL TO PERIMETER WALL OR FOOTING WITH STEGOTACK® TAPE:*

a. Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.

b. Remove release liner on one side and stick to desired surface.

c. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

* If ASTM E 1643 is specified, consult with project architect and structural engineer to determine which perimeter seal technique should be employed for the project.

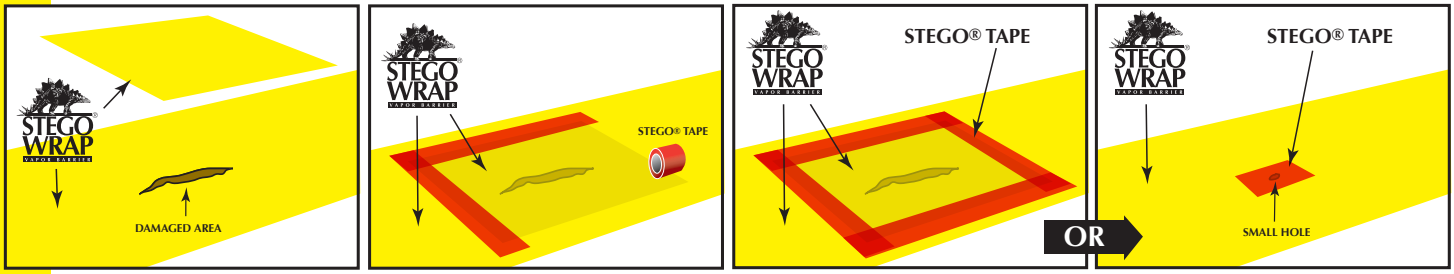
NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC. 04/2013

949-257-4100 • 877-464-7834 • www.stegoindustries.com

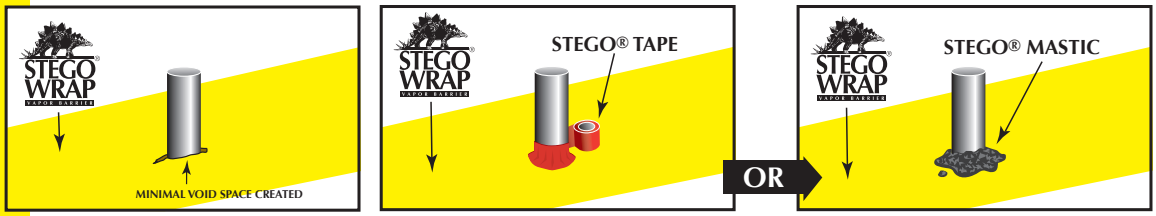
4. In the event that Stego Wrap is damaged during or after installation, repairs must be made. Stego Tape can be used to repair small holes in the material. For larger holes, cut a piece of Stego Wrap to a size and shape that covers any damage by a minimum overlap of six inches in all directions. Clean all adhesion areas of dust, dirt, moisture, and frost. Tape down all edges using Stego Tape (see figure 3, Sealing Damaged Areas).

FIGURE 3: SEALING DAMAGED AREAS



5. **IMPORTANT: ALL PENETRATIONS MUST BE SEALED.** All pipe, ducting, rebar, wire penetrations and block outs should be sealed using Stego Wrap, Stego Tape and/or Stego Mastic (see figure 4a, Pipe Penetration Sealing).

FIGURE 4a: PIPE PENETRATION SEALING



STEGO WRAP PIPE PENETRATION REPAIR DETAIL:

1: Install Stego Wrap around pipe penetrations by slitting/cutting material as needed. Try to minimize the void space created.

2: If Stego Wrap is close to pipe and void space is minimized then seal around pipe penetration with Stego Tape and/or Stego Mastic.

(See Figure 4a)

3: If detail patch is needed to minimize void space around penetration, then cut a detail patch to a size and shape that creates a six inch overlap on all edges around the void space at the base of the pipe. Stego Pre-Cut Pipe Boots are also available to speed up the installation.

4: Cut an "X" the size of the pipe diameter in the center of the pipe boot and slide tightly over pipe.

5: Tape down all sides of the pipe boot with Stego Tape.

6: Seal around the base of the pipe using Stego Tape and/or Stego Mastic.

(See Figure 4b)

FIGURE 4b: DETAIL PATCH FOR PIPE PENETRATION SEALING

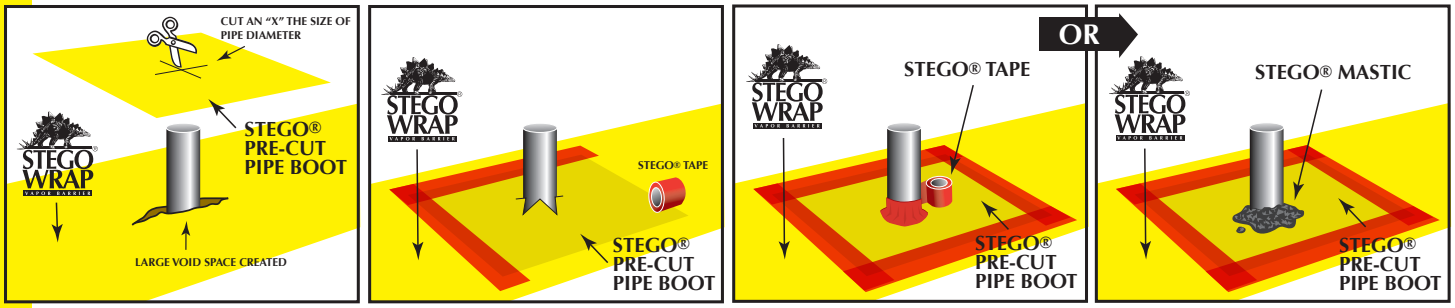
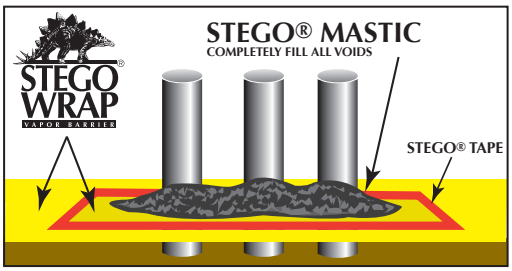


FIGURE 5: MULTIPLE PIPE PENETRATION SEALING



MULTIPLE PIPE PENETRATION SEALING:

Multiple pipe penetrations in close proximity and very small pipes may be sealed using Stego Wrap and Stego Mastic for ease of installation (see figure 5, Multiple Pipe Penetration Sealing).

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC. 04/2013

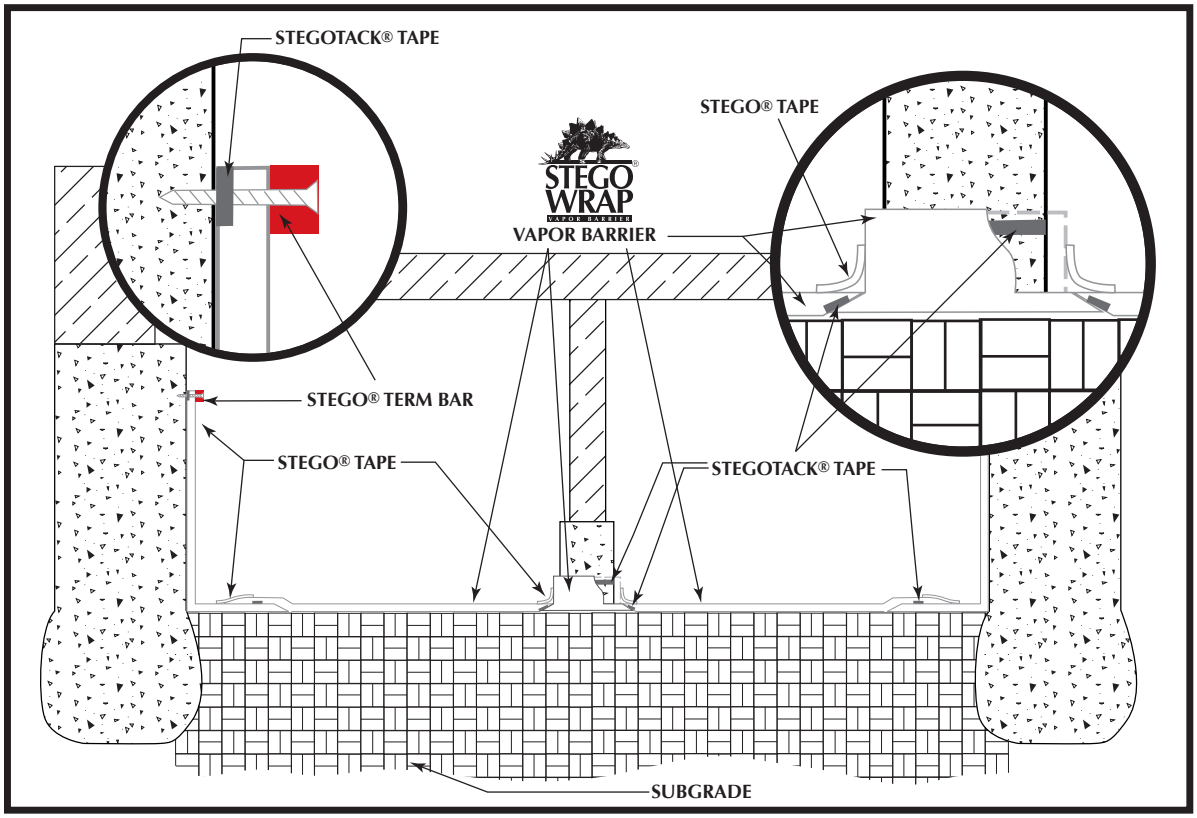
PART 2

STEGO WRAP VAPOR BARRIER/RETARDER INSTALLATION INSTRUCTIONS

CRAWL SPACE INSTALLATION INSTRUCTIONS:

1. Turn Stego Wrap up the foundation wall to a minimum height of six inches above the outside/exterior grade or in compliance with local building codes and terminate with Stego Term Bar. To form a complete seal, apply StegoTack Tape or a layer of Stego Mastic to the foundation wall prior to installing Stego Term Bar. Allow one hour for Stego Mastic to cure prior to installing Stego Term Bar.
2. Seal Stego Wrap around all penetrations and columns using Stego Tape, StegoTack Tape, and/or Stego Mastic.
3. Place Stego Wrap directly over the crawl space floor. If rigid insulation is to be used, install Stego Wrap prior to insulation (under insulation and between the foundation wall and insulation).
4. Overlap seams a minimum of six inches and seal with Stego Tape. Some codes require a minimum of a twelve inch overlap. Check appropriate codes prior to installation.

FIGURE 6: CRAWL SPACE INSTALLATION



NOTE: Stego Wrap Vapor Barrier and Stego Tape are both available in white (as shown in illustration above).

INSTALLATION TIP:

1. For a cleaner look and to prevent against tenting of Stego Wrap at the foundation wall/foundation floor intersection, consider mechanically fastening Stego Wrap to base of foundation wall in addition to the above mentioned wall termination.

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC. 04/2013

KEY WATERPROOFING PRODUCTS LOCATIONS

EUROPE

Belgium
Grace - De Neef
Industriepark 8,
2220 Heist-op-den-Berg
Belgium
Tel. +32 (0) 15 24 93 60
Fax +32 (0) 15 24 80 72

France
Grace Produits de Construction S.A.S.
ZA des Foulletons
39140 Larnaud
Tel. +33 (0)3 84 48 48 60
Fax +33 (0)3 84 48 48 61

Germany
Grace Europe Holding GmbH
In der Hollerhecke 1
67547 Worms
Tel. +49 6241 40300

Ireland
Grace Construction Products Limited
C/O Longs Specialist Construction Services
42 O'Casey Avenue
Parkwest Industrial Estate, Nangor Road
Dublin 22
Tel. +353 1 645 4999
Fax +353 1 645 4998

Italy
W.R. Grace Italiana S.p.A.
Via Trento, 7
20017-Passirana di Rho (Milano)
Tel. +39 02 935 37 532/291
Fax +39 02 935 37 219

Poland
Grace Sp. z o.o.
ul. Szczepanowskiego 10/2
60 541 Poznan
Tel. +48 (61) 843 92 92
Fax +48 (22) 855 41 32

Portugal & Spain
Grace S.A.
Viladecans Business Park
Antonio Machado, 70-80 Planta 2
Viladecans, Barcelona 08840
Tel. +34 936 351 000

Sweden
Grace AB
Berga Allé 1
SE-254 52 Helsingborg
Sweden
Tel. +46 42 16 78 07
Fax +46 734 27 46 72

Switzerland
Grace Construction Products S.A.
En Budron
1052 Le Mont Sur Lausanne
Lausanne
Suisse/Schweiz
Tel. +41 (0) 2165 28585
Fax +41 (0) 2165 28595

Turkey
Grace Yapi Kimyasallari San. ve Tic. A.S.
Tuzla Kimya Sanayicileri O.S.B.
E-8 Blok Orhanli - Tuzla
34956 Istanbul
Turkey
Tel. +90 216 593 09 70
Fax +90 216 593 09 63

United Kingdom
Grace Construction Products Limited
580/1 Ipswich Road
Slough
Berkshire
SL1 4EQ
Tel. +44 (0)1753 490000
Fax +44 (0)1753 490001

MIDDLE EAST

United Arab Emirates
Grace Construction Products
Emirates Chemicals LLC
PO Box 5006
Festival Tower, Suite 1701
Dubai Festival City
Dubai, UAE
Tel. +971 4 232 99 01
Fax +971 4 232 99 40

GRACE

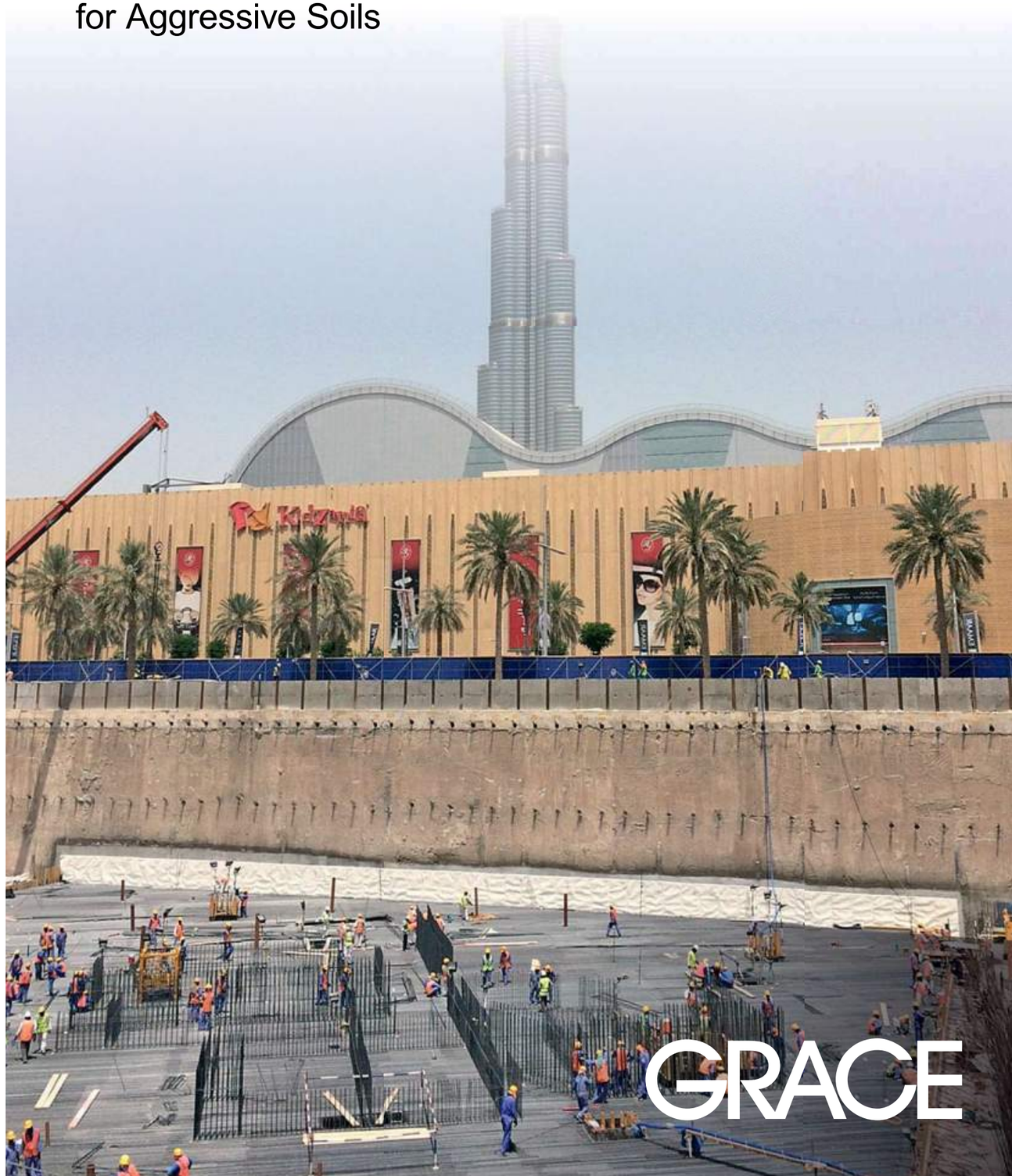
Adcor, ADVA, Aerofil, Bituthene, Daracem, DCI-S, Preprufe, Servipak, Serviseal, Servitite and Vertiseal are registered trademarks of W R Grace & Co.-Conn. Bitustik is a trademark of W R Grace & Co.-Conn.

The information given is based on data and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and verification. Since the conditions of use are beyond our control we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale including those limiting warranties and remedies which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would violate or infringe statutory obligations or any rights belonging to a third party.

These products may be covered by patents pending. © 2014 Grace Construction Products Ltd 10/14 EMEAPP002

Waterproofing and Concrete Protection Below Ground

Design and Application Guide for Aggressive Soils



GRACE

Grace Construction Products is a world leader in the construction products industry and has provided waterproofing and corrosion protection products for below-ground structures for some of the worlds most prestigious structures in the Arabian Gulf since the early 1970's.

The construction industry is constantly changing with designers demanding improved performance, clients demanding shorter programme times and contractors demanding improved productivity. Grace meets these challenges by working closely with the major Design Consulting Engineers, Architects and Construction Contractors to ensure materials are correctly specified, designs accurately detailed and applicators properly trained to ensure best product performance.

Grace Construction Products located its Middle East headquarters in Dubai in 2008 in order to better serve its customers in the region and provide a level of service and support for its products that is unique within the industry. In addition, this new office also houses staff from other product groups providing a central resource for customers in the region.

Contents

Design Considerations 5
- **Introduction** 5
- **Structural Deterioration – causes** 6
- Ingress of contaminants 6
- Cracking of concrete 6
- Chloride induced corrosion of reinforcement 6
- Sulfate attack of hardened concrete 7
- **The Effects of Groundwater** 7

Design Solutions 8
- **Risk Assessment** 8
- **Concrete Design** 8
- **Waterproofing Membranes for Below Ground Structures** 8
- **Grace System Solutions** 8
- **Joints in Concrete** 10

Grace Waterproofing Membranes Application Procedures 11
- **Preprufe® Plus – Application Procedure** 11
- Substrate Preparation 11
- Preprufe® Plus membrane application procedures 11
- Method 1 – vertically applied Preprufe® Plus < 900 mm 12
  - Step 1. Place internal & external corners 12
  - Step 2. Install horizontal/vertical interface around formwork perimeter 13
  - Step 3. Place horizontal lengths 13
  - Step 4. Remove release liner 13
- Method 2 – vertically applied Preprufe® Plus > 900 mm 14
  - Step 1. Place horizontal lengths 14
  - Step 2. Place internal & external corners 14
  - Step 3. Install horizontal/vertical interface around formwork perimeter 15
  - Step 4. Remove release liner 15
- Selvedge & Cut Edge Details 15
- Membrane outside pour area 15
- Preprufe® Plus Horizontal Protection 15
- Placement on Vertical Pile Walls 16
- Penetrations 16
- Treatment of Piles 16
- Pile Head Treatment 17
- Membrane Repair 18
- Inspection Procedures 19
- Placing of Concrete 19
- **Bituthene® 8000 HC – Application Procedure** 20
- Surface Preparation 20
- Installation of Membrane 20
- Top of Retaining Wall 21
- Drainage Pipes and Penetrations 21
- Inspection and Protection 21
- Precautions 21
- Typical Basement Details 21
- Roof Slabs and Plaza Decks 21
- **Waterstop Installation** 23
- Movement Joints 23
- Construction Joints 24

Specification Clauses and Guidance 25

Bibliography 26

Waterproofing and Concrete Protection Below Ground

Concrete used at or below grade needs protection to perform and survive in one of the most aggressive environments on earth.

Introduction

In coastal areas around the Arabian Gulf, concrete structures are expected to keep out water from the external environment and withstand severe ground conditions where sulfate and chloride levels, which are notably deleterious to concrete, far exceed anything found in Europe or North America where most of the current codes of practice originate. The structures are subjected to extremes of temperature both seasonal and daily, cycling humidity, and the temperature and humidity gradient from air-conditioned interior to external ambient.

Exposure conditions of the structural elements during construction must also be taken into account together with the internal elements of the finished structure which also may be exposed to the external environment for months during the construction phase. Therefore the specification of concrete and method of protection needs to be rigorous.

Workmanship is a major factor in obtaining good quality and durable structures and the need for concreting and membrane installation to be supervised by qualified and experienced personnel is of prime importance.

Many structures, which are not adequately protected, suffer early deterioration due to water penetration resulting in corrosion of reinforcement, scaling, cracking and water ingress to the internal environment.

Preprufe® installation in the Middle East

Structural Deterioration - Causes

The principle mechanisms of structural deterioration in the Arabian Gulf are:

a) Ingress of contaminants.

In the Arabian Gulf, as a result of evaporation and desalination of seawater to provide fresh water, the content of chloride and sulfate may be as much as 20% higher than in the open sea. This coupled with the high average ambient temperature, gives rise to rapid build up of chloride at the surface of marine concrete elements, and diffusion through, often poor quality cover, resulting in early corrosion of reinforcement.

In the sabkha or salina region, which often extend several kilometres from the sea, seawater is drawn into the watertable, and after evaporation, leaves very high concentrations of chloride and sulfate. Fookes reported concentration of sulfates higher than 50% in Arabian sabkhas in 1985. These salts can be drawn upward by capillary action and rise many metres into buildings, with resultant damage to concrete high above ground level. This phenomenon is often described as 'wick action'. The sabkha conditions are particularly aggressive and wind blowing over such areas carries salt crystals, which can contaminate unprotected reinforcement stocks, exposed concrete surfaces and concrete aggregate stockpiles.

b) Cracking, plastic and long term drying shrinkage cracking and thermal cracking.

As noted above the rate of evaporation is high and loss of water from concrete surfaces can result in early age, plastic shrinkage cracking if proper protection and curing is not effective. Longer term drying shrinkage will exacerbate the situation and many of these early cracks widen and deepen.

Plastic settlement cracking is often a concern when increased cover for durability to reinforcement in columns, results in differential settlement causing cracking in line with the links.

Concrete temperatures at point of placement should be limited by specification, however it can be 35°C or above on discharge from the mixer. The heat of hydration liberated over time as the concrete hardens can result in a temperature rise of 8 to 10°C for every 100 kg of cementitious material in the mix. Where the w/c (water/cement) ratio is fixed at say 0.40, and a cementitious content of 400 kg/m^3 is applied, the heart concrete in a large section can reach 75°C. This temperature in itself causes stresses, which will cause microcracking, and the gradient between the 'heartcrete' and the surface, can give rise to wide thermal cracks.

Cracks, however formed, accelerate the ingress of contaminants to the concrete core and into the internal environment.

c) Chloride induced corrosion of reinforcement.

The method of chloride ingress through concrete will be by the processes of sorption and diffusion. Sorption will occur in highly porous concretes that have a continuous pore structure. A continuous pore structure is most likely to occur in high water/cement ratio mixes at or above 0.5, and/or where there is little curing. Curing is essential to properly hydrate the cement, to create the growth of silicate hydrate, thus segmenting the capillaries, creating a barrier to the passage of moisture and contaminants.

Most international codes of practice for the design of reinforced concrete structures in aggressive environments, recommend a w/c ratio of below 0.40.

The high average ambient temperature in the Arabian Gulf influences the corrosion mechanism in two ways:

1. The rate of diffusion dramatically increases for any quality of concrete, thus shortening the time to initiation of corrosion, and
2. The time between initiation and first visible sign of damage is reduced. A rule of thumb is that the rate of diffusion, and the rate of corrosion after initiation is doubled for every 10°C rise in average temperature.

Thus it would seem clear from the above that a good specification would minimise the w/c ratio, use an appropriate cementitious binder, maximise the cover consistent with crack width control, and ensure full compaction and curing in-situ.

Design Considerations

d) Sulfate attack on hardened concrete.

Salts of Magnesium and Calcium Sulfate in solution can react with the hardened cement paste resulting in expansion and disruption. The sulfates react with the Calcium Hydroxide and Calcium Aluminate hydrate phases of the binder. The rate of deterioration of the concrete depends on both the concentration of the sulfate in solution and the speed with which the sulfate used up in the reaction is replenished.

When assessing the risk of sulfate attack, two main factors should be considered:

1. The movement of the groundwater. The ability of fresh sulfate solution to come into contact with the concrete surfaces and refresh the reaction.

2. When a concrete structure is exposed to sulfate conditions on one side, and a dry environment on the other side, the risk of attack will be greater.

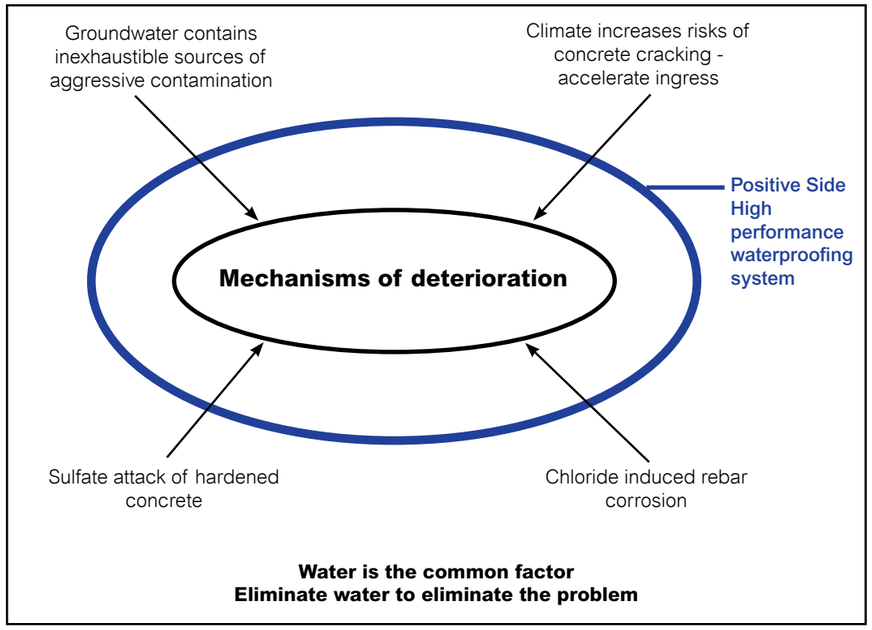
Concrete attacked by sulfate shows a characteristic whitish appearance, with damage starting at the edges and corners, with progressive cracking and spalling. The concrete can be reduced to a friable or soft condition.

Increased resistance to sulfate is obtained by the use of cements of low C_3A content, by the inclusion of pozzolanic cement replacement materials such as GGBFS (Ground Granulated Blast Furnace Slag) or Fly Ash. The most important characteristic of the concrete itself, is that it must be of low permeability. The free water/cement ratio must be maintained at 0.40 or less.

The Effects of Groundwater

Groundwater surrounding a concrete structure has a significant effect on corrosion providing both the transport mechanism for harmful salts and as part of the reaction process. The inclusion of an external tanking membrane on a below ground concrete structure provides an effective barrier against these mechanisms and prolongs the life of the structure.

Root causes of structural deterioration in Middle East



GRACE

Risk assessment considerations for designing below ground structures

- Internal and external environments
- Cost/risk with regard to construction and maintenance
- Potential risk of changes in surrounding water table levels
- Protection against sulfates, chlorides or other aggressive ground conditions such as soil and hydrocarbons
- Ground settlement and earthquakes
- Feasibility and form of remedial works should leaks occur

Concrete Design

The design of concrete mixes and careful selection of materials are the prerequisite for quality concrete. Concrete must be of low water/ cement ratio, typically 0.40 or lower, and have adequate workability and workability retention to allow placing and full compaction with the available equipment.

The selection of cement type is important. In recent years the availability of sulfate resisting (ASTM Type V) has diminished and the practice today is to use a blend of Ordinary Portland (ASTM Type I) together with a high proportion of Ground Granulated Blastfurnace Slag or Fly ash. The blended cements give the dual benefit of reduced rates of diffusion of chloride ion, enhanced resistance to sulfate attack together with moderated heat of hydration. The inclusion of set retarding grades of superplasticisers are essential to secure satisfactory performance (ADVA® and Daracem® types).

The design life of reinforced concrete structures can be significantly extended with the inclusion of a calcium nitrite based corrosion inhibitor. DCI®-S, introduced by Grace Construction Products in 1980, has been used extensively throughout the Arabian Gulf region in numerous signature projects.

Waterproofing Membranes for Below Ground Structures

Corrosion of reinforcement is the greatest risk to structures in Arabian Peninsular. Structures can be designed to an exposure class with an appropriate concrete specification and cover to reinforcement but there are numerous situations where such measures will be insufficient for a durable structure. Indeed, the Guide to the design of concrete structures in the Arabian Peninsular states that structures expected to perform for more than 30 years or where environmental conditions are classed as “Extreme” may require additional protection measures (see Table 2 in the Guide).

Such measures should include the protection of below ground structures by the use of waterproof membranes. Section 3.2.5 Durability provisions - sulfate exposure states “All concrete below ground must have an effective and durable tanking system.....”

Section 5.16 Waterproofing/tanking, states “The membrane should restrict the passage of water between the membrane and the structural concrete. The manufacturer should provide independent test data to confirm compliance..... It must be durable under the conditions prevailing and should not permit the passage of chlorides and sulfates to the concrete.”

Grace System Solutions

Grace Preprufe® and Bituthene® membranes are impermeable, fully and intimately bonded HDPE membrane barriers and do not suffer the shortcomings associated with loose laid and compartmentalised PVC membranes.

Grace membranes effectively protect concrete structures from aggressive contaminants in groundwater and irrigation water for the life of the structure and in particular:

- Chlorides and sulfates in solution,
- Oils and hydrocarbons,
- Radon, methane, carbon dioxide, carbon monoxide and other gases
- Industrial contamination

Moreover, because Preprufe® forms a continuous mechanical bond to poured concrete, settlement between piles will not compromise the waterproofing integrity of the structure as the membrane still remains adhered to the structural concrete.

Design Solutions

Grace System for Waterproofing and Concrete and Protection

Material to be specified	Description	Suggested Application Tools and Equipment
Preprufe® 300R Plus	Pre-applied fully bonded membrane horizontally and vertically	Personal Protective Equipment (PPE) Utility knife with retractable blade Tape measure Lap Roller Cotton cleaning cloths Plywood or similar cutting board Thin metal straight edge Wood frame try-square (made on site) Timber approximately 100mm x 50mm x 1200mm long Timber corner pusher (made on site) Soft bristle broom Roller or paint brush for applying Grace Primer Cartridge nail gun or similar with nails & washers Hammer, nails or masonry pins 100-500 rpm heavy duty drill complete with standard three-jaw chuck Spiral mixing paddle for Bituthene LM Roundnose trowel or spatula Cleaning solvent (M.E.K. cellulose paint thinner etc.) Serviseal® AT 240 jointing rig 110v or 240v electric welding knife
Preprufe® Tape HC	Detailing work and end laps	
Preprufe® Grout CEM 100	Cementitious, non shrink grout for re-profiling of pile heads.	
Preprufe® Grout EG 75	Three part epoxy grout for waterproofing of pile heads.	
Preprufe® CJ Tape HC	Pre-applied for all construction joints	
Bituthene® 8000 HC	Post-applied membrane for vertical faces and horizontal suspended slabs	
Bituthene® Liquid Membrane (LM)	Detailing and penetrations	
Bitustik™	Double sided bonding strip for waterstops	
Bituthene® Protection Board	Robust bitumen protection board for protecting Bituthene® waterproof membranes from damage during construction activity.	

The Preprufe® Plus and Bituthene® HC waterproofing membrane systems are certified by the British Board of Agrément (BBA).

BBA APPROVAL INSPECTION TESTING CERTIFICATION
CERTIFICATE 97/3325

Preprufe® membrane against plywood formwork

GRACE

Joints in Concrete

A continuous network of impervious waterstops (also known as waterbars) should be provided in reinforced concrete basements and other below ground structures to ensure water tightness of movement and construction joints and located to accommodate the anticipated movement of the structure during and after construction.

There are three types of waterstop in current use:

1. Passive - which provides a permanent physical barrier against ingress of water through both movement and construction joints. Passive waterstops are typically made of PVC and are designed for placement either on the external face at the concrete joints or internally within the thickness of the concrete. Whilst passive PVC waterstops are suitable for both movement and construction joints, it is becoming more common to confine passive waterstops to movement joints and active waterstops to construction joints. PVC waterstops are available in a variety of shapes and configurations and factory produced junction pieces can be provided limiting site welding to simple butt joints of similar sections using an appropriate jointing rig and welding knife.

2. Active - typically preformed strips of hydrophilic material placed midway across the concrete section of a construction joint prior to placement of the adjacent concrete pour. When fully encapsulated by poured concrete, the expansive forces form a seal against the concrete face. The seal resists hydrostatic pressure, stopping water from entering the structure. Active waterstops are acceptable in construction joints and often the preferred choice because of the simplicity and cost of installation. However, they are not suitable for movement joints.

3. Combined passive and active - recent advancements have seen the introduction of a combined system for construction joints. An active outer sleeve of hydrophilic material surrounds an injection tube. The passive injection tube has an open structure over its full length, so can be injected to provide an additional line of defense in critical applications.

The Grace System for Concrete Joint Protection

Construction Joints	**Adcor® 500S / 500T**	Thick sectioned, confirmable, hydro-expansive waterstop for preventing water entry through joints in concrete substructures. Hydrophilic waterstops can be used in all construction joints. Effectiveness is dependent on being embedded in good, well compacted concrete and the swell properties will depend on the type of water they are exposed to.
	Adcor® 550MI / 550 T-MI	Unique passsive and active waterstop system designed for the secure sealing of concrete construction joints. Adcor 550MI comprises an injection tube with the added protection of an outer hydrophilic sleeve providing the advantages of both a pre-applied and post applied waterstop system.
	Preprufe® CJ Tape HC	200 mm wide adhesive tape which provides additional security overbanding construction joints. Preprufe CJ Tape HC adheres to Preprufe on one side and concrete placed over it on the other side. This detail eliminates the risk in hot climates of fixing and maintaining the position of PVC waterstop prior to concreting.
Expansion Joints	**AT System**	High Security PVC waterstop with co-extruded hydrophilic bulbs to provide a unique combination of active and passive protection for joints in concrete.
	Serviseal® AT 240	External waterstop designed for use in the underside of non-suspended rafts and slabs where they are fully supported and bearing directly on the blinding or mud mat.
	Servitite® AT 200	An internally placed waterstop which is cast centrally in the concrete to resist internal and external water pressure. It should be used for all suspended slabs and located at the point of contraflexure wherever possible.
	Aerofil® 2	High Density, compressible closed cell, polyethylene filler for movement joints. It is a durable, non-absorbent, rot proof expansion joint filler which will accept repeated cycles of movement.
	Vertiseal® CE	A two Part Polysulphide high performance, cold applied sealant capable of accepting a +/-12.5% movement.

For guidance on the selection of materials refer to your local Grace Representative.

Preprufe® Plus Application

Grace Products For Waterproofing Below Ground Structures

The method of construction using Grace system products has been specifically prepared to ensure that the structure is enveloped with a continuous waterproofing and protection layer to isolate the structure from the prevailing site conditions and create the desirable environment. This is achieved by overlapping and jointing the membrane in sequence to suit the construction programme.

Installation should be carried out by operatives trained in the correct application procedures and who can demonstrate a repeatable standard of installation performance to the satisfaction of the site supervisors.

Refer also to the latest information contained in the following Grace documents:

- Product data sheet
- Material Health and Safety Data Sheets (MSDS)
- Preprufe® Plus Application Manual
- Preprufe® Plus Method Statement

Substrate Preparation

All substrates - should be uniform with no gaps or voids greater than 12 mm. Where these exist, fill with a material of sufficient strength to support the membrane. All substrates must be free of loose aggregate and sharp protrusions.

Horizontal blinding or mud mat – substrate should be monolithic concrete if possible to provide clean working conditions. Where possible, avoid sloping or rounded concrete blinding, any required change in blinding level must be angular.
Preprufe® 300R Plus is a rigid sheet and will not stretch under the weight of concrete to conform to undulations, so must be installed tight to blinding and formwork.

The surface does not need to be dry, but standing water must be removed. Substrates must have sufficient rigidity not to move during the concrete pour. Boarded substrates must be close butted to provide support and not more than 12 mm out of alignment.

Vertical blinding or soil retention system – surfaces to be smooth, free of sharp protrusions and true.

Acceptable temporary vertical formwork – plywood free of sharp protrusions, nails etc. Steel pan formwork is acceptable but mechanical fixing of Preprufe® Plus is not possible.

Preprufe® Plus Membrane Application Procedures

Preprufe® Plus membranes are supplied in rolls 1.17m wide with a self adhesive selvedge on one edge to enable fully bonded laps between adjacent rolls. All other laps must be taped with Preprufe® Tape.
The rolls of Preprufe® Tape HC for Detailing Work and End Laps and Preprufe® Plus are interwound with a disposable liner which must be removed before placing reinforcement and concrete.

Preprufe® Tape HC should be applied to clean dry surfaces and the pink release liner must be removed immediately after application.

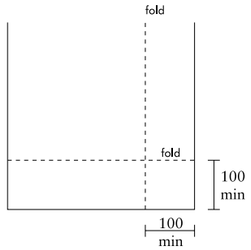
Preprufe®
Advanced Bond Technology™

GRACE

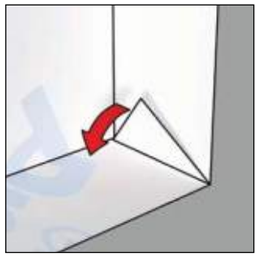
Method 1 – vertically applied Preprufe® Plus < 900 mm

Step 1. Place Internal & External Corners

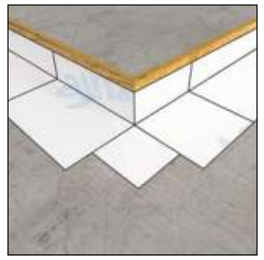
Internal and external corners should be formed as shown in the diagrams below returning the membrane a minimum of 100 mm and sealing with Preprufe® Tape HC. Ensure that the apex of the corner is covered and sealed with Tape and roll firmly. Crease and fold the membrane to ensure a close fit to the substrate profile and avoid hollows. Remove the release liner from the Preprufe® Tape after placement.

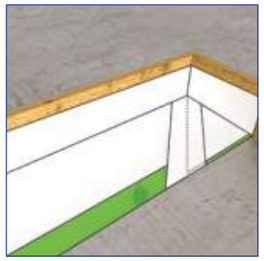


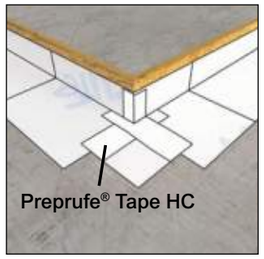
Internal



External

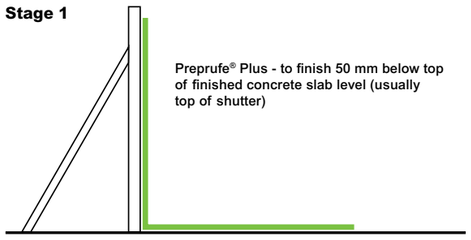






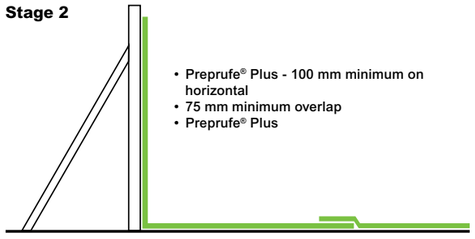
Installation against Temporary Shutters

Stage 1



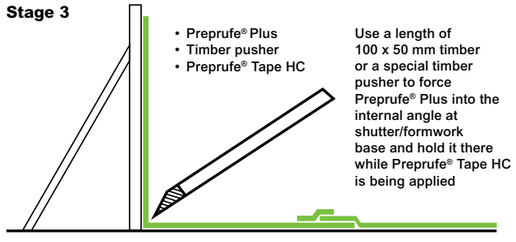
Section Through Shutter - Vertical Preprufe® Plus < 900 mm

Stage 2



Section Through Shutter - Vertical Preprufe® Plus < 900 mm

Stage 3

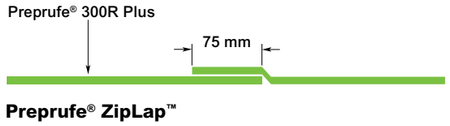


Section Through Shutter - Vertical Preprufe® Plus < 900 mm

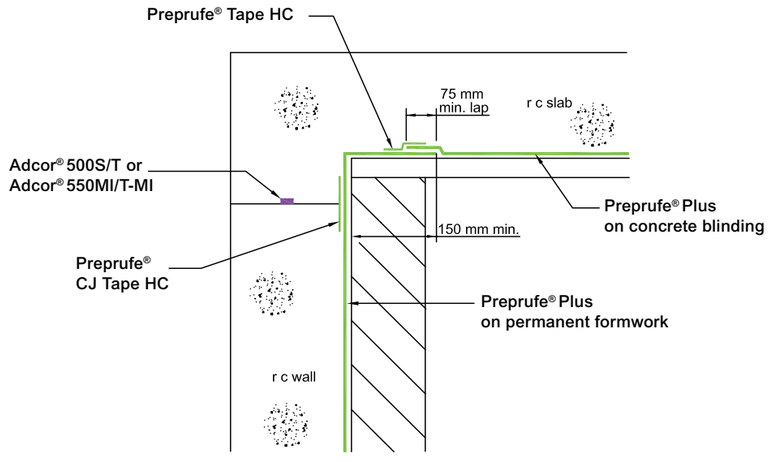
Step 2. Install horizontal/vertical interface around formwork perimeter

Step 3. Place horizontal lengths

Place the membrane with the green selvedge release liner uppermost. End laps should be staggered to avoid a build up of layers. Accurately position subsequent sheets to overlap the previous sheet 75 mm along the selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the green and blue plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly.



Preprufe® ZipLap™



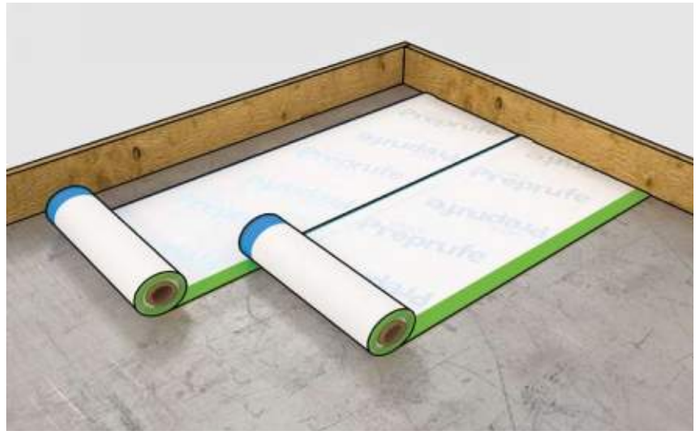
RC Wall to Upper Level RC Slab Detail

Step 4. Remove release liner

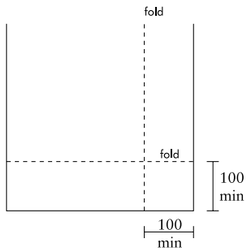
Prior to installation of reinforcement, ensure all laps are well rolled, all green and blue interlap release liners are fully removed, and all pink Preprufe® Tape HC release liners are also removed.

Method 2 – vertically applied Preprufe® Plus > 900 mm

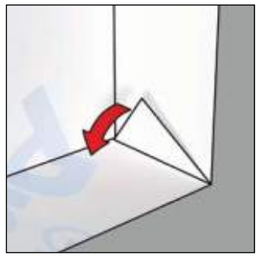
Step 1. Place horizontal lengths



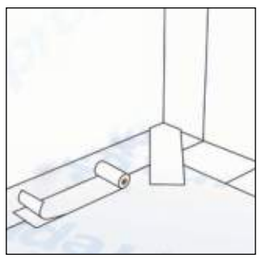
Step 2. Place Internal & External Corners

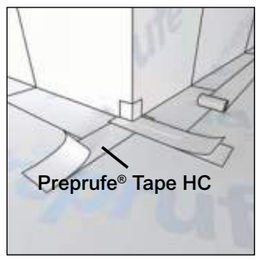


Internal



External





Step 3. Install horizontal/vertical interface around formwork perimeter

Wallpaper fashion i.e. in vertical drops.
Where the drop length is greater than 2 metres, it is advisable to use nailed battens to securely fix the top leading edge of the vertical Preprufe® Plus.

Selvedge & Cut Edge Details

Stagger horizontal end laps

Overlap all roll ends and cut edges by a minimum 75 mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary.

Allow to dry and apply Preprufe® Tape HC centred over the lap and roll firmly.

Membrane outside pour area

Lay Preprufe® Plus just beyond any reinforcement starter bars to facilitate good access for further overlaps. Where this is not achievable, the direction of the membrane installation may be changed to simplify the overlap procedure.

Preprufe® Plus Horizontal Protection

Extra temporary protection can be provided by suitable boarded runways to provide mechanical protection against dead weight storage such as reinforcement or as dictated by site conditions and access requirements.

If Preprufe® Plus is likely to be exposed for more than 42 days, then temporary protection of the membrane is required to prevent degradation of the membrane from UV light and heat. This temporary protection membrane must be removed prior to placement of the reinforcement.

GRACE

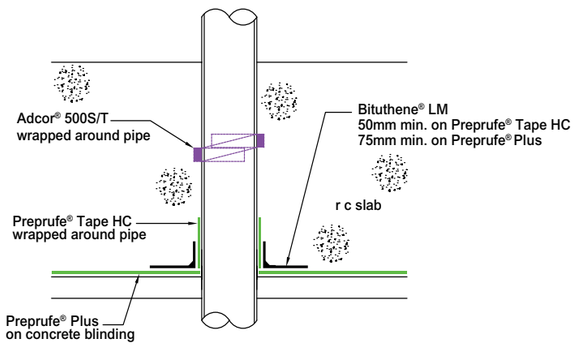
Placement on Vertical Pile Walls

Preprufe® Plus is fixed typically with timber battens at the top into the regularized diaphragm wall and does not require any separation board unless used to face up the walling where it is rough and full of voids and depressions. Board can be plywood or high quality fibreboard capable of taking the weight of Preprufe® Plus fixings and the load of concrete during the pour.

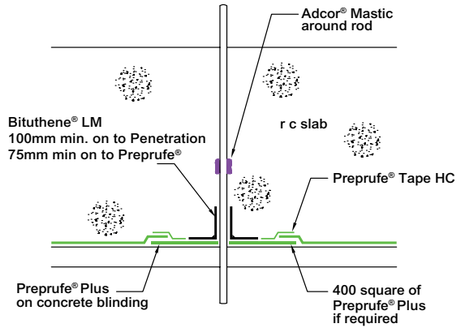
Similarly, secant piling will require the prior installation of plywood, high quality fibreboard or concrete infill before installing Preprufe® Plus vertically.

Penetrations

To seal around penetrations such as service pipes, pile reinforcing bars, lightning conductors etc. mark and cut the membrane tight to the penetration. If the membrane is not aligned within 12 mm of the penetration, apply Preprufe® Tape HC lapped onto the membrane and butted tight to the penetration. For pipe penetrations wrap the pipe with Preprufe® Tape HC. Mix and apply Bituthene® Liquid Membrane (LM) around the penetration using a fillet to provide a watertight seal between the Preprufe® Plus membrane and Tape. Refer also to Preprufe® Plus Standard Details.



Pipe Through RC Slab



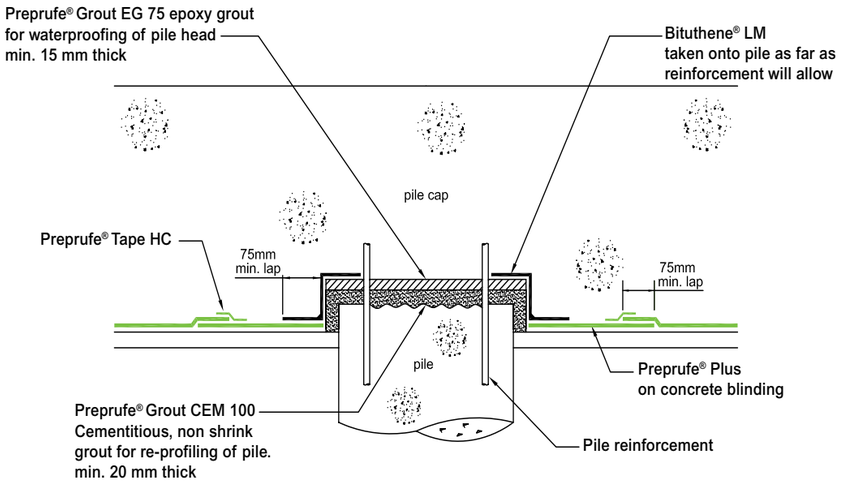
RC Slab - Rod Penetration

Treatment of Piles

- It is advantageous to carefully disc cut the circumference, without damaging the reinforcement before breaking down the pile to prevent excessive spalling and damage to the edge, to allow correct pile insert depth.
- The blinding or mud slab must be formed tight up to the pile.
- All surfaces around each pile must be clean, dry and completely free of any debris or soil contamination to ensure a secure Bituthene® LM to concrete bond.
- The pile surface is then profiled to a smooth surface using **Preprufe® Grout CEM 100** - cementitious non shrink grout. A formwork shall be constructed around the pile, sealed and treated with a waterbased release agent and the grout placed to min. 20 mm thick. This shall be followed by placing **Preprufe® Grout EG 75** - three part epoxy grout, mixed using a clean paddle mixer and slow speed drill and the grout placed to min. 15 mm thick covering the top of the pile heads.

Membrane Application Procedures

Pile Head Treatment



Pile Detail

- Cut Preprufe® Plus around pile to suit the pile diameter.
- Lay Preprufe® Plus around adjacent area ensuring continuity using bonded selvedges or 75 mm overlaps and taping techniques.
- Clean the Preprufe® Plus membrane around the pile circumference approximately 100 mm wide.
- Mix and apply Bituthene® LM in accordance with Grace data sheets to ensure a continuous seal between the Preprufe® Plus membrane and the concrete pile. The Bituthene® LM will therefore extend 75 mm onto the horizontal Preprufe® Plus, up the sides of the pile, and across to the reinforcement on the pile head.

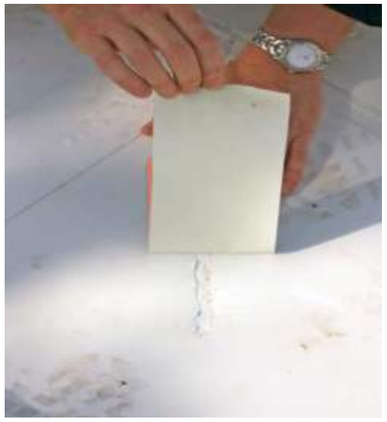
Pile head treatment

Membrane Repair

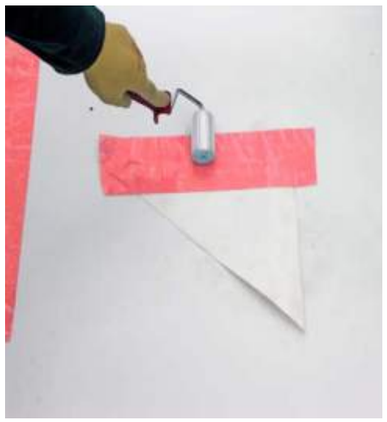
Inspect the membrane for damage before installation of reinforcement steel, shuttering and final placement of concrete. Clean with compressed air if required.

Wipe the area with a damp cloth to ensure the area is clean and free from dust, and allow to dry. For minor repairs, apply Preprufe® Tape HC centrally over the damaged area and roll firmly. For larger repairs use a patch of Preprufe® Plus and tape all edges with Preprufe® Tape HC. Remove plastic release liner from Tape.
Where exposed selvedge has lost adhesion or laps have not been sealed, ensure the area is clean and dry and overband with Preprufe® Tape HC and roll firmly.

Damage to adhesive only



Damage to membrane



Inspection Procedures

Preprufe® Plus applications should be inspected on completion of a specific area before placing reinforcement steel. Any damage to the membrane should be made good using Preprufe® Tape HC or oversize patching with Preprufe® Plus.

During placing of reinforcing steel any damage should be identified and made good while access to the membrane is relatively easy. On completion of reinforcing placement another inspection should occur and any damage made good.

It should be noted that the use of an air lance to blow out debris prior to pouring concrete is a good identifier of poorly bonded Preprufe® Tape and overlaps. A further application of Preprufe® Tape HC may be required after the inspected areas have been cleaned and dried.

Placing of Reinforcing Steel

Before placing reinforcement ensure that the membrane application is continuous, has bonded laps, end laps taped, penetrations and pile heads sealed with Bituthene® LM and plastic release film removed from the tapes.

Placing of the reinforcement should be done with care to prevent damage to the membrane using concrete spacer blocks or similar, to avoid point loadings and puncturing.

Progressive removal of temporary membrane protection used for access and storage should occur as steel fixing proceeds. Localised displacement of the Preprufe® Plus adhesive may occur around the spacer blocks but is not detrimental to membrane performance.

Placing of Concrete

Ensure the plastic release liner is removed from all areas of Preprufe® Tape HC.

It is recommended that concrete be poured within 42 days of application in hot climates.

Concrete must be placed and compacted carefully to avoid damage to the membrane. Never use a sharp object to consolidate the concrete. Where grout splashes occur on the Preprufe® these should be immediately removed before curing begins and the surface cleaned with damp cloths. If grout splashes have occurred and bonded onto the Preprufe® Plus, a Bitustik™ strip should be applied to the cleaned and dried underside of the membrane to enable and underlap to be made ensuring membrane continuity.

Alternatively grout may be removed with a metal scraper together with the top adhesive layer to expose the white HDPE before joining or lapping adjacent sheet.

Removal of Formwork

Preprufe® Plus membranes can be applied to removable, slab perimeter formwork, pile caps etc. Once concrete is poured, the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond with Preprufe® Plus.

A minimum compressive strength of 10 MPa is recommended prior to stripping the formwork supporting Preprufe® Plus membranes. Loosening or “cracking” of formwork and premature stripping may result in loss of adhesion between the membrane and concrete.

GRACE

Bituthene® Application

Surface Preparation

The concrete should be laid to a regular surface free from dust, sharp protrusions and hollows. All surfaces, when dry must be painted with one coat of Grace Primer using a roller or brush and allowed to dry. Avoid applying primer to the Preprufe® Plus HDPE surface otherwise it will reduce the effectiveness of the bond. Masonry or blockwork must be smooth, flush pointed and dust free. Where Bituthene® 8000 HC is bonded to Preprufe® Plus the surface must be clean and dry to effect a good bond.

Installation of Membrane

The protective release paper shall be peeled back and the adhesive surface of the Bituthene® 8000 HC unrolled onto the prepared surface as described on the carton. The membrane should be brushed onto the surface to ensure that air is excluded from under the membrane. Adjacent rolls of Bituthene® 8000 HC should be provided with 50 mm overlap at the edges and 50 mm at ends to ensure complete continuity. Pressure should be applied at the laps with a roller to ensure complete adhesion between both layers. All joints to be well rolled until complete waterproofing is obtained. A suitable edge roller can be obtained from Grace. Where Bituthene® 8000 HC is expected to be left exposed at the top of a wall for any length of time the top edge is to be batten fixed to secure the edge and prevent slumping. The perimeter of Bituthene® 8000 HC placed in any given day's operation shall have the free edges sealed by rolling down tightly to prevent entry of moisture and cleaned before continuing with the following day application.

Priming

Where priming is required a single coat of primer should be applied using a brush or natural fibre roller at an application rate of approx. 10m²/litre depending on porosity.
The primer must be dry before Bituthene® is applied.

Vertical Surfaces. Cut the Bituthene® to length, apply and roll overlaps. At the top of walls Bituthene® should be suitably anchored or terminated in a chase pointed with Bituthene® Mastic.

Where Bituthene® is to be temporarily left exposed on vertical surfaces battening may be necessary to prevent slippage. Prior to backfilling remove battening and fully cover with a subsequent layer of Bituthene®.

Top of Retaining Wall

Where the Bituthene® 8000 HC is terminated at the top of a wall, a chase should be provided of dimensions 20 x 20 mm. The Bituthene® 8000 HC should be dressed into the chase and pointed with Bituthene® LM prior to backfilling.

Drainage Pipes and Penetrations

Where these occur they are to be treated with Bituthene® LM applied to clean, dry surfaces with a fillet and extending 100 mm onto the penetration and the Bituthene® 8000 HC.

Inspection and Protection

Immediately prior to covering the membrane careful inspection shall be made for accidental damage, any damaged areas shall be cleaned and patched with Bituthene® 8000 HC extending 100 mm beyond the damaged area. On vertical applications where abrasive backfill is to be used the Bituthene® 8000 HC should be protected with Servipak®, blockwork or other special protection boards by Grace.

Precautions

The following procedure should be carefully noted:
The area of Bituthene® 8000 HC laid horizontally in a working day should not exceed that which can be adequately protected in the same working period. No storage of materials or trafficking by other trades shall be allowed to take place until the membrane has been covered with protection.

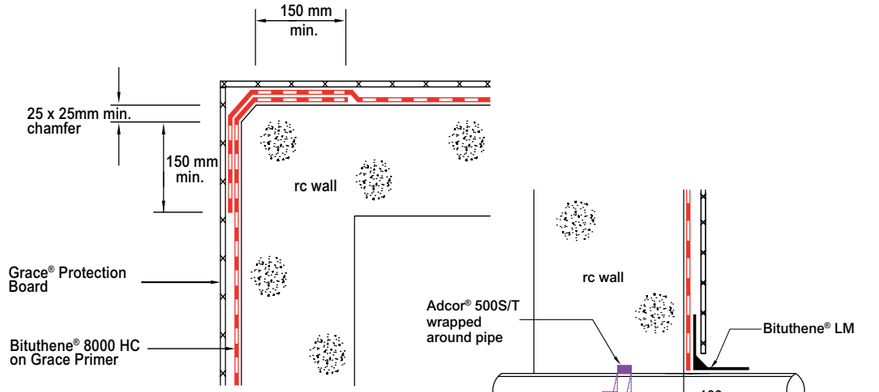
Typical Basement Details

Standard Basement details for Grace waterproofing products are available from the Technical Department in Dubai or via your local Grace representative/distributor.

Roof Slabs and Plaza Decks

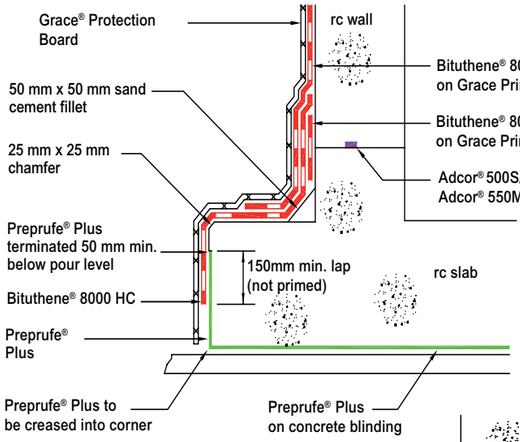
BS 8102: 2009 section 6.2.1 states "In cases where the below ground structure is fully buried or the substructure extends beyond the superstructure, protection should be provided against water ingress through the roof slab." Grace are able to offer a full package of solutions for roof slab, plaza decks and green roof along with air or vapour barrier.

Bituthene® 8000 HC on plaza deck

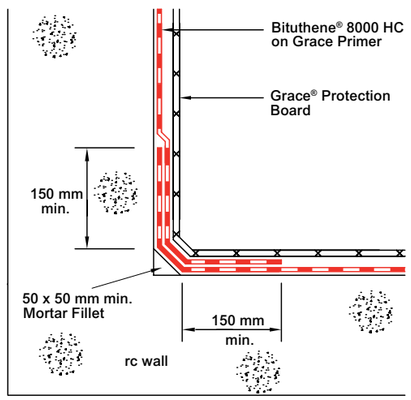


Vertical External Corner

Wall Pipe Penetration



RC Wall Base with Toe Detail



Vertical Internal Corner

Movement Joints

Serviseal® AT 240 external waterstops should be formed into a continuous network using factory made junctions with site fused welds limited to simple butt welds.

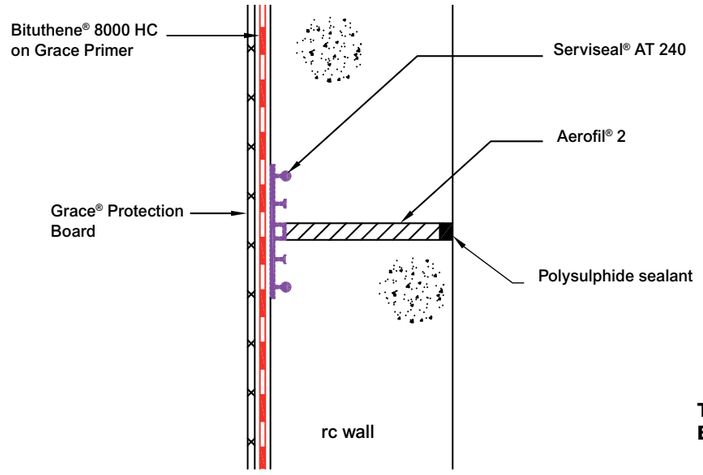
Ensure that where Bitustik™ is to be used the Preprufe® laps are overtaped with CJ Tape.

Locate and seal against the Preprufe® Plus white adhesive surface with Bitustik™. Remove plastic release film in the areas to receive Bitustik™. Apply Bitustik™ to chosen line on Preprufe® Plus by progressively removing lower silicone release paper. Roll or press down firmly.

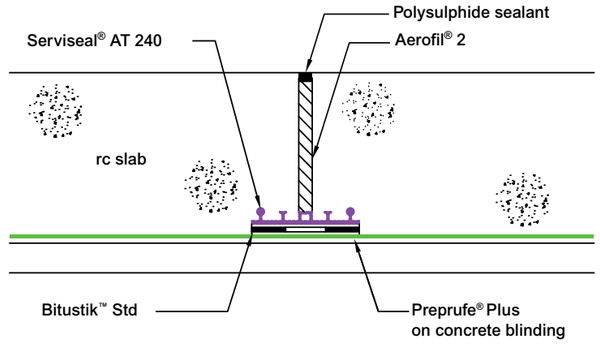
Ensure the underside of the waterstop is clean, dry and able to bond continuously with the Bitustik™.

Apply waterstop to top surface of Bitustik™ by progressively removing the top silicone release paper roll and press down firmly.

Expansion joints: can be formed using Aerofil® 2 expansion joint filler board cut to size to suit the concrete shell and bonded in place with Pak Adhesive before casting the adjacent pour.



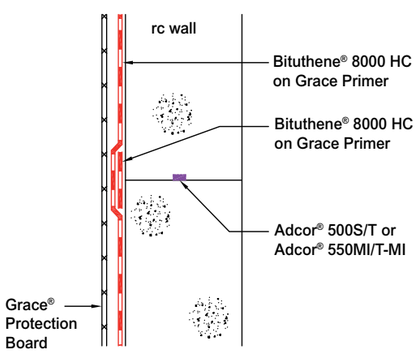
Typical Wall Expansion Joint



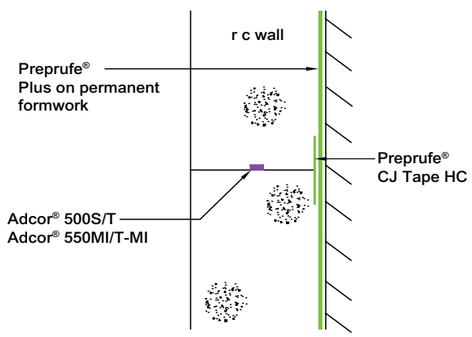
Typical Base Slab Expansion Joint

Construction Joints

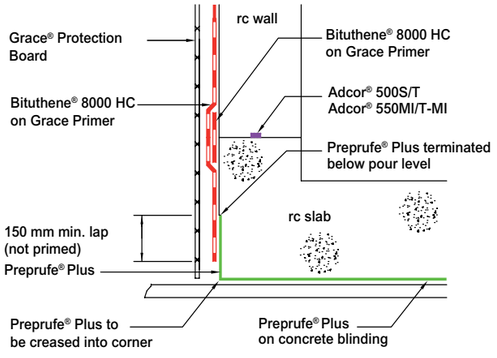
Adcor® 550MI/550T-MI pre-applied multi-injectable hydrophilic waterstop and / or Adcor® 500S/500T hydrophilic waterstop should be selected depending upon the criticality of the basement. In addition to Adcor®, Preprufe® CJ Tape HC should be placed and adhered to the Preprufe® Plus waterproof membrane along the line of the proposed construction joint location to provide additional security and as an alternative to PVC construction joint waterstops.



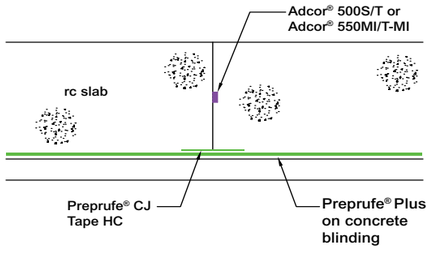
RC Wall Construction Joint



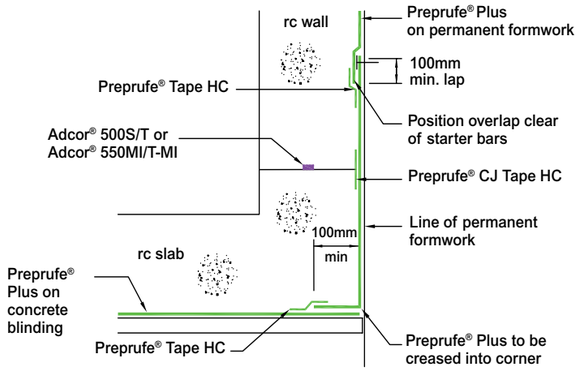
RC Wall Construction Joint Against Permanent Formwork



RC Wall Base Detail - Removable Formwork



RC Slab Construction Joint



RC Wall Base Detail Against Permanent Formwork

Standard NBS & CSI Masterspec format clauses and design assistance are available from the Grace Technical Representative to assist in the development of the specification and provide problem solving advice. The Technical Representative can also provide assistance with Cement and Concrete admixtures, corrosion inhibitors and fire protection.

Bibliography

British Standards Institution, London
Eurocode 2: Design of Concrete Structures
BS EN 1992-1-1: 2004 General rules and rules for buildings (Formerly: BS 8110)
BS EN 1992-3: 2006 Liquid retaining and containment structures (Formerly: BS 8007)
BS 8102: 2009 Code of practice for Protection of structures against water from the ground

Construction Industry Research and Information Association / Concrete Society
CIRIA (1995) Report 139 – Water Resisting Basements
CIRIA (1995) Report 146 – Design and construction joints in concrete structures
Concrete Society/ CIRIA Joint Publication (2002) Guide to the construction of reinforced concrete in the Arabian Gulf.
Concrete Society (2008) Guide to the design of reinforced concrete in the Arabian Gulf.

Other Design Guides
IStructE (2004) Design and construction of deep basements including cut-and-cover structures.
Institution of Civil Engineers Research & Development Enabling Fund: Reducing the Risk of Leaking Substructure A Client's Guide

GRACE

Bituthene® LM (Liquid Membrane)

Two component elastomeric liquid applied detailing compound for use with Grace waterproof membranes.

Applications

Bituthene® LM is designed to complement Grace sheet systems where liquid applied waterproofing is necessary to ensure watertight continuity. Bituthene LM cures to form a tough seamless rubber-like waterproof layer.

Typical details suitable for Bituthene LM are:
- pile terminations.
- pipe penetrations.
- membrane continuity through masonry.
- internal corners.
- difficult details.

The two parts of Bituthene LM are mixed on site and trowelled on to provide a simple and quick waterproofing detailing aid in conjunction with Bituthene and Preprufe sheet systems.

Installation

Substrate Preparation

Surfaces shall be dry and free from dust, dirt, grease or other contaminants. Ambient temperature shall be +5°C and rising. Bituthene LM should preferably be applied prior to the installation of Bituthene waterproofing membranes.

Bituthene LM may be used as a pointing surface sealer. A minimum overlap of the Bituthene sheet membrane of 50 mm shall be provided. Bituthene LM is compatible with dry Primer B1 and Bituthene Primer S2 and the compound used on all Bituthene and Preprufe systems. Bituthene LM will adhere to clean, dry metal substrates.

Mixing

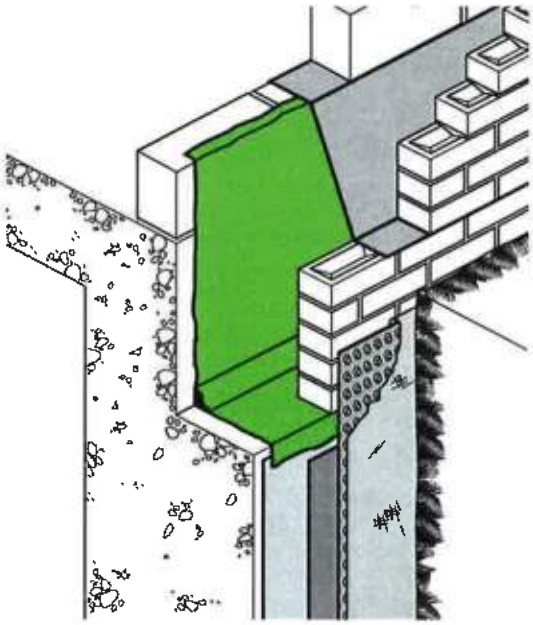
Bituthene LM pack is supplied in a single can containing Part A base with the Part B reactor located separately under the can lid. Using a slow speed mixer with Paddle MR2, pre-mix part A then, add Part B (clear) to Part A (black). Mix the two parts for approximately 1 minute at 100 rpm. Mix for a further 2-3 minutes at 200-300 rpm until uniform blending is achieved. Scrape the sides and bottom of the container during mixing to ensure thorough blending. At temperatures below +10°C, store overnight at +20°C to improve blending and workability.
Clean tools and equipment with solvent tool cleaner before Bituthene LM has cured.

Application

Apply Bituthene LM with a serrated trowel or float, solid barrel gun or hand held squeegee to achieve a minimum thickness of 2.5 mm. Once mixed Bituthene LM must be applied within one hour at normal ambient temperatures. Material which has thickened must be discarded.

Advantages

- **Liquid applied** – conforms to irregular profiles.
- **Waterproof** – resistant to water vapour and water pressure.
- **Tough rubber-like** - flexible and damage resistant.
- **Seamless** – joint free membrane.
- **Chemically cured** – unaffected by in-service tempertaure variations.
- **Cold applied** – no flame hazard.
- **Preprufe® and Bituthene® compatible** – complements both waterproofing membrane systems.



Details shown are typical illustrations only and not working drawings. For assistance with working drawings and additional technical advice please contact Grace Technical Services

Supply

Bituthene® LM	**5.7 litre pack (Parts A & B)**
Shelf life	**12 months**

Complementary Product

Adcor® 500S	**6 x 5 m rolls**

Ancillary Equipment
Megamixer variable speed 100 - 500 rpm (1200 W 110v by Refina or similar).
Solid barrel gun, spatula, trowel or float.

Approximate Coverage	Bituthene® LM 5.7 litre (Part A & B)
2.5 mm thick x 300 mm wide	7.6 lin m (2.28m²/unit)
2.5 mm thick x 2 x 150 mm wide with 20 mm Fillet	6.0 lin m
20 mm Fillet	28.4 lin m

Coverage rates will be dependent on substrate texture.

Bituthene LM shall be allowed to cure for 24 hours before being overlapped by the Bituthene Membrane to achieve watertight continuity.

UV Protection

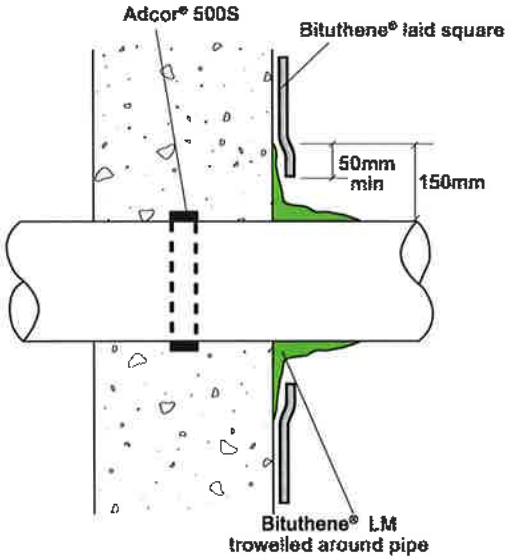
Bituthene LM is not designed for permanently exposed applications, it should be covered within 30 days of application.

NBS Specification Clause

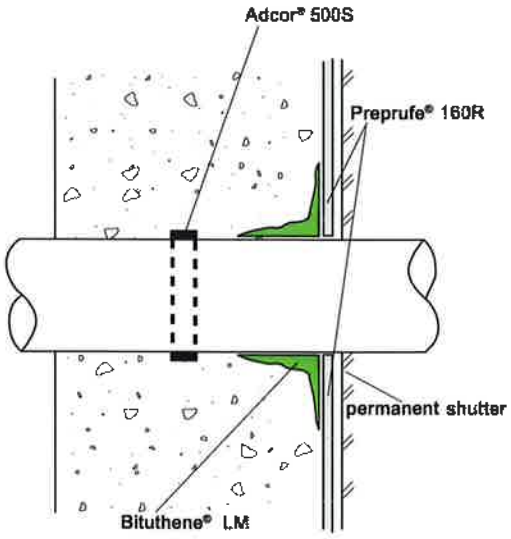
Refer to Clause J40 370.

Health and Safety

Read the product label and Material Safety Data Sheet (MSDS) before use. Users must comply with all risk and safety phrases. MSDS's can be obtained from Grace Construction Products or from our web site at www.graceconstruction.com.



Pipe Entry - Bituthene



Pipe Entry - Preprufe

www.graceconstruction.com

Grace Construction Products Limited Ipswich Road Slough Berkshire SL1 4EQ United Kingdom
Tel +44 (0)1753 490000 Fax +44 (0)1753 490001

Adcor and Preprufe are registered trademarks of W R Grace & Co.-Conn.

The information given is based on data and knowledge considered by GRACE to be true and accurate and is offered for the user's consideration, investigation and verification only. Since the conditions of use are beyond our control we do not warrant the results to be obtained. None of these statements, recommendations or suggestions shall constitute a warranty, guarantee, representation or statement of similar legal nature. No statement, recommendation or suggestion is intended for any use which would violate or infringe statutory obligations or any rights belonging to a third party. This data sheet should be checked against the latest version available from the local GRACE Representative or the GRACE website. The information contained in the latest data sheet supersedes all previously published editions. Visits to site by GRACE personnel do not constitute supervisory responsibility.

These products may be covered by patents or patents pending. Copyright 2011. Grace Construction Products Ltd BITLM/UK/001a 09/11

GRACE

Bituthene® 3000 HC

Self-adhesive rubber/bitumen polyethylene waterproof membrane for basements and sub-structures in hot climates

Description

Bituthene® 3000 HC is a cold applied, flexible waterproof membrane combining a special high performance cross laminated, HDPE carrier film with a self-adhesive rubber bitumen compound. Bituthene 3000 HC is a hot climate grade, suitable for application at higher ambient temperatures.

Installation

Ensure that all surfaces are clean, dry and free from ice/frost. For lower temperatures or damp surfaces use Bituthene® 8000. All surfaces except those below ground bearing slabs should be primed with one coat of Primer B1 or Primer B3.

Bituthene 3000 HC shall be laid by peeling back the protective release paper and applying the adhesive face onto the prepared surface, free from ice, frost or condensation.

Bituthene LM to be applied at necessary internal and external corners, penetrations etc. prior to applying the overall membrane.

Bituthene 3000 HC should be brushed onto the surface to ensure good initial bond and exclude air. Adjacent rolls are overlapped 50 mm minimum at side and ends and well rolled with a firm pressure, using a lap roller to ensure complete adhesion and continuity between the layers.

On high walls it may be necessary to batten fix the membrane to prevent slippage.

Repairs, Protection & Drainage

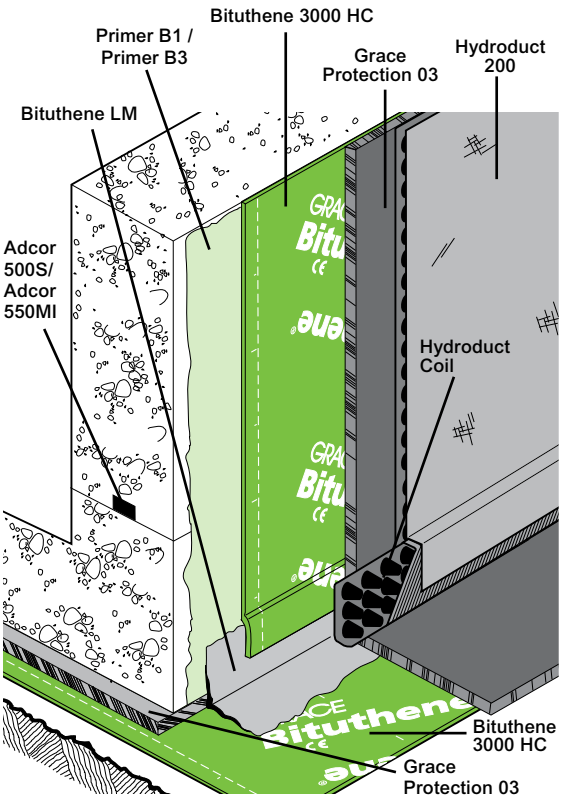
- Damaged areas to be repaired with an oversize patch applied to a clean dry surface extending 100 mm beyond damage and firmly rolled.
- The membrane should be protected against damage using Grace Protection 03 boards bonded to the membrane using Bitustik 4000 double sided tape or Pak Adhesive and firmly rolled.
- If the area around the substructure can be drained to a low level outlet then Grace recommends the Hydroduct® range of drainage membranes.

Performance

Bituthene 3000 HC complies with the following national standards: BS 8102: 2009, The Building Regulations (England and Wales) 2000 (2004 edition) clause C2, The Building Regulations (Northern Ireland) 2000 clause C4, Scottish Building Standards, Technical Handbooks 2009.

Advantages

- **Waterproof** - capable of resisting a hydrostatic head when fully supported.
- **Gas resistant** - methane, carbon dioxide and radon gas protection in excess of the standard membrane requirements in BRE Reports 211 (radon) and 212 (methane and carbon dioxide).
- **Cross laminated film** - provides dimensional stability, high tear strength, puncture and impact resistance.
- **Cold applied** - no heating, self-adhesive overlaps ensure continuity.
- **Chemically resistant** - provides effective external protection against aggressive soils and ground water.
- **Flexible** - accommodates minor settlement and shrinkage movement.
- **Controlled thickness** - factory-made sheet ensures constant, non-variable site application.



Details shown are typical illustrations only and not working drawings. For assistance with working drawings and additional technical advice please contact Grace Technical Services

BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 97/3325

nssPlus

CE 0836

Supply

Bituthene® 3000 HC	1 m x 20 m roll (20 sq m) Weight 39 kg
Storage	Store upright in dry conditions below +40°C
Primer B1	5 and 25 litre drums
Coverage	7-10 sq m per litre (depending upon method of application, surface porosity and ambient temperature)
Primer B3	20 and 200 litre units
Coverage	8-10 sq m per litre (depending upon method of application, surface porosity and ambient temperature)
Ancillary Products	
Bituthene® LM	5.7 litre packs
Grace Protection 03	3 mm x 0.9 m x 2.03 m (± 6%)
Adcor® 500S	6 x 5 m rolls
Adcor® 550MI	8 x 5 m rolls
Bitustik™ 4000	150 mm x 12 m roll
Pak Adhesive	5 litre can
Hydroduct®	Refer to data sheet for Hydroduct Vertical Drainage Sheets.

Equipment by Others: Soft broom, Stanley knife, brush or roller for priming.

CE 0836

Grace Construction Products Ltd
Ipswich Road, Slough, Berkshire SL1 4EQ United Kingdom
12 **09/F017**

EN 13967
Bituthene® 3000 HC Flexible Sheets for Waterproofing, Type T
Reaction to fire: E Watertightness: Pass at 60 kPa

Specification Clause

Refer to Clause 180 and 190.

Health and Safety

There is no legal requirement for a Material Safety Data Sheet for Bituthene 3000 HC, Grace Protection 03, Hydroduct or waterstops. Refer to product carton for additional safety information. For health and safety questions on these products please contact Grace Construction Products Limited. For Primer B1, Primer B3, Bituthene LM and Pak Adhesive read the product label and Material Safety Data Sheet (MSDS) before use. Users must comply with all risk and safety phrases. MSDS's can be obtained from Grace Construction Products

Physical Properties

Property	Typical Value	Test Method
Resistance to hydrostatic head	> 60 m	ASTM D5385
Methane Permeability (note 1)	105.85 ml/m^2.day.atm	Versaperm Ltd
Radon Diffusion Coefficient	1.2 x 10^{-11} m^2/s	University of Prague

Note 1: Typical value for BRE recommended minimum standard (BRE Report 212) is 360 ml/m^2/day.

All declared values shown in this data sheet are based on test results determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.

Declared values according to EN 13967

Property	Declared Value	Test Method	Property	Declared Value	Test Method
Visible defects - MDV	No	EN 1850-2	**Straightness** - MDV	Pass	EN 1848-2
Length *(m)* - MDV	20.15 ± 0.15	EN 1848-2	**Thickness** *(mm)* - MDV	1.52 ± 0.008	EN 1849-2
Width Carrier Sheet *(m)* - MDV	0.987 ± 0.007	EN 1848-2	**Mass per unit area** *(g/m²)* - MDV	1550 ± 90	EN 1849-2
Width Overall (roll) *(m)* - MDV	1.000 ± 0.005	EN 1848-2	**Durability of water tightness against ageing/degradation** (at 60 kPa)	Pass	EN 1296 EN 1928 Method B
Water tightness to liquid water (at 60 kPa)	Pass	EN 1928	**Durability of water tightness against chemicals** (at 60 kPa)	Pass	EN 1847 Method B EN 1928 Method B
Resistance to impact *(Al-board) (mm)* - MLV	150 - Pass	EN 12691	**Durability of tensile properties against chemicals**	Pass	EN 13967 Annex C
Resistance to impact *(base EPS) (mm)* - MLV	900 - Pass	EN 12691	**Compatibility with bitumen**	Pass	EN 1548
Resistance to tearing (Nail Shank) *- unreinforced sheets (N)* - MLV	Long[1] 100 Trans[2] 100	EN 12310-1	**Resistance to static loading** *(kg)*	10 - Pass	EN 12730
Joint strength *(N/50mm)* - MLV	150	EN 12317-2	**Tensile properties** - unreinforced sheets *(N/6mm)* - MLV	Long[1] 15 Trans[2] 15	EN 12311-2 Method B
Water vapour transmission *(μ= sD/d)* - MDV	180.000 ± 30%	EN 1931 Method B	**Tensile properties - unreinforced sheets** *(Elongation %)* - MLV	Long[1] 100 Trans[2] 65	EN 12311-2 Method B
Water vapour transmission *(sD in m)* - MDV	250 ± 30%	EN 1931 Method B	**Reaction to fire** *(Class; test conditions)*	E	EN 13501-1
Resistance to deformation under load	Not Applicable	EN 13967 Annex B			

Footnotes: 1. Longitudinal - related to the roll direction 2. Transversal - related to the roll direction
3. MDV: Manufacturer Declared Value 4. MLV: Manufactured Limiting Value

www.graceconstruction.com

Grace Construction Products Emirates Chemicals LLC Festival Tower, Suite 1701 Dubai Festival City Dubai UAE
Tel +971 4 2329901 Fax +971 4 2329940

Adcor, Bituthene, Hydroduct and Preprufe are registered trademarks of W R Grace & Co.-Conn. Bitustik and Pak Adhesive are trademarks of W R Grace & Co.-Conn.

The information given is based on data and knowledge considered by GRACE to be true and accurate and is offered for the user's consideration, investigation and verification only. Since the conditions of use are beyond our control we do not warrant the results to be obtained. None of these statements, recommendations or suggestions shall constitute a warranty, guarantee, representation or statement of similar legal nature. No statement, recommendation or suggestion is intended for any use which would violate or infringe statutory obligations or any rights belonging to a third party. This data sheet should be checked against the latest version available from the local GRACE Representative or the GRACE website. The information contained in the latest data sheet supersedes all previously published editions. Visits to site by GRACE personnel do not constitute supervisory responsibility.

These products may be covered by patents or patents pending. Copyright 2013. Grace Construction Products Ltd B3000HC/ME/001b 11/13

GRACE

Preprufe®

Pre-applied waterproof membranes that develop an adhesive bond to poured concrete to prevent water migration. For use below slabs and on basement walls.

Description

Preprufe® waterproof membranes are composite sheets comprising a robust HPDE backing, a pressure sensitive adhesive and a trafficable weather resistant coating.

Uniquely, the membrane develops a continuous adhesive bond to concrete poured against it. This prevents water migration between the structure and the membrane, substantially reducing the risk of leaks.

Applications

- Water and vapour proofing all basement grades to BS 8102:1990.
- Waterproofing civil engineering sub - structures.
- Methane, carbon dioxide and radon gas protection in excess of the standard membrane requirements in BRE Reports 211 (Radon) and 212 (Methane and Carbon Dioxide).

Independent Assessments

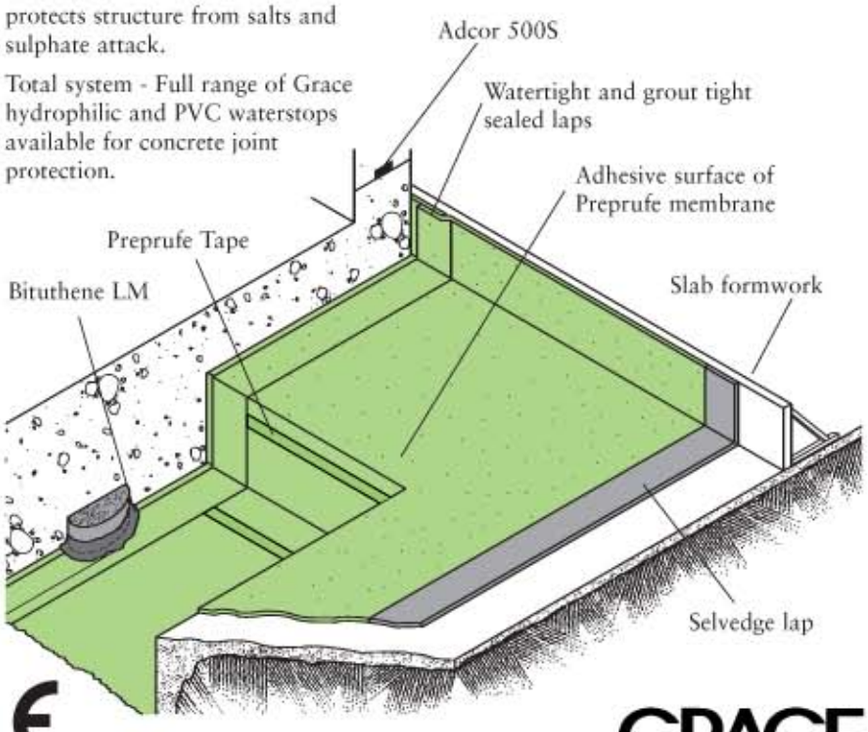
- BBA Certificate No. 97/3325.
- Mott MacDonald Special Services Report May 2001.
- International Certifications.

Advantages

- Versatile - can be used beneath foundation slabs and with single or double-sided formwork systems.
- Seals adhesively to concrete - the only technology proven to resist water migration.
- Lightweight, flexible - easy to handle and install without special corner pieces.
- No butt joints - all joints have bonded 'selvedge' or Preprufe Tape overlaps for increased leak protection.
- Inert - unaffected by groundwater contaminants, ponded water or wet/dry cycling.
- Remains sealed to structure - even if ground settles.
- Smooth surface membrane - site contamination easily removed.
- Excellent chemical resistance - protects structure from salts and sulphate attack.
- Total system - Full range of Grace hydrophilic and PVC waterstops available for concrete joint protection.

System Components

- Preprufe® 160R - used typically with concrete slab sections up to 350 mm thickness and vertically with single and double sided formwork systems.
- Preprufe® 300R - used typically with concrete slab sections greater than 350 mm thickness. Superior damage resistance.
- Preprufe® Tape - incorporating Preprufe coating for continuous concrete adhesion at taped edges and details.
- Bituthene® LM - high performance liquid membrane for detailing terminations at pile caps and pipe penetrations.
- Adcor® 500S - hydro-expansive waterstop for concrete construction joints.



Details shown are typical illustrations only and not working drawings. For assistance with working drawings and additional technical advice please contact Grace Technical Services

BBA BRITISH BOARD OF AGREMENT CERTIFICATE No. 97/3325

NBS Plus

CE EN 13967

GRACE Construction Products

Application

Material Storage

Sequence deliveries to avoid delays, but minimise on-site storage. Select a safe, covered secure location for material storage. Store materials for each day's use in a location that won't require movement a second time. Do not double-stack pallets of waterproofing on the job site. Store protection boards flat and off the ground. Provide cover on top and all sides.

Substrate Preparation

Suitable substrates include:

- concrete blinding
- well compacted sand on rolled crushed stone
- rigid insulation
- clay heave boards
- permanent formwork
- removable formwork
- 19 mm plywood
- Hydroduct drainage sheets
- Adjacent sub-structures

Substrates should be uniform with no gaps or voids greater than 12mm. Where these exist fill with a material of sufficient strength to support the membrane. All substrates must be free of loose aggregate and sharp protrusions. Where possible, avoid sloping or rounded concrete blinding.

In crushed stone applications, it is important to create a sound and solid substrate around "through slab" penetrations to eliminate movement during the concrete pour. Excessive movement may jeopardise the waterproofing integrity around the penetration. Grout around the penetration prior to installing the membrane for stabilisation.

The surface does not need to be dry, but standing water must be removed. Substrates must have sufficient rigidity not to move during the concrete pour. Boarded substrates must be close butted to provide support and not more than 12 mm out of alignment.

Installation - General

Tools /materials required:

Heavy duty lap roller

Stanley /Utility knives

Tape measure

Cotton cleaning cloths

Plywood or similar cutting board

Thin metal straight edge

Chalk line

Broom

2 metre long pipe or heavy broom handle

Hot air heat gun

Grace MR2 paddle for mixing Bituthene LM

Round nose trowel or spatula

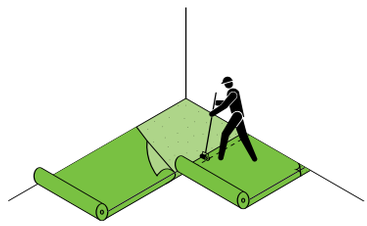
Required protection and/or drainage boards and other ancillary products

Preprufe membranes are supplied in rolls 1.2m wide with a self adhesive selvedge on one edge to enable fully bonded laps between adjacent rolls. All other laps must be taped with Preprufe Tape.

Minimum application temperature +5°C.

When installing Preprufe in cold or marginal weather conditions (<13°C) the use of Preprufe Tape LT is recommended at <u>all</u> laps and detailing. Preprufe Tape LT should be applied to clean dry surfaces and the release liner must be removed immediately after application.

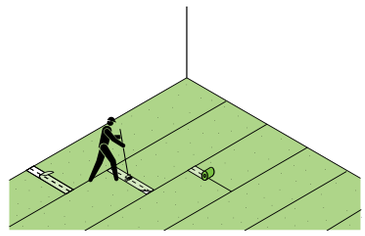
Installation - Horizontal



Place the membrane with the removeable plastic release liner uppermost. End laps should be staggered to avoid a build up of layers. Leave plastic release liner in position until overlap procedure is completed. Accurately position subsequent sheets to overlap the previous sheet 75mm along the selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly. On completion of the installation, **ensure complete removal of the plastic release liner from all membrane and tape.**

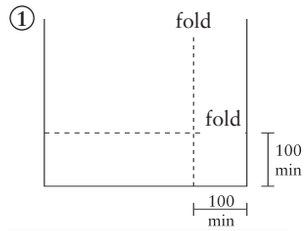
End Laps and Cut Edges

Overlap all roll ends and cut edges by a minimum 75mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Allow to dry and apply Preprufe Tape centred over the lap and roll firmly. Refer also to Preprufe Standard Details.

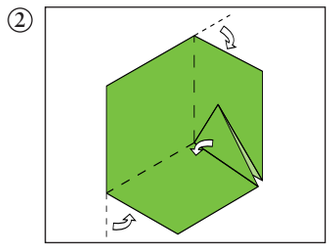


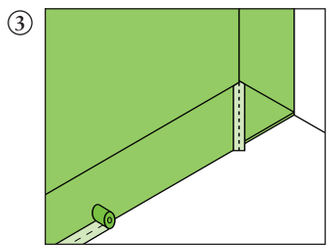
Corners

Internal and external corners should be formed as shown in the diagrams returning the membrane a minimum of 100mm and sealing with Preprufe Tape. Ensure that the apex of the corner is covered and sealed with Tape and **roll firmly**. Crease and fold the membrane to ensure a close fit to the substrate profile and avoid hollows.

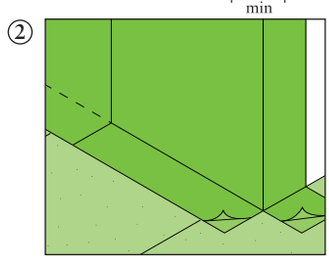


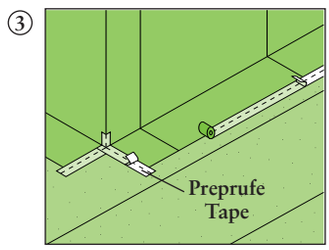
Internal

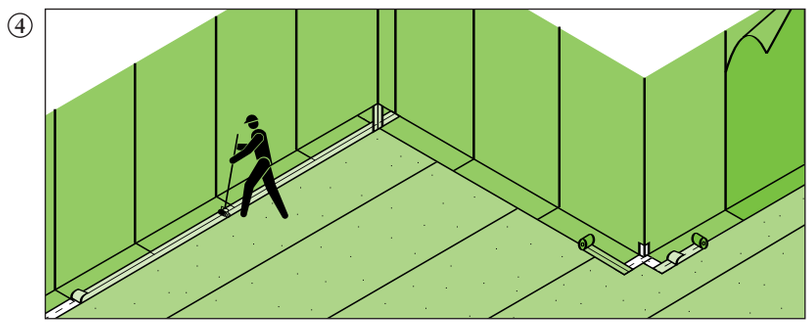




External







Internal & External Corners

Internal & external corners should be formed as shown in the diagrams below. Ensure that all laps are 100 mm minimum, taped with Preprufe Tape and well rolled. Crease and fold the membrane to ensure a close fit to the substrate profile.

Penetrations

To seal around penetrations such as service pipes, pile heads, lightning conductors, etc. mark and cut membrane tight to the penetration. If the membrane is not aligned within 12mm of the penetration, apply Preprufe Tape lapped onto the membrane and butted tight to the penetration. For pipe penetrations, wrap the pipe with Preprufe Tape. Mix and apply Bituthene LM around the penetrations using a fillet to provide a watertight seal between the Preprufe membrane and Tape. Refer also to Preprufe Standard Details.

Membrane Repair

Inspect the membrane for damage before installation of reinforcement steel, shuttering and final placement of concrete. Clean by jet washing if required.

Wipe the area with a damp cloth to ensure the area is clean and free from dust, and allow to dry. For minor repairs,

apply Preprufe Tape centrally over the damaged area and roll firmly. For larger repairs use a patch of Preprufe and tape all edges with Preprufe Tape. Remove plastic release liner from Tape.

Where exposed selvedge has lost adhesion or laps have not been sealed, ensure the area is clean and dry and overband with Preprufe Tape and roll firmly.

Installation - Vertical

Apply the membrane with the thick white plastic face against the substrate. Mechanically fasten the membrane vertically using flat headed fixings appropriate to the substrate. The membrane may be installed in any convenient length. Secure the top of the membrane using a batten or fixing 50mm below the top edge. Use fixings at typically 600 mm centres to secure the membrane flat against the substrate. Fixings can be made through the selvedge, this allows firmly rolled overlaps, which are covered by the subsequent strip of Preprufe. Any exposed fixings should be patched with Preprufe Tape. Ensure the underside of

the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together. Ensure a continuous bond is achieved without creases and roll firmly. On completion of the installation, **completely remove the plastic release liner from all membrane and tape.**

Formwork Lining

Preprufe can be pre-applied to vertical formwork. Contact Grace for further guidance.

Removal of Formwork

Preprufe membranes can be applied to removable single and double sided formwork, slab perimeter formwork, pile caps, etc. Once concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond with Preprufe.

A minimum concrete compressive strength of 10 N/mm² is recommended prior to stripping formwork supporting Preprufe membranes. Premature stripping may result in loss of adhesion between the membrane and concrete.

Wall Waterproofing Options

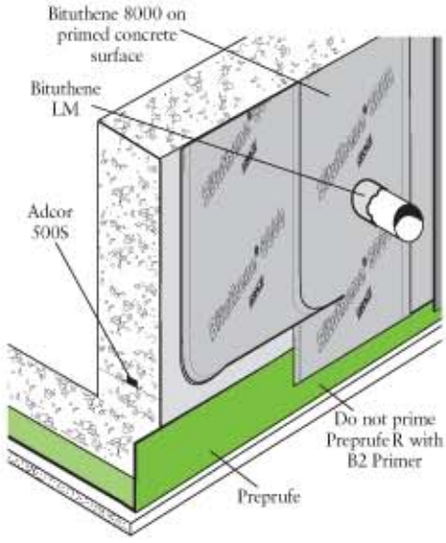
Grace also offers alternatives to pre-applying Preprufe to vertical formwork.

For conventional application to walls after formwork removal use either:

- Bituthene® 8000 - self adhesive sheet waterproofing membrane
- Procor® 75 - spray applied liquid waterproofing membrane.

Selection of the most cost-effective solution will depend on the construction programme, type of formwork system, wall height etc.

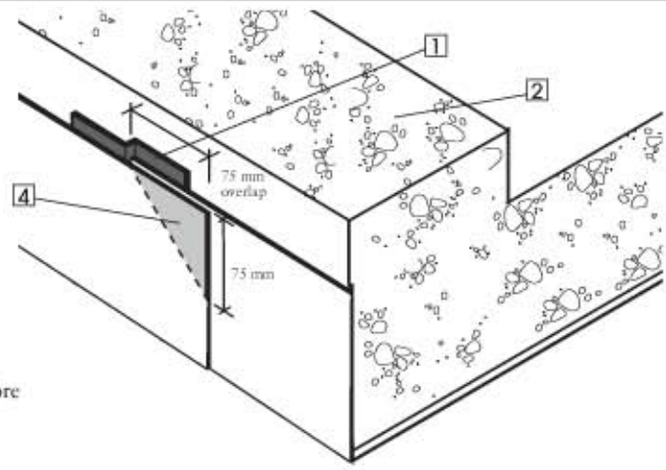
See separate data sheets for further information.



Bituthene 8000 post applied to walls in conjunction with Preprufe below slabs

Preprufe Preparation When Bituthene Is Used on Walls

Inspect the Preprufe around the perimeter edge of the concrete slab. Identify any exposed non-selvedge overlaps in Preprufe. To ensure continuity of the fully bonded system, carefully cut and remove a 75 mm triangular piece of the top flap of Preprufe only, as shown shaded in the standard detail, Slab Perimeter Detail - non selvedge lap'.



Slab Perimeter Detail

1. Taped non-selvedge lap
2. Poured Concrete
3. Remove formwork
4. Cut and remove shaded piece before applying Bituthene

Supply

Preprufe®	300R	160R	Tape LT* or HC*
Thickness (nominal)	1.2 mm	0.8 mm	0.7 mm
Roll size	1.2 x 30.0 m	1.2 x 35.0 m	100 mm x 15.0 m
Roll area	36.0 m^2	42 m^2	
Roll weight	50 kgs	42 kgs	2 kgs
Minimum edge/end laps	75 mm	75 mm	75 mm

*LT denotes for temperature between -4^{0}C and +30^{0}C

*HC denotes for temperature between +10^{0}C and +40^{0}C

Ancillary Products

Adcor® 500S	5 m rolls
Bituthene® LM	5.7 litre
Paddle MR2 (80mm dia) for mixing	Unit
Lap Roller	Unit

Typical Properties

	Preprufe 300R	Preprufe 160R
Thickness (mm)	1.2	0.8
Adhesion to concrete (N/mm)	2.88	2.88
Shear strength of joints (N/mm)	9.52	9.52
Hydrostatic head resistance (m) ASTM D 5385 mod.	> 70	> 70
Water resistance (EN 1928)	pass at 60 kPa	
Puncture resistance (N)	990	445
Water vapour transmission rate (g/m^2/24 hrs)	0	0
Methane permeability (mls/m^2/24 hrs)	9.1	34.8
Radon transmission (m/s)	<21 x 10^{-9}	21 x 10^{-9}

Ancillary Products

Adcor® 500S
Hydrophilic waterstop for construction joints and pipe entries.

AT System - Co-extruded PVC waterstops for movement joints.

Bituthene Protection Board - protection against damage from backfill.

Limitations of Use

- Do not use Preprufe between concrete infilled hollow block walls.
- It is recommended that concrete be poured within 56 days (42 days in hot climates) of application of the membrane.

NBS Specification Clause

Refer to clause J40 297

Health & Safety

There is no requirement for a Material Safety Data Sheet for Preprufe. For health and safety questions on this product please contact Grace.

For Bituthene LM, read the product label and Material Safety Data Sheet (MSDS) before use. Users must comply with all risk and safety phrases.

MSDS's can be obtained from Grace Construction Products or from our web site at www.graceconstruction.com.

web Visit our web site at www.graceconstruction.com

Grace Construction Products Ltd, Ajax Avenue, Slough, Berkshire SL1 4BH United Kingdom Tel +44 (0)1753 692929 Fax +44 (0)1753 691623

Adcor, Aerofil, BETEC, Bituthene, Hydroduct, Insupak, Korkpak, Paraflex, Paraseal, Preprufe, Procor, Servicised, Servidek, Servigard, Servijoint, Servimastic, Servipak, Serviruf e, Serviseal, Servistrip, Servitite, Vertigard and Vertiseal are registered trademarks of W R Grace & Co.-Conn.
Adprufe, Armourtape, Bitushield, Bitustik, Bitutape, Hydropaste, Pak Adhesive, PVC Edgetie, Serviband, Serviflex, Servitape, Slipstrip, and Solarshield are trademarks of W R Grace & Co.-Conn.

The information given is based on data and knowledge considered to be true and accurate and is offered for the user's consideration, investigation and verification. Since the conditions of use are beyond our control we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale including those limiting warranties and remedies which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would violate or infringe statutory obligations or any rights belonging to a third party.
Copyright 2006. Grace Construction Products Limited.

Printed in England - 05.06- Ref. WM001D

GRACE Construction Products

APPENDIX F

Excavation Work Plan

LANGAN

EXCAVATION WORK PLAN

The Excavation Work Plan (EWP) applies to all soil disturbance activities that impact unremediated portions of the site. Disturbance of areas that were excavated as part of the remedial action and backfilled with recycled concrete aggregate (RCA) are not subject to this EWP. A map showing the horizontal and vertical extents of excavation completed during the remedial action is provided as Figure 2 of the Site Management Plan (SMP).

1.0 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. There may be circumstances where emergency excavation (for instance, as the result of fire, flooding, earthquake, utility repair, or other emergency situation) work may be necessary; in such circumstances the Department should be notified by noon of the following day of any emergency. Currently, this notification will be made to:

John Grathwol - Phone: 518-402-9767 (office)

Division of Environmental Remediation, Remedial Bureau B

625 Broadway, 12th Floor, Albany, NY 12233-7016

John.Grathwol@dec.ny.gov

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this EWP,
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,

- A copy of the contractor's health and safety plan, in electronic format, if it differs in substance from the HASP provided in Appendix F of the Site Management Plan,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

It should be noted that excavation of material outside of the backfilled remediation areas above the water table will result in the disturbance of impacted historic fill material and that proper soil handling, management and disposal procedures as referenced in this document must be followed. Disturbance of small quantities of fill material, for example during utility excavations or other small volume excavations, would not require compliance with section 3 regarding stockpiling of soil if soil can be directly loaded for offsite disposal or section 8 regarding fluids management.

2.0 SOIL SCREENING METHODS

Excavation will be conducted using conventional hydraulic excavation equipment or by hand. All workers and personnel accessing the Property must be appropriately trained and certified, as required by relevant authorities for dealing with contaminated and hazardous materials. Visual, olfactory, and instrument-based soil screening for volatile organic compounds (VOCs) using a photoionization detector (PID) and dust using a portable dust monitor as described in detail in Section 13, will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination as defined in the SMP). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils that are disturbed outside of the areas that were excavated as part of the remedial action and backfilled with RCA will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil. RCA used as backfill in remedial excavation areas may be replaced in the subsurface if disturbed.

3.0 STOCKPILE METHODS

Soil stockpile areas, if needed, will be constructed for staging soil from the Property, pending loading or characterization testing. Separate stockpile areas to avoid co-mingling differing types of waste material will not be required unless elevated PID readings or other visual or olfactory observations indicate that segregation would be required. All stockpile areas will meet the following minimum requirements:

- The excavated soil will be placed onto a minimum 8-mil low-permeability liner of sufficient strength and thickness to prevent puncture during use.
- Equipment and procedures will be used to place and remove the soil that will minimize the potential to jeopardize the integrity of the liner.
- Stockpiles will be covered at the designated times (see below) with minimum 8-mil plastic sheeting or tarps which will be securely anchored to the ground. Stockpiles will be routinely inspected and broken sheeting covers will be promptly replaced.
- Stockpiles will be covered upon reaching their capacity of approximately 2,000 cubic yards until ready for loading. Stockpiles that have not reached their capacity will be covered at the end of each workday.
- Active stockpiles will be covered when not in use.
- Each stockpile area will be encircled with silt fences and hay bales, as needed to contain and filter particulates from any rainwater that has drained off the soil, and to mitigate the potential for surface water run-on.
- The stockpile areas will be inspected daily and noted deficiencies will be promptly addressed.
- Individual stockpiles will not exceed 2,000 cubic yards.
- Odor suppressing foam will be available at all times onsite during soil disturbance of remaining soils as defined by the SMP.
- Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

4.0 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material. The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements). A truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete. Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking. The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

5.0 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Trucks carrying loads of soil from the site will travel on Route 278 East and leave Brooklyn via the Manhattan Bridge and will continue on Canal Street to Lincoln Tunnel to exit Manhattan. Trucks will continue to the disposal facility via the New Jersey Turnpike/Route 92 South. Empty trucks traveling to the site will travel north from the disposal facility will travel north on Route 440 North and will enter Staten Island via the Outerbridge Crossing and continue to Route 278 East. Empty trucks will enter Brooklyn via the Verrazano-Narrows Bridge. And will

proceed to the Site via Route 278 East. All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]]

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site. Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

6.0 MATERIALS DISPOSAL OFF-SITE

All excavated soil/fill/solid waste excavated will be screened in accordance with Section 2. Any material that is segregated for offsite disposal based on field screening will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

7.0 MATERIALS REUSE ON-SITE

Material re-use on site is not anticipated with the exception of isolated shallow trenching for utility installation or repair. Should material generated be considered for re-use, the contractor must follow the guidelines listed below:

- Material removed from above the demarcation barrier (i.e. soil cap or snow fence in the landscaped areas of the waterfront esplanade) that will receive a replacement cover type (i.e., pile cap, asphalt, foundation slab) is compliant for restricted residential use and may be used elsewhere on site.
- Any soil generated below the demarcation barrier will be screened in accordance with Section 2 to determine if it may be re-used on-site so long as it will be placed below the demarcation layer or impervious surface (composite cover system), and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. Stockpiling of solid waste will be limited to 2,000 cubic yards. Soil segregated for offsite disposal must be properly transported and disposed at a qualifying facility in accordance with Part 360 Waste Disposal Facilities.

Chemical criteria for on-site reuse of material have been approved by NYSDEC and are listed in Table 6 of the SMP. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface (composite cover system), and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

8.0 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities will be connected to the New York City combined sewer system in accordance with a New York City Department of Environmental Protection (NYCDEP) Discharge to Sewer permit. Discharges to the adjacent Gowanus Canal or unpermitted discharges to the sewer system are not permitted.

9.0 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the RAWP. The composite cover system, consisting of the building foundation and concrete slab and walkways and the demarcation layer of orange snow fencing material or equivalent material in landscaped areas will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone', the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this Site Management Plan. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

10.0 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site. Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 6 of the Site Management Plan. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

The imported uncontaminated, clean soil cover will be from an approved source/facility and will be evaluated to ensure:

1. That a segregated stockpile is properly maintained at the source and will not be comingled with any other material prior to importing and grading the clean soil material at the Site;

2. That the material does not include any solid waste, including construction and demolition material, as it's prohibited;
3. That screening for evidence of contamination by visual, olfactory and PID soil screening practices prior to testing at the source as well as upon importing to the Site for grading is completed; and,
4. That a maximum five-part composite sample will be collected from the segregated stockpile at the source at a minimum frequency of one sample per 250 cubic yards and analyzed for the following 6 NYCRR Part 375 parameters:
    - VOCs by EPA Method 8260C (rev. 2006)
    - SVOCs by EPA Method 8270D (rev. 2007)
    - Pesticides by EPA Method 8081B (rev. 2000)
    - PCBs by EPA Method 8082A (rev. 2000)
    - Metals by EPA Method 6010C (rev. 2007)

Upon receipt of the segregated stockpile analytical results (collected at the source), a Clean Soil Sampling Report will be submitted to NYSDEC for review/approval prior to importation. The report will include the following:

1. Summary of number of samples collected and analyzed, tabulated data and comparison to the selected Site Use SCOs;
2. Analytical data sheets and chain of custody documentation;
3. Summary of the quantity;
4. Photographs from the segregated stockpile at the source with sample point locations identified;
5. An affidavit from the source/facility on company letterhead stating that the segregated stockpile has been properly maintained at the source and complies with the requirements listed above; and
6. A copy of source/facility NYSDEC permit;

A highly visible demarcation barrier (i.e., orange geo-synthetic material or equivalent) will be installed beneath the clean soil/fill surface cover. Upon importing and grading the approved clean soil cover on top of a highly visible demarcation barrier, the following documentation will be presented in the Periodic Review Report:

1. Copies of purchase invoices;
2. Truck transportation slips from the source to the Site;
3. Confirmation of NYSDEC-approved clean soil cover material imported and graded at the site on top of highly visible demarcation barrier;
4. Site plan depicting all areas where the NYSDEC-approved clean soil cover has been placed; and,
5. Photographs documenting the importing and grading of the NYSDEC-approved clean soil cover across the site with the underlying highly visible demarcation barrier (i.e., orange geo-synthetic material or equivalent).

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

11.0 STORMWATER POLLUTION PREVENTION

Silt fencing or hay bales will be installed around the entire perimeter of the construction area. Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

12.0 CONTINGENCY PLAN

If underground tanks, pockets of LNAPL, or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides, and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

13.0 DUST, ODOR, AND VAPOR CONTROL/MONITORING PLAN

This dust, odor, and organic vapor control and monitoring plan (DOOVCM Plan) was developed in accordance with the NYSDOH Generic Community Air Monitoring Plan (CAMP) and OSHA standards for construction (29 CFR 1926). This plan will be used during all excavations and cap disturbances that would result in excavation of impacted material that remains on-site. If the proposed excavation will be completed in one of the remediated and backfilled portions of the site, the NYSDEC must be notified that adherence to this portion of the Excavation Work Plan will not be completed. Prior approval of this deviation will be required before the proposed cap disturbance is initiated.

Continuous monitoring on the perimeter of the work zones for odor, VOCs, and dust will be required for all ground intrusive activities such as site construction and maintenance activities. Two stationary air-monitoring stations will be set up at Site perimeters (one upwind and one downwind) during intrusive Site work that will disturb the composite cover system for continuous monitoring. Each station will include a PID and a DustTrak aerosol monitor or equivalent. A portable PID will be used to monitor the work zone and for periodic monitoring for VOCs during activities such as soil sampling. Action levels for the protection of the community and visitors are set forth in the CAMP are included in the Sample HASP in Appendix F of the Site Management Plan.

Work practices to minimize odors and vapors will be used during all intrusive activities. Offending odor and organic vapor controls may include the application of foam suppressants or tarps over the odor or VOC source areas. Foam suppressants may include biodegradable foams applied over the source material for short-term control of the odor and VOCs.

If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include the use of chemical odorants in spray or misting systems and the use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

APPENDIX G

Health and Safety Plan

LANGAN

CONSTRUCTION HEALTH AND SAFETY PLAN
FOR
SITE MANAGEMENT PLAN

363 Bond Street
Brooklyn, New York

Prepared For:

LSG 363 Bond Street, LLC
c/o The Lightstone Group
460 Park Avenue, 13th Floor
New York, New York 10022

Prepared By:

Langan Engineering, Environmental, Surveying
and Landscape Architecture, D.P.C.
619 River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No: 24GA27996400

July 2015

100287501

LANGAN

CONSTRUCTION HEALTH AND SAFETY PLAN

Client:	**The Lightstone Group**
Project:	**SITE MANAGEMENT PLAN**
Location:	**363 Bond Street, Brooklyn, New York**
Chemical Hazards:	**VOCs, SVOCs, Metals, PCBs**
Prepared By:	**Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.**
Version:	**1**
Date:	**July 2015**

Client Contact:	**Frank List**
Langan Project Manager (PM):	**Chris McMahon**
Langan Health & Safety Coordinator (HSC):	**Tony Moffa, CHMM**
Langan Site Supervisor	**Field Personnel**
Langan Site Safety Officer (SSO):	**Field Personnel**

LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C. (LANGAN) AND LANGAN SUBCONTRACTORS DO NOT GUARANTEE THE HEALTH OR SAFETY OF ANY PERSON ENTERING THIS SITE. DUE TO THE NATURE OF THIS SITE AND THE ACTIVITY OCCURRING THEREON, IT IS NOT POSSIBLE TO DISCOVER, EVALUATE, AND PROVIDE PROTECTION FOR ALL POSSIBLE HAZARDS WHICH MAY BE ENCOUNTERED. STRICT ADHERENCE TO THE HEALTH AND SAFETY GUIDELINES SET FORTH HEREIN WILL REDUCE, BUT NOT ELIMINATE, THE POTENTIAL FOR INJURY AT THIS SITE. THE HEALTH AND SAFETY GUIDELINES IN THIS PLAN WERE PREPARED SPECIFICALLY FOR THIS SITE AND SHOULD NOT BE USED ON ANY OTHER SITE WITHOUT PRIOR RESEARCH AND EVALUATION BY A TRAINED HEALTH AND SAFETY SPECIALIST.

APPROVALS

By signature, the personnel identified below hereby acknowledge that they have reviewed this Construction Health and Safely Plan (CHASP) and agree to comply with the requirements contained therein as well as the applicable provisions of 29 CFR Parts 1910 and 1926. The undersigned also acknowledge and accept that this EHS Plan is the project EHS Plan for the site work described in the Site Management Plan (SMP). Furthermore, in reviewing and accepting this EHS Plan, as currently written, the undersigned agree that to the best of their knowledge, this EHS Plan adequately identifies the activities and hazards associated with work at this site and describes the appropriate and necessary precautions and protections for site workers required by the applicable OSHA statutes and regulations.

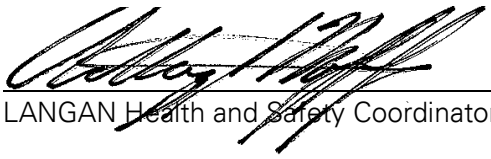
LANGAN Project Manager - PM (Chris McMahon)	7/16/2015 Date
 LANGAN Health and Safety Coordinator (Tony Moffa, CHMM)	7/16/2015 Date
LANGAN Site Supervisor	Date
LANGAN Site Safety Officer – SSO	Date

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 Purpose and Policy 1
1.2 Site Descriptions 1

2.0 PROJECT TEAM ORGANIZATION AND RESPONSIBILITIES 2

2.1 Project Manager 2
2.2 Site Supervisor/Site Safety Officer (SSO) 2
2.3 Health and Safety Coordinator (HSC) 4
2.4 Work Team 4

3.0 HAZARDS ANALYSIS 5

3.1 Chemical Exposure Hazards 5
3.2 Biological Hazards 6
3.2.1 Blood-Borne Pathogens 6
3.2.2 Animals 6
3.2.3 Insects 6
3.2.4 Wound Care 7
3.3 Physical Hazards 7
3.3.1 Temperature Extremes 7
Hot Temperatures 7
Cold Temperatures 7
3.3.2 Noise and Air Resources 8
3.3.3 Hand and Power Tools 8
3.3.4 Slips, Trips, and Falls 8
3.3.5 Fire and Explosion 9
3.3.6 Material Handling 9
3.3.7 Drill Rig Operations 10
3.3.8 Electrical Safety 11
3.3.9 Utilities 11
3.3.10 Vehicular Traffic 11
3.4 Task Hazard Analysis 11
3.4.1 Inspections 11
3.4.2 Indoor Air and Sub-Slab Air Monitoring 12
3.4.3 Groundwater Monitoring 12
3.4.4 Construction of Esplanade / Excavation / Soil Disturbance 12

4.0 PERSONAL PROTECTIVE EQUIPMENT (PPE) 13

4.1 Levels of Protection 13
4.2 Respirator Fit-Test 15
4.3 Respirator Cartridge Change-Out Schedule 15

TABLE OF CONTENTS
(Continued)

5.0 MONITORING PROGRAM 15

5.1 Community Air Monitoring Plan 16
5.1.1 Vapor Emission Response Plan 18
5.1.2 Major Vapor Emission 18
5.1.3 Major Vapor Emission Response Plan 19
5.2 Monitoring Equipment Calibration and Maintenance 19

6.0 WORK ZONES and DECONTAMINATION 19

6.1 Site Control 19
6.2 Contamination Control 20
6.2.1 Personnel Decontamination Station 20
6.2.2 Minimization of Contact with Contaminants 20
6.2.3 Personnel Decontamination Sequence 20
6.2.4 Emergency Decontamination 20
6.2.5 Hand-Held Equipment Decontamination 21
6.3 Communications 21

7.0 MEDICAL SURVEILLANCE 22

8.0 MEDICAL SURVEILLANCE PROGRAM REQUIREMENTS 22

9.0 EMERGENCY RESPONSE PLAN 22

9.1 Responsibilities 23
9.1.1 Health and Safety Coordinator (HSC) 23
9.1.2 Site Safety Officer (SSO) 23
9.1.3 Emergency Coordinator 23
9.1.4 Site Personnel 24
9.2 Communications 24
9.3 Local Emergency Support Units 24
9.4 Pre-Emergency Planning 25
9.5 Emergency Medical Treatment 25
(718) 250-8075 26
***(directions from site to hospital found on Figure 2)* 26**
9.6 Emergency Site Evacuation Routes and Procedures 26
9.7 Fire Prevention and Protection 26
9.7.1 Fire Prevention 26
9.8 Significant Vapor Release 27
9.9 Overt Chemical Exposure 27
9.10 Decontamination During Medical Emergencies 28
9.11 Incident Reporting 28
9.12 Adverse Weather Conditions 29
9.13 Spill Control and Response 29
9.14 Emergency Equipment 31
9.15 Restoration and Salvage 31

TABLE OF CONTENTS
(Continued)

10.0 TRAINING 31

10.1 General Health and Safety Training 31
10.2 Annual Eight-Hour Refresher Training 32
10.3 Site-Specific Training 32
10.4 Onsite Safety Briefings 32
10.5 First Aid and CPR 33
10.6 Hazard Communication 33

11.0 RECORDKEEPING 33

11.1 Field Change Authorization Request 33
11.2 Medical and Training Records 33
11.3 Onsite Log 34
11.4 Daily Safety Meetings ("Tailgate Talks") 34
11.5 Exposure Records 34
11.6 Incident Reports 34
11.7 OSHA Form 300 34
11.8 Hazard Communication Program/MSDS 34
11.9 Work Permits 35

12.0 FIELD PERSONNEL REVIEW 35

TABLE OF CONTENTS
(Continued)

TABLES

Table 1	**List of Known or Suspected Contaminants**
Table 2	**Chemical Exposure Limits**
Table 3	**Hazard Analysis**
Table 4	**Instrumentation Action Levels**
Table 5	**Personnel Protection Equipment Summary**

FIGURES

Figure 1	**Site Location Map**
Figure 2	**Emergency Hospital Route Map**

ATTACHMENTS

Attachment A	**Material Safety Data Sheets (MSDSs)**
Attachment B	**Field Change Authorization Request Form**
Attachment C	**Accident/Incident Report Form**
Attachment D	**Emergency Notification List**
Attachment E	**Safety Briefing Form**

1.0 INTRODUCTION

1.1 Purpose and Policy

This Construction Health and Safety Plan (CHASP) has been developed to comply with the regulations under Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120(b)(4), Hazardous Waste Operations and Emergency Response. The plan addresses activities associated with the Site Management Plan (SMP) developed for 363 Bond Street, Brooklyn, New York (see Figure 1). This CHASP establishes personnel protection standards and mandatory safety practices and procedures. Additionally, it assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted at known or suspected hazardous waste sites.

The provisions of this CHASP are mandatory for all on-site personnel. Although for use only by Langan personnel, CHASPs prepared by subcontractors must conform to the requirements of this CHASP at a minimum. All personnel who engage in project activities must be familiar with this CHASP, comply with its requirements, and sign the Field Personnel Review Form (Section 12.0)

1.2 Site Descriptions

Please refer to the SMP for the full job description and scope of work. The following provides a general job description summary.

The subject site consists of the parcel identified as 363 Bond Street located in Brooklyn, New York. The site contains an active redevelopment site that occupies the entire block. Future use of the site consists of a 5- to 12-story mixed-use commercial/residential building.

The scope of work for the SMP includes the following field tasks:

- Site composite cap system inspections;
- Site-wide inspections;
- Vapor mitigation system inspections;
- Indoor air and sub-slab air monitoring;
- Groundwater treatment infrastructure inspections;

- Groundwater monitoring;
- Construction of the waterfront esplanade which will include a minimum two-foot clean soil cover system with an underlying demarcation layer within landscaped areas; and,
- Compliance with the Excavation Work Plan provided as Appendix E of the SMP for any future soil disturbance in unremediated portions of the site.

Langan will oversee the completion of work specified in the SMP.

2.0 PROJECT TEAM ORGANIZATION AND RESPONSIBILITIES

This section specifies the Langan Project Organization.

2.1 Project Manager

Assumes total control over site activities. Reports to upper-level management. Has authority to direct response operations.

Responsibilities:

- Prepares and organizes the background review of the situation, the Interim Remedial Measures Work Plan (Work Plan), the site CHASP, and the field team.
- Obtains permission for site access and coordinates activities with appropriate officials.
- Ensures that the Work Plan is executed and on schedule.
- Briefs the field team on their specific assignments.
- Coordinates with the Site Safety Officer (SSO) to ensure that health and safety requirements are met.
- Prepares the final report and support files on the response activities.
- Serves as the liaison with public officials.

2.2 Site Supervisor/Site Safety Officer (SSO)

Advises the Project Manager on all aspects of health and safety on site. Stops work if any operation threatens worker or public health or safety. Is directly responsible for the field team and the safety of site operations.

Responsibilities:

- Manages field operations.
- Executes the Work Plan and schedule.
- Enforces safety procedures.
- Coordinates with the SSO in determining protection level.
- Enforces site control.
- Documents field activities and sample collection.
- Serves as a liaison with public officials.
- Ensures that all necessary Health and Safety equipment is available on site and is functional.
- Periodically inspects protective clothing and equipment.
- Conducts all on-site air monitoring activities and modifies PPE requirements based on action levels shown in Table 4.
- Ensures that protective clothing and equipment are properly stored and maintained.
- Controls entry and exit at the Access Control points.
- Coordinates health and safety program activities with the HSC.
- Confirms each team member's suitability for work based on a physician's recommendation.
- Monitors the work parties for signs of stress, such as cold exposure, heat stress, and fatigue.
- Implements all elements of this EHS Plan.
- Conducts periodic inspections to determine if this EHS Plan is being followed.
- Enforces the "buddy" system.
- Knows emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.
- Notifies, when necessary, local public emergency officials.
- Coordinates emergency medical care.
- Sets up decontamination lines and the decontamination solutions appropriate for the type of chemical contamination on the site.

- Controls the decontamination of all equipment, personnel, and samples from the contaminated areas.
- Assures proper disposal of contaminated clothing and materials.
- Ensures that all required equipment is available.
- Advises medical personnel of potential exposures and consequences.
- Notifies emergency response personnel by telephone or radio in the event of an emergency.
- Assist in the preparation of all Root Cause Investigation Reports/ Preventative Action Plans for any incidents and or Close Calls.

2.3 Health and Safety Coordinator (HSC)

Responsibilities:

- Assists SSO with development of the CHASP, updating CHASP as dictated by changing conditions, jobsite inspection results, etc.
- Assists SSO in conducting Jobsite Safety Inspections and assists with the correction of shortcomings found.
- Coordinates the activities of the Contract Medical Advisor staff in their EHS Plan responsibilities.
- Ensures training requirements are satisfied in a timely manner.
- Ensures medical evaluations of Langan personnel are current.
- Maintains all records on personnel (medical evaluation results, training and certifications, accident investigation results, etc.).
- Prepare any Root Cause Investigation Reports/Preventative Action Plans for any incidents and or Close Calls.

2.4 Work Team

Vacuum truck operators, drillers, samplers, surveyors, etc. The work party must consist of at least two people.

Responsibilities:

- Safely completes the on-site tasks required to fulfill the Work Plan.

- Complies with this CHASP.
- Notifies SSO of suspected unsafe conditions.
- Report any unsafe or potentially hazardous conditions to the SSO.
- Maintain knowledge of the information, instructions and emergency response actions contained in this CHASP.
- Comply with roles, regulations and procedures as set forth in this CHASP and any revisions.
- Prevent admittance to work sites by unauthorized personnel.
- Inspect all tools and equipment, including PPE, daily prior to use.

3.0 HAZARDS ANALYSIS

This section presents all assessment of the chemical, biological, and physical hazards that may be encountered during the tasks specified under this CHASP (Section 3). A detailed list of types of potential contaminants of concerns Langan anticipates to encounter at different locations during the intrusive excavations is listed in Table 1 of this CHASP.

3.1 Chemical Exposure Hazards

Potential contaminants that may be encountered while conducting site construction activities include VOCs, SVOCs, metals, pesticides, PCBs, and historic fill. Some relevant properties of these contaminants are shown in Table 2.

On-site personnel will make efforts to avoid activities that could generate potentially contaminated dust, and work upwind of potentially contaminated soils and ground water during excavation activities. In addition to the site's suspected contaminants, materials used in the site construction activities itself may potentially be hazardous to human health if they are not used properly. Material Safety Data Sheets for materials that will be brought or used on site and the known or suspected site contaminants are included in Attachment A.

3.2 Biological Hazards

During the course of the project, there is a potential for workers to come into contact with biological hazards such as animals, insects, and blood-borne pathogens.

3.2.1 Blood-Borne Pathogens

During the course of the project, there is a potential for workers to come into contact with biological hazards such as animals and insects. As the potential for exposure to blood borne pathogens during the construction activities is anticipated to be low, a Blood-borne Pathogen Exposure Plan (BBPEP) is not required. A BBPEP will be prepared if site operation requires its implementation. Regardless, a first aid kit will be available on site at all times during work

3.2.2 Animals

During site operations, animals such as dogs, cats, pigeons, mice, and rats may be encountered. Workers shall use discretion and avoid all contact with animals. Bites and scratches from dogs and cats can be painful and if the animal is rabid, the potential for contracting rabies exists. Contact with rat and mice droppings may lead to contracting hantavirus. Inhalation of dried pigeon droppings may lead to psittacosis. Cryptococcosis and histoplasmosis are also diseases associated with exposure to dried bird droppings but these are less likely to occur in this occupational setting.

3.2.3 Insects

Insects, including bees, wasps, hornets, mosquitoes, spiders, and ticks may be present at the site. Some individuals may have a severe allergic reaction to an insect bite or sting that can result in a life threatening condition. In addition, mosquito bites may lead to St. Louis encephalitis or West Nile encephalitis.

3.2.4 Wound Care

A source of occupational exposure may occur when an employee gives First Aid and or CPR to an individual who had infectious blood. The occupational exposure occurs when there is the possibility for an employee's eyes, mucous membranes, non-intact skin (i.e., cut and abraded skin) to come into contact with potentially infectious materials from another employee. If an accident were to occur where First Aid would need to be administered, the person administering the First Aid will presume that any wounds and materials used are contaminated with BBP and should wear the appropriate PPE to prevent contact with these materials. Additionally, should the use of First Aid materials and or clothing that was potentially contaminated with BBP be encountered these materials should be property containerized and transported to the nearest hospital for proper disposal.

3.3 Physical Hazards

3.3.1 Temperature Extremes

Hot Temperatures

Heat stress is a significant potential hazard, which is greatly exacerbated with the use of PPE, in hot environments. The potential hazards of working in hot environments include dehydration, cramps, heat rash, heat exhaustion, and heat stroke. If onsite workers exhibit the signs of heat exhaustion or heat stroke, they should seek immediate medical attention.

Cold Temperatures

Workers may be exposed to the hazard of working in a cold environment. Potential hazards in cold environments include frostbite, trench foot or immersion foot, hypothermia, as well as slippery surfaces, brittle equipment, poor judgment, and unauthorized procedural changes. In order to prevent frostbite, hypothermia, trench foot and immersion foot, the workers are responsible for dressing warmly in layers with thick socks, gloves, and appropriate head and face gear. Upon the onset of discomfort due to the cold, onsite workers should take regular five to ten minute breaks to warm up inside nearby buildings and to drink warm fluids. Please note that the NYCDEP statute prohibits idling an engine for

more than three minutes (one-minute if adjacent to a school). This statue includes the use of a vehicle for the purpose of warming up employees. As such, all contractors and employees shall identify a place to warm up in advance. If discomfort continues and the onsite workers start to exhibit the signs of frostbite, hypothermia, trench foot or immersion foot, they should seek immediate medical attention.

3.3.2 Noise and Air Resources

Noise is a potential hazard associated with the operation of heavy equipment, power tools, pumps and generators. Hearing protection is required for noise levels of greater than 85 dBA.

The New York City Department of Environmental Protection (NYCDEP) has initiated construction noise rules effective 1 July 2007. Contractors employing construction equipment such as vacuum excavators, drill rigs, and jackhammers, are required by the rules to have notarized Construction Noise Mitigation Plans. Noise mitigation measures may include mufflers, etc. Boring activities will occur during daytime hours only to minimize noise disturbance to the community. In addition, no vehicles will idle for more than three minutes (one-minute adjacent to a school) when not in use for powering a tool.

3.3.3 Hand and Power Tools

In order to complete the various tasks for the project, personnel will utilize hand and power tools. The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, and electrocution. Proper personal protective equipment shall be worn while utilizing hand and power tools. Ground Fault Circuit Interrupters (GFCIs) are required for all portable electric tools.

3.3.4 Slips, Trips, and Falls

Working in and around the site will pose slip, trip and fall hazards due to equipment, piping, slippery surfaces that may be oil covered, or from surfaces that are wet from rain or ice. Potential adverse health effects

include falling to the ground and becoming injured or twisting an ankle. Good housekeeping at the site must be maintained at all times.

3.3.5 Fire and Explosion

Prior to starting all excavation and boring work, a review of appropriate New York City maps will be conducted to identify potential hazards. The possibility of encountering fire and explosion hazards exists from underground utilities and gases; therefore, all excavation/boring equipment must be grounded.

3.3.6 Material Handling

Manual lifting of heavy objects may be required. Failure to follow proper lifting techniques can result in back injuries and strains. Back injuries are a serious concern as they are the most common workplace injury, often resulting in lost or restricted work time, and long treatment and recovery periods.

Whenever possible, heavy objects must be lifted and moved by mechanical devices rather than by manual effort. The mechanical devices will be appropriate for the lifting or moving task and will be operated only by trained and authorized personnel. Objects that require special handling or rigging will only be moved under the guidance of a person who has been specifically trained to move such objects, such as a Master Rigger or equivalent. Lifting devices, including equipment, slings, ropes, chains, and straps, will be inspected, certified, and labeled to confirm their weight capacities. Defective equipment will be taken out of service immediately and repaired or destroyed.

The wheels of any trucks being loaded or unloaded, and/or parked on an incline, will be chocked to prevent movement. If applicable, outriggers will be extended on a flat, firm surface during operation. The lift and swing path of a crane/equipment will be watched and maintained clear of obstructions. Personnel will not pass under a raised load, nor will a suspended load be left unattended. Personnel will not be carried on lifting equipment, unless it is specifically designed to carry passengers.

All reciprocating, rotating, or other moving parts will be guarded at all times. Accessible fire extinguishers will be made available in all mechanical lifting devices. All material must be stored in tiers, racked, blocked, or otherwise secure to prevent sliding, falling, or collapse. All loads/material will be verified to be secure before transportation.

3.3.7 Drill Rig Operations

In order to complete soil borings, a direct-push drill rig with hollow stem auger capability will be used. Working with and near this equipment poses many potential hazards, including being struck by or against, or pinched/caught by moving parts. These hazards can result in serious physical harm. Other hazards include electrocution and explosion due to encountering overhead or underground utilities.

Drill rigs for hollow stem auger drilling and other machinery with exposed moving parts must be equipped with an operational emergency stop device. Drillers and other field personnel must be aware of the location of this device. This device must be tested prior to job initiation and periodically thereafter. The driller and helper shall not simultaneously handle augers unless there is a standby person to activate the emergency switch. Only equipment that has been approved by the manufacturer may be used in conjunction with site equipment and specifically to attach sections of drilling tools together. Pins that protrude excessively from augers shall not be allowed.

The driller must never leave the controls while the tools are rotating unless all personnel are kept clear of rotating equipment. A remote sampling device must be used to sample drill cuttings if the tools are rotating or if the tools are readily capable of rotating. Samplers must not reach into or near the rotating equipment. Drillers, helpers, and other field personnel must secure all loose clothing when in the vicinity of drilling operations. No person shall climb the drill mast while tools are rotating or without the use of ANSI-approved fall protection (approved belts, lanyards and a fall protection slide rail) or portable ladder that meets the requirement of the OSHA standard.

3.3.8 Electrical Safety

Although not anticipated, personnel may utilize hand and power tools. The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, and electrocution. Ground Fault Circuit Interrupters (GFCIs) are required for all portable electric tools. Construction vehicles and equipment will have grounds mounted to them.

3.3.9 Utilities

Prior to the start of any intrusive work, the location of above-ground and underground utilities and other structures will be completed by the contractor/subcontractor responsible for completing construction activities.

3.3.10 Vehicular Traffic

Portions of site activities (load in and load out) will be conducted in the street so vehicular and pedestrian traffic will be present. Appropriate precautions to protect to works and civilians should be used including the use of cones and traffic vests as appropriate.

3.4 Task Hazard Analysis

Hazards that are potentially present have been determined for each specific task to be undertaken at the Site. Table 2 and Table 3 provide a summary of chemical exposure and physical hazards that could potentially be encountered by personnel during the following major task efforts.

3.4.1 Inspections

Site cover inspections, site-wide inspections, vapor mitigation system inspections, and groundwater treatment infrastructure inspections will be completed in accordance with the SMP. No chemical exposures are anticipated for these tasks. Caution should be taken to avoid physical hazards as discussed above in Section 3.3.

3.4.2 Indoor Air and Sub-Slab Air Monitoring

Indoor air and sub-slab air monitoring will be completed in accordance with the SMP. Chemical exposure may occur as workers screen soil vapor sampling ports and collect soil vapor samples. Activities will be conducted in Level D. A 10.6 eV PID or equivalent will be used to monitoring sampling ports and will be used to monitor the breathing zone if elevated concentrations of volatile organic compounds in air are detected. Caution should be taken to avoid physical hazards as discussed above in Section 3.3.

3.4.3 Groundwater Monitoring

Groundwater monitoring will be completed in accordance with the SMP. Chemical exposure may occur as workers collect groundwater samples. Activities will be conducted in Level D. Caution should be taken to avoid physical hazards as discussed above in Section 3.3.

3.4.4 Construction of Esplanade / Excavation / Soil Disturbance

A temporary soil cap is currently located in the area that will ultimately be constructed as the waterfront esplanade. Construction of the waterfront esplanade along the western side of the site will include a minimum two-foot clean soil cover system with an underlying demarcation layer within the landscaped areas the remainder of the esplanade will consist of asphalt or concrete paved public areas and/or walkways. Construction of this feature and all unanticipated soil disturbance activities that impact unremediated portions of the site will be completed in accordance with the Excavation Work Plan provided in Appendix E of the SMP.

Identified potential issues related to soil disturbance activities at this Site include low levels of regulated compounds in soil and/or groundwater (i.e., petroleum-related volatile organic compounds, semi volatile organic compounds, specifically polycyclic aromatic hydrocarbons, metals, and pesticides).

Chemical exposure may occur as workers encounter soil and/or groundwater across the site. Activities will be conducted in Level D but

may be upgraded to Modified Level D. Although not anticipated, there will be a Level C contingency should pockets of contaminants be brought to the surface and breathing zone air becomes contaminated.

If evidence of unknown contamination is encountered during intrusive work as determined by elevated PID readings and visual and olfactory observations, the Site Safety Officer will determine the appropriate level of personnel protection.

4.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

4.1 Levels of Protection

PPE must protect workers from the specific hazards they are likely to encounter on site. Selection of the appropriate PPE must take into consideration: (1) identification of the hazards or suspected hazards; (2) potential exposure routes; and, (3) the performance of the PPE construction (materials and seams) in providing a barrier to these hazards. Based on anticipated site conditions and the proposed work activities to be performed at the site, Level D Protection will be used. The upgrading/downgrading of these levels of protection will be based on continuous air monitoring results as described in Section 5.0. The decision to modify standard PPE will be made by the SSO after conferring with the Project Manager. The levels of protection are described below.

- **Level D Protection**

  a. Safety glasses w/ sideshields or chemical splash goggles
  b. Safety boots/shoes (toe-protected)
  c. Hard hat
  d. Long sleeve work shirt and work pants
  e. Nitrile gloves
  f. Hearing protection (as needed)
  g. Reflective traffic vest

- **Level D Protection (Modified)**

  a. Safety glasses w/ sideshields or chemical splash goggles
  b. Safety boots/shoes (toe-protected)

c. Disposable chemical-resistant boot covers
d. Coveralls (polycoated Tyvek or equivalent to be worn when contact with wet contaminated soil, groundwater, or non-aqueous phase liquids is anticipated)
e. Hard hat
f. Long sleeve work shirt and work pants
g. Nitrile gloves
h. Hearing protection (as needed)
i. Reflective traffic vest

- **Level C Protection**

a. Full face-piece, air-purifying, cartridge*-equipped, NIOSH-approved respirator [*combo cartridge P100/OV/CL/HC/SD/CD/HS (escape)]
b. Inner (latex) and outer (nitrile) chemical-resistant glove
c. Chemical-resistant safety boots/shoes (toe-protected)
d. Disposable chemical-resistant boot covers
e. Hard hat
f. Long sleeve work shirt and work pants
g. Coveralls (Tyvek or equivalent, poly-coated Tyvek will be worn when contact, or anticipated contact with wet contaminated soils, ground water, and/or non-aqueous phase liquids (NAPL) is anticipated)
h. Hearing protection (as needed)
i. Reflective traffic vest

The action levels used in determining the necessary levels of respiratory protection and upgrading to Level C, Level B, or Level A are summarized in Table 2. The written Respiratory Protection Program is maintained by the HSC in Langan's Doylestown, Pennsylvania office. The monitoring procedures and equipment are outlined in Section 5.0. Prior to the start of any intrusive work, the location of above-ground and underground utilities and other structures will be completed by the contractor/ subcontractor responsible for completing construction activities.

4.2 Respirator Fit-Test

All Langan employees and subcontractors performing site work who could be exposed to hazardous substances at the work site are required to be in possession of a full face-piece, air-purifying respirator and have been successfully quantitative fit-tested within the past year. Quantitative fit-test records are maintained by the HSC.

4.3 Respirator Cartridge Change-Out Schedule

Respiratory protection is required to be worn when certain action levels (Table 2) are reached. A respirator cartridge change-out schedule has been developed in order to comply with 29 CFR 1910.134. The respirator cartridge change-out schedule for this project is as follows:

- Cartridges shall be removed and disposed of at the end of each shift, when cartridges become wet or wearer experiences breakthrough, whichever occurs first.
- If the humidity exceeds 85%, then cartridges shall be removed and disposed of after 4 hours of use.

Respirators shall not be stored at the end of the shift with contaminated cartridges left on. Cartridges shall not be worn on the second day, no matter how short the time period was the previous day they were used.

5.0 MONITORING PROGRAM

The following sections contain information describing the types, frequency and location of real-time, integrated, and other monitoring.

Air monitoring results are partially used to provide data to determine when exclusion zones (EZs) need to be established and when certain levels of PPE are required. For all instruments, there are specific action level criteria which are used in making field health and safety determinations. Other data, such as the visible presence of contamination or the steady state nature of air contaminant concentrations, are also used in making field health and safety decisions. Therefore, the SSO or Site Supervisor may establish an EZ

or require a person to wear a respirator even though atmospheric air contaminant concentrations are below established CHASP action levels.

5.1 Community Air Monitoring Plan

Community air monitoring will be conducted in compliance with the Community Air Monitoring Plan (CAMP) outlined below. Community air monitoring is only required during soil disturbance in unremediated portions of the site in accordance with the Excavation Work Plan provided as Appendix E of the SMP.

Two stationary air-monitoring stations will be set up at Site perimeters (one upwind and one downwind) during intrusive Site work that will disturb the composite cover system for continuous monitoring. Each station will include a PID equipped with a 10.6 eV lamp or equivalent and a DustTrak aerosol monitor or equivalent. Monitoring for total organic vapors (TOVs) and particulate will be conducted during all ground intrusive activities. Upwind concentrations will be measured at the start of each workday to establish background concentrations and continuously thereafter during all work activities. A portable PID and portable aerosol monitor will be used to monitor TOVs and particulates within the work zone. Monitoring equipment will be capable of calculating 15-minute running average concentrations.

The following actions will be taken based on TOV levels measured:

- If total organic vapor levels exceed 5 ppm above background for the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the Site persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps work activities will resume provided that the total organic vapor at the perimeter of the Site is below 5 ppm above background for the 15-minute average.
- If the total organic vapor level is above 25 ppm at the perimeter of the Site, activities will be shutdown.

The following actions will be taken based on particulate concentrations measured:

- If the downwind particulate level is 100 micrograms per cubic meter (ug/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind particulate levels do not exceed 150 ug/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind particulate levels are greater than 150 ug/m3 above the background level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind particulate concentration to within 150 ug/m3 of the upwind level and in preventing visible dust migration.
- In order to minimize the generation of dust, water will be sprayed on soils to be excavated, as needed. Water will also be sprayed on any areas of the Site where dust could be generated. A suitable dust control material, such as calcium chloride, will be used, as necessary, in high-traffic areas in order to minimize dust caused by vehicular traffic.

Action levels are also provided in Table 4.

Work practices to minimize odors and vapors will be used during all intrusive activities. Offending odor and organic vapor controls may include the application of foam suppressants or tarps over the odor or VOC source areas. Foam suppressants may include biodegradable foams applied over the source material for short-term control of the odor and VOCs. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include the use of chemical odorants in spray or misting systems and the use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

5.1.1 Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the Site, intrusive activities will be halted or vapor suppression controls will be employed, and monitoring continued. When work shut-down occurs, downwind air monitoring as directed by the Site Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

If the organic vapor level decreases below 5 ppm above background, intrusive activity can resume, provided:

- The organic vapor level at the downwind perimeter of the Site is below 1 ppm over background, and
- More frequent intervals of monitoring, as directed by the Site Health and Safety Officer, are conducted.

5.1.2 Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified at the downwind perimeter of the Site, all work activities must be halted or odor controls must be implemented.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background at the downwind perimeter of the Site, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If either of the following criteria is exceeded in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be implemented.

- Sustained organic vapor levels approaching 5 ppm above background for a period of more than 30 minutes, or
- Organic vapor levels greater than 5 ppm above background for any time period.

5.1.3 Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

1. The local police authorities will immediately be contacted by the Site Health and Safety Officer and advised of the situation;
2. Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Site Health and Safety Officer.

All Emergency contacts will go into effect as appropriate.

5.2 Monitoring Equipment Calibration and Maintenance

Instrument calibration shall be documented and included in a dedicated safety and health logbook or on separate calibration pages of the field book. All instruments shall be calibrated before each shift. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

6.0 WORK ZONES AND DECONTAMINATION

6.1 Site Control

Work zones are intended to control the potential spread of contamination throughout the site and to assure that only authorized individuals are permitted into potentially hazardous areas.

Any person working in an area where the potential for exposure to site contaminants exists will only be allowed access after providing the SSO with proper training and medical documentation.

Exclusion Zone (EZ) - All activities which may involve exposure to site contaminants, hazardous materials and/or conditions should be considered an EZ. Decontamination of field equipment will also be conducted in the Contaminant Reduction Zone (CRZ) which will be located on the perimeter of the EZ. The EZ and the CRZ will be clearly delineated by cones, tapes or other means. The SSO/Site Supervisor may establish more than one EZ where

different levels of protection may be employed or different hazards exist. The size of the EZ shall be determined by the SSO/Site Supervisor allowing adequate space for the activity to be completed, field members and emergency equipment.

6.2 Contamination Control

6.2.1 Personnel Decontamination Station

Personal hygiene, coupled with diligent decontamination, will significantly reduce the potential for exposure.

6.2.2 Minimization of Contact with Contaminants

During completion of all site activities, personnel should attempt to minimize the chance of contact with contaminated materials. This involves a conscientious effort to keep "clean" during site activities. All personnel should minimize kneeling, splash generation, and other physical contact with contamination as PPE is intended to minimize accidental contact. This may ultimately minimize the degree of decontamination required and the generation of waste materials from site operations.

Field procedures will be developed to control over spray and runoff and to ensure that unprotected personnel working nearby are not affected.

6.2.3 Personnel Decontamination Sequence

Decontamination will be performed by removing all PPE used in EZ and placing it in drums/trash cans at the CRZ. Baby wipes shall be available for wiping hands and face.

6.2.4 Emergency Decontamination

If circumstances dictate that contaminated clothing cannot be readily removed, then remove gross contamination and wrap injured personnel with clean garments/blankets to avoid contaminating other personnel or transporting equipment.

If the injured person can be moved, he/she will be decontaminated by site personnel as described above before emergency responders handle the victim. If the person cannot be moved because of the extent of the injury (a back or neck injury), provisions shall be made to ensure that emergency response personnel will be able to respond to the victim without being exposed to potentially hazardous atmospheric conditions. If the potential for inhalation hazards exist, such as with open excavation, this area will be covered with polyethylene sheeting to eliminate any potential inhalation hazards. All emergency personnel are to be immediately informed of the injured person's condition, potential contaminants, and provided with all pertinent data.

6.2.5 Hand-Held Equipment Decontamination

Hand-held equipment includes all monitoring instruments as stated earlier, samples, hand tools, and notebooks. The hand-held equipment is dropped at the first decontamination station to be decontaminated by one of the decontamination team members. These items must be decontaminated or discarded as waste prior to removal from the CRZ.

To aid in decontamination, monitoring instruments can be sealed in plastic bags or wrapped in polyethylene. This will also protect the instruments against contaminants. The instruments will be wiped clean using wipes or paper towels if contamination is visually evident. Sampling equipment, hand tools, etc. will be cleaned with non-phosphorous soap to remove any potentially contaminated soil, and rinsed with deionized water. All decontamination fluids will be containerized and stored on-site pending waste characterization sampling and appropriate off-site disposal.

6.3 Communications

The following communications equipment will be utilized as appropriate.

- Telephones – A cellular telephone will be located with the SSO/Site Supervisor for communication with the HSC and emergency support services/facilities.

- Hand Signals – Hand signals shall be used by field teams, along with the buddy system. The entire field team shall know them before operations commence and their use covered during site-specific training. Typical hand signals are the following:

Signal	Meaning
Hand gripping throat	Out of air, can't breathe
Grip on partner's wrist or placement of both hands around partner's waist	Leave area immediately, no debate
Hands on top of head	Need assistance
Thumbs up	Okay, I'm all right, I understand
Thumbs down	No, negative

7.0 MEDICAL SURVEILLANCE

All contractor and subcontractor personnel performing site field work where potential exposure to contaminants exists are required to have passed a complete medical surveillance physical examination in accordance with 29 CFR 1910.120(f).

8.0 MEDICAL SURVEILLANCE PROGRAM REQUIREMENTS

A physician's medical clearance for work will be confirmed by the SSO/Site Supervisor before an employee can work in the EZ. The examination will be completed annually at a minimum. Additional medical testing may be required by the HSC if, a.) an over-exposure or accident occurs, b.) an employee exhibits symptoms of exposure, or c.) other site conditions warrant further medical surveillance.

9.0 EMERGENCY RESPONSE PLAN

This section establishes procedures and provides information for use during a project emergency. Emergencies happen unexpectedly and quickly, and require an immediate response; therefore, contingency planning and advanced training of staff is essential. Specific elements of emergency support procedures that are addressed in the following subsections include communications, local emergency support units, preparation for

medical emergencies, first aid for injuries incurred on site, record keeping, and emergency site evacuation procedures.

9.1 Responsibilities

9.1.1 Health and Safety Coordinator (HSC)

The HSC oversees and approves the Emergency Response/Contingency Plan and performs audits to determine that the plan is in effect and that all pre-emergency requirements are met. The HSC will be notified of all incidents, injuries, near misses, OSHA recordable incidents, fires, spills, releases or equipment damage. The HSC acts as a liaison to applicable regulatory agencies.

9.1.2 Site Safety Officer (SSO)

The SSO is responsible for ensuring that all personnel are evacuated safely and that machinery and processes are shut down or stabilized in the event of a stop work order or evacuation. The SSO is responsible for ensuring the HSC are notified of all incidents, all injuries, near misses, fires, spills, releases or equipment damage. The SSO is required to immediately notify the HSC of any fatalities or catastrophes (three or more workers injured and hospitalized) so that the HSC can notify OSHA within the required time frame.

9.1.3 Emergency Coordinator

The Emergency Coordinator is normally the SSO.

The Emergency Coordinator shall make contact with Local Emergency Response personnel prior to beginning work on site. In these contacts, the Emergency Coordinator will inform interested parties about the nature and duration of work expected on the site and the type of contaminants and possible health or safety effects of emergencies involving these contaminants. The Emergency Coordinator shall locate emergency phone numbers and identify hospital routes prior *to beginning* work on the sites. The Emergency Coordinator shall make necessary arrangements to be prepared for any emergencies that could occur.

The Emergency Coordinator shall implement the Emergency Response/ Contingency Plan whenever conditions resulting from the Site construction warrant such action.

9.1.4 Site Personnel

Project site personnel are responsible for knowing the Emergency Response/Contingency Plan and the procedures contained herein. Personnel are expected to notify the Emergency Coordinator of situations that could constitute a site emergency. Project site personnel, including all subcontractors will be trained in the Emergency Response/ Contingency Plan.

9.2 Communications

Once an emergency situation has been stabilized or as soon as practically possible, the SSO will contact the Langan project manager of any emergency situation.

9.3 Local Emergency Support Units

In order to be able to deal with any emergency that might occur during investigative activities at the site, Attachment D will be available in the field vehicles and provided to all personnel conducting work within the EZ.

Figure 2 shows the hospital route map. Outside emergency number 911 and local ambulance should be relied on for response to medical emergencies and transport to emergency rooms. Due to traffic congestion that is prevalent in the New York metropolitan area, alternate hospital routes will need to be considered. The Emergency Coordinator will determine the appropriate route based on time of day and traffic patterns. Changes in the referenced primary facilities shall be documented with the CHASP Field Change Authorization Request Form (Attachment B).

The Emergency Phone Numbers listed are preliminary. Upon mobilization, the SSO shall verify all numbers and document the changes in the Site Health and Safety Logbook. Any changes shall also be documented with the CHASP Field Change Authorization Request Form.

Hospital route maps will be provided to all field personnel.

9.4 Pre-Emergency Planning

Langan will communicate directly with administrative personnel from the emergency room at the hospital in order to determine whether the hospital has the facilities and personnel needed to treat cases of trauma resulting from any of the contaminants expected to be found on the site. Instructions for finding the hospital will be posted conspicuously in the site office and in each site vehicle.

Before fieldwork on the site commences, each person who will be working there or observing the operations will complete a medical data sheet. These data sheets will be filled out during the initial site safety training meeting and will be kept on the site.

In the event of an incident where a team member becomes exposed or suffers from an acute symptom of exposure to site materials and has to be taken to a hospital, a copy of his/her medical data sheet will be presented to the attending physician.

9.5 Emergency Medical Treatment

The procedures and rules in this CHASP are designed to prevent employee injury. However, should an injury occur, no matter how slight, it will be reported to the SSO on site immediately. First-aid equipment will be available on site at the following locations:

First Aid Kit:	Vehicles
Emergency Eye Wash:	Vehicles

During the site safety briefing, project personnel will be informed of the location of the first aid station(s) that has been set up. Unless they are in immediate danger, severely injured persons will not be moved until paramedics can attend to them. Some injuries, such as severe cuts and lacerations or bums, may require immediate treatment. Any first aid instructions that can be obtained from doctors or paramedics, before an emergency-response squad arrives at the site or before the injured person can be transported to the hospital, will be followed closely.

Personnel with current first aid and CPR certification will be identified.

Only in non-emergency situations will an injured person be transported to the hospital by means other than an ambulance.

Nearest hospital: **The Brooklyn Hospital Center**
121 DeKalb Avenue
Brooklyn, NY 11201
(718) 250-8075
(directions from site to hospital found on Figure 2)

9.6 Emergency Site Evacuation Routes and Procedures

All project personnel will be instructed on proper emergency response procedures and locations of emergency telephone numbers during the initial site safety meeting. If an emergency occurs as a result of the site construction activities, including but not limited to fire, explosion or significant release of toxic gas into the atmosphere, the Langan Project Manager will be verbally notified immediately. All heavy equipment will be shut down and all personnel will evacuate the work areas and assemble at the nearest intersection to be accounted for and to receive further instructions.

9.7 Fire Prevention and Protection

In the event of a fire or explosion, procedures will include immediately evacuating the site and notification of the Langan Project Manager of the construction activities. Portable fire extinguishers will be provided at the work zone. The extinguishers located in the various locations should also be identified prior to the start of work. No personnel will fight a fire beyond the stage where it can be put out with a portable extinguisher (incipient stage).

9.7.1 Fire Prevention

Fires will be prevented by adhering to the following precautions:

- Good housekeeping and storage of materials.
- Storage of flammable liquids and gases away from oxidizers.
- Shutting off engines to refuel.

- Grounding and bonding metal containers during transfer of flammable liquids.
- Use of UL approved flammable storage cans.
- Fire extinguishers rated at least 10 pounds ABC located on all heavy equipment, in all trailers and near all hot work activities.

The person responsible for the control of fuel source hazards and the maintenance of fire prevention and/or control equipment is the SSO.

9.8 Significant Vapor Release

Based on the proposed tasks, the potential for a significant vapor is low. However, if a release occurs, the following steps will be taken:

- Move all personnel to an upwind location. All non-essential personnel shall evacuate.
- Upgrade to Level C Respiratory Protection.
- Downwind perimeter locations shall be monitored for volatile organics..
- If the release poses a potential threat to human health or the environment in the community, the Emergency Coordinator shall notify the Langan Project Manager.
- Local emergency response coordinators will be notified.

9.9 Overt Chemical Exposure

The following are standard procedures to treat chemical exposures. Other, specific procedures detailed on the Material Safety Data Sheet (MSDS) will be followed, when necessary.

SKIN AND EYE: Use copious amounts of soap and water from eye-wash kits and portable hand wash stations.

CONTACT: Wash/rinse affected areas thoroughly, then provide appropriate medical attention. Eyes shall be rinsed for, minimally, 15 minutes upon chemical contamination. Skin shall also be rinsed for 15 minutes if contact with caustics,

acids or hydrogen peroxide occurs. Affected items of clothing shall also be removed from contact with skin.

Providing wash water and soap will be the responsibility of each individual contractor or subcontractor on-site.

9.10 Decontamination During Medical Emergencies

If emergency life-saving first aid and/or medical treatment is required, normal decontamination procedures may need to be abbreviated or omitted. The SSO or designee will accompany contaminated victims to the medical facility to advise on matters involving decontamination when necessary. The outer garments can be removed if they do not cause delays, interfere with treatment or aggravate the problem. Respiratory equipment must always be removed. Protective clothing can be cut away. If the outer contaminated garments cannot be safely removed on site, a plastic barrier placed between the injured individual and clean surfaces should be used to help prevent contamination of the inside of ambulances and/or medical personnel. Outer garments may then be removed at the medical facility. No attempt will be made to wash or rinse the victim if his/her injuries are life threatening, unless it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause severe injury or loss of life to emergency response personnel. For minor medical problems or injuries, the normal decontamination procedures will be followed.

9.11 Incident Reporting

Once first aid and/or emergency response needs have been met, the following parties are to be contacted:

- Langan Health and Safety Manager, Tony Moffa (215-491-6500)
- Langan Project Manager, Chris McMahon or Steve Ciambruschini (201-794-6900)
- The employer of any injured worker who is not a Langan employee

For emergencies involving personal injury and/or exposure including near-misses, the SSO or designee will complete and submit an Incident Report form (Attachment D) within 48 hours. If the employee involved is not a Langan employee, his employer shall receive a copy of the report.

9.12 Adverse Weather Conditions

In the event of adverse weather conditions, the SSO/Site Supervisor will determine if work will continue without potentially risking the safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries.
- Potential for cold stress and cold-related injuries.
- Treacherous weather-related working conditions (hail, rain, snow, ice, high winds).
- Limited visibility (fog).
- Potential for electrical storms.
- Earthquakes.
- Other major incidents.

Site activities will be limited to daylight hours, or when suitable artificial light is provided, and acceptable weather conditions prevail. The SSO will determine the need to cease field operations or observe daily weather reports and evacuate, if necessary, in case of severe inclement weather conditions.

9.13 Spill Control and Response

All small spills/environmental releases shall be contained as close to the source as possible. Whenever possible, the MSDS will be consulted to assist in determining proper waste characterization and the best means of containment and cleanup. For small spills, sorbent materials such as sand, sawdust or commercial sorbents should be placed directly on the substance to contain the spill and aid recovery. Any acid spills should be diluted or neutralized carefully prior to attempting recovery. Berms of earthen or sorbent materials can be used to contain the leading edge of the spills. All spill containment materials will be properly disposed. An exclusion zone of 50 to 100 feet around the spill area should be established depending on the size of the spill.

All contractor vehicles shall have spill kits on them with enough material to contain and absorb the worst-case spill from that vehicle. All vehicles and equipment shall be inspected prior to be admitted on site. Any vehicle or piece of equipment that develops a leak will be taken out of service and removed from the job site.

All subcontractor employees as well as Langan employees will be 40-hour HAZWOPER trained.

The following seven steps shall be taken by the Emergency Coordinator:

1. Determine the nature, identity and amounts of major spills.
2. Make sure all unnecessary persons are removed from the spill area.
3. Notify the Site Supervisor or SSO immediately.
4. Use proper PPE in consultation with the SSO/Site Supervisor.
5. If a flammable liquid, gas or vapor is involved, remove all ignition sources and use non-sparking and/or explosion-proof equipment to contain or clean up the spill (diesel-only vehicles, air-operated pumps, etc.)
6. If possible, try to stop the leak with appropriate material.
7. Remove all surrounding materials that can react or compound with the spill.

In addition to the spill control and response procedures described in this CHASP, Langan personnel will coordinate with the designated project manager relative to spill response and control actions. Notification to the Project Manager must be immediate and, to the extent possible, include the following information:

- Time and location of the spill.
- Type and nature of the material spilled.
- Amount spilled.
- Whether the spill has affected or has a potential to affect a waterway or sewer.
- A brief description of affected areas/equipment.
- Whether the spill has been contained.

- Expected time of cleanup completion. If spill cleanup cannot be handled by Langan's on-site personnel alone, such fact must be conveyed to the Project Manager immediately.

Langan shall not make any notification of spills to outside agencies. The client will notify regulatory agencies as per their reporting procedures.

9.14 Emergency Equipment

The following minimum emergency equipment shall be kept and maintained on site:

- Industrial first aid kit.
- Fire extinguishers (one per site).
- Absorbent material.

9.15 Restoration and Salvage

After an emergency, prompt restoration of utilities, fire protection equipment, medical supplies and other equipment will reduce the possibility of further losses. Some of the items that may need to be addressed are:

- Refilling fire extinguishers.
- Refilling medical supplies.
- Recharging eyewashes and/or showers.
- Replenishing spill control supplies.

10.0 TRAINING

10.1 General Health and Safety Training

With Langan corporate policy, and pursuant to 29 CFR 1910.120, hazardous waste site workers shall, at the time of job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations unless otherwise noted in the above reference. At a minimum, the training shall have consisted of instruction in the topics outlined in the standard. Personnel who have not satisfied the requirements for initial training shall not be

allowed to work in any site activities in which they may be exposed to hazards (chemical or physical).

10.2 Annual Eight-Hour Refresher Training

Annual eight-hour refresher training will be required of all hazardous waste site field personnel in order to maintain their qualifications for site work. The training will cover a review of 1910.120 requirements and related company programs and procedures. The SSO will be required to have the eight-hour HAZWOPER supervisor training.

10.3 Site-Specific Training

Prior to commencement of site activities, all field personnel assigned to the project will have completed training that will specifically address the activities, procedures, monitoring, and equipment used in the site operations. It will include a documented verbal review of the entire CHASP and all the provisions within the CHASP document. Should any new employees arrive on-site, they will also be given a documented full CHASP review – or one that address the appropriate tasks that remain at the time of the new employee's arrival.

10.4 Onsite Safety Briefings

Project personnel and visitors will participate in documented daily on-site health and safety briefings ("Tailgate Talks") led by the SSO/Site Supervisor to assist site personnel in safely conducting their work activities. The briefings will include information on operations to be conducted that shift, changes in work practices or changes in the site's environmental conditions, as well as periodic reinforcement of previously discussed topics. The briefings will also provide a forum to facilitate conformance with safety requirements and to identify performance deficiencies related to safety during daily activities or as a result of safety inspections. The meetings will also be an opportunity for the work crews to be updated on monitoring results. Prior to starting any new activity, a training session will be held for crew members involved in the activity. The Safety Briefing Form (Attachment E) can be used to facilitate this effort.

10.5 First Aid and CPR

The SSO will identify those individuals with first aid and CPR training in order to ensure that emergency medical treatment is available during field activities. The training will be consistent with the requirements of the American Red Cross or the National Safety Council.

10.6 Hazard Communication

All material brought on-site will be in the appropriate containers and will be properly labeled. The MSDS for unleaded gasoline, diesel fuel, and hydraulic fluid are attached. Langan's written Hazard Communication program, in compliance with 29 CFR 1910.1200, is maintained in Langan's office in Elmwood Park, New Jersey.

11.0 RECORDKEEPING

The following is a summary of required health and safety logs, reports and recordkeeping.

11.1 Field Change Authorization Request

A field change authorization request is to be completed for requesting a change to this CHASP (Attachment B). Any changes to the work to be performed that is not included in the CHASP will require an Addendum that is approved by the Langan Project Manager and Langan HSC to be prepared. Approved changes will be reviewed with all field personnel at a safety briefing.

11.2 Medical and Training Records

Copies or verification of training (40-hour, 8-hour, supervisor, site-specific training, documentation of three-day OJT, and respirator fit-test records) and medical clearance for Site work and respirator use will be maintained in the office and available upon request. Records for all subcontractor employees must also be available upon request. All employee medical records will be maintained by the HSC.

11.3 Onsite Log

A log of personnel on site each day will be kept by the SSO or designee.

11.4 Daily Safety Meetings ("Tailgate Talks")

Completed Safety Briefing forms will be maintained by the SSO.

11.5 Exposure Records

All personal monitoring results, laboratory reports, calculations and air sampling data sheets are part of an employee exposure record. These records will be maintained by the SSO/Site Supervisor during site work. At the end of the project they will be maintained according to 29 CFR 1910.1020.

11.6 Incident Reports

The incident reporting during site work will follow the procedures specified herein.

11.7 OSHA Form 300

An OSHA Form 300 will be kept at the Langan Office in Doylestown, Pennsylvania. All recordable injuries or illnesses will be recorded on this form. Subcontractor employers must also meet the requirements of maintaining an OSHA 300 form. The Incident Report form used to capture the details of work-related injuries/illnesses meets the requirements of the OSHA Form 301 (supplemental record) and must be maintained with the OSHA Form 300 for all recordable injuries or illnesses.

11.8 Hazard Communication Program/MSDS

Material Safety Data Sheets (MSDS) have been obtained for applicable substances and are included in this EHS Plan (Attachment A). Langan's written Hazard Communication program, in compliance with 29 CFR 1910.1200, is maintained by the HSC in Elmwood Park, New Jersey.

11.9 Work Permits

All work permits, including, but not limited to, street-opening, hot work, lockout/tagout, and line-breaking permits will be maintained in the project files.

12.0 FIELD PERSONNEL REVIEW

This form serves as documentation that field personnel have been verbally given a full CHASP review by Langan personnel, and understand the provisions of this EHS Plan. It is maintained on site by the SSO as a project record.

Each field team member shall sign this section after Site-specific training is completed and before being permitted to work onsite.

I have been given a verbal full CHASP review by Langan personnel and understand the information presented. I will comply with the provisions contained herein.

Name (Print and Sign)	***Company***	***Date***

TABLES

TABLE 1
SUSPECTED CONTAMINANTS OF CONCERN
363 BOND STREET
BROOKLYN, NEW YORK

Contaminant Of Concern	Affected Media
VOLATILES	
1,2,4-Trimethylbenzene	Groundwater
1,3,5-Trimethylbenzene	Groundwater
Acetone	Soil / Groundwater
Benzene	Soil / Soil Vapor / Groundwater
Ethylbenzene	Soil / Soil Vapor / Groundwater
Toluene	Soil / Soil Vapor
Xylenes	Soil / Soil Vapor / Groundwater
Isopropyl Benzene	Groundwater
Methylene Chloride	Soil
N-Propylbenzene	Groundwater
Tetrachloroethylene	Soil Vapor
Trichloroethylene	Soil Vapor / Groundwater
Vinyl Chloride	Groundwater
SEMI-VOLATILES	
2,4-Dimethylphenol	Groundwater
2-Methylphenol (O-Cresol)	Groundwater
Benzo(a)anthracene	Soil / Groundwater
Benzo(b)flouranthene	Soil / Groundwater
Benzo(a)pyrene	Soil
Benzo(k)fluoranthene	Soil / Groundwater
Chrysene	Soil / Groundwater
Indeno(1,2,3-cd)pyrene	Soil / Groundwater
Dibenzo(a,h)anthracene	Soil
Napthalene	Groundwater
Phenol	Groundwater
PESTICIDES	
4,4'-DDT	Soil
4,4'-DDE	Soil
PCBs	
Aroclor® 1254	Soil

TABLE 1
SUSPECTED CONTAMINANTS OF CONCERN
363 BOND STREET
BROOKLYN, NEW YORK

Contaminant Of Concern	Affected Media
METALS	
Antimony	Groundwater
Arsenic	Soil
Barium	Soil / Groundwater
Cadmium	Soil
Copper	Soil
Iron	Groundwater
Lead	Soil / Groundwater
Magnesium	Groundwater
Manganese	Groundwater
Mercury	Soil
Nickel	Soil
Selenium	Soil / Groundwater
Sodium	Groundwater
Zinc	Soil

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
1,2,4-Trimethylbenzene *	TWA 25 ppm (125 mg/m^3)	---	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)
1,3,5-Trimethylbenzene *	TWA 25 ppm (125 mg/m^3)	---	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)
Acetone	TWA 1000 ppm (2400 mg/m^3)	2500 ppm (10% LEL)	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis
Benzene	1 ppm	50 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritate eyes, skin, nose; respiratory system; giddiness; head, nausea, staggered gait; fatigue, anorexia, lassitude; dermatitis; bone marrow depression; [carcinogenic]
Toluene	200 ppm	500 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritate eyes, nose; fatigue, weakness, confusion, euphoria, dizziness, headache; dilated pupils, lacrimation; nervousness, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage; mucous membrane; narcosis, coma

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
Ethylbenzene	100 ppm	800 ppm (10% LEL)	Inhalation, Ingestion, skin and/or eye contact	Irritate eyes, skin, mucous membrane ;headache, dermatitis; narcosis, coma
Xylenes	100 ppm	900 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritate eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corn vacuolization; anorexia, nausea, vomit, abdominal pain; dermatitis
Isopropyl Benzene *	50 ppm	900 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritate eyes, skin, mucous membrane; dermatitis; headache, narcosis, coma

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
N-Propylbenzene *	---	---	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritation eyes, skin, headache, vomiting, dizziness, drowsiness, fainting
Tetrachloroethylene	15 ppm	150 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Nausea, vomiting, abdominal pain, tremor fingers, jaundice, hepatitis, liver tenderness, dermatitis, monocytosis, kidney damage [potential occupational carcinogen]
Trichloroethylene	100 ppm	1,000 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]
Vinyl Chloride *	TWA 1 ppm	---	Inhalation, skin and/or eye contact (liquid)	lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]
Total Volatile Organics	15 ppm	150 ppm	Inhalation, Skin Absorption, Ingestion	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]
2-Methylphenol (O-Cresol) *	TWA 5 ppm (22 mg/m^3)	250 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
				failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage
Benzo(a)anthracene	0.2 mg/ m^3	80 mg/ m^3	Inhalation, Skin Absorption, Ingestion	Irritate eyes, skin, upper respiratory system, cough
Benzo(b)fluoranthene	0.2 mg/ m^3	80 mg/ m^3	Inhalation, Skin Absorption, Ingestion	Irritate eyes, skin, upper respiratory system, cough
Benzo(a)pyrene	0.2 mg/ m^3	80 mg/ m^3	Inhalation, Skin Absorption, Ingestion	Irritate eyes, skin, upper respiratory system, cough
Chrysene	0.2 mg/ m^3	80 mg/ m^3	Inhalation, Skin Absorption, Ingestion	Irritate eyes, skin, upper respiratory system, cough
Indeno (1,2,3-cd) pyrene	0.2 mg/m^3	80 mg/m^3	Inhalation, Skin Absorption, Ingestion	Irritate eyes, skin, upper respiratory system, cough
Dibenzo(a,h)anthracene	0.2 mg/m^3	80 mg/m^3	Inhalation, Skin Absorption, Ingestion	Irritate eyes, skin, upper respiratory system, cough
Napthalene *	TWA 10 ppm (50 mg/m^3)	250 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage
Phenol *	TWA 5 ppm (19 mg/m^3)	250 ppm	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	irritation eyes, nose, throat; anorexia, weight loss; lassitude (weakness, exhaustion), muscle ache, pain; dark urine; cyanosis; liver, kidney damage; skin burns; dermatitis; ochronosis; tremor, convulsions, twitching

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
4,4'-DDT	TWA 1 mg/m^3	500 mg/ m^3	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	Irritation eyes, mucous membrane; in animals: liver damage; teratogenic effects; [potential occupational carcinogen]
Aroclor® 1254	TWA 0.5 mg/m^3 [skin]	5 mg/m^3	Inhalation, Skin Absorption, Ingestion, skin and/or eye contact	irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen]
Antimony *	TWA 0.5 mg/m^3	50 mg/m^3	Inhalation, skin and/or eye contact	irritation eyes, skin, nose, throat, mouth; cough; dizziness; headache; nausea, vomiting, diarrhea; stomach cramps; insomnia; anorexia; unable to smell properly
Arsenic	0.010 mg/m^3	5 mg/m^3	Inhalation, Ingestion, Skin Absorption, Skin and/or Eye Contact	Ulceration of nasal septum, dermatitis, gastrointestinal disturbances, peripheral neuropathy, resp irritation, hyperpigmentation of skin, [potential occupational carcinogen]
Barium	TWA 15 mg/m^3	---	Inhalation, skin and/or eye contact	irritation eyes, nose, upper respiratory system; benign pneumoconiosis (baritosis)
Cadmium	TWA 0.005 mg/m^3	9 mg/m^3	Inhalation, ingestion	pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; [potential occupational carcinogen]

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
Copper	1 mg/m^3	100 mg/m^3	Inhalation, Ingestion, skin and/or eye contact	Irritation eyes, respiratory system; cough, dyspnea (breathing difficulty), wheezing; [potential occupational carcinogen]
Iron *	10 mg/m^3	2,500 mg/m^3	Inhalation	Benign pneumoconiosis with X-ray shadows indistinguishable from fibrotic pneumoconiosis (siderosis)
Lead	0.05 mg/mg3	100 mg/mg3	Inhalation, Ingestion, Skin and/or Eye Contact	Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypertension
Magnesium *	TWA 15 mg/m^3	750 mg/m^3	Inhalation, skin and/or eye contact	Irritation eyes, nose; metal fume fever: cough, chest pain, flu-like fever
Manganese *	5 mg/m^3	500 mg/m^3	Inhalation, ingestion	Manganism; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like fever; low-back pain; vomiting; malaise (vague feeling of discomfort); lassitude (weakness, exhaustion); kidney damage
Mercury	0.1 mg/m3	10 mg/m3	Inhalation, Ingestion, Skin Absorption, Skin and/or Eye Contact	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation;

TABLE 2
SELECTED POTENTIAL CHEMICAL EXPOSURE LIMITS AND HEALTH EFFECTS
363 BOND STREET
BROOKLYN, NEW YORK

Chemical	Permissible Exposure Limit	IDLH Limit	Exposure Routes	Exposure Symptoms
				gastrointestinal disturbance, anorexia, weight loss; proteinuria
Nickel	TWA 1 mg/m^3	10 mg/m^3	Inhalation, ingestion, skin and/or eye contact	Sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]
Selenium	TWA 0.2 mg/m^3	1 mg/m^3	Inhalation, Ingestion, Skin Absorption, Skin and/or Eye Contact	Irritation eyes, skin, nose, throat; visual disturbance; headache; chills, fever; dyspnea (breathing difficulty), bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns; in animals: anemia; liver necrosis, cirrhosis; kidney, spleen damage
Sodium *	---	---	Inhalation	Irritate the eyes, nose, throat, skin, lungs; headache; nausea; vomiting; diarrhea; abdominal pain

--- No exposure limits listed in the NIOSH Pocket Guide to Chemical Hazards dated November 2010.
* Detected in groundwater and is only a contaminant of concern when groundwater is encountered.

TABLE 3
HAZARD ANALYSIS
363 BOND STREET
BROOKLYN, NEW YORK

Potential Hazard	Site Composite Cap System / Site-Wide Inspections	Soil Vapor Mitigation System Inspections	Soil Vapor Monitoring	Construction of Esplanade / Excavation / Soil Disturbance
Inhalation of volatiles	Low	Low to Moderate	Low to Moderate	Low to Moderate
Skin and eye contact	Low	Low to Moderate	Low to Moderate	Low to Moderate
Ingestion	Low	Low	Low	Low to Moderate
Inhalation of dust	Low	Low	Low	Low to Moderate
Heat stress	depends on temperature	depends on temperature	depends on temperature	depends on temperature
Cold stress	depends on temperature	depends on temperature	depends on temperature	depends on temperature
Confined Space Entry	not applicable	not applicable	not applicable	not applicable
Heavy equipment	Low	Low	Low	Low to Moderate
Noise	Low	Low	Low	Low to Moderate
Tripping	Low to Moderate	Low to Moderate	Low to Moderate	Low to Moderate
PPE	Low	Low	Low	Low
Utilities	Low	Low	Low	Low to Moderate
Other Physical hazards	Low	Low	Low	Low to Moderate
Biological hazards	Low	Low	Low	Low
Flammable hazards	Low	Low	Low	Low

TABLE 4
INSTRUMENTATION ACTION LEVELS
363 BOND STREET
BROOKLYN, NEW YORK

Instrument	Action Level	Level of Protection / Action Required
PID	Background to 5 ppm	Level D/ No respirator; no further action required
	> 5 ppm for > 5 minutes	1. Temporarily discontinue all activities and evaluate potential causes of the excessive readings. If these levels persist and cannot be mitigated (i.e., by slowing drilling or excavation activities), contact HSO to review conditions and determine source and appropriate response action. 2. If PID readings remain above 5 ppm, temporarily discontinue work and upgrade to Level C protection. 3. If sustained PID readings fall below 1 ppm, downgrading to Level D protection may be permitted
	> 5 ppm but < 150 ppm for > 5 minutes	Level C/ 1. Discontinue all work; all workers shall move to an area upwind of the jobsite. 2. Evaluate potential causes of the excessive readings and allow work area to vent until VOC concentrations fall below 5 ppm. 3. Level C protection will continue to be used until PID readings fall below 1 ppm.
	> 30 ppm (steady state condition) within AOC zone	Stop Work / Suppress Emissions / Evacuate and re-evaluate.
	> 150 ppm	Evacuate the work area

Total Dust Aerosol Monitor	> 0.100 mg/m^3 above BKD (steady state condition) at perimeter of AOC zone for 15-minutes or visible dust.	Stop Work / Implement dust control / Continue dust monitoring if dust levels are less than 150 mg/m^3
	< 0.150 mg/m^3 above BKD (following dust suppression measures)	Stop Work / implement dust control, continue work once levels are <150 mg/m^3
	>5 mg/m^3	Level C

Notes:

1. 1 ppm level based on OSHA Permissible Exposure Limit (PEL) for benzene.
2. 5 ppm level based on OSHA Short Term Exposure Limit (STEL) maximum exposure for vinyl chloride for any 15 minute period.
3. 150 ppm level based on NIOSH Immediately Dangerous to Life and Health (IDLH) for tetrachloroethylene.

TABLE 5
PERSONAL PROTECTIVE EQUIPMENT
365 BOND STREET
BROOKLYN, NEW YORK

Respiratory Protection*:*

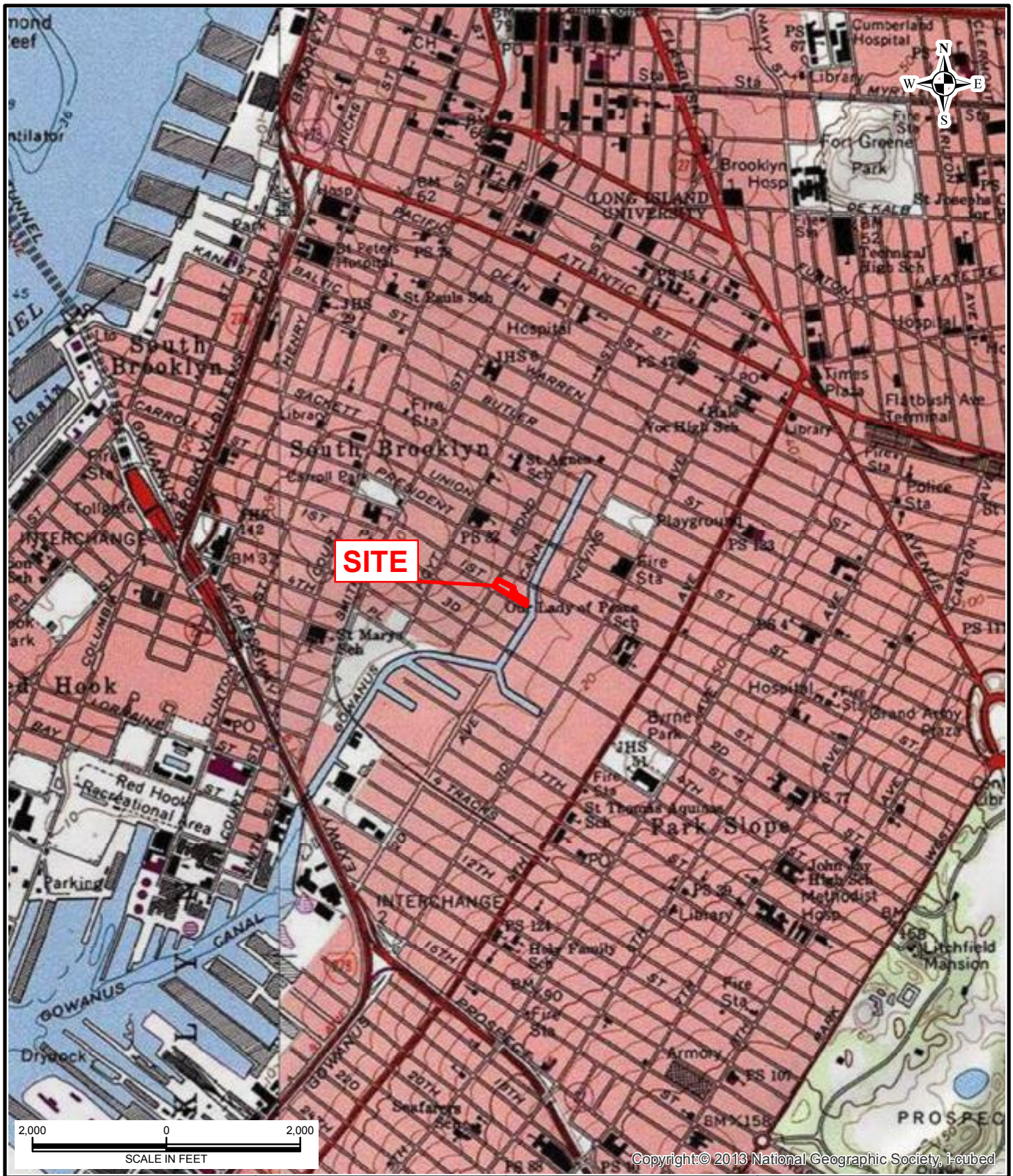
Level D:	No respirator required.
Level C:	Half-face, Air Purifying Respirator (APR) with combination HEPA (dusts, fumes, aerosols) and organic vapor cartridges. The respirator will be NIOSH-approved.
Level C - supplemental by task	Fullface, Air Purifying Respirator (APR) with combination HEPA (dusts, fumes, aerosols), acid gas, organic vapor cartridges. The respirator will be NIOSH-approved.

Personal Protective Clothing*:*

Level D:	Hard-hat, traffic vest (if working on or adjacent to the roadway), long sleeve work shirt & work pants of natural fibers, safety glasses or goggles, steel-toed boots, hearing protection (if needed), nitril inner gloves and leather outer gloves.
Level D - supplemental PPE by task	Tyvek disposal suit
Level C:	Chemically resistant outer boots and Chemical resistant Tyvek disposal suite.

\\LANGAN.COM\DATA\EP\DATA5\100287501\ENGINEERING DATA\ENVIRONMENTAL\REPORTS\2015 - 363 BOND STREET SMP\APPENDIX G - HASP\TABLES\CHASP TABLE 5 - PPE.DOC

FIGURES



LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES
619 River Drive Center 1
Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366
www.langan.com
NEW JERSEY NEW YORK VIRGINIA CALIFORNIA
PENNSYLVANIA CONNECTICUT FLORIDA
ABU DHABI ATHENS DOHA
DUBAI ISTANBUL
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project

363 BOND STREET

BLOCK 452, LOT 1

BROOKLYN

KINGS COUNTY NEW YORK

Drawing Title

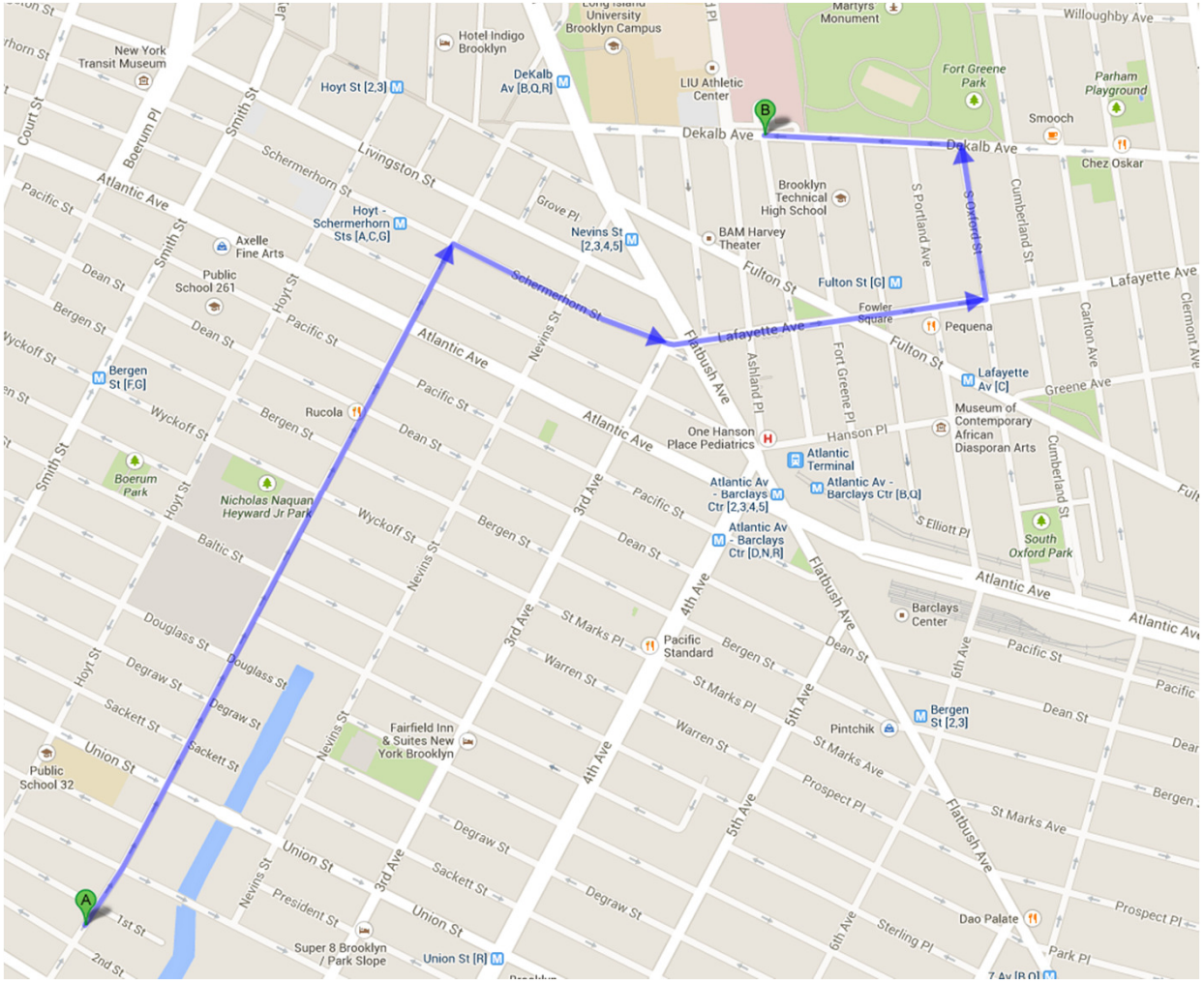
SITE LOCATION MAP

Project No.	100287501
Date	10/19/2012
Scale	1"=2000'
Drawn By	amf
Last Revised	10/11/2013

Figure 1

© 2013 Langan

Path: \\langan.com\data\EP\data5\100287501\ArcGIS\ArcMap_Documents\2013-10 - IRMWP (363)\Figure 1 - Site Location Plan.mxd



Emergency Route to The Brooklyn Hospital Center [Phone (718) 250-8075]:

1 Start traveling northeast on Bond Street toward Carroll Street
2 Turn right onto Schermerhorn Street
3 Continue onto Lafayette Street
4 Turn left onto South Oxford Street
5 Turn left onto DeKalb Avenue
6 Arrive at The Brooklyn Hospital Center, 121 DeKalb Avenue, Brooklyn, NY 11201

MAP REFERENCE: Google Maps

LANGAN

Project

363 BOND STREET
EMERGENGY HOSPITAL ROUTE MAP

Brooklyn **New York**

PROJECT NO.	DATE	SCALE	FIGURE NO.
100287501	**7/15/2015**	**NTS**	**2**

\\Langan.com\data\EP\data5\100287501\Engineering Data\Environmental\Reports\2015 - 363 Bond Street SMP\Appendix G - HASP\Figures\Figure 2 - Hospital Route (Revised 2015-07-15)/Figure 2 - Hospital Route (Revised 2015-07-15)

ATTACHMENT A

Material Safety Data Sheets (MSDS)

MATERIAL SAFETY DATA SHEET

Diesel Fuel (All Types)

MSDS No. 9909

EMERGENCY OVERVIEW
CAUTION!
OSHA/NFPA COMBUSTIBLE LIQUID - SLIGHT TO MODERATE IRRITANT
EFFECTS CENTRAL NERVOUS SYSTEM
HARMFUL OR FATAL IF SWALLOWED

Moderate fire hazard. Avoid breathing vapors or mists. May cause dizziness and drowsiness. May cause moderate eye irritation and skin irritation (rash). Long-term, repeated exposure may cause skin cancer.
If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

NFPA 704 (Section 16)

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

EMERGENCY TELEPHONE NUMBER (24 hrs): **CHEMTREC (800) 424-9300**
COMPANY CONTACT (business hours): Corporate Safety (732) 750-6000
MSDS INTERNET WEBSITE: www.hess.com (See Environment, Health, Safety & Social Responsibility)

SYNONYMS: Ultra Low Sulfur Diesel (ULSD); Low Sulfur Diesel; Motor Vehicle Diesel Fuel; Diesel Fuel #2; Dyed Diesel Fuel; Non-Road, Locomotive and Marine Diesel Fuel; Tax-exempt Diesel Fuel

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and CHEMICAL INFORMATION ON INGREDIENTS

INGREDIENT NAME (CAS No.)	CONCENTRATION PERCENT BY WEIGHT
Diesel Fuel (68476-34-6)	100
Naphthalene (91-20-3)	Typically < 0.01

A complex mixture of hydrocarbons with carbon numbers in the range C9 and higher. Diesel fuel may be dyed (red) for tax purposes. May contain a multifunctional additive.

3. HAZARDS IDENTIFICATION

EYES
Contact with liquid or vapor may cause mild irritation.

SKIN
May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following acute (single) exposure. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

INGESTION
The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

INHALATION
Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

CHRONIC EFFECTS and CARCINOGENICITY
Similar products produced skin cancer and systemic toxicity in laboratory animals following repeated applications. The significance of these results to human exposures has not been determined - see Section 11 Toxicological Information.

IARC classifies whole diesel fuel exhaust particulates as probably carcinogenic to humans (Group 2A). NIOSH regards whole diesel fuel exhaust particulates as a potential cause of occupational lung cancer based on animal studies and limited evidence in humans.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash).

4. FIRST AID MEASURES

EYES
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.

INGESTION
DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

INHALATION
Remove person to fresh air. If person is not breathing provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT:	> 125 ^{o}F (> 52 ^{o}C) minimum PMCC
AUTOIGNITION POINT:	494 ^{o}F (257 ^{o}C)
OSHA/NFPA FLAMMABILITY CLASS:	2 (COMBUSTIBLE)
LOWER EXPLOSIVE LIMIT (%):	0.6
UPPER EXPLOSIVE LIMIT (%):	7.5

FIRE AND EXPLOSION HAZARDS
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

FIRE FIGHTING INSTRUCTIONS

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

See Section 16 for the NFPA 704 Hazard Rating.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

7. HANDLING and STORAGE

HANDLING PRECAUTIONS

Handle as a combustible liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Diesel fuel, and in particular low and ultra low sulfur diesel fuel, has the capability of accumulating a static electrical charge of sufficient energy to cause a fire/explosion in the presence of lower flashpoint products such as gasoline. The accumulation of such a static charge occurs as the diesel flows through pipelines, filters, nozzles and various work tasks such as tank/container filling, splash loading, tank cleaning; product sampling; tank gauging; cleaning, mixing, vacuum truck operations, switch loading, and product agitation. There is a greater potential for static charge accumulation in cold temperature, low humidity conditions.

Documents such as 29 CFR OSHA 1910.106 "Flammable and Combustible Liquids, NFPA 77 Recommended Practice on Static Electricity, API 2003 "Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents and ASTM D4865 "Standard Guide for Generation and Dissipation of Static

Electricity in Petroleum Fuel Systems" address special precautions and design requirements involving loading rates, grounding, bonding, filter installation, conductivity additives and especially the hazards associated with "switch loading." ["Switch Loading" is when a higher flash point product (such as diesel) is loaded into tanks previously containing a low flash point product (such as gasoline) and the electrical charge generated during loading of the diesel results in a static ignition of the vapor from the previous cargo (gasoline).]

Note: When conductivity additives are used or are necessary the product should achieve 25 picosiemens/meter or greater at the handling temperature.

STORAGE PRECAUTIONS

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

WORK/HYGIENIC PRACTICES

Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

EXPOSURE LIMITS

Components (CAS No.)	Source	Exposure Limits TWA/STEL	Note
Diesel Fuel: (68476-34-6)	OSHA	5 mg/m, as mineral oil mist	
	ACGIH	100 mg/m^3 (as totally hydrocarbon vapor) TWA	A3, skin
Naphthalene (91-20-3)	OSHA	10 ppm TWA	
	ACGIH	10 ppm TWA / 15 ppm STEL	A4, Skin

ENGINEERING CONTROLS

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

EYE/FACE PROTECTION

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

SKIN PROTECTION

Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION
A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE
Clear, straw-yellow liquid. Dyed fuel oil will be red or reddish-colored.

ODOR
Mild, petroleum distillate odor

BASIC PHYSICAL PROPERTIES

BOILING RANGE:	320 to 690 oF (160 to 366 ^{o}C)
VAPOR PRESSURE:	0.009 psia @ 70 ^{o}F (21 ^{o}C)
VAPOR DENSITY (air = 1):	> 1.0
SPECIFIC GRAVITY (H_2O = 1):	0.83 to 0.88 @ 60 ^{o}F (16 ^{o}C)
PERCENT VOLATILES:	100 %
EVAPORATION RATE:	Slow; varies with conditions
SOLUBILITY (H_2O):	Negligible

10. STABILITY and REACTIVITY

STABILITY: Stable. Hazardous polymerization will not occur.

CONDITIONS TO AVOID and INCOMPATIBLE MATERIALS
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Keep away from strong oxidizers; Viton ®; Fluorel ®

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

11. TOXICOLOGICAL PROPERTIES

ACUTE TOXICITY
Acute dermal LD50 (rabbits): > 5 ml/kg
Acute oral LD50 (rats): 9 ml/kg
Primary dermal irritation: extremely irritating (rabbits)
Draize eye irritation: non-irritating (rabbits)
Guinea pig sensitization: negative

CHRONIC EFFECTS AND CARCINOGENICITY
Carcinogenic: OSHA: NO IARC: NO NTP: NO ACGIH: A3

Studies have shown that similar products produce skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

MUTAGENICITY (genetic effects)
This material has been positive in a mutagenicity study.

12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

13. DISPOSAL CONSIDERATIONS

Consult federal, state and local waste regulations to determine appropriate disposal options.

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME:	Diesel Fuel	Placard (International Only):
HAZARD CLASS and PACKING GROUP:	3, PG III	
DOT IDENTIFICATION NUMBER:	NA 1993 (Domestic) UN 1202 (International)	
DOT SHIPPING LABEL:	None	

Use Combustible Placard if shipping in bulk domestically

15. REGULATORY INFORMATION

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product and its constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product may contain listed chemicals below the *de minimis* levels which therefore are not subject to the supplier notification requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372. If you may be required to report releases of chemicals listed in 40 CFR 372.28, you may contact Hess Corporate Safety if you require additional information regarding this product.

CALIFORNIA PROPOSITON 65 LIST OF CHEMICALS

This product contains the following chemicals that are included on the Proposition 65 "List of Chemicals" required by the California Safe Drinking Water and Toxic Enforcement Act of 1986:

INGREDIENT NAME (CAS NUMBER)	Date Listed
Diesel Engine Exhaust (no CAS Number listed)	10/01/1990

CANADIAN REGULATORY INFORMATION (WHMIS)

Class B, Division 3 (Combustible Liquid) and Class D, Division 2, Subdivision B (Toxic by other means)

16. OTHER INFORMATION

NFPA® HAZARD RATING HEALTH: 0
FIRE: 2
REACTIVITY: 0

Refer to NFPA 704 "Identification of the Fire Hazards of Materials" for further information

HMIS® HAZARD RATING HEALTH: 1 * * Chronic
FIRE: 2
PHYSICAL: 0

SUPERSEDES MSDS DATED: 02/28/2001

ABBREVIATIONS:

AP = Approximately < = Less than > = Greater than
N/A = Not Applicable N/D = Not Determined ppm = parts per million

ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute (212) 642-4900
API	American Petroleum Institute (202) 682-8000
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation [General info: (800) 467-4922]
EPA	U.S. Environmental Protection Agency
HMIS	Hazardous Materials Information System
IARC	International Agency For Research On Cancer
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association (617)770-3000
NIOSH	National Institute of Occupational Safety and Health
NOIC	Notice of Intended Change (proposed change to ACGIH TLV)
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit (NIOSH)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	Self-Contained Breathing Apparatus
SPCC	Spill Prevention, Control, and Countermeasures
STEL	Short-Term Exposure Limit (generally 15 minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 hr.)
WEEL	Workplace Environmental Exposure Level (AIHA)
WHMIS	Canadian Workplace Hazardous Materials Information System

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

MATERIAL SAFETY DATA SHEET

Gasoline, All Grades **MSDS No. 9950**

EMERGENCY OVERVIEW
DANGER!
EXTREMELY FLAMMABLE - EYE AND MUCOUS MEMBRANE IRRITANT - EFFECTS CENTRAL NERVOUS SYSTEM - HARMFUL OR FATAL IF SWALLOWED - ASPIRATION HAZARD

NFPA 704 (Section 16)

High fire hazard. Keep away from heat, spark, open flame, and other ignition sources.

If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs). Contact may cause eye, skin and mucous membrane irritation. Harmful if absorbed through the skin. Avoid prolonged breathing of vapors or mists. Inhalation may cause irritation, anesthetic effects (dizziness, nausea, headache, intoxication), and respiratory system effects.

Long-term exposure may cause effects to specific organs, such as to the liver, kidneys, blood, nervous system, and skin. Contains benzene, which can cause blood disease, including anemia and leukemia.

1. CHEMICAL PRODUCT and COMPANY INFORMATION

Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

EMERGENCY TELEPHONE NUMBER (24 hrs): **CHEMTREC (800)424-9300**
COMPANY CONTACT (business hours): Corporate Safety (732)750-6000
MSDS (Environment, Health, Safety) Internet Website www.hess.com

SYNONYMS: Hess Conventional (Oxygenated and Non-oxygenated) Gasoline; Reformulated Gasoline (RFG); Reformulated Gasoline Blendstock for Oxygenate Blending (RBOB); Unleaded Motor or Automotive Gasoline

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and INFORMATION ON INGREDIENTS *

INGREDIENT NAME (CAS No.)	CONCENTRATION PERCENT BY WEIGHT
Gasoline (86290-81-5)	100
Benzene (71-43-2)	0.1 - 4.9 (0.1 - 1.3 reformulated gasoline)
n-Butane (106-97-8)	< 10
Ethyl Alcohol (Ethanol) (64-17-5)	0 - 10
Ethyl benzene (100-41-4)	< 3
n-Hexane (110-54-3)	0.5 to 4
Methyl-tertiary butyl ether (MTBE) (1634-04-4)	0 to 15.0
Tertiary-amyl methyl ether (TAME) (994-05-8)	0 to 17.2
Toluene (108-88-3)	1 - 25
1,2,4- Trimethylbenzene (95-63-6)	< 6
Xylene, mixed isomers (1330-20-7)	1 - 15

A complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene, and aromatic hydrocarbons. May contain antioxidant and multifunctional additives. Non-oxygenated Conventional Gasoline and RBOB do not have oxygenates (Ethanol or MTBE and/or TAME).

Oxygenated Conventional and Reformulated Gasoline will have oxygenates for octane enhancement or as legally required.

3. HAZARDS IDENTIFICATION

EYES
Moderate irritant. Contact with liquid or vapor may cause irritation.

SKIN
Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are exposed repeatedly.

INGESTION
The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

INHALATION
Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

CHRONIC EFFECTS and CARCINOGENICITY
Contains benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 - Toxicological Information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash). Chronic respiratory disease, liver or kidney dysfunction, or pre-existing central nervous system disorders may be aggravated by exposure.

4. FIRST AID MEASURES

EYES
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.

INGESTION

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

INHALATION
Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASH POINT:	-45 ^{o}F (-43^{o}C)
AUTOIGNITION TEMPERATURE:	highly variable; > 530 ^{o}F (>280 ^{o}C)
OSHA/NFPA FLAMMABILITY CLASS:	1A (flammable liquid)
LOWER EXPLOSIVE LIMIT (%):	1.4%
UPPER EXPLOSIVE LIMIT (%):	7.6%

FIRE AND EXPLOSION HAZARDS
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

During certain times of the year and/or in certain geographical locations, gasoline may contain MTBE and/or TAME. Firefighting foam suitable for polar solvents is recommended for fuel with greater than 10% oxygenate concentration - refer to NFPA 11 “Low Expansion Foam - 1994 Edition.”

FIRE FIGHTING INSTRUCTIONS
Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

See Section 16 for the NFPA 704 Hazard Rating.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY SPILL CONTINGENCY or EMERGENCY PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

7. HANDLING and STORAGE

HANDLING PRECAUTIONS

******USE ONLY AS A MOTOR FUEL******
******DO NOT SIPHON BY MOUTH******

Handle as a flammable liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents.

STORAGE PRECAUTIONS

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

WORK/HYGIENIC PRACTICES

Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

EXPOSURE LIMITS

Component (CAS No.)	Source	TWA (ppm)	STEL (ppm)	Exposure Limits Note
Gasoline (86290-81-5)	ACGIH	300	500	A3
Benzene (71-43-2)	OSHA	1	5	Carcinogen
	ACGIH	0.5	2.5	A1, skin
	USCG	1	5	
n-Butane (106-97-8)	ACGIH	1000	--	Aliphatic Hydrocarbon Gases Alkane (C1-C4)
Ethyl Alcohol (ethanol) (64-17-5)	OSHA	1000	--	
	ACGIH	1000	--	A4
Ethyl benzene (100-41-4)	OSHA	100	--	
	ACGIH	100	125	A3
n-Hexane (110-54-3)	OSHA	500	--	
	ACGIH	50	--	Skin
Methyl-tertiary butyl ether [MTBE] (1634-04-4)	ACGIH	50		A3
Tertiary-amyl methyl ether [TAME] (994-05-8)				None established
Toluene (108-88-3)	OSHA	200		Ceiling: 300 ppm; Peak: 500 ppm (10 min.)
	ACGIH	20	--	A4
1,2,4- Trimethylbenzene (95-63-6)	ACGIH	25	--	
Xylene, mixed isomers (1330-20-7)	OSHA	100	--	
	ACGIH	100	150	A4

ENGINEERING CONTROLS

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

EYE/FACE PROTECTION

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

SKIN PROTECTION

Gloves constructed of nitrile or neoprene are recommended. Chemical protective clothing such as that made of of E.I. DuPont Tychem ®, products or equivalent is recommended based on degree of exposure.

Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION

A NIOSH-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection and limitations.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL and CHEMICAL PROPERTIES

APPEARANCE

A translucent, straw-colored or light yellow liquid

ODOR
A strong, characteristic aromatic hydrocarbon odor. Oxygenated gasoline with MTBE and/or TAME may have a sweet, ether-like odor and is detectable at a lower concentration than non-oxygenated gasoline.

ODOR THRESHOLD

	Odor Detection	Odor Recognition
Non-oxygenated gasoline:	0.5 - 0.6 ppm	0.8 - 1.1 ppm
Gasoline with 15% MTBE:	0.2 - 0.3 ppm	0.4 - 0.7 ppm
Gasoline with 15% TAME:	0.1 ppm	0.2 ppm

BASIC PHYSICAL PROPERTIES

BOILING RANGE:	85 to 437 ^{o}F (39 to 200 ^{o}C)
VAPOR PRESSURE:	6.4 - 15 RVP @ 100 ^{o}F (38 ^{o}C) (275-475 mm Hg @ 68 ^{o}F (20 ^{o}C)
VAPOR DENSITY (air = 1):	AP 3 to 4
SPECIFIC GRAVITY (H_2O = 1):	0.70 – 0.78
EVAPORATION RATE:	10-11 (n-butyl acetate = 1)
PERCENT VOLATILES:	100 %
SOLUBILITY (H_2O):	Non-oxygenated gasoline - negligible (< 0.1% @ 77 ^{o}F). Gasoline with 15% MTBE - slight (0.1 - 3% @ 77 ^{o}F); ethanol is readily soluble in water

10. STABILITY and REACTIVITY)

STABILITY: Stable. Hazardous polymerization will not occur.

CONDITIONS TO AVOID
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources

INCOMPATIBLE MATERIALS
Keep away from strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

11. TOXICOLOGICAL PROPERTIES

ACUTE TOXICITY
Acute Dermal LD50 (rabbits): > 5 ml/kg
Acute Oral LD50 (rat): 18.75 ml/kg
Primary dermal irritation (rabbits): slightly irritating
Draize eye irritation (rabbits): non-irritating
Guinea pig sensitization: negative

CHRONIC EFFECTS AND CARCINOGENICITY
Carcinogenicity: OSHA: NO IARC: YES - 2B NTP: NO ACGIH: YES (A3)

IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

This product may contain methyl tertiary butyl ether (MTBE): animal and human health effects studies indicate that MTBE may cause eye, skin, and respiratory tract irritation, central nervous system depression and neurotoxicity. MTBE is classified as an animal carcinogen (A3) by the ACGIH.

12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations. If released, oxygenates such as ethers and alcohols will be expected to exhibit fairly high mobility in soil, and therefore may leach into groundwater. The API (www.api.org) provides a number of useful references addressing petroleum and oxygenate contamination of groundwater.

13. DISPOSAL CONSIDERATIONS

Consult federal, state and local waste regulations to determine appropriate disposal options.

14. TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME:	Gasoline
DOT HAZARD CLASS and PACKING GROUP:	3, PG II
DOT IDENTIFICATION NUMBER:	UN 1203
DOT SHIPPING LABEL:	FLAMMABLE LIQUID

PLACARD:

15. REGULATORY INFORMATION

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product and its constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other federal, state, or local regulations; consult those regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a “petroleum exclusion” clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA SECTION 313 - SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

INGREDIENT NAME (CAS NUMBER)	CONCENTRATION WT. PERCENT
Benzene (71-43-2)	0.1 to 4.9 (0.1 to 1.3 for reformulated gasoline)
Ethyl benzene (100-41-4)	< 3

n-Hexane (110-54-3)	0.5 to 4
Methyl-tertiary butyl ether (MTBE) (1634-04-4)	0 to 15.0
Toluene (108-88-3)	1 to 15
1,2,4- Trimethylbenzene (95-63-6)	< 6
Xylene, mixed isomers (1330-20-7)	1 to 15

US EPA guidance documents (www.epa.gov/tri) for reporting Persistent Bioaccumulating Toxics (PBTs) indicate this product may contain the following deminimis levels of toxic chemicals subject to Section 313 reporting:

INGREDIENT NAME (CAS NUMBER)	CONCENTRATION - Parts per million (ppm) by weight
Polycyclic aromatic compounds (PACs)	17
Benzo (g,h,i) perylene (191-24-2)	2.55
Lead (7439-92-1)	0.079

CALIFORNIA PROPOSITION 65 LIST OF CHEMICALS

This product contains the following chemicals that are included on the Proposition 65 "List of Chemicals" required by the California Safe Drinking Water and Toxic Enforcement Act of 1986:

INGREDIENT NAME (CAS NUMBER)	Date Listed
Benzene	2/27/1987
Ethyl benzene	6/11/2004
Toluene	1/1/1991

CANADIAN REGULATORY INFORMATION (WHMIS)

Class B, Division 2 (Flammable Liquid)
Class D, Division 2A (Very toxic by other means) and Class D, Division 2B (Toxic by other means)

16. OTHER INFORMATION

NFPA® HAZARD RATING	HEALTH:	1	Slight
	FIRE:	3	Serious
	REACTIVITY:	0	Minimal
HMIS® HAZARD RATING	HEALTH:	1 *	Slight
	FIRE:	3	Serious
	PHYSICAL:	0	Minimal
			* CHRONIC

SUPERSEDES MSDS DATED: 07/01/06

ABBREVIATIONS:

AP = Approximately	< = Less than	> = Greater than
N/A = Not Applicable	N/D = Not Determined	ppm = parts per million

ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
AIHA	American Industrial Hygiene Association	DOT	U.S. Department of Transportation [General Info: (800)467-4922]
ANSI	American National Standards Institute (212)642-4900	EPA	U.S. Environmental Protection Agency
API	American Petroleum Institute (202)682-8000	HMIS	Hazardous Materials Information System

IARC	International Agency For Research On Cancer	REL	Recommended Exposure Limit (NIOSH)
MSHA	Mine Safety and Health Administration	SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
NFPA	National Fire Protection Association (617)770-3000	SCBA	Self-Contained Breathing Apparatus
NIOSH	National Institute of Occupational Safety and Health	SPCC	Spill Prevention, Control, and Countermeasures
NOIC	Notice of Intended Change (proposed change to ACGIH TLV)	STEL	Short-Term Exposure Limit (generally 15 minutes)
NTP	National Toxicology Program	TLV	Threshold Limit Value (ACGIH)
OPA	Oil Pollution Act of 1990	TSCA	Toxic Substances Control Act
OSHA	U.S. Occupational Safety & Health Administration	TWA	Time Weighted Average (8 hr.)
PEL	Permissible Exposure Limit (OSHA)	WEEL	Workplace Environmental Exposure Level (AIHA)
RCRA	Resource Conservation and Recovery Act	WHMIS	Workplace Hazardous Materials Information System (Canada)

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

Material Safety Data Sheet

SECTION I - Material Identity
SECTION II - Manufacturer's Information
SECTION III - Physical/Chemical Characteristics
SECTION IV - Fire and Explosion Hazard Data
SECTION V - Reactivity Data
SECTION VI - Health Hazard Data
SECTION VII - Precautions for Safe Handling and Use
SECTION VIII - Control Measures
SECTION IX - Label Data
SECTION X - Transportation Data
SECTION XI - Site Specific/Reporting Information
SECTION XII - Ingredients/Identity Information

SECTION I - Material Identity

Item Name	
Part Number/Trade Name	LUBRIPLATE HYDRAULIC OIL, SPECIAL LOW (SUPP
National Stock Number	9150L400652F
CAGE Code	73219
Part Number Indicator	A
MSDS Number	184027
HAZ Code	B

SECTION II - Manufacturer's Information

Manufacturer Name	FISKE BROTHERS REFINING CO
Street	129 LOCKWOOD ST
City	NEWARK
State	NJ
Country	US
Zip Code	07105
Emergency Phone	201-589-9150
Information Phone	201-589-9150

MSDS Preparer's Information

MSDS Preparer Name	ROBERT J. SIBILIA
Date MSDS Prepared/Revised	01JUL90
Date of Technical Review	10SEP92
Active Indicator	N

Alternate Vendors

Vendor #5 CAGE	BPXSL

SECTION III - Physical/Chemical Characteristics

Hazard Storage Compatibility Code	N1
Appearance/Odor	TRANSPARENT AMBER OIL WITH MINERAL OIL ODOR
Boiling Point	>550F,>288C
Melting Point	LIQUID
Vapor Pressure	<0.01
Vapor Density	>5
Specific Gravity	0.87
Decomposition Temperature	N/K
Evaporation Rate	<0.01 (BUTYL ACETATE=1)
Solubility in Water	NEGLIGIBLE
Percent Volatiles by Volume	N/K
Chemical pH	N/K
Corrosion Rate	N/K
Container Pressure Code	4
Temperature Code	8
Product State Code	U

SECTION IV - Fire and Explosion Hazard Data

Flash Point	315
Flash Point Method	COC
Lower Explosion Limit	0.9%
Upper Explosion Limit	7%
Extinguishing Media	FOAM, DRY CHEMICAL, CARBON DIOXIDE OR WATER SPRAY(FOG)
Special Fire Fighting Procedures	WEAR NIOSH/MSHA APPROVED SCBA AND FULL PROTECTIVEEQUIPMENT (FP N). COOL EXPOSED CONTAINERS WITH WATER
Unusual Fire/Explosion Hazards	DO NOT STORE OR MIX WITH STRONG OXIDANTS. EMPTY CONTAINERS RETAIN RESIDUE. DO NOT CUT, DRILL, GRIND OR WELD AS THEY MAYEXPLODE

SECTION V - Reactivity Data

Stability	YES
Stability Conditions to Avoid	NOT APPLICABLE
Materials to Avoid	AVOID CONTACT WITH STRONG OXIDANTS LIKE LIQUID CHLORINE, CONCENTRATED OXYGEN
Hazardous Decomposition Products	MAY FORM SO*2. IF INCOMPLETE COMBUSTION, CARBON MONOXIDE
Hazardous Polymerization	NO
Polymerization Conditions to Avoid	NOT RELEVANT
LD50 - LD50 Mixture	NONE SPECIFIED BY MANUFACTURER

SECTION VI - Health Hazard Data

Route of Entry: Skin	NO
Route of Entry: Ingestion	YES
Route of Entry: Inhalation	YES
Health Hazards - Acute and Chronic	PRLNGD/RPTD SKIN CONT MAY CAUSE IRRIT.PRDCT CONTACTING EYES MAY CAUSE IRRIT. HUMAN HLTH RISKS VARY FROM PERS TO PERS. AS A PREC, EXPOS TO LIQS, VAPS, MISTS & FUMES SHLD BE MINIMIZED. PROD HAS LOW ORDER OF ACUTE ORAL TOX, BUT MINUTE AMTS ASPIRATED INTO LUNGS DURING INGEST MAY CAUSE MILD TO SEVERE PULMONARY INJURY
Carcinogenity: NTP	NO
Carcinogenity: IARC	NO
Carcinogenity: OSHA	NO
Explanation of Carcinogenity	NOT RELEVANT
Symptoms of Overexposure	SEE HEALTH HAZARDS
Medical Cond. Aggrevated by Exposure	NONE SPECIFIED BY MANUFACTURER
Emergency/First Aid Procedures	EYE:FLUSH W/CLEAR WATER FOR @ LST 15 MIN/UNTIL IRRIT SUBSIDES.IF IRRIT PERSISTS, CONSULT MD. SKIN:REMOVE ANY CONTAMD CLTHG &WASH THORO W/SOAP & WARM WATER. INHAL:VAP PRESS IS VERY LOW & INHAL @ ROOMTEMP IS NOT A PROBLEM.IF OVERCOME BY VAP FROM HOT PROD, IMMED MOVE FROM EXPOS & CALL MD. IF OVEREXPOS TO OIL MIST, REMOVE FROM FURTHER EXPOS UNTIL EXCESSIVE OIL MIST CONDITION SUBSIDES. (SUPP DATA)

SECTION VII - Precautions for Safe Handling and Use

Steps if Material Released/Spilled	RECOVER LIQUID, WASH REMAINDER WITH SUITABLE PETROLEUM SOLVENT OR ADD ABSORBENT. KEEP PETROLEUM PRODUCTS OUT OF SEWERS AND WATER COURSES. ADVISE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER SEWERS AND WATERCOURSES
Neutralizing Agent	NONE SPECIFIED BY MANUFACTURER
Waste Disposal Method	ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED WASTE DISPOSAL FACILITY OR SITE. DISPOSE I/A/W FEDERAL, STATE AND LOCAL REGULATIONS (FP N)
Handling and Storage Precautions	KEEP CONTAINERS CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARKS, FLAME OR STRONG OXIDANTS
Other Precautions	AVOID BREATHING OIL MIST. REMOVE OIL-SOAKED CLOTHING AND LAUNDER BEFORE RESUE

SECTION VIII - Control Measures

Respiratory Protection	NORMALLY NOT NEEDED. NIOSH/MSHA APPROVED

	RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N)
Ventilation	LOCAL EXHAUST: USED TO CAPTURE FUMES AND VAPORS
Protective Gloves	USE OIL-RESISTANT GLOVES, IF NEEDED
Eye Protection	CHEMICAL WORKERS GOGGLES (FP N)
Other Protective Equipment	USE OIL-RESISTANT APRON, IF NEEDED
Work Hygenic Practices	CLEANSE SKIN THOROUGHLY AFTER CONTACT
Supplemental Health/Safety Data	MFR'S TRADE NAME/PART NO: POUR, MINUS 70, MV-HO. FIRST AID PROC: INGEST: IF INGESTED, CALL MD IMMEDIATELY. DO NOT INDUCE VOMITING

SECTION IX - Label Data

Protect Eye	NO
Protect Skin	NO
Protect Respiratory	NO
Chronic Indicator	UNKNOWN
Contact Code	UNKNOWN
Fire Code	UNKNOWN
Health Code	UNKNOWN
React Code	UNKNOWN

SECTION X - Transportation Data

Container Quantity	1
Unit of Measure	GL

SECTION XI - Site Specific/Reporting Information

Volatile Organic Compounds (P/G)	0
Volatile Organic Compounds (G/L)	0

SECTION XII - Ingredients/Identity Information

Ingredient #	01
Ingredient Name	OIL, HYDRAULIC (MIST); (OIL MIST)
CAS Number	1003
NIOSH Number	1005034OH
Proprietary	NO
Percent	0
OSHA PEL	5 MG/M3
ACGIH TLV	5 MG/M3;10 STEL
Recommended Limit	N/K

ATTACHMENT B

Field Change Authorization Request Form

LANGAN

LANGAN EHS PLAN FIELD CHANGE AUTHORIZATION REQUEST FORM

PROJECT: _____

PROJECT LOCATION: _____

DESCRIPTION OF CHANGE: _____

_____

_____

_____

REASON FOR CHANGE: _____

RECOMMENDED DISPOSITION: _____

_____

_____

APPROVALS

PROJECT MANAGER: _____ _____
Signature Date

PROJECT SITE SAFETY OFFICER: _____ _____
Signature Date

CLIENT REPRESENTATIVE: _____ _____
Signature Date

DISTRIBUTION:

Langan SSO	_____
Langan Site Supervisor	_____
Langan Project Manager	_____
Client Project Manager	_____

FIELD CHANGE RECORDS

Record of Field Changes:

Initial for attaching any Field changes to this EHS Plan. Enter the Field Change Number and Date Issued. File the completed field changes to this EHS Plan at the end as attachments. Make PEN and INK changes in the text to alert the reader to the changes that are required in the Field Change.

FIELD CHANGE NUMBER	DATE ENTERED	SYNOPSIS OF CHANGE	INITIAL

ATTACHMENT C

Accident Incident Report Form

LANGAN

LANGAN ACCIDENT/INCIDENT REPORT FORM

Project Name: _____

Injured or Ill Employee

1. Name _____ Social Security #_____
   (First) (Middle) (Last)
2. Home Address _____
   (No. and Street) (City or Town) (State, Zip)
3. Age _____
4. Sex: Male ( ) Female ( )
5. Occupation _____
   (Specific job title, not the specific activity employee was performing at time of injury)
6. Department _____
   (Enter name of department in which injured person is employed, even though they may have been temporarily working in another department at the time of injury)

Employer

7. Name _____
8. Mailing Address _____
   (No. and Street) (City or Town) (State, Zip)
9. Location (if different from mailing address):_____

THE ACCIDENT OR EXPOSURE TO OCCUPATIONAL ILLNESS

10. Place of accident or exposure _____
    (No. and Street) (City or Town) (State, Zip)
11. Was place of accident or exposure on employer's premises? _____ (Yes / No)
12. What was the employee doing when injured?_____
    (Be specific - was employee using tools or equipment or handling material?)
13. How did the accident occur? _____
    (Describe fully the events that resulted in the injury or occupational illness. Tell what happened and how. Name objects and substances involved. Give details on all factors that led to accident. Use separate sheet if needed)

LANGAN ACCIDENT/INCIDENT REPORT FORM

14. Time of accident: _____

15. Date of injury or initial diagnosis of occupational illness _____
(Date)

16. WITNESS TO ACCIDENT

(Name)	(Affiliation)	(Phone No.)
(Name)	(Affiliation)	(Phone No.)
(Name)	(Affiliation)	(Phone No.)

Occupational Injury/Illness

17. Describe the injury or illness in detail; indicate part of body affected.
_____
_____

18. Name the object or substance that directly injured the employee. (For example, object that struck employee; the vapor or poison inhaled or swallowed; the chemical or radiation that irritated the skin; or in cases of strains, hernias, etc., the object the employee was lifting, pulling, etc.)
_____
_____

19. Did the accident result in employee fatality? _____ (Yes or No)

20. Number of lost workdays ____/restricted workdays _____ resulting from injury or illness?

Other

21. Did you see a physician for treatment? _____ (Yes or No) _____ (Date)

22. Name and address of physician _____
_____
(No. and Street) (City or Town) (State and Zip)

23. If hospitalized, name and address of hospital _____
_____
(No. and Street) (City or Town) (State and Zip)
Date of report _____ Prepared by _____
Official position _____

ATTACHMENT D

Emergency Notification List

ATTACHMENT D

EMERGENCY NOTIFICATION LIST

The following list provides names and telephone numbers for emergency contact personnel.

ORGANIZATION	CONTACT		TELEPHONE
New York City Police			911
New York City Fire			911
The Brooklyn Hospital Center ER			718-250-8075
Langan Project Managers	Chris McMahon		201-398-4595
	Steven Ciambruschini		201-398-4549
National Response Center			800-424-8802
Center for Disease Control			404-488-4100
CHEMTREC			800-424-9300
TSCA Hotline			202-554-1404
RCRA Hotline			800-424-9346
CDC		(Day) (Night)	404-452-4100 404-329-2888
Bureau of Alcohol, Tobacco & Firearms (ATF)			800-424-9555 202-566-7777
National Response Center			800-424-8802
Pesticide Information Service			800-424-9346
Bureau of Explosives, A.A. Railways			202-835-9500
Federal Express - Hazardous Material Info			901-922-1666

ATTACHMENT E

Safety Briefing Form

LANGAN

SAFETY BRIEFING

Date:_____ Time:_____ Leader:_____Location:_____

Work Task:_____

SAFETY TOPICS (*provide some detail of discussion points)*

Chemical Exposure Hazards and Control_____

Physical Hazards and Control_____

Air Monitoring_____

PPE_____

Communications_____

Safe Work Practices_____

Emergency Response_____

Hospital/Medical Center Location_____

Phone Nos._____

Other_____

FOR FOLLOW-UP (the issues, responsibilities, due dates, etc.)

_____

_____

_____

ATTENDEES

PRINT NAME	COMPANY	SIGNATURE

Briefing Conducted By:_____

APPENDIX H

Site Survey and Composite Cover Specifications

LANGAN

WRITTEN DESCRIPTION OF BLOCK 452 LOTS 1 & 15 AND THE EASEMENT PERIMETER:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY SIDE OF 1ST STREET AND THE EASTERLY SIDE OF BOND STREET;

THENCE ALONG THE NORTHERLY SIDE OF 1ST STREET A DISTANCE OF 437.66' TO A POINT ALONG THE GOWANUS CANAL;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 64°20'47" ALONG THE WESTERLY SIDE OF THE GOWANUS CANAL A DISTANCE OF 210.64'

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 112°53' 31" BOUNDED NORTHERLY BY BLOCK 452 LOT 19 A DISTANCE OF 101.31' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°55'08" BOUNDED EASTERLY BY BLOCK 452 LOT 19 A DISTANCE OF 15.00' TO A POINT IN THE SOUTHERLY SIDE OF CARROLL STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°4'52" ALONG THE SOUTHERLY SIDE OF CARROLL STREET A DISTANCE OF 60.10' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°19'58" BOUNDED WESTERLY BY BLOCK 452 LOT 5 A DISTANCE OF 100.00' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°40'02" BOUNDED NORTHERLY BY BLOCK 452 LOT 5 A DISTANCE OF 204.16' TO A POINT IN THE EASTERLY SIDE OF BOND STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 95°24'16" ALONG THE EASTERLY SIDE OF BOND STREET A DISTANCE OF 88.36' TO THE POINT OF BEGINNING AND CREATING AN INTERIOR ANGLE OF 87°21'26" WITH THE FIRST DESCRIBED LINE.

CONTAINING APPROXIMATELY 56,364 SQUARE FEET (1.29394 ACRES).

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, DEED INFORMATION AND THE FOLLOWING REFERENCES:
   - A. SECTION MAP 23
   - B. CURRENT TAX MAPS
   - C. FOR BLOCK 458 LOT 1 – CHICAGO TITLE INSURANCE COMPANY TITLE NO. 3411–00259, EFFECTIVE DATE NOVEMBER 4, 2011.
   - D. SURVEY RELATED EXCEPTIONS:

     EXCEPTION 6 – ORDER FOR PERMANENT CITY WATER TUNNEL IN FAVOR OF THE CITY OF NEW YORK FOR CITY TUNNEL NO. 3 STAGE 2. CRFN 2010000249407. AS DEPICTED ON SURVEY
   - E. FOR BLOCK 452 LOT 1 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901209, EFFECTIVE DATE NOVEMBER 22, 2011.

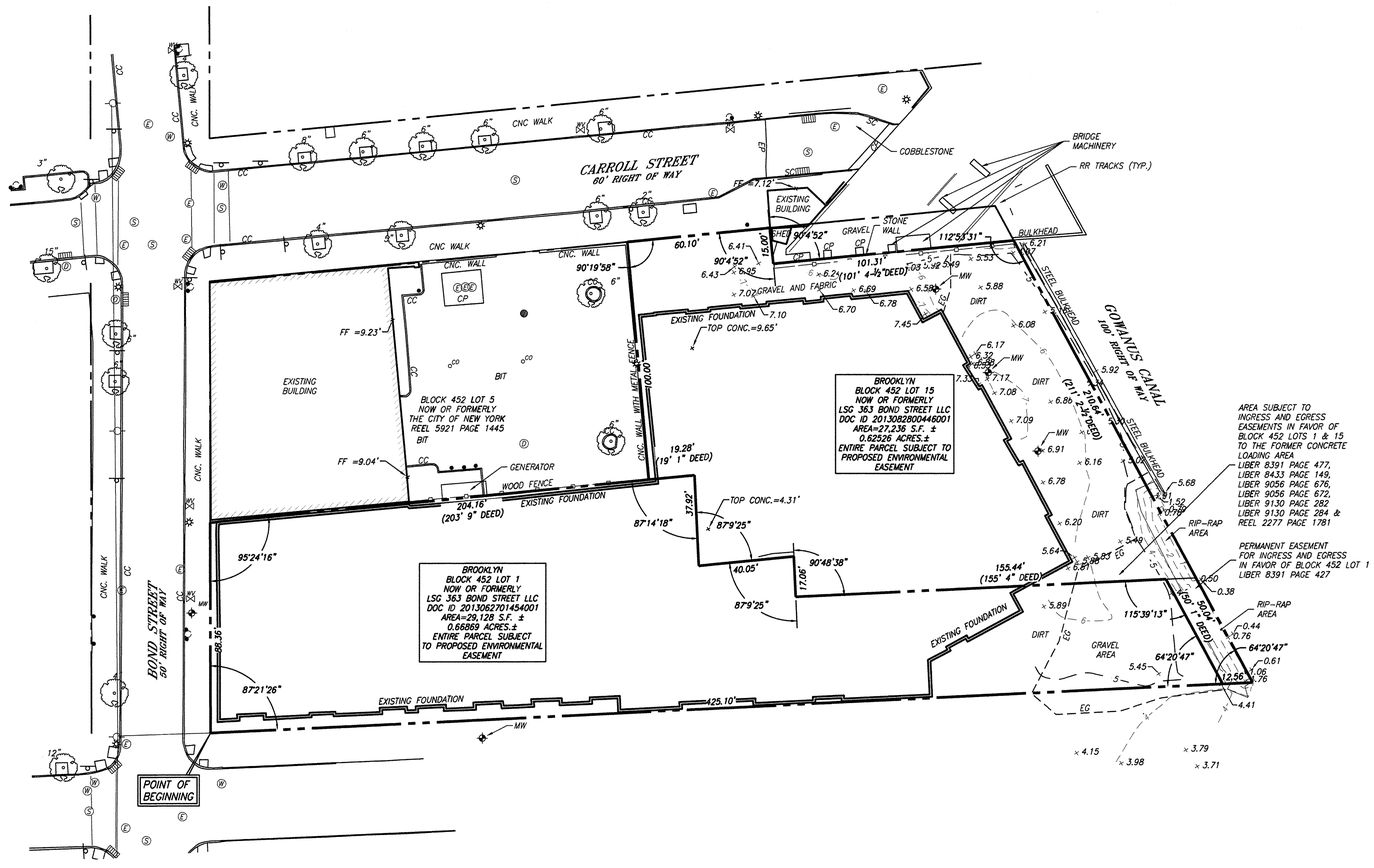
     SURVEY RELATED EXCEPTIONS:

     EXCEPTIONS 5–9. EASEMENTS AND RIGHTS FOR DRIVEWAY RIGHTS AND RIGHTS OF INGRESS AND EGRESS FOR AND AROUND THE EXISTING CONCRETE LOADING AREA LOCATED AT THE NORTHEAST CORNER OF BLOCK 452 LOT 1. REFERENCE DOCUMENTS AND LOCATIONS ARE DEPICTED ON THE SURVEY.
   - F. FOR BLOCK 452 LOT 15 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901583, EFFECTIVE DATE JANUARY 10, 2012.

     NO SURVEY RELATED EXCEPTIONS:
   - G. MAP TITLED "CITY OF NEW YORK COUNTY OF KINGS, TAX BLOCK 452 & 458" SCALE 1"=20' DATED MAY 5, 2012 BY MONTROSE SURVEYING CO., LLP.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO NEW YORK EAST STATE PLANE COORDINATE SYSTEM NAD 83 AS ESTABLISHED THROUGH GPS METHODS.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE BROOKLYN HIGHWAY DATUM (BHD) WITH A CONVERSION OF +2.56' + BHD = NGVD 29. THIS CONVERSION WAS ESTABLISHED ON THE HALCROW PLANS WHICH HAVE BEEN SUBMITTED FOR PREVIOUS EPA/DEC SUBMISSIONS FOR THIS SITE.
4. ESTABLISHED LEGAL GRADES SHOWN PER FINAL SECTION MAP #23 DATED 8/10/95. ELEVATIONS PUBLISHED ON MAP #23 REFER TO THE BROOKLYN HIGHWAY DATUM AND ARE IN REFERENCE TO THE TOP OF CURB ELEVATION.
5. STREET NAMES AND AND R.O.W WIDTHS, BLOCK, AND LOT NUMBERS AS PER CURRENT TAX MAPS.
6. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN, ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C.. FIELD WORK COMPLETED DURING THE MONTH OF JULY 2015.
7. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.
8. AS PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP TITLED CITY OF NEW YORK, NEW YORK, BRONX, RICHMOND, NEW YORK, QUEENS, AND KING COUNTIES PANEL NUMBER 211 OF 457, MAP NUMBER 360497 PANEL 0211F, EFFECTIVE DATE SEPTEMBER 5, 2007. PORTIONS OF THE PROJECT AREA ARE WITHING THE DOTTED ZONE X, AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AND PORTIONS OF THE PROJECT AREA ARE WITHIN ZONE AE, WITH A BASE FLOOD ELEVATION OF 10 (NGVD 29). THE DELINEATION OF THE ZONE X AND ZONE AE LINE IS DEPICTED ON THE SURVEY.
9. PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
10. THE GOWANUS CANAL IS A WATER COURSE ON THE PROPERTY AS SHOWN ON THE SURVEY.
11. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB–DIVISION 2 OF N.Y STATE EDUCATION LAW ARTICLE 145.
12. THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.

LEGEND (NOT SHOWN TO SCALE)

	HYDRANT	G	GAS LINE
	STREET LIGHT	W	WATER LINE
	AREA LIGHT	E	ELECTRIC LINE
	SIGNAL POLE	T	TELEPHONE LINE
	POLE	S	COMBINED SEWER LINE
	ANCHOR POLE	D	DRAINAGE LINE
	MANHOLE (TYPE AS LABELED)		OVERHEAD WIRE
	WATER VALVE		GUIDE RAIL (TYPE AS NOTED)
	GAS VALVE		FENCE (TYPE AS NOTED)
	UNKNOWN VALVE		TREE LINE
	CATCH BASIN		PROPERTY LINE
x322.35	SPOT ELEVATION		RIGHT-OF-WAY LINE
	CLEAN OUT	322	CONTOUR LINE
	TREE	EP	EDGE OF PAVEMENT
BM-1	BENCH MARK	SWS	SINGLE WHITE STRIPE
	SIGN	DYS	DOUBLE YELLOW STRIPE
	BOLLARD	BC	BITUMINOUS CURB
	SPAN POLE	SC	STONE CURB
	TRANSFORMER	CC	CONCRETE CURB
	MONITOR WELL	GC	GRANITE CURB
WD	WOOD	DW	DETECTABLE WARNING
CP	CONCRETE PAD	EW	EDGE OF WALK
FM	FENCE METAL	BIT	BITUMINOUS
FC	FENCE CHAIN LINK	CNC	CONCRETE
FS	FENCE STOCKADE	EG	EDGE OF GRAVEL
LG	ESTABLISHED LEGAL GRADE		



THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV.

30 0 15 30
SCALE IN FEET

10 0 10
SCALE IN METERS

STATE OF NEW YORK
ANDREW G. IVES
050794
LICENSED LAND SURVEYOR

Date	Description	No.
REVISIONS		

" I HEREBY STATE THAT THIS PLAN IS BASED ON A FIELD SURVEY MADE BY ME OR UNDER MY IMMEDIATE SUPERVISION IN ACCORDANCE WITH NYSPLS CODE OF PRACTICE FOR LAND SURVEYS, AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, AND IN MY PROFESSIONAL OPINION, CORRECTLY REPRESENTS THE CONDITIONS FOUND ON THE DATE OF THE FIELD SURVEY AT THE SUBJECT PROPERTY"

ANDREW G. IVES — 7/16/2015 DATE
PROFESSIONAL LAND SURVEYOR
STATE LIC. No. 50794

LANGAN
555 Long Wharf Drive, New Haven, CT 06511
T: 203.562.5771 F: 203.789.6142 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc
Langan International LLC
Collectively known as Langan

363 BOND ST. & 388-400 CARROLL ST.

BROOKLYN
KINGS COUNTY NEW YORK

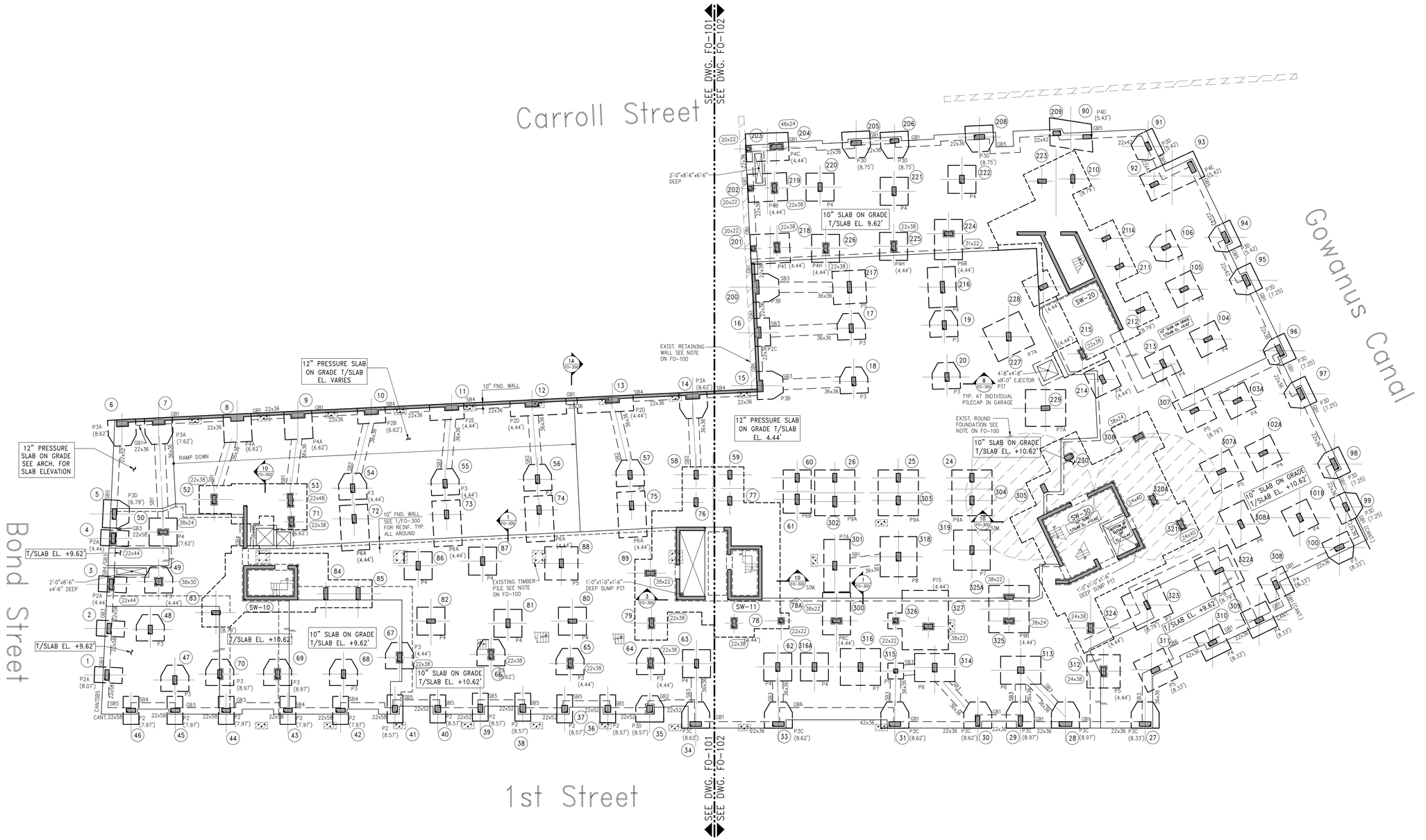
CAP AS-BUILT

100287503		Drawing No.
JULY 16, 2015		AB101
1"=30'		
RLH	AGI	

LANGAN
100287503

©2015 Langan

Filename: \\langan.com\data\NH\data5\100287503\Survey Data - 100287503\Civil 3D\Existing\100287503-V-EX401-CAP-363.dwg Date: 7/16/2015 Time: 12:46 User: alves Style Table: Langan.stb Layout: AB-101



NOTE FOR:
PARKING FLOORS, RAMPS, DRIVEWAYS EXPOSED TOPPING, SIDE WALKS – ALL DIRECTLY EXPOSED TO CARS AND/OR PEDESTRIAN TRAFFIC & CONCRETE TANKS.

1. CONCRETE TO BE:
   A. DCI (CALCIUM NITRITE) CORROSION INHIBITOR, (4.0 GAL/YD3) OR EPOXY COATED BARS (TOP BARS ONLY).
   B. WATER/CEMENT RATIO NOT TO EXCEED 0.40
   C. USE OF SUPERPLASTICIZER TO ACHIEVE THE W/C RATIO.
   D. CONCRETE TO CONTAIN SILICA FUME (5% OF TOTAL CEMENT) OR SLAG (40%)
   E. 1.5 LBS./YD.3 POLYPROPYLENE FIBER MESH.
   F. ENTRAINED AIR AT 6% ± 1.
2. THE CURING SHALL BE ONLY MOIST TYPE. NO CURING COMPOUND ACCEPTABLE.
3. ALTHOUGH PROTECTIVE MEASURES WERE INCORPORATED IN THE DESIGN OF THE PARKING AREAS AND RAMPS, THESE AREAS MUST BE CAREFULLY MAINTAINED IN ORDER TO PREVENT EARLY DETERIORATION.

NOTE FOR:
CONCRETE PLACED UNDER WATER

1. IF FORMWORK FOR THE PILE CAP CAN'T BE DE-WATERED DUE TO THE HIGH LEVEL AND AMOUNT OF WATER, TREMIE METHOD OF CONCRETE PLACEMENT OR DIRECT PUMPING METHOD IS ACCEPTABLE RELATIVE TO CONSTRUCTING THE RESPECTIVE PILE CAP.
2. REFER TO "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE", ACI-304R, CHAPTER 8, "CONCRETE PLACED UNDER WATER", FOR ADDITIONAL REQUIREMENTS FOR THE CONCRETE MIX DESIGN.
3. ALL TOP AND BOTTOM REBAR TO BE EPOXY COATED. FOR LENGTHS SEE TYP. DETAIL.

NOTE FOR:
EXISTING TIMBER PILES

1. LOCATE EXISTING TIMBER PILES AND CONFIRM THAT NEW PILES AND PILE CAPS CAN BE PLACED AS SHOWN IN THE DRAWINGS. DEMOLISH EXISTING PILE CAPS AND PILES AS REQUIRED TO PLACE NEW PILES AND PILE CAPS.

EXISTING ROUND FOUNDATIONS

1. DEMOLISH EXISTING PILE CAPS. WHERE EXISTING PILES PREVENT NEW PILES FROM BEING DRIVEN WHERE SHOWN IN THE STRUCTURAL DRAWINGS, PROVIDE A PLAN LOCATING ALL INTERFERING PILES FOR REVIEW AND RECOMMENDED ALTERNATIVE PILE PLACEMENTS BY STRUCTURAL ENGINEER.

EXISTING RETAINING WALL

1. VERIFY LOCATIONS OF EXISTING RETAINING WALL PRIOR TO CONSTRUCTING NEW FOUNDATIONS, DO NOT DEMOLISH. CONSTRUCT NEW STRUCTURE AGAINST THE FACADE OF THE EXISTING WALL. PRIOR TO CONSTRUCTING THE NEW STRUCTURE, PROVIDE DRAWINGS PRECISELY LOCATING THE EXISTING WALL FOR REVIEW BY THE DESIGN TEAM.

1 FO-100 FOUNDATION (1ST FLOOR/GARAGE) PLAN

SCALE: 3/32"=1'-0"

NOTES:

1. STRUCTURAL SLAB ON GRADE SHALL BE 10" NORMAL WEIGHT CONCRETE AT 1ST FL, 12" CONC. AT GARAGE. SEE TYPICAL DETAIL ON FO-201 FOR SLAB CONSTRUCTION
2. TOP OF SLAB EL. SEE PLAN. PROJECT DATUM 0'-0"= +2.547' BROOKLYN HIGHWAY DATUM.
3. BOTTOM OF GRADE BEAM ELEVATION SHALL BE 3'-0" BELOW TOP OF PILE CAP U.O.N. ON PLAN. SEE 5/FO-300 FOR GRADE BEAM REINF.
4. SLAB REINFORCEMENT SHALL BE: #5@12 CONT. TOP (EPOXY COATED) & BOTT. E.W. FOR 12" SLAB. #4@12 CONT. TOP E.W. & #4@10 CONT. BOTT. E.W. FOR 10" SLAB.
   ALL ADDITIONAL TOP BARS IN 12" SLAB NEED TO BE EPOXY COATED.
5. FOR PIER THICKNESS BELOW SHEARWALL SEE FO-110 SERIES DRAWINGS.
6. P... ON PLAN INDICATES PILE CAP. FOR PILE CAP SCHEDULE, SEE FO-200 SERIES DWG'S. TOP OF PILE CAP ELEVATION SHALL BE 10" BELOW TOP OF SLAB ON GRADE AT 1st FLOOR AND AT TOP OF SLAB IN GARAGE, U.O.N. THUS (...) ON PLAN. WHERE TOP OF PILE CAP IS AT TOP OF SLAB ELEVATION, SLAB AND PILE CAP ARE POURED MONOLITHICALLY.
7. CENTER OF PILE CAP SHALL BE CENTER OF SINGLE COLUMN ABOVE U.O.N.
8. ALL SUBGRADE PREPARATION SHALL BE PER GEOTECHNICAL REPORT.
9. FOR DEPTH OF ELEVATOR PIT SEE ELEVATOR CONTRACTOR'S DWG.
10. PROVIDE 4" THICK NORMAL WEIGHT CONCRETE (fc'=3500PSI AT 28 DAYS) HOUSE KEEPING PAD. FOR EQUIPMENT AS REQUIRED. SEE TYPICAL DETAIL ON FO-200 SERIES DRAWINGS.
11. FOR DETAIL OF CONTINUOUS MEMBRANE AT UNDERSIDE OF SLAB AND GRAVEL DRAINAGE COURSE, REFER TO TYPICAL DETAIL ON DWG. FS-201
12. THE REINFORCEMENT (HORIZ. AND VERTICAL) IN THE WALL PIER UNDER THE SHEARWALLS SHALL BE THE SAME AS IN SHEAR WALL SHOWN ON S-940 SERIES OF DRAWINGS (MIN. #5@12 E.W. E.F.).
13. PROVIDE DOWELS IN PILE CAPS UNDER SHEARWALL TO MATCH VERTICAL WALL/PIER REINFORCEMENT. SEE S-940 FOR SHEARWALL REINFORCING
14. THE REINFORCEMENT (VERTICAL & TIES) IN COLUMN PIERS AND BUTTRESSES SHALL MATCH OR EXCEED THE COLUMN REINFORCEMENT SHOWN IN S-950 SERIES DRAWINGS (SUBJECTED TO THE MIN. REQUIREMENTS SHOWN IN TYPICAL BUTTRESS/PIER DETAILS IN FO-200 SERIES OF DRAWINGS.
15. WHERE SHOWN ON PLAN BUILT-UP SLAB CONSTRUCTION TO BE 5" NORMAL WEIGHT CONC. (f'c=3500 PSI) OVER 60 PSI STYROFOAM. FOR REINF. SEE TYPICAL DETAIL ON DWG. S-961.
16. FOR GENERAL NOTES, ABBREVIATIONS AND LEGEND SEE DRAWING FO-001
17. FOR FOUNDATION TYPICAL DETAILS SEE FO-200 SERIES DRAWINGS.
18. FOR FOUNDATION SECTIONS SEE FO-300 SERIES DRAWINGS.
19. FOR LINK BEAM SCHEDULE AND SHEARWALL DETAILS SEE S-940 SERIES DRAWINGS.
20. FOR COLUMN SIZES, REINFORCEMENT AND DETAILS SEE S-950 SERIES DRAWINGS.

STRAP BEAM SCHEDULE

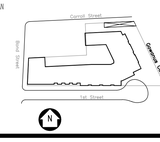
MARK	SIZE	BOTTOM REINFORCING CONT.	TOP REINFORCING CONT.	TOP ADDED AT RIGHT SUPPORT	STIRRUPS SIZE	STIRRUPS TYPE	STIRRUPS SPACING EACH END	REMARKS
SB1	36x36	6–#9	16–#11		#4	3	@ 10" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB2	36x36	6–#9	11–#11		#4	2	@ 12" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB3	36x36	6–#9	11–#11		#4	2	@ 12" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB4	22x58	6–#9	9–#11		#4	2	@ 12" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB5	22x52	6–#9	9–#11		#4	2	@ 12" O/C	4–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
GB1	22x36	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.
GB2	22x52	6–#9	4–#9		#4	2	@ 12" O/C	4–#5 H.E.F.
GB3	22x58	6–#9	4–#9		#4	2	@ 12" O/C	4–#5 H.E.F.
GB4	36x48	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.
GB5	22x42	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.
GB6	42x36	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.

STIRRUP TYPE
N.T.S.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	10-10-14	REVISED LOCATION OF GAS VAPOR ROOM
	07-25-14	90% CD
	06-18-14	75% CD

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754
Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501
Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271
Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942
Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366
Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546
Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

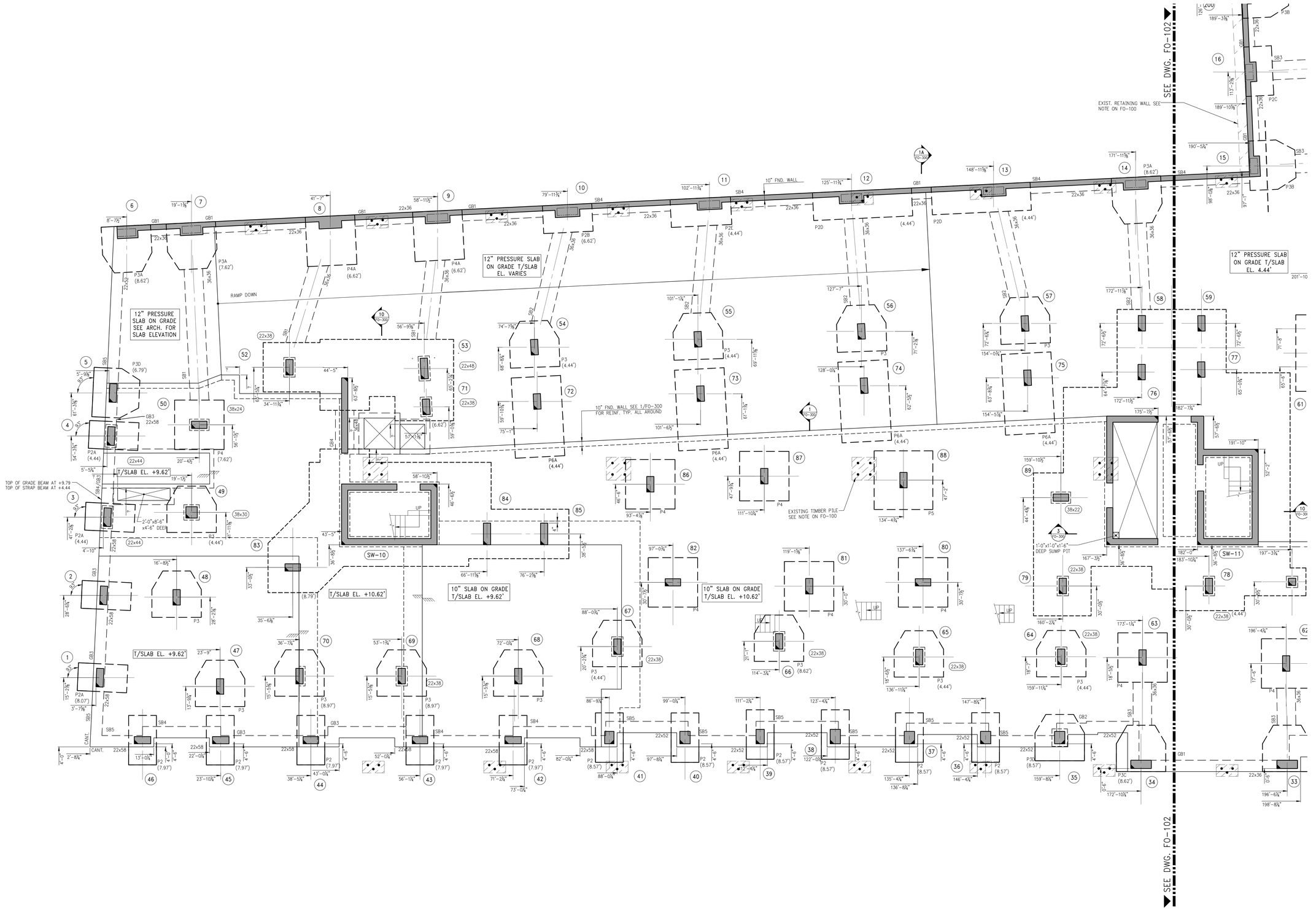
FOUNDATION (1st FLOOR/GARAGE) OVERALL PLAN

SEAL & SIGNATURE

DATE: 05/09/2013
PROJECT No: 1306380
SCALE: 3/32"=1'-0"
DRAWING BY:
CHKD. BY:
DWG NO: FO-100.00
CADD FILE No: XX OF XX

BSCAN STICKER

48" x 36"



1 FO-101 FOUNDATION (1ST FLOOR/GARAGE) PLAN – PART 1

SCALE: 3/16"=1'-0"

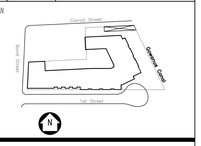
NOTES:

1. FOR BALANCE OF INFORMATION SEE CORRESPONDING OVERALL FOUNDATION PLAN.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	10-10-14	REVISED LOCATION OF GAS VAPOR ROOM
	07-25-14	90% CD
	06-18-14	75% CD

KEY PLAN



Client

THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT

363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

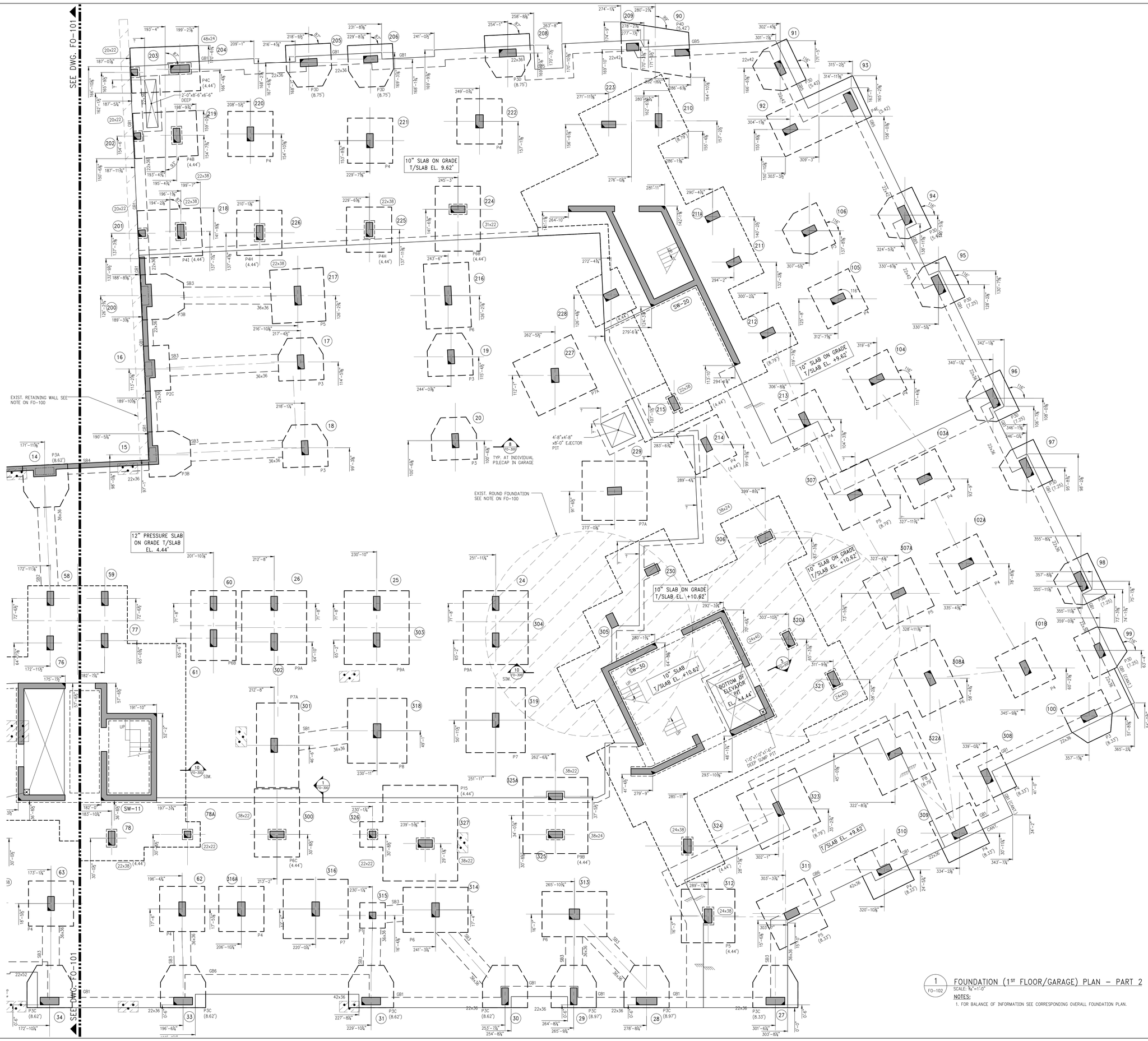
FOUNDATION (1st FLOOR/GARAGE) PLAN – PART 1

SEAL & SIGNATURE

DATE:	05/09/2013
PROJECT No:	1306380
SCALE:	3/16"=1'-0"
DRAWING BY:	
CHKD. BY:	
DWG NO:	FO-101.00
CADD FILE No:	XX OF XX

BSCAN STICKER

48" x 36"



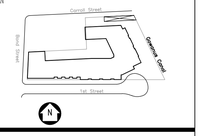
1 FO-102 FOUNDATION (1ST FLOOR/GARAGE) PLAN – PART 2
SCALE: 3/16"=1'-0"

NOTES:
1. FOR BALANCE OF INFORMATION SEE CORRESPONDING OVERALL FOUNDATION PLAN.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	10-10-14	REVISED LOCATION OF GAS VAPOR ROOM
	07-25-14	90% CD
	06-18-14	75% CD

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754
Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501
Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271
Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942
Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366
Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546
Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

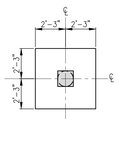
FOUNDATION (1st FLOOR/GARAGE) PLAN – PART 2

SEAL & SIGNATURE

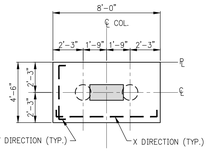
DATE:	05/09/2013
PROJECT No:	1306380
SCALE:	3/16"=1'-0"
DRAWING BY:	
CHKD. BY:	
DWG NO:	FO-102.00
CADD FILE No:	XX OF XX

BSCAN STICKER

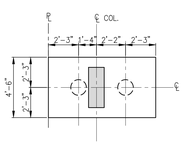
48" x 36"



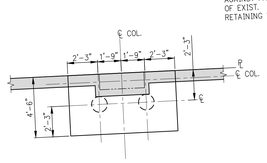
P1
DEPTH = 3'-0"
5-#5 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION



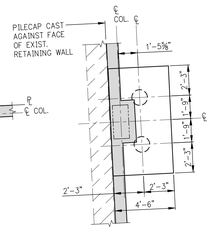
P2
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION



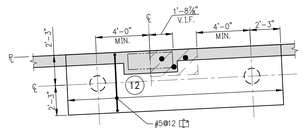
P2A
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION



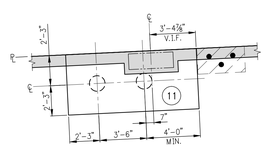
P2B
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION
5-#5 (T) Y-DIRECTION



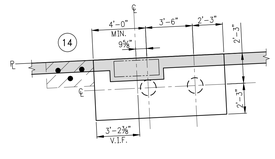
P2C
DEPTH = 3'-6"
5-#5 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) X-DIRECTION



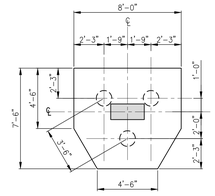
P2D
DEPTH = 3'-6"
12-#9 (B) X-DIRECTION



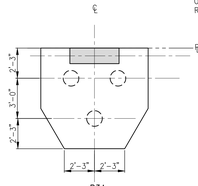
P2E
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION
12-#9 (T) X-DIRECTION
5-#5 (T) Y-DIRECTION



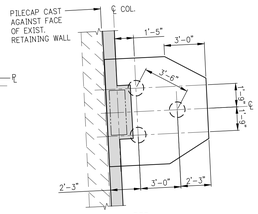
P2F
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION
12-#9 (T) X-DIRECTION
5-#5 (T) Y-DIRECTION



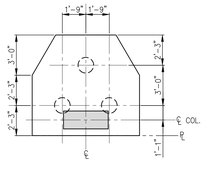
P3
DEPTH = 3'-0"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION



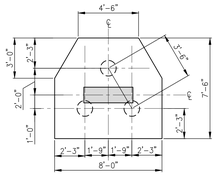
P3A
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) Y-DIRECTION



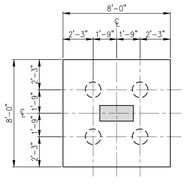
P3B
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) X-DIRECTION



P3C
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) Y-DIRECTION

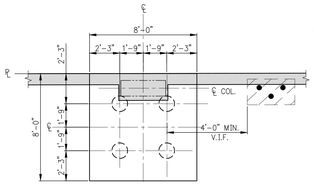


P3D
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION

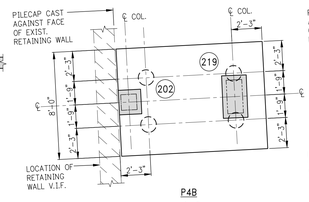


P4
DEPTH = 3'-0"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION

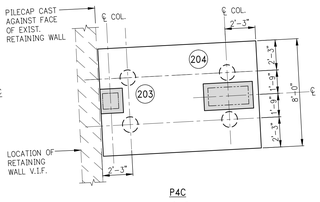
P4H
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION



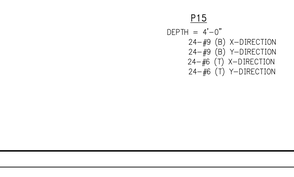
P4A
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION



P4B
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION



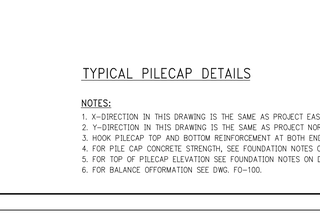
P4C
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION



P4D
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION

P4E
DEPTH = 3'-6"
12-#9 (B) Y-DIRECTION

P4G
DEPTH = 3'-0"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION



P4I
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION
8-#6 (T) Y-DIRECTION

P5
DEPTH = 3'-0"
12-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION

P5A
DEPTH = 3'-6"
12-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION

P6
DEPTH = 3'-8"
12-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION

P6A
DEPTH = 3'-0"
12-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION

P6B
DEPTH = 3'-0"
12-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION

P6C
DEPTH = 3'-8"
12-#9 (B) X-DIRECTION
9-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION

P7
DEPTH = 3'-10"
12-#10 (B) X-DIRECTION
12-#10 (B) Y-DIRECTION
9-#6 (T) Y-DIRECTION

P7A
DEPTH = 3'-10"
15-#9 (B) X-DIRECTION
9-#11 (B) Y-DIRECTION
15-#6 (T) Y-DIRECTION

P8
DEPTH = 4'-0"
12-#10 (B) X-DIRECTION
12-#10 (B) Y-DIRECTION

P9
DEPTH = 4'-0"
15-#10 (B) X-DIRECTION
15-#10 (B) Y-DIRECTION

P9A
DEPTH = 4'-0"
15 # 9 (B) X-direction
15 # 9 (B) Y-direction
11 # 6 (T) Y-direction

P9B
DEPTH = 4'-0"
15-#9 (B) X-DIRECTION
15-#9 (B) Y-DIRECTION
11-#6 (T) Y-DIRECTION

P15
DEPTH = 4'-0"
24-#9 (B) X-DIRECTION
24-#9 (B) Y-DIRECTION
24-#6 (T) X-DIRECTION
24-#6 (T) Y-DIRECTION

TYPICAL PILECAP DETAILS

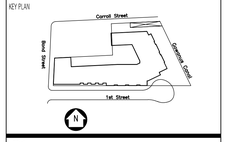
NOTES:

1. X-DIRECTION IN THIS DRAWING IS THE SAME AS PROJECT EAST-WEST DIRECTION.
2. Y-DIRECTION IN THIS DRAWING IS THE SAME AS PROJECT NORTH-SOUTH DIRECTION.
3. HOOK PILECAP TOP AND BOTTOM REINFORCEMENT AT BOTH ENDS.
4. FOR PILE CAP CONCRETE STRENGTH, SEE FOUNDATION NOTES ON DWG. F0-001.
5. FOR TOP OF PILECAP ELEVATION SEE FOUNDATION NOTES ON DWG F0-100
6. FOR BALANCE OFFORMATION SEE DWG. F0-100.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	07-25-14	90% CD
	06-18-14	75% CD
	04-30-14	50% CD
	02-14-14	DOB FILING
	12-02-13	80% FOUNDATION-ISSUED FOR BID
	08-30-13	REVISED FOUNDATION PACKAGE
	07-12-13	FOUNDATION PACKAGE PRICING

KEY PLAN:



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

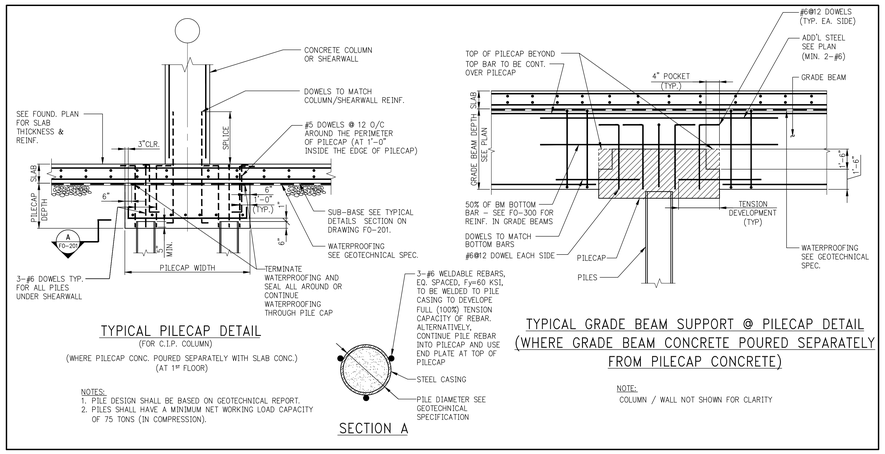
FOUNDATION
TYPICAL DETAILS 1

SEAL & SIGNATURE

DATE: 05/09/2013
PROJECT No: 1306380
SCALE: 1/4" = 1'-0"
DRAWING BY:
CHKD. BY:
DWG NO:
F0-200.00
CADD FILE No:
XX OF XX

BSCAN STICKER

48" x 36"



TYPICAL PILECAP DETAIL
(FOR C.I.P. COLUMN)

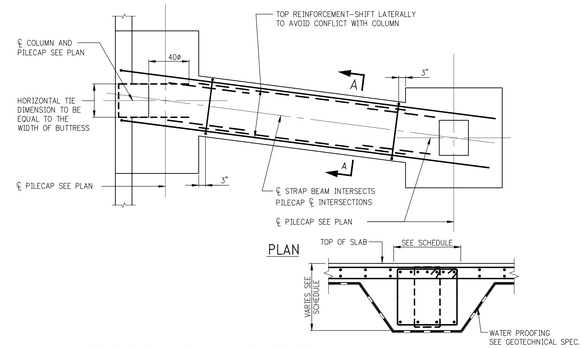
(WHERE PILECAP CONC. POURED SEPARATELY WITH SLAB CONC.)
(AT 1ST FLOOR)

NOTES:
1. PILE DESIGN SHALL BE BASED ON GEOTECHNICAL REPORT.
2. PILES SHALL HAVE A MINIMUM NET WORKING LOAD CAPACITY OF 75 TONS (IN COMPRESSION).

SECTION A

TYPICAL GRADE BEAM SUPPORT @ PILECAP DETAIL
(WHERE GRADE BEAM CONCRETE POURED SEPARATELY FROM PILECAP CONCRETE)

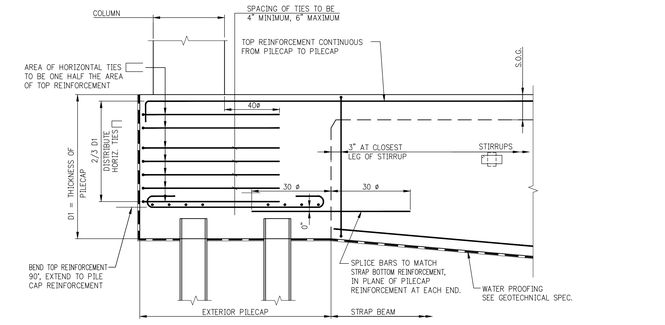
NOTE:
COLUMN / WALL NOT SHOWN FOR CLARITY



STRAP BEAM BETWEEN PILECAPS

NOTE: STRAP BEAM MUST FRAME DIRECTLY TO PILECAPS.

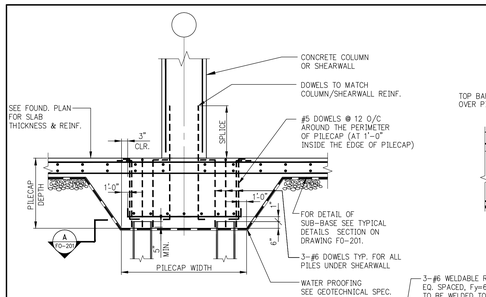
SECTION A–A



STRAP BEAM TO – EXTERIOR PILECAP DETAIL

THESE STRAP DETAILS ARE LIMITED TO PILES WITH A MAXIMUM LOAD CAPACITY OF 200 TONS/PILE.

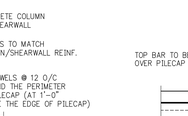
NOTE:
SEE FOUNDATION DRAWINGS FOR STRAP BEAM SIZE, REINFORCEMENT, AND STIRRUPS.



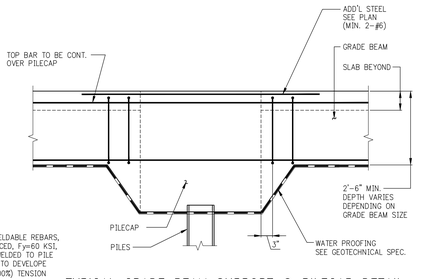
TYPICAL PILECAP DETAIL
(FOR C.I.P. COLUMN)

(WHERE PILECAP CONC. POURED MONOLITHICALLY WITH SLAB CONC.)
(AT GARAGE LEVEL)

NOTES:
1. PILE DESIGN SHALL BE BASED ON GEOTECHNICAL REPORT.
2. PILES SHALL HAVE A MINIMUM NET WORKING LOAD CAPACITY OF 75 TONS (IN COMPRESSION).
3. PILECAP & SLAB SHALL BE POURED MONOLITHICALLY. NO HORIZONTAL JOINT ALLOWED BETWEEN PILECAP & SLAB.
4. SEE SECTION B ON F0-300 FOR BALANCE OF INFO.

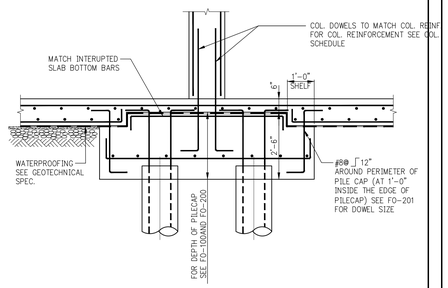


SECTION A



TYPICAL GRADE BEAM SUPPORT @ PILECAP DETAIL
(WHERE GRADE BEAM CONCRETE POURED MONOLITHICALLY W/FROM PILECAP CONCRETE)

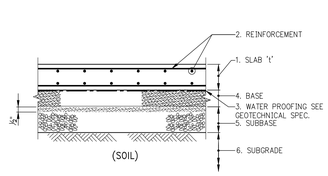
NOTE:
COLUMN / WALL NOT SHOWN FOR CLARITY



PILE CAP AT GARAGE LEVEL – ALTERNATIVE DESIGN
SCALE: ¾"=1'-0"

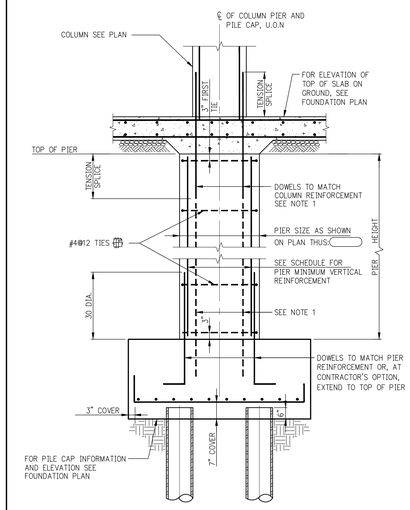
NOTE:

VERIFY WITH WATERPROOFING MANUFACTURER THAT ALL BARS PENETRATING WATERPROOFING MEMBRANE BARS EXTENDING FROM PILES, COLUMN DOWELS AND Z-BARS AT PERIMETER – ARE COMPATIBLE WITH WATERPROOFING SYSTEM.



TYPICAL DETAIL – SLAB ON GRADE

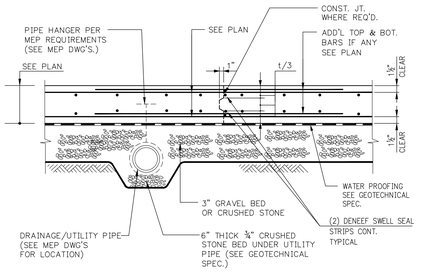
NOTES:
1. STRUCTURAL SLAB THICKNESS, SEE DRAWING F0-100.
2. STRUCTURAL SLAB REINFORCEMENT, SEE DRAWING F0-100.
3. WATER PROOFING AS PER GEOTECHNICAL SPEC.
4. BASE = LAYERS AS PER GEOTECHNICAL SPEC.
5. SUBBASE: 3" GRAVEL LAYER OR CRUSHED STONE. COVER ROUGH FILL WITH 1/2" OF BASE AGGREGATE AND COMPACT IT ONTO SUBBASE.
6. SUBGRADE: COMPACTED FILL, OR BACKFILL.



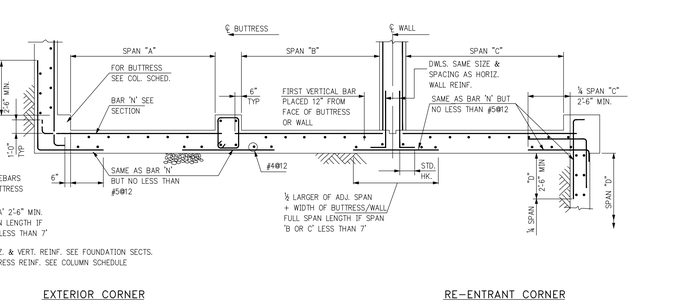
PIER: MINIMUM VERTICAL REINFORCEMENT	
PIER SIZE (OR EQUIVALENT)	VERTICAL REINF.
38x24	10–#6
38x22	10–#6
40x22	12–#6

INTERIOR PILE CAP AND PIER AT CONCRETE COLUMN

NOTE:
1. WHERE PIER HEIGHT IS LESS THAN EMBEDMENT LENGTH OF COLUMN DOWELS, EMBED DOWELS IN PILE CAP AND EXTEND THROUGH PIER INTO COLUMN ABOVE.



TYPICAL FRAMED SLAB DETAIL ON GRADE (AT 1ST FLOOR)
SCALE: 1" = 1'-0"

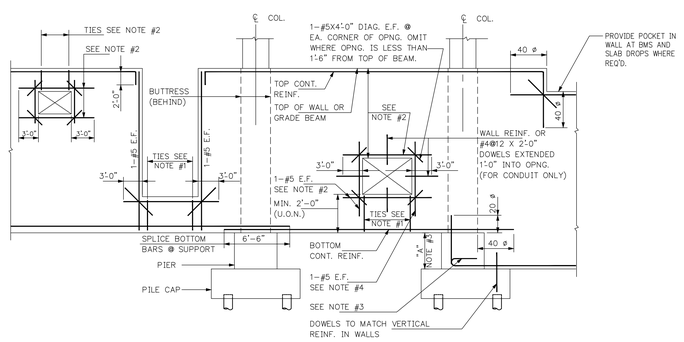


FOR HORIZ. & VERT. REINF. SEE FOUNDATION SECTS.
FOR BUTTRESS REINF. SEE COLUMN SCHEDULE

EXTERIOR CORNER

RE–ENTRANT CORNER

HORIZONTAL SECTION SHOWING METHOD OF PLACING WALL REINFORCEMENT



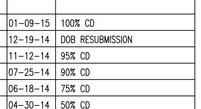
NOTES:
1. WHERE EDGE OF OPN'G. IS 2'-6" OR LESS FROM BOTTOM OF WALL OR GRADE BEAM ADD #3 @12
2. WHERE EDGE OF OPN'G. IS 2'-6" OR LESS FROM TOP OF WALL OR GRADE BEAM ADD 1–#7 E.F. OVER OPN'G. (INSTEAD OF 1#5 E.F.)PROVIDE #3 @12
3. WHERE DIMENSIONS "A" EXCEEDS 1'-6" BOTT. BARS MAY BE HOOKED 180°.
4. ADD #5 BARS EA. SIDE OF OPENING EQUAL IN AREA TO ½ OF INTERRUPTED BARS MIN. 1–#5 E.F.

ELEVATION SHOWING REQUIRED REINFORCING AT OPENING AND MISC. DETAILS

NOTES

No.	Date	Revision
	01–09–15	100% CD
	12–19–14	DOB RESUBMISSION
	11–12–14	95% CD
	07–25–14	90% CD
	06–18–14	75% CD
	04–30–14	50% CD
	02–14–14	DOB FILING
	12–02–13	80% FOUNDATION–ISSUED FOR BID
	08–30–13	REVISED FOUNDATION PACKAGE
	07–12–13	FOUNDATION PACKAGE PRICING

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754
Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501
Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271
Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942
Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366
Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546
Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

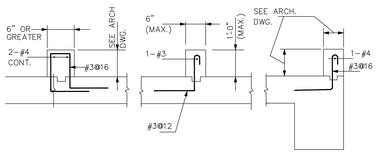
FOUNDATION TYPICAL DETAILS 2

SEAL & SIGNATURE

DATE: 05/09/2013
PROJECT No: 1306380
SCALE: N.T.S.
DRAWING BY:
CHKD. BY:
DWG NO:
F0–201.00
CADD FILE No:
XX OF XX

BSCAN STICKER

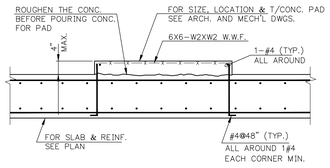
48" x 36"



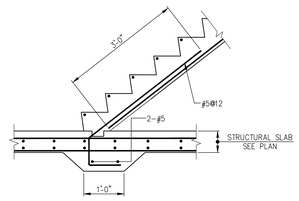
TYPICAL CONCRETE CURB DETAILS

NOTES:

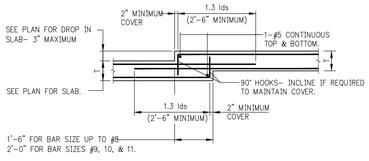
1. FOR LOCATION SEE ARCH. DWGS.
2. ALL BARS SHALL BE EPOXY COATED IF EXPOSED TO WEATHER.



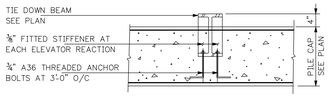
TYPICAL CONCRETE PAD DETAIL



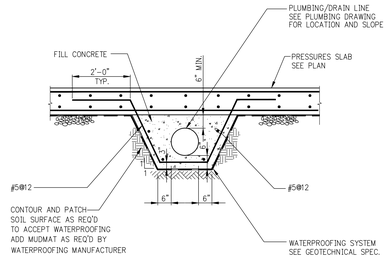
TYP. STAIR DETAIL AT SLAB ON GRADE



DROP IN TOP AND BOTTOM OF SLAB

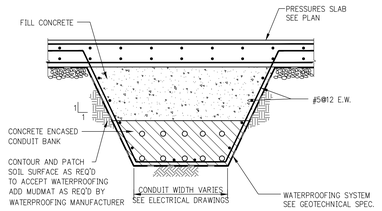


TYPICAL ELEVATOR TIE DOWN BEAM DETAIL



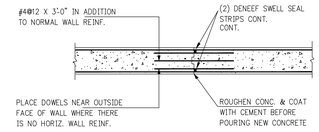
TYPICAL PLUMBING/DRAINAGE LINE WATERPROOFING DETAIL AT GARAGE

SEE MEP DWGS FOR LOCATIONS (AT CELLAR LEVEL)



TYPICAL CONDUIT BANK WATERPROOFING DETAIL

SEE ELECTRICAL DWGS FOR LOCATIONS (AT CELLAR LEVEL)



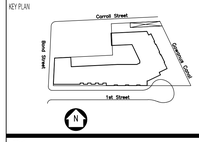
TYPICAL VERTICAL CONSTRUCTION JOINT IN WALL

KEY WIDTH NOT TO EXCEED ⅓ DEPTH OF WALL OR BEAM. VERTICAL CONSTRUCTION JOINT PERMITTED IN WALL OR GRADE BEAM AT ANY POINT 4'-0" MIN. AWAY FROM FACE OF SUPPORTING PIER, BUTTRESS AND/OR WALL OPENING PROVIDE ONE VERTICAL CONSTRUCTION JOINT FOR EVERY 40'-0" OF A STRAIGHT RUN OF WALL.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	07-25-14	90% CD
	06-18-14	75% CD
	04-30-14	50% CD
	02-14-14	DOB FILING
	12-02-13	80% FOUNDATION-ISSUED FOR BID
	08-30-13	REVISED FOUNDATION PACKAGE
	07-12-13	80% FOUNDATION-ISSUED FOR BID

KEY PLAN



Client

THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
VSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT

363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

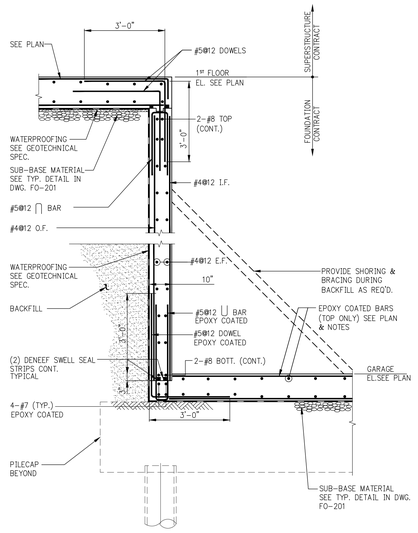
FOUNDATION TYPICAL DETAILS 3

SEAL & SIGNATURE

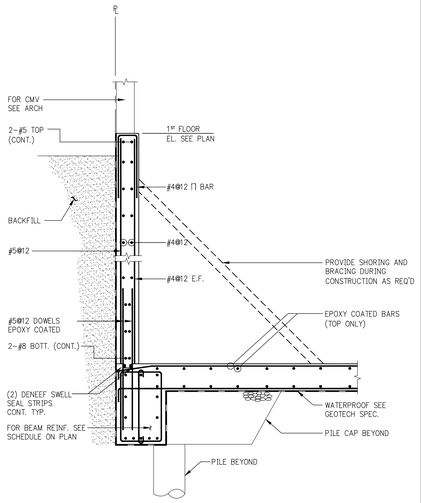
DATE: 05/09/2013
PROJECT No: 1306380
SCALE: N.T.S.
DRAWING BY:
CHKD. BY:
DWG NO:
F0-202.00
CADD FILE No:
XX OF XX

BSCAN STICKER

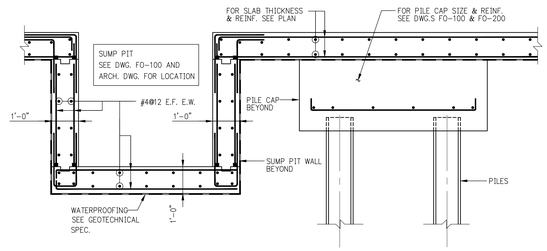
48" x 36"



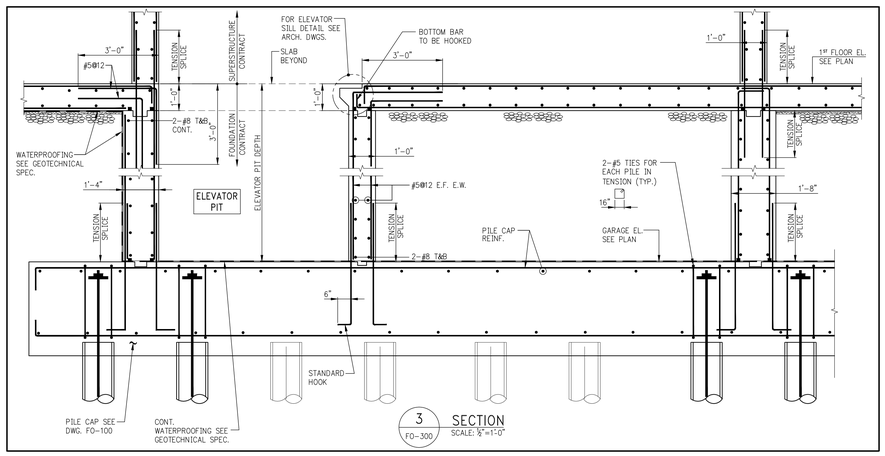
1 FO-300 FOUNDATION WALL SECTION
SCALE: ½"=1'-0"



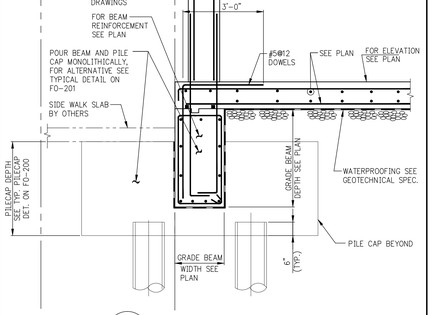
1A FO-300 FOUNDATION WALL SECTION
SCALE: ½"=1'-0"



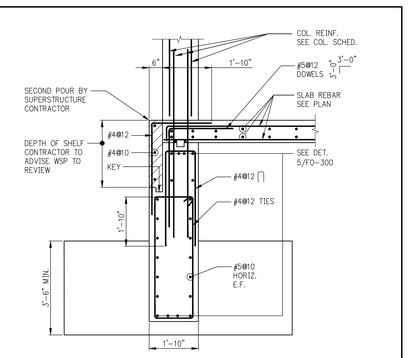
2 FO-300 SECTION
SCALE: ½"=1'-0"



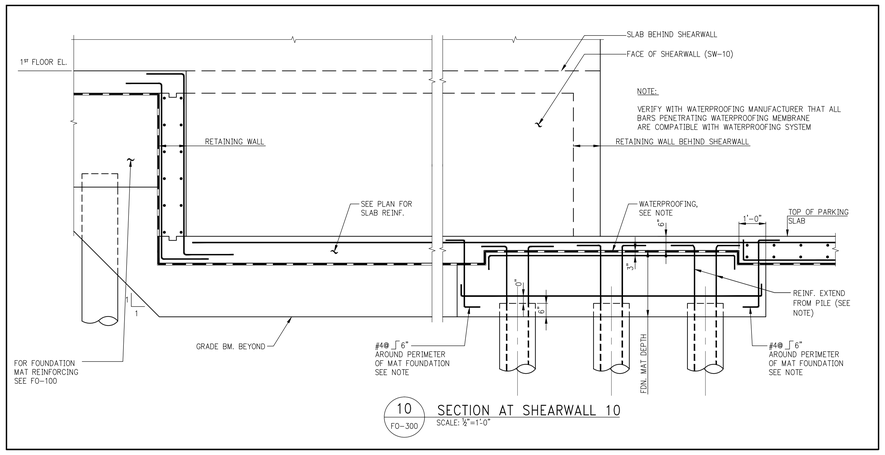
3 FO-300 SECTION
SCALE: ½"=1'-0"



5 FO-300 SECTION
SCALE: ½"=1'-0"
NOTE:
1. EXTEND ALL TOP REINF. FROM GB & GBI INTO CANT.



SECTION AT GRADE BEAM WITH SHELF FOR SECOND POUR W/ FORMLINER
9 FO-300
SCALE: ½"=1'-0"



10 FO-300 SECTION AT SHEARWALL 10
SCALE: ½"=1'-0"

NOT USED

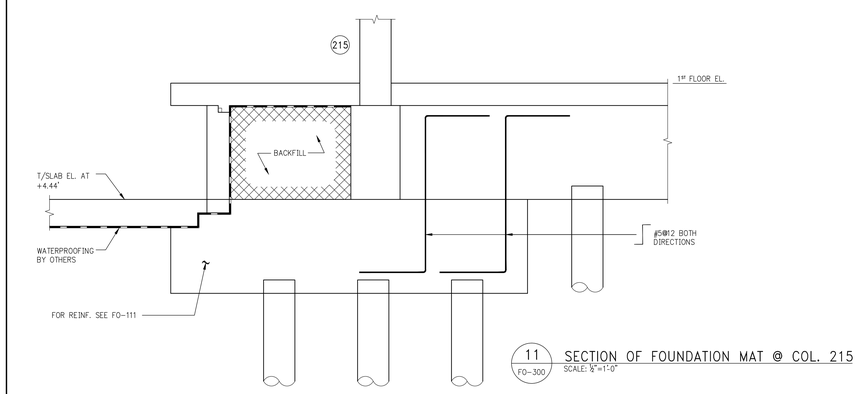
6 FO-300 SECTION
SCALE: ½"=1'-0"

NOT USED

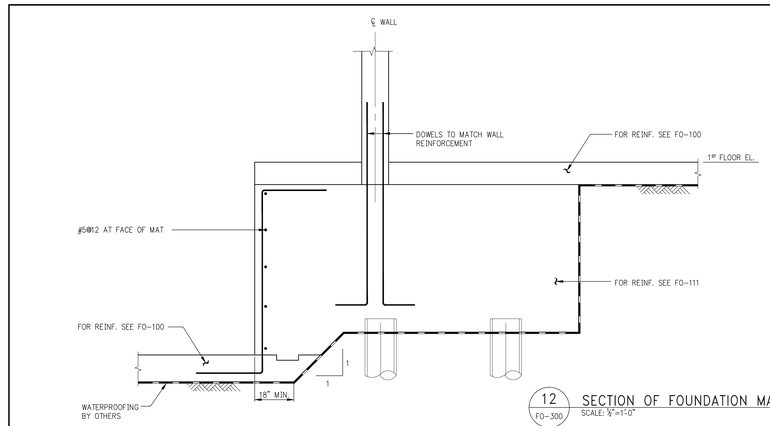
7 FO-300 SECTION
SCALE: ½"=1'-0"

NOT USED

8 FO-300 SECTION
SCALE: ½"=1'-0"



11 FO-300 SECTION OF FOUNDATION MAT @ COL. 215
SCALE: ½"=1'-0"

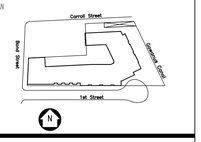


12 FO-300 SECTION OF FOUNDATION MAT @ SW-20
SCALE: ½"=1'-0"

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	07-25-14	90% CD
	04-30-14	50% CD
	02-14-14	DOB FILING
	12-02-13	80% FOUNDATION-ISSUED FOR BID
	08-30-13	REVISED FOUNDATION PACKAGE
	07-12-13	FOUNDATION PACKAGE PRICING

KEY PLAN:



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

FOUNDATION SECTIONS 1

SEAL & SIGNATURE

DATE:	05/09/2013
PROJECT No:	1306380
SCALE:	1/2=1'-0"
DRAWING BY:	
CHKD. BY:	
DWG NO:	FO-300.00
CADD FILE No:	XX OF XX

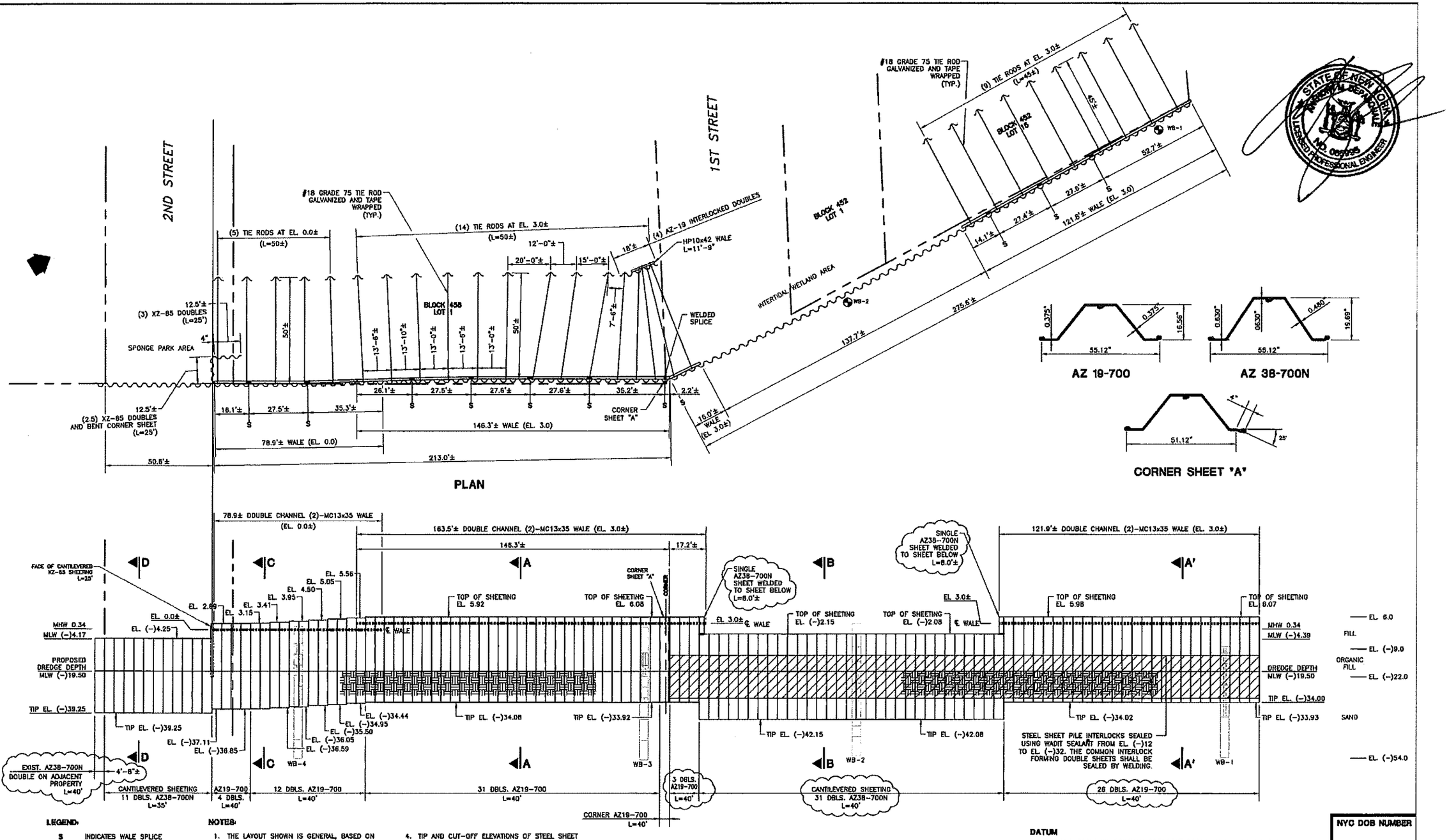
BSCAN STICKER

48" x 36"

APPENDIX I

Bulkhead As-Built

LANGAN



LEGEND:

S INDICATES WALE SPLICE

WB-2 SOIL BORING BY OTHERS

NOTES:

1. THE LAYOUT SHOWN IS GENERAL, BASED ON FIELD MEASUREMENTS OF ACCESSIBLE EXPOSED PORTIONS OF THE STRUCTURE ONLY.
2. THE ALIGNMENT OF THE BULKHEAD AND DISTANCES FROM THE PROPERTY LINES HAS NOT BEEN DETERMINED AND MUST BE VERIFIED BY A LICENSED LAND SURVEYOR.
3. TIP AND CUT-OFF ELEVATION OF THE STEEL SHEET PILING WAS INSPECTED BY OTHERS.
4. TIP AND CUT-OFF ELEVATIONS OF STEEL SHEET PILING CORRESPOND WITH "SHEETING AS-BUILT" DRAWING DATED 8/11/2015 AND PREPARED BY SOIL SOLUTIONS, INC.
5. FOR WALER DETAILS AND CONFIGURATION SEE SHOP DRAWINGS "SHEET NO. E1", "SHEET NO. 6", "SHEET NO. 7" AND "SHEET NO. 8", DATED 3/19/2015, PREPARED BY DURABOND STEEL AND MARKED "APPROVED AS NOTED" BY VACHRIS ENGINEERING, P.C. ON 3/20/2015.

DATUM

ELEVATIONS REFER TO BOROUGH PRESIDENT BROOKLYN-HIGHWAYS DATUM WHICH IS 2.56 FEET ABOVE MEAN SEA LEVEL AT SANDY HOOK, NATIONAL GEODETIC VERTICAL DATUM (NGVD), AS PER THE UNITED STATES GEOLOGICAL SURVEY (USGS). ELEVATIONS OF MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ARE AS INDICATED ON CONTRACT DRAWINGS L-300.00 AND L-400.00.

AS-BUILT

NO.	DATE	REVISION	BY
7	07-16-15	AS-BUILT REVISIONS	EJP
6	07-10-15	AS-BUILT	EJP
5	11-06-14	SEALANT PER EPA	JA
4	10-01-14	IN ACCORDANCE WITH USEPA COMMENTS	CFV
3	09-09-14	LOWERED CAP AS PER LANGAN	CFV
2	08-25-14	CANTILEVERED SHEETING SECTION	CFV
1	05-28-14	GENERAL	CFV

OWNER: THE LIGHTSTONE GROUP

CONTRACTOR: SOIL SOLUTIONS INC.

VACHRIS ENGINEERING
370 OLD COUNTRY ROAD
GARDEN CITY, NEW YORK

SCALE: 1" = 20'

PROJECT: 365 BOND STREET BROOKLYN, NY 11231

SUBJECT: ESPLANADE BULKHEAD PLAN AND ELEVATION

NYC DOB NUMBER:

DATE: FEB. 18, 2014

PROJ. NO. 13071

DWG. NO. X-100.05(7)

PAGE 01 OF 07

APPENDIX J

Inspection and Monitoring Checklists

LANGAN

SITE WIDE INSPECTION CHECKLIST

Site Name: 363 Bond Street Location: Brooklyn, NY Project Number: 100287501

Inspector Name: _____ Date: _____ Weather Conditions: _____

Reason for Inspection (i.e., routine, severe condition, etc.): _____

Check one of the following: **Y:** Yes **N:** No **NA**: Not Applicable

		Y	N	NA	Normal Situation	Remarks
	General					
1	What are the current site conditions?	--	--	--	--	
2	Are all applicable site records (e.g., documentation of construction activity, most current easement, etc.) maintained on site, complete, and up to date?					
	Site Use Restrictions					
3	Has site use (restricted residential) remained the same?					
4	Are there any on-site vegetable gardens?					
5	Is groundwater being withdrawn for potable or non-potable use?					
	Soil Cover System					
6	Note the date of the most recent site cap inspection.	--	--	--	--	
	If the Soil Cover System inspection is not being competed concurrently with this inspection, complete the following.					
7	Are there any indications of a breach in the capping system at the time of this inspection?					
8	Are there any cracks in the building slabs?					
9	Are there any cracks in the building walls?					
10	Are there any signs of erosion in the temporary soil cap or landscaped areas?					
11	Is there any construction activity, or indication of any construction activity within the past certification year (including any tenant improvements), that included the breaching of the capping system, on-site at the time of this inspection?					
12	If YES to number 8, is there documentation that the Soil Management Plan, HASP, and CAMP for the site was/is being followed?					
	Monitoring Well Network/Groundwater Treatment					
13	Are monitoring wells accessible?					
14	Have monitoring wells been damaged, vandalized, repaired, replaced, or decommissioned?					
15	Are the aboveground components of the subgrade groundwater treatment piping network accessible and in good condition?	--	--	--	--	

***** If the answer to any of the above questions indicate non-compliance with any IC/ECs for the site, additional remarks must be provided and, where applicable, documentation attached to this checklist detailing additional inspection and repair activities.**

Additional remarks: _____

Minimum Inspection Schedule: Site-wide inspections will be conducted annually, per certification year, at a minimum. Additional inspections will also be conducted at times of severe condition events. All inspection events will utilize this checklist.

COMPOSITE COVER SYSTEM INSPECTION CHECKLIST

Site Name: 363 Bond Street Location: Brooklyn, NY Project Number: 100287501

Inspector Name: _____ Date: _____ Weather Conditions: _____

Reason for Inspection (i.e., routine, severe condition, etc.): _____

Check one of the following: **Y:** Yes **N:** No **NA**: Not Applicable

		Y	N	NA	Normal Situation	Remarks
	General					
1	What are the current site conditions?	--	--	--	--	
2	Is there any construction activity, or indication of any construction activity within the past certification year (including any tenant improvements), that included the breaching of the capping system, on-site at the time of this inspection?					
3	If YES to number 3, is there documentation that the Soil Management Plan, HASP, and CAMP for the site was/is being followed?					
	Subgrade Parking Area Slab					
4	Are there any signs of cracking or damage?					
5	Are there any areas of where greater than 25% of the surface is cracked or damaged?					
	Outdoor Paving/Sidewalks					
6	Are there any signs of cracking or damage?					
7	Are there any areas of where greater than 25% of the surface is cracked or damaged?					
	Temporary Soil Cap					
8	Is the surface of the temporary soil cap at an even grade with the surrounding temporary grade?					
9	Are there any signs of erosion?					
	Landscaped Areas					
10	Is there adequate top soil cover present? (Is the underlying demarcation layer visible?)					
11	Are there any signs of erosion?					

**

If the answer to any of the above questions indicate non-compliance with ECs for the site, additional remarks must be provided and, where applicable, documentation attached to this checklist detailing additional inspection and repair activities.

Additional remarks: _____

Minimum Inspection Schedule: Site-wide inspections will be conducted annually, per certification year, at a minimum. Additional inspections will also be conducted at times of severe condition events. All inspection events will utilize this checklist.

ACTIVE SUB-SLAB DEPRESSURIZATION SYSTEM INSPECTION CHECKLIST

Site Name: 363 Bond Street Location: Brooklyn, NY Project Number: 100287501

Inspector Name: _____ Date: _____ Weather Conditions: _____

Reason for Inspection (i.e., routine, severe condition, etc.): _____

When was the last rain event?

Current Temperature: Current Barometric Pressure:

Vacuum Monitoring Points			*Comments*
Location	**PID (ppm)**	**Vacuum (in. H2O)**	
VMP1			
VMP2			
VMP3			
VMP4			
VMP5			
VMP6			
VMP7			
VMP8			
VMP9			

Riser Pipes Exhaust				
Location	**PID (ppm)**	**Air Flow (CFM)**	**Vacuum Below Fan (in H2O)**	**Vacuum Above Fan (in H2O)**
V1				
V2				
V3				

Inspection Comments

Emergency Contact Information		
Name	**Title**	**Phone Number**
TBD	Building Management	TBD
Steven Ciambruschini	Langan Qualified Environmental Professional	201-794-6900 (office) 201-398-4549 (direct)
Christopher McMahon	Langan Project Manager	201-794-6900 (office) 201-398-4535 (direct)
Frank List	Lighstone Representative	212-324-0228 (direct)
John Grathwol	NYSDEC Case Manager	518-402-9767 (office)

LOW FLOW SAMPLING FIELD PARAMETER MEASUREMENTS

Project:	363 Bond Street	**Site Location:**	Brooklyn, New York	**Well No:**		**Date:**	
Job Number:		**Weather:**				**Sampling Crew:**	
Initial Depth to Water (ft):			**Well Depth (ft):**		**Pump Intake Depth (ft):**		

TIME	pH (std. Units)	COND. (uS)	Turbidity (NTU)	DO (mg/l - %)	TEMP. °C	ORP (mV)	DTW (ft)	Q (ml/m)	NOTES color, odor etc.
	+/- 0.1 pH	+/- 3%	+/- 10 NTU	+/- 10%		+/- 10 MV	<0.3' drawdown		

Analytical Program								
TCL-VO+10		PP-VO+15		MBTE		Phenols		Notes:
TCL-BN+15		PP-BN+15		TBA		Others		
TCL-AE+5		PP-AE+10		Cyanide		PCE		
TCL-BNA+20		PP-BNA+25		TPH		TCE		
TCL-Pesticides		PP-Pesticides		TDS		cis-DCE		
TCL+30		PP-Metals		TSS		trans-DCE		
TAL		PP+40		TOX		VC		
TAL-Metals		PCB		TOC		Pb		

LANGAN

SUMMA CANISTER SAMPLING FIELD DATA SHEET

Site: 363 Bond Street, Brooklyn, New York

Samplers:

Date:

Sample #								
Location	V1	V2	V3	IA-1	IA-2	IA-3	DUP-1	AMB-1
Summa Canister ID								
Flow Controller ID								
PID Test of SSDS Air or IA								
Pressure Gauge - before sampling								
Sample Time (Start)								
Sample Time (Stop)								
Total Sample Time (min)								
Pressure Gauge - after sampling								
Sample Volume								
Canister Pressure Went to Ambient Pressure?	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
Associated Ambient Air Sample Number	Ambient-1	Ambient-1	Ambient-1	Ambient-1	Ambient-1	Ambient-1	Ambient-1	N/A
Weather 24 hours before and during sampling								
General Comments								

APPENDIX K

Quality Assurance Project Plan

LANGAN

QUALITY ASSURANCE PROJECT PLAN

FOR

SITE MANAGEMENT PLAN

363 Bond Street
Brooklyn, New York

Prepared For:

LSG 363 Bond Street, LLC
c/o The Lightstone Group
460 Park Avenue, 13th Floor
New York, New York 10022

Prepared By:

Langan Engineering, Environmental, Surveying
and Landscape Architecture, D.P.C.
619 River Drive Center 1
Elmwood Park, New Jersey 07407
NJ Certificate of Authorization No: 24GA27996400

July 2015
100287501

LANGAN

TABLE OF CONTENTS

1.0 PROJECT DESCRIPTION....1

1.1 Introduction....1

1.2 Project Objectives....1

1.3 Scope of Work....1

1.4 Data Quality Objectives and Processes....2

2.0 PROJECT ORGANIZATION....3

3.0 QUALITY ASSURANCE / QUALITY CONTROL OBJECTIVES FOR MEASUREMENT OF DATA....4

3.1 Introduction....4

3.2 Precision....5

3.3 Accuracy....5

3.4 Representativeness....6

3.5 Completeness....6

3.6 Comparability....7

3.7 Sensitivity....7

4.0 SAMPLING PROGRAM....8

4.1 Introduction....8

4.2 Sample Container Preparation and Sample Preservation....9

4.3 Sample Holding Times....9

4.4 Field QC Samples....9

5.0 SAMPLE TRACKING AND CUSTODY....10

5.1 Introduction....10

5.2 Field Sample Custody....11

5.3 Laboratory Sample Custody....13

6.0 CALIBRATION PROCEDURES....13

6.1 Field Instruments....13

6.2 Laboratory Instruments....14

7.0 DATA REDUCTION, VALIDATION, AND REPORTING 14
7.1 Introduction 14
7.2 Data Reduction 14
7.3 Data Validation 15
8.0 QUALITY ASSURANCE PERFORMANCE AUDITS AND SYSTEM AUDITS 17
8.1 Introduction 17
8.2 System Audits 17
8.3 Performance Audits 17
8.4 Formal Audits 17
9.0 PREVENTIVE MAINTENANCE PROCEDURES AND SCHEDULES 18
9.1 Preventive Maintenance Procedures 18
9.2 Schedules 19
9.3 Records 19
10.0 CORRECTIVE ACTION 19
10.1 Introduction 19
10.2 Procedure Description 19
11.0 REFERENCES 23

LANGAN

LIST OF FIGURES

Figure 1 **Sample Chain-of-Custody Form**

Figure 2 **Corrective Action Request**

LIST OF TABLES

Table 1 **Groundwater Sampling Requirements**

Table 2 **Groundwater Sample Containerization, Preservation, and Holding Times**

LIST OF ATTACHMENTS

Attachment A **Laboratory Reporting Limits**

Attachment B **Resumes**

1.0 PROJECT DESCRIPTION

1.1 Introduction

This Quality Assurance Project Plan (QAPP) was prepared by Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. (Langan) on behalf of LSG 363 Bond Street, LLC (c/o The Lightstone Group [Lightstone]) for the property at 363 Bond Street located in the Carroll Gardens neighborhood of Brooklyn, New York (site). The site was entered into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) by Lightstone and BCP site No. C224174 was assigned to the site by NYSDEC.

This QAPP has been developed to incorporate current policies, project organization, functional activities, analytical protocols, and quality assurance/quality control (QA/QC) measures intended to achieve the project data quality objectives for sampling activities associated with the collection of groundwater samples. The QAPP is designed to ensure that data from the remedial action activities at the site produce data that are precise, accurate, representative, comparable, complete, and sensitive.

1.2 Project Objectives

The objective of the SMP is to provide a detailed description of all procedures required to manage remaining contamination at the site after completion of the Remedial Action.

1.3 Scope of Work

The scope of work is described in detail in the SMP. Site management will be conducted by Langan on behalf of The Lightstone Group. Site management responsibilities to assess the performance of the remedy will include periodic site-wide inspections, periodic soil cover system inspections, periodic groundwater treatment system infrastructure inspections, periodic groundwater sampling and periodic sub-slab depressurization system (SSDS) inspections. Groundwater will be sampled on a quarterly basis and indoor air and sub-slab air will be sampled on an annual basis unless otherwise required by NYSDEC. Groundwater samples will be collected from 10 monitoring wells, indoor air will be sampled from 3 locations within the first floor of the building, and 3 sub-slab

air samples will be collected from the vertical risers V1 through V3. The locations of the monitoring wells are provided in Appendix C of the SMP. The indoor air samples will be collected from evenly distributed locations within the first floor of the building and the locations of the sub-slab airs samples collected at the vertical risers are provided in Appendix D of the SMP. All groundwater, indoor air, and sub-slab air samples will be collected in accordance with NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation, dated December 2002, and Sampling Guidelines and Protocols, dated March 1991. Indoor air and sub-slab air samples will be collected in accordance with New York State Department of Health (NYSDOH) October 2006 Soil Vapor Intrusion Guidance Document.

Groundwater samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for the following analyses:

- Volatile Organic Compounds by EPA Method 8260B and TO-15;
- Semi-volatile organic compounds by EPA Method 8270C; and,
- Target Analyte List metals by EPA Method 6010B and 7473;

Indoor air and sub-slab air samples will be submitted to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified laboratory for the analysis of tetrachloroethyle and trichloroethylene by EPA Method TO-15.

Following future groundwater sampling events, a Groundwater Monitoring Report, indicating whether groundwater concentrations remain at levels at which the monitored natural attenuation remedy is effective, will be provided to NYSDEC and in the annual Periodic Review Report (PRR). An Indoor Air Monitoring Report summarizing the results of the indoor air and sub-slab air sampling event and evaluating the effectiveness of the active sub-slab depressurization system (SSDS) and vapor barrier system will also be provided to NYSDEC and in the annual PRR.

1.4 Data Quality Objectives and Processes

DQOs are qualitative and quantitative statements to ensure that data of known and appropriate quality are obtained during the investigation. The quality of the data must be sufficient to fulfill the overall objective of the remedial action. The DQO process is an iterative process where various options for implementing a project are explored. The feasibility and costs of various options are estimated, and then the most advantageous option is selected and described in the SMP.

The DQOs for sampling activities are determined by evaluating five factors:

- Data needs and uses: The type of data required and the uses the data will be put to after it is obtained. Specific data needs and uses are identified in the SMP.

- Parameters of Interest: The types of chemical or physical parameters required for the intended use. Specific parameters of interest are VOCs, SVOCs, and metals.

- Level of Concern: Levels of constituents, which may require additional remedial actions, such as the NYSDOH Target Compound List (TCL) VOCs.

- Required Analytical Level: The level of data quality, data precision, and backup documentation of QA/QC required for chemical analysis.

- Required Detection Limits: The detection limits required based on the above information.

2.0 PROJECT ORGANIZATION

The Site management will be conducted by Langan on behalf of The Lightstone Group. Langan, as the primary consultant, will complete periodic inspections.

The analytical services will be performed by York Analytical Laboratories, Inc. of Stratford, Conn., NYSDOH ELAP certification number 10854. Data validation services will be performed by Emily Strake; resume attached.

Key contacts for this project are as follows:

The Lightstone Group:	Frank List Telephone: (212) 616-9969
Langan Project Manager:	Chris McMahon Telephone: (201) 794-6900 Fax: (201) 794-0366
Langan Quality Assurance Officer (QAO):	Steve Ciambruschini Telephone: (201) 794-6900 Fax: (201) 794-0366

Langan Health and Safety Coordinator	Anthony Moffa Telephone: (215) 491-6545
Program Quality Assurance Monitor:	Amanda Forsburg Telephone: (201) 794-6900
Project Chemist:	Emily Strake Telephone: (215) 491-6526
Laboratory Representatives:	York Analytical Laboratories, Inc. Phil Murphy Telephone: (203) 598-1371

Langan's professional technical staff will assist in performing the required tasks. Each member of the Langan project staff is responsible to the Project Manager for completion of assigned project activities. Members of the project staff are responsible for understanding and implementing the QA/QC program as it applies to their tasks.

3.0 QUALITY ASSURANCE / QUALITY CONTROL OBJECTIVES FOR MEASUREMENT OF DATA

3.1 Introduction

The overall QA objective is to develop and implement procedures for sampling, laboratory analyses, field measurements, and reporting that will provide data having the necessary degree of quality to characterize groundwater, indoor air, and sub-slab air and to support remedial action decisions. The sample set, chemical analysis results, and interpretations must be based on data that meet or exceed quality assurance objectives established for the project.

Quality assurance objectives are usually expressed in terms of accuracy or bias, precision, completeness, representativeness, comparability, and sensitivity of analysis. Variances from the quality assurance objectives in any stage of the investigation will result in the implementation of appropriate corrective measures and an assessment of the impact of corrective measures on the usability of the data in the decision-making process.

3.2 Precision

Precision is a measure of the degree to which two or more measurements are in agreement. Field precision is assessed through the collection and measurement of field duplicates. Laboratory precision and sample heterogeneity also contribute to the uncertainty of field duplicate measurements. This uncertainty is taken into account during the data assessment process.

Precision is usually stated in terms of standard deviation, but other estimates such as the coefficient of variation (relative standard deviation), range (maximum value minus minimum value), relative range, and relative percent difference (RPD) are common.

For this project, field sampling precision will be determined by analyzing coded duplicate samples (labeled so that the laboratory does not recognize them as duplicates) for the same parameters, and then, during data validation (Section 8.0), calculating the RPD for duplicate sample results.

Analytical precision will be determined by the laboratory by calculating the RPD for the results of the analysis of internal laboratory duplicates, laboratory batch matrix spike/matrix spike duplicate (MS/SD) RPDs for groundwater, and laboratory control sample (LCS) duplicate RPDs.

3.3 Accuracy

Accuracy is a measure of the degree of agreement of a measured value with the true or expected value of the quantity of concern (Taylor, 1987), or the difference between a measured value and the true or accepted reference value. The accuracy of an analytical procedure is best determined by the analysis of a sample containing a known quantity of material, and is expressed as the percent of the known quantity, which is recovered or measured. The recovery of a given analyte is dependent upon the sample matrix, method of analysis, and the specific compound or element being determined. The concentration of the analyte relative to the detection limit of the analytical method is also a major factor in determining the accuracy of the measurement. Concentrations of analytes, which are close to the detection limits are less accurate because they are more affected by such factors as instrument "noise". Higher concentrations will not be as affected by instrument noise or other variables and thus will be more accurate.

Sampling accuracy may be determined through the assessment of the analytical results of field blanks for each sample set and through compliance to all sample handling, preservation, and holding time requirements. Analytical accuracy is typically assessed by examining laboratory blanks and LCS recoveries. Additionally, initial and continuing calibrations must be performed and accomplished within the established method control limits to define the instrument accuracy before analytical accuracy can be determined for any sample set.

3.4 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program (USEPA, 1987). Samples must be representative of the environmental media being sampled. Selection of sample locations and sampling procedures will incorporate consideration of obtaining the most representative sample possible.

Field and laboratory procedures will be performed in such a manner as to ensure, to the degree that is technically possible, that the data derived represents the in-place quality of the material sampled. Every effort will be made to ensure chemical compounds will not be introduced into the sample via sample containers, handling, and analysis.

Representativeness in the laboratory is ensured by compliance to nationally-recognized analytical methods, meeting sample holding times, and maintaining sample integrity while the samples are in the laboratory's possession. This is performed by following all applicable EPA methods, laboratory-issued standard operating procedures, the laboratory's Quality Assurance Manual, and this QAPP.

3.5 Completeness

Completeness is the ratio of usable data (i.e., non-rejected data) to requested data, expressed as a percent. Field completeness is a measure of the amount of valid field measurements obtained from all the measurements taken and recorded during the project, expressed as a percent.

Laboratory completeness is the ratio of total number of samples analyzed and verified as acceptable compared to the number of samples submitted to the fixed-base laboratory for analysis, expressed as a percent. Groundwater, indoor air, and sub-slab air data will meet a 90% completeness criterion. If the criterion is not met, sample results shall be evaluated for trends in rejected and unusable data.

3.6 Comparability

Comparability is an expression of the confidence with which one data set can be compared to another. Comparability is dependent upon the proper design of the sampling program and will be satisfied by ensuring that the sampling plan is followed. Analytical data will be comparable when similar sampling and analytical methods are used as documented in the QAPP. Comparability will be controlled by requiring the use of specific nationally-recognized analytical methods and requiring consistent method performance criteria. Comparability is also dependent on similar QA objectives.

3.7 Sensitivity

Sensitivity is the ability of the instrument or method to detect target analytes at the levels of interest. The project manager will select, with input from the laboratory and QA personnel, sampling and analytical procedures that achieve the required levels of detection and QC acceptance limits that meet established performance criteria. Concurrently, the project manager will select the level of data assessment to ensure that only data meeting the project DQOs are used in decision-making.

Field equipment shall be used that can achieve the required levels of detection for analytical measurements in the field. In addition, the field sampling staff shall collect and submit full volumes of samples as required by the laboratory for analysis, whenever possible. Full volume aliquots will ensure achievement of the required limits of detection and allow for reanalysis if necessary. The laboratory will include a calibration standard at the reporting limit (i.e., practical quantitation limit). Laboratory reporting limits for, 8260, 8270, 6010, 7473, and TO-15 analyses are provided in **Attachment A**.

4.0 SAMPLING PROGRAM

4.1 Introduction

The Site Monitoring Plan will consist of the following sample collection:

- Groundwater Sampling
- Indoor Air Sampling
- Sub-slab Air Sampling

As discussed in the SMP, groundwater samples will be collected from 10 permanent monitoring wells, indoor air will be sampled from 3 locations within the first floor of the building, and 3 sub-slab air samples will be collected from the vertical risers V1 through V3

Groundwater, indoor air, and sub-slab air samples will be collected according to the sampling requirements. Requirements for groundwater, indoor air, and sub-slab air sample collection were prepared in accordance with Technical Guidance for Site Investigation and Remediation (NYSDEC DER-10) and NYSDOH October 2006 Soil Vapor Intrusion Guidance Document. Sample collection frequency, sampling locations, total number of samples per parameter is provided in **Table 1**, along with the required duplicates.

TABLE 1
Sampling Requirements

Groundwater Sampling				
Analysis Parameters	**Sampling Frequency**	**Number of Locations Per Sampling Event**	**Number of Field Duplicates per Sampling Event**	**Total Number of Samples Per Parameter**
VOCs, SVOCs, and Metals	Quarterly	10[(b)]	1	11
Indoor Air Sampling				
PCE & TCE[(a)]	Annually	3[(c)]	1	4
Sub-slab Air Sampling				
PCE & TCE	Annually	3[(d)]	1	4

VOC – Volatile organic compounds, SVOC – Semivolatile organic compounds
(a) PCE = Tetrachloroethylene, TCE = Trichloroethylene
(b) Groundwater quarterly monitoring: PMW-1, PMW-2, PMW-3, PMW-4, PMW-5, PMW-6, PMW-7, PMW-8, PMW-9, and PMW-10.
(c) Indoor air annual monitoring: IA-1, IA-2, and IA-3.
(d) Sub-slab air annual monitoring: V1, V2, and V3.
(e) Acceptance and Rejection Criteria - All sample collection and analytical methods should meet the sampling and analytical requirements identified in the New York State Department of Conservation, Division of Environmental Remediation - Technical Guidance for Site Investigation and Remediation (NYSDEC DER-10).

4.2 Sample Container Preparation and Sample Preservation

Samples shall be preserved according to the preservation techniques given in **Table 2.** Chain-of-custody procedures are described in Section 5.

4.3 Sample Holding Times

The sample holding times are given in **Table 2** and must be in accordance with the NYSDEC ASP requirements. The NYSDEC ASP holding times must be strictly adhered to by the laboratory. Any holding time exceedances must be reported to Langan.

4.4 Field QC Samples

In conjunction with groundwater sampling, a trip blank sample will be collected at a rate of one per day of groundwater sampling. Field blanks will be collected at a rate of 1 per groundwater sampling event. A matrix spike/spike duplicate sample will be collected at a rate of one per sampling event. For indoor air and sub-slab air sampling events, ambient air samples will be collected at a rate of one per day of air sampling.

To determine the representativeness of the sampling methods, coded field duplicates will be collected at a frequency of one per sampling event. The samples are termed "coded" because they will be labeled in such a manner that the laboratory will not be able to determine that they are a duplicate sample. This will eliminate any possible bias that could arise.

TABLE 2
GROUNDWATER/INDOOR AIR
CONTAINERIZATION, PRESERVATION AND HOLDING TIMES

Analysis	Container	Preservation	Holding Time [b]
VOCs (Groundwater)	40 mL vial	pH< 2, HCl, 4°C±2°C	14 days
TCE & PCE (Indoor Air/Sub-slab Air)	6 L summa canister	None[a]	30 days
SVOCs	1000 mL glass	4°C±2°C	7 days to extraction 40 days to analysis
Metals	250 mL plastic	pH< 2, HNO_3 4°C±2°C	6 months
Mercury	250 mL plastic	pH< 2, HNO_3 4°C±2°C	28 days

(a) All samples to be preserved at ambient temperature during collection and transport.

(b) Days from date of sample collection.

5.0 SAMPLE TRACKING AND CUSTODY

5.1 Introduction

This section presents sample custody procedures for both the field and laboratory. Implementation of proper custody procedures for samples generated in the field is the responsibility of field personnel. Both laboratory and field personnel involved in the Chain-of-custody (COC) and transfer of samples will be trained as to the purpose and procedures prior to implementation.

Evidence of sample traceability and integrity is provided by COC procedures. These procedures document the sample traceability from the selection and preparation of the sample containers by the laboratory, to sample collection, to sample shipment, to laboratory receipt and analysis. A sample is considered to be in a person's custody if the sample is:

- In a person's possession;
- Maintained in view after possession is accepted and documented;
- Locked and tagged with Custody Seals so that no one can tamper with it after having been in physical custody; or
- In a secured area which is restricted to authorized personnel.

5.2 Field Sample Custody

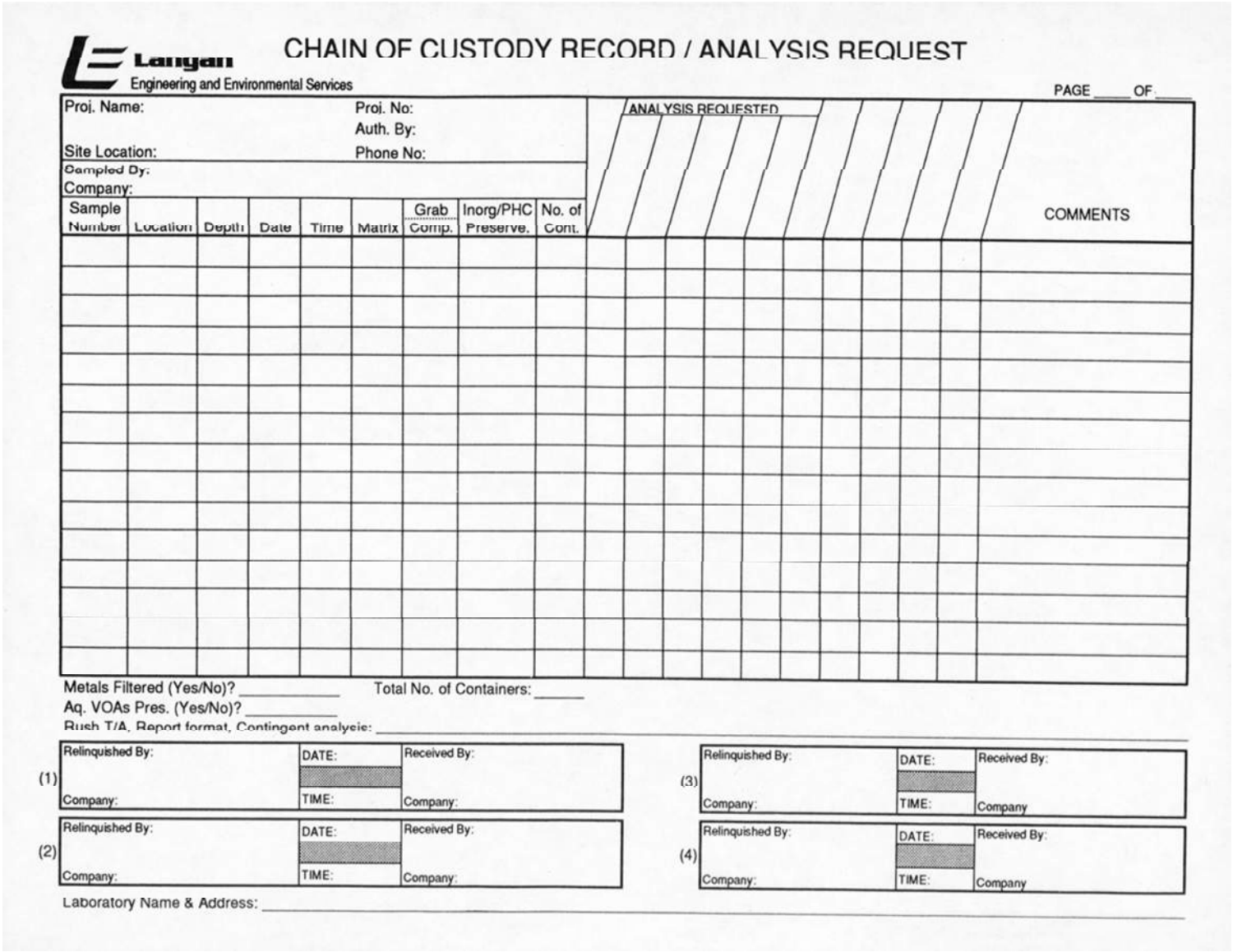
A COC record (**Figure 1** or similar) accompanies the sample containers from selection and preparation at the laboratory, during shipment to the field for sample containment and preservation, and during return to the laboratory. Triplicate copies of the COC must be completed for each sample set collected.

The COC lists the field personnel responsible for taking samples, the project name and number, the name of the analytical laboratory to which the samples are sent, and the method of sample shipment.

Mistakes will be crossed out with a single line in ink and initialed by the author.

One copy of the COC is retained by sampling personnel (notations identifying blind duplicate samples will be added to this copy of the COC but not the others that will go to the laboratory) and the other two copies are put into a sealable plastic bag. It is then relinquished by field personnel to the laboratory courier. If tampering is apparent, the laboratory will contact the Project Manager, and the sample will not be analyzed.

Figure 1 Sample Chain-of-Custody Form



Langan
Engineering and Environmental Services

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

PAGE ____ OF ____

Proj. Name:
Proj. No:
Auth. By:
Site Location:
Phone No:
Sampled By:
Company:

ANALYSIS REQUESTED

Sample Number	Location	Depth	Date	Time	Matrix	Grab Comp.	Inorg/PHC Preserve.	No. of Cont.	COMMENTS

Metals Filtered (Yes/No)? _____ Total No. of Containers: _____
Aq. VOAs Pres. (Yes/No)? _____
Rush T/A, Report format, Contingent analysis: _____

	Relinquished By:	DATE:	Received By:
(1)	Company:	TIME:	Company:
(2)	Relinquished By:	DATE:	Received By:
	Company:	TIME:	Company:
(3)	Relinquished By:	DATE:	Received By:
	Company:	TIME:	Company
(4)	Relinquished By:	DATE:	Received By:
	Company:	TIME:	Company

Laboratory Name & Address: _____

5.3 Laboratory Sample Custody

The Project Manager or Field Team Leader will notify the laboratory of upcoming field sampling activities, and the subsequent shipment of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped as well as the anticipated date of arrival.

The following laboratory sample custody procedures will be used:

- The laboratory will designate a sample custodian who will be responsible for maintaining custody of the samples, and for maintaining all associated records documenting that custody.
- Upon receipt of the samples, the custodian will check the original COC documents and compare them with the sample labels for correctness and traceability. The sample custodian will sign the COC record and record the date and time received.
- Care will be exercised to annotate any labeling or descriptive errors. In the event of discrepant documentation, the laboratory will immediately contact the Project Manager or Field Team Leader as part of the corrective action process. A qualitative assessment of each sample container will be performed to note any anomalies. This assessment will be recorded as part of the incoming chain-of-custody procedure.
- A laboratory tracking record will accompany the sample containers through the laboratory.
- A copy of the tracking record will accompany the laboratory report and will become a permanent part of the project records.

6.0 CALIBRATION PROCEDURES

6.1 Field Instruments

All field analytical equipment will be calibrated immediately prior to each day's use. The calibration procedures will conform to manufacturer's standard instructions. This calibration will ensure that the equipment is

functioning within the allowable tolerances established by the manufacturer and required by the project. Records of all instrument calibrations will be maintained by the Field Team Leader. Copies of all the instrument manuals will be maintained on-site by the Field Team Leader.

Calibration procedures for instruments used for monitoring health and safety hazards (e.g., photoionization detector and explosimeter) are provided in the Health and Safety Plan.

6.2 Laboratory Instruments

The laboratory will follow all calibration procedures designated in their SOP and consistent with the analytical method employed.

7.0 DATA REDUCTION, VALIDATION, AND REPORTING

7.1 Introduction

Data collected during the remedial activities will be reduced and reviewed by the laboratory QA personnel, and a report on the findings will be tabulated in a standard format. The completed copies of the Chain-of-custody records (both external and internal) accompanying each sample from time of initial bottle preparation to completion of analysis shall be attached to the analytical reports.

7.2 Data Reduction

The Analytical Services Protocol (ASP) Category B data packages and an electronic data deliverable (EDD) will be provided by the laboratory after receipt of a complete sample delivery group. The Project Manager will immediately arrange for archiving the results and preparation of result tables. These tables will form the database for assessment of the site contamination condition.

Each EDD deliverable must be formatted using a Microsoft Windows operating system and the NYSDEC data deliverable format for EQuIS. To avoid transcription errors, data will be loaded directly into the ASCII format from the laboratory information management system (LIMS). If

this cannot be accomplished, the consultant should be notified via letter of transmittal indicating that manual entry of data is required for a particular method of analysis. All EDDs must also undergo a QC check by the laboratory before delivery. The original data, tabulations, and electronic media are stored in a secure and retrievable fashion.

The Project Manager or Task Manager will maintain close contact with the QA reviewer to ensure all non-conformance issues are acted upon prior to data manipulation and assessment routines. Once the QA review has been completed, the Project Manager may direct the Team Leaders or others to initiate and finalize the analytical data assessment.

7.3 Data Validation

Data validation will be performed in accordance with contemporary revisions of the USEPA Region 2 standard operating procedures (SOPs) established for each parameter suite. Validation will include the following:

- Verification of the QC sample results,
- Verification of the identification of sample results (both positive hits and non-detects),
- Recalculation of 10% of all sample results, and
- Preparation of Data Usability Summary Reports (DUSR).

A DUSR will be prepared and reviewed by the QAO before issuance. The DUSR will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and COC procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method. A detailed assessment of each SDG will follow. For each of the organic analytical methods, the following will be assessed:

- Holding times;
- Instrument tuning;
- Instrument calibrations;
- Blank results;

- System monitoring compounds or surrogate recovery compounds (as applicable);
- Serial dilution results
- Matrix spike/spike duplicate recoveries and RPDs
- Laboratory control sample recoveries and RPDs
- Internal standard area counts;
- Target compound identification;
- Chromatogram quality;
- Compound quantitation and reported detection limits;
- System performance; and,
- Results verification.

Based on the results of data validation, the validated analytical results reported by the laboratory will be assigned one of the following usability flags:

- "U" - Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank;
- "UJ" - Not detected. Quantitation limit may be inaccurate or imprecise;
- "J" - Analyte is present. Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method
- "N" – Tentative identification. Analyte is considered present in the sample;
- "R" – Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample; and
- No Flag - Result accepted without qualification.

8.0 QUALITY ASSURANCE PERFORMANCE AUDITS AND SYSTEM AUDITS

8.1 Introduction

Quality assurance audits may be performed by the project quality assurance group under the direction and approval of the QAO. These audits will be implemented to evaluate the capability and performance of project and subcontractor personnel, items, activities, and documentation of the measurement system(s). Functioning as an independent body and reporting directly to corporate quality assurance management, the QAO may plan, schedule, and approve system and performance audits based upon procedures customized to the project requirements. At times, the QAO may request additional personnel with specific expertise from company and/or project groups to assist in conducting performance audits. However, these personnel will not have responsibility for the project work associated with the performance audit.

8.2 System Audits

System audits may be performed by the QAO or designated auditors, and encompass a qualitative evaluation of measurement system components to ascertain their appropriate selection and application. In addition, field and laboratory quality control procedures and associated documentation may be system audited. These audits may be performed once during the performance of the project. However, if conditions adverse to quality are detected or if the Project Manager requests an audit, additional audits may occur.

8.3 Performance Audits

The laboratory may be required to conduct an analysis of Performance Evaluation samples or provide proof that Performance Evaluation samples submitted by USEPA or a state agency have been analyzed within the past twelve months.

8.4 Formal Audits

Formal audits refer to any system or performance audit that is documented and implemented by the QA group. These audits

encompass documented activities performed by qualified lead auditors to a written procedure or checklists to objectively verify that quality assurance requirements have been developed, documented, and instituted in accordance with contractual and project criteria. Formal audits may be performed on project and subcontractor work at various locations.

Audit reports will be written by auditors who have performed the site audit after gathering and evaluating all data. Items, activities, and documents determined by lead auditors to be in noncompliance shall be identified at exit interviews conducted with the involved management. Non-compliances will be logged, and documented through audit findings, which are attached to and are a part of the integral audit report. These audit-finding forms are directed to management to satisfactorily resolve the noncompliance in a specified and timely manner.

The Project Manager has overall responsibility to ensure that all corrective actions necessary to resolve audit findings are acted upon promptly and satisfactorily. Audit reports must be submitted to the Project Manager within fifteen days of completion of the audit. Serious deficiencies will be reported to the Project Manager within 24 hours. All audit checklists, audit reports, audit findings, and acceptable resolutions are approved by the QAO prior to issue. Verification of acceptable resolutions may be determined by re-audit or documented surveillance of the item or activity. Upon verification acceptance, the QAO will close out the audit report and findings.

9.0 PREVENTIVE MAINTENANCE PROCEDURES AND SCHEDULES

9.1 Preventive Maintenance Procedures

Equipment, instruments, tools, gauges, and other items requiring preventive maintenance will be serviced in accordance with the manufacturer's specified recommendations and written procedure developed by the operators.

A list of critical spare parts will be established by the operator. These spare parts will be available for use in order to reduce the downtime. A

service contract for rapid instrument repair or backup instruments may be substituted for the spare part inventory.

9.2 Schedules

Written procedures will establish the schedule for servicing critical items in order to minimize the downtime of the measurement system. The laboratory will adhere to the maintenance schedule, and arrange any necessary and prompt service. Required service will be performed by qualified personnel.

9.3 Records

Logs shall be established to record and control maintenance and service procedures and schedules. All maintenance records will be documented and traceable to the specific equipment, instruments, tools, and gauges. Records produced shall be reviewed, maintained, and filed by the operators at the laboratories. The QAO may audit these records to verify complete adherence to these procedures.

10.0 CORRECTIVE ACTION

10.1 Introduction

The following procedures have been established to ensure that conditions adverse to quality, such as malfunctions, deficiencies, deviations, and errors, are promptly investigated, documented, evaluated, and corrected.

10.2 Procedure Description

When a significant condition adverse to quality is noted at site, laboratory, or subcontractor location, the cause of the condition will be determined and corrective action will be taken to preclude repetition. Condition identification, cause, reference documents, and corrective action planned to be taken will be documented and reported to the QAO, Project Manager, Field Team Leader and involved contractor management, at a minimum. Implementation of corrective action is verified by documented follow-up action.

All project personnel have the responsibility, as part of the normal work duties, to promptly identify, solicit approved correction, and report conditions adverse to quality. Corrective actions will be initiated as follows:

- When predetermined acceptance standards are not attained;
- When procedure or data compiled are determined to be deficient;
- When equipment or instrumentation is found to be faulty;
- When samples and analytical test results are not clearly traceable;
- When quality assurance requirements have been violated;
- When designated approvals have been circumvented;
- As a result of system and performance audits;
- As a result of a management assessment;
- As a result of laboratory/field comparison studies; and
- As required by USEPA SW-846, and subsequent updates, or by the NYSDEC ASP.

Project management and staff, such as field teams, remedial response planning personnel, and laboratory groups, monitor on-going work performance in the normal course of daily responsibilities. Work may be audited at the sites, laboratories, or contractor locations. Activities, or documents ascertained to be noncompliant with quality assurance requirements will be documented. Corrective actions will be mandated through audit finding sheets attached to the audit report. Audit findings are logged, maintained, and controlled by the Task Manager.

Personnel assigned to quality assurance functions will have the responsibility to issue and control Corrective Action Request (CAR) Forms (**Figure 2** or similar). The CAR identifies the out-of-compliance condition, reference document(s), and recommended corrective action(s) to be administered. The CAR is issued to the personnel responsible for the affected item or activity. A copy is also submitted to the Project Manager. The individual to whom the CAR is addressed returns the requested response promptly to the QA personnel, affixing his/her

signature and date to the corrective action block, after stating the cause of the conditions and corrective action to be taken. The QA personnel maintain the log for status of CARs, confirms the adequacy of the intended corrective action, and verifies its implementation. CARs will be retained in the project file for the records.

Any project personnel may identify noncompliance issues; however, the designated QA personnel are responsible for documenting, numbering, logging, and verifying the close out action. The Project Manager will be responsible for ensuring that all recommended corrective actions are implemented, documented, and approved.

Figure 2 Corrective Action Request

CORRECTIVE ACTION REQUEST

Number: _____ Date: _____

TO: _____

You are hereby requested to take corrective actions indicated below and as otherwise determined by you to (a) resolve the noted condition and (b) to prevent it from recurring. Your written response is to be returned to the project quality assurance manager by _____

CONDITION:

REFERENCE DOCUMENTS:

RECOMMENDED CORRECTIVE ACTIONS:

_____	_____	_____	_____	_____	_____
Originator	Date	Approval	Date	Approval	Date

RESPONSE

CAUSE OF CONDITION

CORRECTIVE ACTION

(A) RESOLUTION

(B) PREVENTION

(C) AFFECTED DOCUMENTS

C.A. FOLLOWUP:

CORRECTIVE ACTION VERIFIED BY: _____ DATE:_____

11.0 REFERENCES

USEPA, 1986. SW-846 "Test Method for Evaluating Solid Waste," dated November 1986. U.S. Environmental Protection Agency, Washington, D.C.

Taylor, J. K., 1987. Quality Assurance of Chemical Measurements. Lewis Publishers, Inc., Chelsea, Michigan

USEPA, 1987. Data Quality Objectives for Remedial Response Actions Activities: Development Process, EPA/540/G-87/003, OSWER Directive 9355.0-7- U.S. Environmental Protection Agency, Washington, D.C.

USEPA, 2013. SOP HW-34, Trace Volatile Data Validation, Revision 3. Hazardous Waste Support Section, EPA Region 2.

USEPA, 2013. SOP HW-35, Semivolatile Data Validation, Revision 2. Hazardous Waste Support Section, EPA Region 2.

USEPA, 2012. SOP HW-2a, ICP-AES Data Validation, Revision 15. Hazardous Waste Support Section, EPA Region 2.

USEPA, 2012. SOP HW-2c, Mercury and Cyanide Data Validation, Revision 15. Hazardous Waste Support Section, EPA Region 2.

\\langan.com\data\EP\data5\100287501\Engineering Data\Environmental\Reports\2015 - 363 Bond Street SMP\Appendix K - QAPP\Appendix K - QAPP_Revised 071615.docx

ATTACHMENT A

Laboratory Reporting Limits for

8260B (µg/L), 8270C (µg/L), 6010B (µg/L), 7473 (µg/L), and TO-15 (µg/m^3 or ppb)

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 8260C	Water	1,1,1,2-Tetrachloroethane	0.2	0.5	ug/L
EPA 8260C	Water	1,1,1-Trichloroethane	0.2	0.5	ug/L
EPA 8260C	Water	1,1,2,2-Tetrachloroethane	0.2	0.5	ug/L
EPA 8260C	Water	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.2	0.5	ug/L
EPA 8260C	Water	1,1,2-Trichloroethane	0.2	0.5	ug/L
EPA 8260C	Water	1,1-Dichloroethane	0.2	0.5	ug/L
EPA 8260C	Water	1,1-Dichloroethylene	0.2	0.5	ug/L
EPA 8260C	Water	Bromochloromethane	0.2	0.5	ug/L
EPA 8260C	Water	1,2,3-Trichloropropane	0.2	0.5	ug/L
EPA 8260C	Water	1,2,4-Trichlorobenzene	0.2	0.5	ug/L
EPA 8260C	Water	1,2,4-Trimethylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	1,2-Dibromo-3-chloropropane	0.2	0.5	ug/L
EPA 8260C	Water	1,2-Dibromoethane	0.2	0.5	ug/L
EPA 8260C	Water	1,2-Dichlorobenzene	0.2	0.5	ug/L
EPA 8260C	Water	1,2-Dichloroethane	0.2	0.5	ug/L
EPA 8260C	Water	1,2-Dichloropropane	0.2	0.5	ug/L
EPA 8260C	Water	1,3,5-Trimethylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	1,3-Dichlorobenzene	0.2	0.5	ug/L
EPA 8260C	Water	1,4-Dichlorobenzene	0.2	0.5	ug/L
EPA 8260C	Water	1,4-Dioxane	40	80	ug/L
EPA 8260C	Water	Cyclohexane	0.2	0.5	ug/L
EPA 8260C	Water	2-Butanone	0.2	0.5	ug/L
EPA 8260C	Water	2-Hexanone	0.2	0.5	ug/L
EPA 8260C	Water	4-Methyl-2-pentanone	0.2	0.5	ug/L
EPA 8260C	Water	Acetone	1	2	ug/L
EPA 8260C	Water	Acrolein	0.2	0.5	ug/L
EPA 8260C	Water	Acrylonitrile	0.2	0.5	ug/L
EPA 8260C	Water	Benzene	0.2	0.5	ug/L
EPA 8260C	Water	Bromodichloromethane	0.2	0.5	ug/L
EPA 8260C	Water	Bromoform	0.2	0.5	ug/L

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 8260C	Water	Bromomethane	0.2	0.5	ug/L
EPA 8260C	Water	Carbon disulfide	0.2	0.5	ug/L
EPA 8260C	Water	Carbon tetrachloride	0.2	0.5	ug/L
EPA 8260C	Water	Chlorobenzene	0.2	0.5	ug/L
EPA 8260C	Water	Chloroethane	0.2	0.5	ug/L
EPA 8260C	Water	Chloroform	0.2	0.5	ug/L
EPA 8260C	Water	Chloromethane	0.2	0.5	ug/L
EPA 8260C	Water	cis-1,2-Dichloroethylene	0.2	0.5	ug/L
EPA 8260C	Water	cis-1,3-Dichloropropylene	0.2	0.5	ug/L
EPA 8260C	Water	Dibromochloromethane	0.2	0.5	ug/L
EPA 8260C	Water	Dibromomethane	0.2	0.5	ug/L
EPA 8260C	Water	Dichlorodifluoromethane	0.2	0.5	ug/L
EPA 8260C	Water	Ethyl Benzene	0.2	0.5	ug/L
EPA 8260C	Water	Methylcyclohexane	0.2	0.5	ug/L
EPA 8260C	Water	Hexachlorobutadiene	0.2	0.5	ug/L
EPA 8260C	Water	Isopropylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	Methyl acetate	0.2	0.5	ug/L
EPA 8260C	Water	Methyl tert-butyl ether (MTBE)	0.2	0.5	ug/L
EPA 8260C	Water	Methylene chloride	1	2	ug/L
EPA 8260C	Water	n-Butylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	n-Propylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	o-Xylene	0.2	0.5	ug/L
EPA 8260C	Water	p- & m- Xylenes	0.5	1	ug/L
EPA 8260C	Water	1,2,3-Trichlorobenzene	0.2	0.5	ug/L
EPA 8260C	Water	p-Isopropyltoluene	0.2	0.5	ug/L
EPA 8260C	Water	sec-Butylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	Styrene	0.2	0.5	ug/L
EPA 8260C	Water	tert-Butyl alcohol (TBA)	0.5	1	ug/L
EPA 8260C	Water	tert-Butylbenzene	0.2	0.5	ug/L
EPA 8260C	Water	Tetrachloroethylene	0.2	0.5	ug/L

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 8260C	Water	Toluene	0.2	0.5	ug/L
EPA 8260C	Water	trans-1,2-Dichloroethylene	0.2	0.5	ug/L
EPA 8260C	Water	trans-1,3-Dichloropropylene	0.2	0.5	ug/L
EPA 8260C	Water	Trichloroethylene	0.2	0.5	ug/L
EPA 8260C	Water	Trichlorofluoromethane	0.2	0.5	ug/L
EPA 8260C	Water	Vinyl Chloride	0.2	0.5	ug/L
EPA 8260C	Water	Xylenes, Total	0.6	1.5	ug/L

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 8270D	Water	Acenaphthene	0.05	0.05	ug/L
EPA 8270D	Water	Acenaphthylene	0.05	0.05	ug/L
EPA 8270D	Water	Acetophenone	2.5	5	ug/L
EPA 8270D	Water	Anthracene	0.05	0.05	ug/L
EPA 8270D	Water	Atrazine	0.5	0.5	ug/L
EPA 8270D	Water	Benzaldehyde	2.5	5	ug/L
EPA 8270D	Water	Benzidine	10	20	ug/L
EPA 8270D	Water	Benzo(a)anthracene	0.05	0.05	ug/L
EPA 8270D	Water	Benzo(a)pyrene	0.05	0.05	ug/L
EPA 8270D	Water	Benzo(b)fluoranthene	0.05	0.05	ug/L
EPA 8270D	Water	Benzo(g,h,i)perylene	0.05	0.05	ug/L
EPA 8270D	Water	Benzoic acid	25	50	ug/L
EPA 8270D	Water	Benzo(k)fluoranthene	0.05	0.05	ug/L
EPA 8270D	Water	Benzyl alcohol	2.5	5	ug/L
EPA 8270D	Water	Benzyl butyl phthalate	2.5	5	ug/L
EPA 8270D	Water	1,1'-Biphenyl	2.5	5	ug/L
EPA 8270D	Water	4-Bromophenyl phenyl ether	2.5	5	ug/L
EPA 8270D	Water	Caprolactam	2.5	5	ug/L
EPA 8270D	Water	Carbazole	2.5	5	ug/L
EPA 8270D	Water	Bis(2-chloroethoxy)methane	2.5	5	ug/L
EPA 8270D	Water	Bis(2-chloroethyl)ether	2.5	5	ug/L
EPA 8270D	Water	Bis(2-chloroisopropyl)ether	2.5	5	ug/L
EPA 8270D	Water	2-Chloronaphthalene	2.5	5	ug/L
EPA 8270D	Water	2-Chlorophenol	2.5	5	ug/L
EPA 8270D	Water	4-Chlorophenyl phenyl ether	2.5	5	ug/L
EPA 8270D	Water	Chrysene	0.05	0.05	ug/L
EPA 8270D	Water	Dibenzo(a,h)anthracene	0.05	0.05	ug/L
EPA 8270D	Water	Dibenzofuran	2.5	5	ug/L
EPA 8270D	Water	Di-n-butyl phthalate	2.5	5	ug/L
EPA 8270D	Water	3,3'-Dichlorobenzidine	2.5	5	ug/L

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 8270D	Water	2,4-Dichlorophenol	2.5	5	ug/L
EPA 8270D	Water	Diethyl phthalate	2.5	5	ug/L
EPA 8270D	Water	2,4-Dimethylphenol	2.5	5	ug/L
EPA 8270D	Water	Dimethyl phthalate	2.5	5	ug/L
EPA 8270D	Water	4,6-Dinitro-2-methylphenol	2.5	5	ug/L
EPA 8270D	Water	2,4-Dinitrophenol	2.5	5	ug/L
EPA 8270D	Water	2,4-Dinitrotoluene	2.5	5	ug/L
EPA 8270D	Water	2,6-Dinitrotoluene	2.5	5	ug/L
EPA 8270D	Water	Di-n-octyl phthalate	2.5	5	ug/L
EPA 8270D	Water	1,2-Diphenylhydrazine (as Azobenzene)	2.5	5	ug/L
EPA 8270D	Water	Bis(2-ethylhexyl)phthalate	0.5	0.5	ug/L
EPA 8270D	Water	Fluoranthene	0.05	0.05	ug/L
EPA 8270D	Water	Fluorene	0.05	0.05	ug/L
EPA 8270D	Water	Hexachlorobenzene	0.02	0.02	ug/L
EPA 8270D	Water	Hexachlorobutadiene	0.5	0.5	ug/L
EPA 8270D	Water	Hexachlorocyclopentadiene	2.5	5	ug/L
EPA 8270D	Water	Hexachloroethane	0.5	0.5	ug/L
EPA 8270D	Water	Indeno(1,2,3-cd)pyrene	0.05	0.05	ug/L
EPA 8270D	Water	Isophorone	2.5	5	ug/L
EPA 8270D	Water	2-Methylnaphthalene	2.5	5	ug/L
EPA 8270D	Water	2-Methylphenol	2.5	5	ug/L
EPA 8270D	Water	3- & 4-Methylphenols	2.5	5	ug/L
EPA 8270D	Water	Naphthalene	0.05	0.05	ug/L
EPA 8270D	Water	3-Nitroaniline	2.5	5	ug/L
EPA 8270D	Water	4-Nitroaniline	2.5	5	ug/L
EPA 8270D	Water	2-Nitroaniline	2.5	5	ug/L
EPA 8270D	Water	Nitrobenzene	0.25	0.25	ug/L
EPA 8270D	Water	4-Nitrophenol	2.5	5	ug/L
EPA 8270D	Water	2-Nitrophenol	2.5	5	ug/L
EPA 8270D	Water	N-nitroso-di-n-propylamine	2.5	5	ug/L

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 8270D	Water	N-Nitrosodimethylamine	0.5	0.5	ug/L
EPA 8270D	Water	N-Nitrosodiphenylamine	2.5	5	ug/L
EPA 8270D	Water	Pentachlorophenol	0.25	0.25	ug/L
EPA 8270D	Water	Phenanthrene	0.05	0.05	ug/L
EPA 8270D	Water	Phenol	2.5	5	ug/L
EPA 8270D	Water	Pyrene	0.05	0.05	ug/L
EPA 8270D	Water	2,4,6-Trichlorophenol	2.5	5	ug/L
EPA 8270D	Water	2,4,5-Trichlorophenol	2.5	5	ug/L

Attachment A
Laboratory Reporting Limits

Method	Matrix	Analyte	MDL	RL	Units
EPA 6010C	Water	Aluminum	0.01	0.01	mg/L
EPA 6010C	Water	Antimony	0.005	0.005	mg/L
EPA 6010C	Water	Arsenic	0.004	0.004	mg/L
EPA 6010C	Water	Barium	0.01	0.01	mg/L
EPA 6010C	Water	Beryllium	0.001	0.001	mg/L
EPA 6010C	Water	Cadmium	0.003	0.003	mg/L
EPA 6010C	Water	Calcium	0.05	0.05	mg/L
EPA 6010C	Water	Chromium	0.005	0.005	mg/L
EPA 6010C	Water	Cobalt	0.005	0.005	mg/L
EPA 6010C	Water	Copper	0.003	0.003	mg/L
EPA 6010C	Water	Iron	0.02	0.02	mg/L
EPA 6010C	Water	Lead	0.003	0.003	mg/L
EPA 6010C	Water	Magnesium	0.05	0.05	mg/L
EPA 6010C	Water	Manganese	0.005	0.005	mg/L
EPA 6010C	Water	Nickel	0.005	0.005	mg/L
EPA 6010C	Water	Potassium	0.05	0.05	mg/L
EPA 6010C	Water	Selenium	0.01	0.01	mg/L
EPA 6010C	Water	Silver	0.005	0.005	mg/L
EPA 6010C	Water	Sodium	0.1	0.1	mg/L
EPA 6010C	Water	Thallium	0.005	0.005	mg/L
EPA 6010C	Water	Vanadium	0.01	0.01	mg/L
EPA 6010C	Water	Zinc	0.01	0.01	mg/L
EPA 7473	Water	Mercury	0.0002	0.0002	mg/L

ATTACHMENT A

Laboratory Analytical Reporting Limits For TO-15 (ug/m^3)

METHOD	MATRIX	ANALYTE	REPORTING LIMIT (RL)	UNITS
TO-15	Air	Tetrachloroethylene	0.17	ug/m^3
TO-15	Air	Trichloroethylene	0.13	ug/m^3

ATTACHMENT B

Resumes

Emily G. Strake

Project Chemist/ Risk Assessor
Environmental Engineering

14 years in the industry ~ 2 years with Langan

Ms. Strake has fourteen years of environmental chemistry, risk assessment, auditing, and quality assurance experience. Most recently, she has focused her efforts on human health risk assessment, and has been the primary author or key contributor of risk assessment reports and screening evaluations for projects governed under RCRA, CERCLA, SWRCB, DTSC, DNREC, PADEP, NJDEP, CTDEEP, ODEQ, NYSDEC and MDE. She has experience in site-specific strategy development, which has enabled her to perform assessments to focus areas of investigation and identify risk-based alternatives for reducing remediation costs.

Ms. Strake has broad experience in the development of preliminary remediation goals and site-specific action levels. She is proficient with the USEPA and Cal/EPA Johnson and Ettinger Models for Subsurface Vapor Intrusion into Buildings, USEPA's Adult Lead Methodology, DTSC's Leadspread 7 and 8, and statistical evaluation of data using USEPA's ProUCL software. Ms. Strake is a member of the Interstate Technology and Regulatory Council Risk Assessment Team responsible for the development and review of organizational risk assessment guidance documents and serves as a National Trainer in risk assessment for the organization.

Selected Project Experience

Major League Soccer's San Jose Earthquakes Stadium, Santa Clara, CA
DuPont, Waynesboro, VA
PECO/Exelon, Various Locations
Texas Instruments, San Francisco, CA
Regency, Philadelphia, PA
Veteran's Affairs, Palo Alto, CA
DOW Chemical, Various Locations
Avon, Rye, NY
Golden Gate National Parks Conservancy, San Francisco, CA
Sunoco Refineries, Various Locations
Honeywell, Highland Park, NJ
Delaware City Refinery, DE
Occidental Chemical, Bakersfield, CA
Floreffe Terminal, Pittsburgh, PA
Ryder, Hartford, CT
Rohm and Haas, Philadelphia, PA

Education

MBA
The University of Scranton

B.S., Chemistry
Cedar Crest College

Training

40 hr. OSHA HAZWOPER Training/Nov 2002

8 hr. HAZWOPER Supervisor/June 2004

8 hr. OSHA HAZWOPER Refresher/2013

LANGAN

AMANDA FORSBURG
Senior Staff Scientist

Environmental Oversight
Remedial Investigation
Remedial Action

EDUCATION

Bucknell University: BA in Environmental Studies
Bucknell University: BA in Environmental Geology

TRAINING AND SHORT COURSES

OSHA Health and Safety Training for Hazardous Waste Site Work
OSHA Outreach Training Program for the Construction Industry
Conrail Orientation Railroad Safety Course
Vapor Intrusion Course
Rutgers NJDEP Site Remediation Seminar

YEARS WITH LANGAN: 5

SUMMARY QUALIFICATIONS

Her experience includes working on environmental projects, particularly investigation and remediation of environmental contamination. This includes collection of soil, groundwater and air samples for environmental analysis, supervision of excavation activities, and air monitoring to ensure compliance with Occupational Safety and Health Administration Standards. Ms. Forsburg has also provided oversight for several subslab depressurization system installations. She has assisted in remedial investigations and has been involved in the collection of field data and assisted in the preparation of reports for projects in New Jersey and New York.

Ms. Forsburg frequently works with Microsoft Word, Microsoft Excel, and GIS. She also has basic skills in AutoCad and EQUIS. She has the ability to work well with engineers and other technical personnel.

RELEVANT EXPERIENCE

Former Pan Graphics Facility, Garfield, New Jersey – Provided soil boring and well installation oversight. Collected soil, groundwater, and concrete samples and conducted safety air monitoring as a part of the remedial investigation during 2009. Conducted oversight during a remedial excavation to remove the source zone in 2010. Completed groundwater and soil sampling as a part of ongoing remedial monitoring in 2009-2011. Preparation of initial Receptor Evaluation in 2011.

Former Pan Graphics Facility, Lodi, New Jersey – Provided oversight for sediment borings. Collected sediment and groundwater samples as a part of the remedial investigation in 2010. Preparation of initial Receptor Evaluation in 2011.

First Aviation Services, Teterboro, New Jersey – Collected groundwater samples as a part of ongoing remedial monitoring in 2008 - 2011. Conducted in-situ remediation through the use of Oxygen-Release Compound (ORC) in 2010 - 2011. Completed annual Remedial Action Progress Reports 2010 – 2011.

Super Stop & Shop, Emerson, New Jersey – Collected groundwater samples as a part of remedial monitoring in 2008 – 2011. Completed soil vapor sampling and aquifer testing as a part of a remedial investigation in 2011. Preparation of initial Receptor Evaluation in 2011.

Stop & Shop, Raritan, New Jersey – Conduct biannual inspections of methane extraction system 2010 – 2011.

Former Flintkote Facility, Rutherford, New Jersey – Oversaw the installation of an LNAPL collection system in 2010. Completed inspection for cap re-certification in 2010. Provided soil boring and well installation oversight in 2011. Collected groundwater samples as a part of a site investigation in 2011. Preparation of initial Receptor Evaluation in 2011.

Interport Facility, Newark, New Jersey – Provided soil boring and monitoring well installation oversight during a site investigation in 2009. Provided oversight for a remedial excavation in 2010. Collected post-excavation samples and provided sample and data management.

Former Penick Facility, Montville, New Jersey – Collected groundwater samples during remedial monitoring in 2007 – 2011. Conducted data management and modeling in 2007 – 2011. Provided oversight for soil borings and collected soil samples as part of a remedial investigation in 2010. Conducted aquifer testing as part of a remedial investigation in 2011.

Lowe's Home Improvement Center, Eatontown, New Jersey – Conduct ongoing monthly inspections of sub-slab depressurization and soil vapor extraction system, providing necessary maintenance and troubleshooting.

Lowe's Home Improvement Center, Woodbridge, New Jersey – Conduct ongoing quarterly inspections of sub-slab depressurization and methane monitoring system, providing necessary maintenance and troubleshooting.

Lowe's Home Improvement Center, Staten Island, New York – Collect groundwater sampling as part of ongoing remedial monitoring in 2009 – present.

Lowe's Home Improvement Center, Brooklyn, New York – Conducted Community Air Monitoring during site regrading and foundation work. Provided general environmental and remedial oversight from 2009 – 2010.

Livingston Street Apartments, Brooklyn, New York – Conducted Community Air Monitoring and remedial excavation oversight for hazardous and non-hazardous soil in 2009.

Con Edison, Bronx, New York – Provided oversight during a remedial excavation in 2010 – 2011. Conducted post-excavation sampling and sample and data management.

Con Edison, Manhattan, New York – Provide oversight for ongoing spill remediation through the removal of dielectric fluid via vacuum enhanced fluid removal (VEFR) in 2008 – present.

Sky View Parc, Flushing, New York – Provided oversight for the installation of a sub-slab depressurization system and a soil vapor barrier in 2008 - 2009.

Lowe's Home Improvement Center, Rosedale, New York – Provided oversight for the installation of a soil vapor barrier in 2011.

Stop & Shop, New Paltz, New York - Conduct ongoing monthly inspections of sub-slab depressurization and soil vapor extraction system, providing necessary maintenance and troubleshooting.

Former Liberty Plaza Site, Randallstown, Maryland – Provided oversight for the installation of a bedrock well in 2011. Completed aquifer testing in 2011. Provided data management and evaluation in 2011.

c:\users\aforsburg\desktop\forsburg_amanda_2011.doc

CHRISTOPHER McMAHON
Senior Staff Geologist

Environmental Site Assessments
Site Investigation/Remedial Actions
Vapor Intrusion Investigations
Project Coordination
Report Preparation
Environmental Sampling
Subsurface Investigations

EDUCATION State University of New York College at Potsdam; Bachelor of Arts in Geology with Honors in Geology and Environmental Science

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS

40-hour Hazardous Waste Operations Training: OSHA 29CFR1910.120
8-hour Hazardous Waste Operations Site Supervisor Training
Red Cross CPR & First Aid Training

YEARS WITH LANGAN: 5

SUMMARY QUALIFICATIONS

In his 11 years experience as a consulting Geologist, Mr. McMahon has worked on projects for commercial, residential, and public facilities in four states including Pennsylvania, New York, New Jersey, and Connecticut, under various EPA, USACOE, PADEP, NJDEP, and NYSDEC programs, as well as, varying client protocols.

These projects have included the completion of Phase I environmental site assessments and the design and oversight of Phase II investigations of soil, sediments, groundwater, surface water, soil gas, and air. These projects have required coordination of records acquisition and environmental sampling, construction/demolition activities, wetland permitting issues, and report submittals with site development plans. Mr. McMahon also has significant field experience including implementation and management of all phases of environmental projects involving soil, sediment, groundwater, surface water, and soil vapor contamination including Phase I inspections, Phase II site investigations, Remedial Investigations, and Remedial Actions.

Many of these projects have included his oversight of remedial actions to clean up or mitigate hazardous waste sites in rural, urban, and industrial settings. These remedial action designs have included in-situ soil remedial injections, contaminated soil removal/disposal management plans, and soil vapor intrusion mitigation systems including advanced vapor barriers and sub-slab depressurization systems.

RELEVANT EXPERIENCE

NYSDEC (Region 7) Site Remedial Investigation
Project Geologist at a former industrial facility in Hillcrest, New York. Responsibilities included installation and sampling of soil gas implants, indoor, and sub-slab air sampling according to NYSDEC and DOH standards. Coordinated and directed junior field staff for the field investigation, directed remedial investigation contractor coordination, and completed preliminary reports.

Former Manufactured Gas Plant Site Remedial Investigation
Project Geologist at a Former MGP site in Geneva, New York. Responsibilities included excavation of test pits, installation of bedrock and overburden monitoring wells, bedrock core logging, borehole geophysical surveys and hydraulic conductivity surveying. Sampling responsibilities included groundwater, soil, surface soil and water, sediment and indoor air. Also responsible for subcontractor coordination.

NYSDEC (Region 2) Superfund Site Remedial Investigation
Project Field Geologist at a former dry-cleaning supplies warehouse in Jamaica, Queens, New York. Responsibilities included supervising subcontractors, collecting soil, groundwater, and soil gas samples for laboratory analysis, coordinating hazardous waste disposal, and vendors, and monitoring air quality to conform with URS health and safety standards. The site was located on a busy commercial parking lot, which required daily coordination with client.

NYSDEC (Region 5) Superfund Site Remedial Investigation
Project Field Geologist at a former HAZMAT fire training area in Whitehall, New York. Responsibilities included supervising subcontractors, collecting environmental samples, conducting slug tests to estimate the hydraulic conductivity of various soil facies. The data collected was used in GIS to predict the rate of contaminant migration, which helped close the site. Coordination of field staff, vendors, and business owners at a neighboring site were essential to the successful completion of this project.

Former Manufactured Gas Plant Site Investigation/Confidential Client
Field Geologist for a bedrock investigation at a former MGP facility in Mechanicville, New York. Responsible for supervision of subcontractors, and collection of environmental samples.

Remedial Investigation of Industrial Facility/Confidential Client
Field Geologist responsible for soil gas survey at a former industrial facility in Batavia, New York. Responsibilities included supervision of junior field staff, set-up and operation of field monitoring equipment, and installation and collection of Gore-sorbers.

OGS Geotechnical Survey for Construction
Field Geologist responsible for conducting a geotechnical investigation at an active medium security prison in Rome, New York. Responsible for supervising subcontractor, coordinating with OGS and collecting geotechnical samples for a construction site.

Report Tabulation/Various Clients
Compile and organize historical soil, groundwater elevations, and groundwater analytical data using Microsoft excel, access, word, adobe acrobat and other software programs. Information is utilized for the construction of maps and cross-sections to evaluate the nature, extent and fate of soil and groundwater contamination. Also Bentley Microstation for the generation of engineering maps.

Anthony Moffa Jr, CHMM

Corporate Health and Safety Manager

Health & Safety Coordinator, Contingency Planning, Compliance Auditing

19 years in the industry ~ 12 years with Langan

Mr. Moffa has over nineteen years experience in providing environmental compliance assistance to both commercial and industrial facilities. His compliance auditing experience includes facility and process specific including the areas of waste management, stormwater and wastewater issues and air emissions. He has an extensive background in the areas of hazardous, non-hazardous and universal waste management. His level of experience includes working with federal, state and local authorities to ensure clients environmental compliance status on all levels. His compliance reporting includes federal and state specific reports. Completed federal reports include the Tier II, Toxic Chemical Release Inventories under SARA Title III and Biennial Hazardous Waste Reporting. Completed state specific reporting includes the Pennsylvania Form 26R and the New Jersey Release Pollution Prevention Report. He is experienced in the preparation, submittal and compliance monitoring of NPDES & stormwater applications and permits. He has developed site specific contingency plans for both industrial and commercial facilities for facilities throughout Pennsylvania and New Jersey.

Selected Projects

Verizon - Pennsylvania, Inc. Philadelphia Naval Yard, PA
Confidential Client, Philadelphia, PA
Penn Color, Doylestown, PA
Verizon - Pennsylvania, Inc., Phase I Environmental Assessment, Lansdowne, PA
Verizon - Pennsylvania, Inc. (formerly Bell Atlantic Corporation), Various Locations, PA
Kinder Morgan Bulk Terminals, Inc. Fairless Hills, PA
PP&L – Martins Creek, Bangor, PA
Concord Beverage Company, Concordville, PA
Penn Color, Hatfield, PA
National Starch & Chemical Company, Bloomfield, NJ
Air Products and Chemicals, Inc.., Middlesex, NJ
PSEG Services Corporation, Jersey City, NJ
Sampson Coatings, Richmond, VA
Custom Chemicals Corporation, Elmwood Park, NJ

Education

M.E., Science
Penn State University

B.S., Physics
West Chester University

Professional Registration

Certified Hazardous Material Manager (CHMM)

Professional Affiliations

Pennsylvania Chamber of Business & Industry

Chemical Council of New Jersey

New Jersey Business & Industry Association

Professional Training

OSHA 40-Hour Hazardous Waste Site Training Course

National Safety Council – CPR, Bloodborne Pathogen and First Aid Training

Steel Tank Institute Certified AST Inspector

PADEP Pollution Prevention & Energy Efficiency Qualified Assessor

LANGAN

York Analytical Laboratories, Inc.
SDG: 15F1084
CLASS: WET
METHOD: EPA 7196A

DATA PACKAGE COVER PAGE

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Client Sample Id:	Lab Sample Id:
717/BFC-51-062615	15F1084-01
718/BFC-52-062615	15F1084-02
719/BFC-53-062615	15F1084-03

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature:

Name: Benjamin Gulizia

Date: 7/13/2015

Title: Laboratory Director

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

717/BFC-51-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-01 File ID:

Sampled: 06/26/15 14:00 Prepared: 07/01/15 07:32 Analyzed: 07/01/15 14:20

Solids: 92.92 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BG50012 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.732	1		EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

718/BFC-52-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-02 File ID:

Sampled: 06/26/15 14:20 Prepared: 07/01/15 07:32 Analyzed: 07/01/15 14:20

Solids: 93.08 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BG50012 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.537	1	U	EPA 7196A

FORM I **INORGANIC ANALYSIS DATA SHEET**

EPA 7196A

719/BFC-53-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-03 File ID:

Sampled: 06/26/15 14:40 Prepared: 07/01/15 07:32 Analyzed: 07/01/15 14:20

Solids: 92.28 Preparation: EPA SW846-3060 Initial/Final: 2.5 g / 100 mL

Batch: BG50012 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
18540-29-9	Chromium, Hexavalent	0.542	1	U	EPA 7196A

CALIBRATION CURVE

ANALYSIS: Hexavalent Chromium

METHOD: Colorimetric

DATE: 3/17/2015

ppm	µg/100 ml	Absorbance
0.01	1	0.006
0.05	5	0.041
0.1	10	0.085
0.25	25	0.207
0.5	50	0.412
0.75	75	0.602

WAVELENGTH: 540 nm

LIGHT PATH: 1 cm

FILTER: NO

SLOPE	1.239181
INTERCEPT	-0.002769
CORRELATION	0.999628

ICV Concentration (ppm)	0.5
ICV Absorbance	0.412
ICV Calculated Conc. (ppm)	0.51
ICV Percent Recovery	101.55

ANALYST: STEPHANIE COUTURE

FORM I

METHOD BLANK DATA SHEET

EPA 7196A

Laboratory:	York Analytical Laboratories, Inc.		SDG:	15F1084	
Client:	Langan Engineering & Environmental Services (NJ)		Project:	363 Bond St	
Matrix:	Soil	Laboratory ID:	BG50012-BLK1	File ID:	
Prepared:	07/01/15 07:32	Preparation:	EPA SW846-3060	Initial/Final:	2.5 g / 100 mL
Analyzed:	07/01/15 14:20	Instrument:	Inst		
Batch:	BG50012	Sequence:		Calibration:	

CAS NO.	COMPOUND	CONC. (mg/kg wet)	Q
18540-29-9	Chromium, Hexavalent	0.500	U

FORM IV

PREPARATION BATCH SUMMARY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Batch: BG50012 Batch Matrix: Soil Preparation: EPA SW846-3060

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
717/BFC-51-062615	15F1084-01		07/01/15 07:32	
718/BFC-52-062615	15F1084-02		07/01/15 07:32	
719/BFC-53-062615	15F1084-03		07/01/15 07:32	
Blank	BG50012-BLK1		07/01/15 07:32	
Reference	BG50012-SRM1		07/01/15 07:32	

HOLDING TIME SUMMARY

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
717/BFC-51-062615	06/26/15 14:00	06/26/15 19:45	07/01/15 07:32	4.73	30.00	07/01/15 14:20	0.28	7.00	
718/BFC-52-062615	06/26/15 14:20	06/26/15 19:45	07/01/15 07:32	4.72	30.00	07/01/15 14:20	0.28	7.00	
719/BFC-53-062615	06/26/15 14:40	06/26/15 19:45	07/01/15 07:32	4.70	30.00	07/01/15 14:20	0.28	7.00	

METHOD DETECTION AND REPORTING LIMITS

EPA 7196A

Laboratory: York Analytical Laboratories, Inc. **SDG:** 15F1084

Client: Langan Engineering & Environmental Services (NJ) **Project:** 363 Bond St

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
Chromium, Hexavalent	0.350	0.500	mg/kg

PREPARATION BENCH SHEET

BG50012

York Analytical Laboratories, Inc.

Printed: 7/13/2015 7:57:29AM

Matrix: Soil

(No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Preparation	Sample Comments
15F1021-01	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1021-03	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1021-05	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1021-07	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1035-01	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1062-01	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1062-03	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1062-05	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1067-01	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1067-03	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1084-01	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1084-02	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1084-03	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1086-02	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1088-02	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1089-02	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
15F1184-01	Chromium, Hexavalent	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
BG50012-BLK1	QC	07/01/2015 07:3	SC	2.5	100					EPA SW846-3060	
BG50012-DUP1	QC	07/01/2015 07:3	SC	2.5	100		15F1021-01			EPA SW846-3060	
BG50012-MS1	QC	07/01/2015 07:3	SC	2.5	100	Y15E043	15F1021-01	1000		EPA SW846-3060	
BG50012-SRM1	QC	07/01/2015 07:3	SC	0.5	100	Y15E063		1		EPA SW846-3060	

PREPARATION BENCH SHEET

BG50012

York Analytical Laboratories, Inc.

Printed: 7/13/2015 7:57:29AM

Matrix: Soil

(No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surrogate	Preparation	Sample Comments

Batch Comments:

HEXAVALENT CHROMIUM (CR+6)

DATE: 070115
ANALYST: SC MATRIX: S
BATCH: BG50012

SAMPLE I.D.	DIL	ABS	ENTER IN LIMS ↓ mg/l from Curve	mg/kg	QA/QC
Method Blank (<0.1mg/L_____)		0.001	0.00		
CCV (90-110%)		0.381	0.469		93.8
LCS (80-120%) Line 0.50g		0.288	0.354	70.8	73.0
1 15F1021-01		0.00	ND		
2 -03					
3 SC070115 ~~-04~~ 05					
4 -07					
5 1035-01					
6 1062-01					
7 -03					
8 -05					
9 1067-01					
10 -03					
11 1086-02					
12 1088-02					
13 1089-02					
14 1084-01 SC070115		0.016	0.017 ~~0.011~~ ~~0.01~~		
15 -02		0.00	0.00		
16 -03		0.00	ND		
17 1184-01		1	1		
18					
19					
20					
DUP (≤35% RPD) 1067-03		0.00	ND		0
Spike (75-125%) -03	SC070115	0.438	~~0.39~~ 0.539		108 %
CCV (90-110%)		0.381	0.469		93.8 %

Calibration Date	Slope	y-intercept
031715	1.239181	0.002769

STANDARD/REAGENT	DATE PREPARED	EXPIRATION DATE	TRACEABILITY
CCV @ 50 mg/L	Make daily upon analysis		Page A
SPK @ ↓ mg/L	Make daily upon analysis		Page A
LCS @ 97.4 mg/kg	Make daily upon analysis		Page B
Diphenylcarbazide Solution	070115	6mos	Page C
Sulfuric Acid (Conc)	-	-	Page C
Digestion Solution	060315	6mos	Page D
Magnesium Chloride	-	-	Page D
Antifoam	-	-	Page D
Phosphate Buffer	061615	6mos	Page E
5M Nitric Acid	062515	6mos	Page E
Ottawa Sand -For Soil Method Blanks Only	-	-	Page E

00052

Page: _____

York Analytical Laboratories, Inc.

SDG: 15F1084

CLASS: WET

METHOD: SM 2540G

DATA PACKAGE COVER PAGE

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Client Sample Id:	Lab Sample Id:
717/BFC-51-062615	15F1084-01
718/BFC-52-062615	15F1084-02
719/BFC-53-062615	15F1084-03
720/BFC-54-062615	15F1084-04
721/BFC-55-062615	15F1084-05
722/BFC-56-062615	15F1084-06
723/BFC-57-062615	15F1084-07
724/BFC-58-062615	15F1084-08
725/BFC-59-062615	15F1084-09
726/BFC-60-062615	15F1084-10
727/BFC-61-062615	15F1084-11
728/BFC-62-062615	15F1084-12
729/DUP-7-062615	15F1084-13
730/DUP-8-062615	15F1084-14

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature:

Name: Benjamin Gulizia

Date: 7/13/2015

Title: Laboratory Director

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

717/BFC-51-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-01 File ID:

Sampled: 06/26/15 14:00 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 92.92 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	92.9	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

718/BFC-52-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-02 File ID:

Sampled: 06/26/15 14:20 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 93.08 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	93.1	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

719/BFC-53-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-03 File ID:

Sampled: 06/26/15 14:40 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 92.28 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	92.3	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

720/BFC-54-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-04 File ID:

Sampled: 06/26/15 13:45 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 91.37 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.4	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

721/BFC-55-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-05 File ID:

Sampled: 06/26/15 13:50 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 91.59 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.6	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

722/BFC-56-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-06 File ID:

Sampled: 06/26/15 13:55 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 92.65 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	92.7	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

723/BFC-57-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-07 File ID:

Sampled: 06/26/15 14:00 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 92.37 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	92.4	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

724/BFC-58-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-08 File ID:

Sampled: 06/26/15 14:05 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 91.30 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	91.3	1		SM 2540G

FORM I

INORGANIC ANALYSIS DATA SHEET

SM 2540G

725/BFC-59-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-09 File ID:

Sampled: 06/26/15 14:10 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 90.52 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	90.5	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

726/BFC-60-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-10 File ID:

Sampled: 06/26/15 14:15 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 93.11 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	93.1	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

727/BFC-61-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-11 File ID:

Sampled: 06/26/15 14:20 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 93.83 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	93.8	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET** **728/BFC-62-062615**

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-12 File ID:

Sampled: 06/26/15 14:25 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 93.53 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	93.5	1		SM 2540G

FORM I **INORGANIC ANALYSIS DATA SHEET**

SM 2540G

729/DUP-7-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-13 File ID:

Sampled: 06/26/15 00:00 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 95.07 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	95.1	1		SM 2540G

FORM I

INORGANIC ANALYSIS DATA SHEET

SM 2540G

730/DUP-8-062615

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Matrix: Soil Laboratory ID: 15F1084-14 File ID:

Sampled: 06/26/15 00:00 Prepared: 06/27/15 11:05 Analyzed: 06/29/15 15:11

Solids: 92.97 Preparation: % Solids Prep Initial/Final: 5 g / 5 g

Batch: BF51393 Sequence: Calibration: Instrument: Inst

CAS NO.	Analyte	Concentration (%)	Dilution Factor	Q	Method
solids	% Solids	93.0	1		SM 2540G

730/DUP-8-062615

DUPLICATES

SM 2540G

Laboratory: York Analytical Laboratories, Inc.

Client: Langan Engineering & Environmental Services (NJ)

Matrix: Soil

Batch: BF51393

Preparation: % Solids Prep

Source Sample Name: 730/DUP-8-062615

SDG: 15F1084

Project: 363 Bond St

Laboratory ID: BF51393-DUP1

Lab Source ID: 15F1084-14

Initial/Final: 5 g / 5 g

% Solids: 92.97

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (%)	C	DUPLICATE CONCENTRATION (%)	C	RPD %	Q	METHOD
% Solids	20	93.0		91.9		1.17		SM 2540G

* Values outside of QC limits

FORM IV

PREPARATION BATCH SUMMARY

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Batch: BF51393 Batch Matrix: Soil Preparation: % Solids Prep

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
717/BFC-51-062615	15F1084-01		06/27/15 11:05	
718/BFC-52-062615	15F1084-02		06/27/15 11:05	
719/BFC-53-062615	15F1084-03		06/27/15 11:05	
720/BFC-54-062615	15F1084-04		06/27/15 11:05	
721/BFC-55-062615	15F1084-05		06/27/15 11:05	
722/BFC-56-062615	15F1084-06		06/27/15 11:05	
723/BFC-57-062615	15F1084-07		06/27/15 11:05	
724/BFC-58-062615	15F1084-08		06/27/15 11:05	
725/BFC-59-062615	15F1084-09		06/27/15 11:05	
726/BFC-60-062615	15F1084-10		06/27/15 11:05	
727/BFC-61-062615	15F1084-11		06/27/15 11:05	
728/BFC-62-062615	15F1084-12		06/27/15 11:05	
729/DUP-7-062615	15F1084-13		06/27/15 11:05	
730/DUP-8-062615	15F1084-14		06/27/15 11:05	
730/DUP-8-062615	BF51393-DUP1		06/27/15 11:05	

HOLDING TIME SUMMARY

SM 2540G

Laboratory: York Analytical Laboratories, Inc. SDG: 15F1084

Client: Langan Engineering & Environmental Services (NJ) Project: 363 Bond St

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
717/BFC-51-062615	06/26/15 14:00	06/26/15 19:45	06/27/15 11:05	0.88	28.00	06/29/15 15:11	3.05	28.00	
718/BFC-52-062615	06/26/15 14:20	06/26/15 19:45	06/27/15 11:05	0.86	28.00	06/29/15 15:11	3.04	28.00	
719/BFC-53-062615	06/26/15 14:40	06/26/15 19:45	06/27/15 11:05	0.85	28.00	06/29/15 15:11	3.02	28.00	
720/BFC-54-062615	06/26/15 13:45	06/26/15 19:45	06/27/15 11:05	0.89	28.00	06/29/15 15:11	3.06	28.00	
721/BFC-55-062615	06/26/15 13:50	06/26/15 19:45	06/27/15 11:05	0.89	28.00	06/29/15 15:11	3.06	28.00	
722/BFC-56-062615	06/26/15 13:55	06/26/15 19:45	06/27/15 11:05	0.88	28.00	06/29/15 15:11	3.05	28.00	
723/BFC-57-062615	06/26/15 14:00	06/26/15 19:45	06/27/15 11:05	0.88	28.00	06/29/15 15:11	3.05	28.00	
724/BFC-58-062615	06/26/15 14:05	06/26/15 19:45	06/27/15 11:05	0.88	28.00	06/29/15 15:11	3.05	28.00	
725/BFC-59-062615	06/26/15 14:10	06/26/15 19:45	06/27/15 11:05	0.87	28.00	06/29/15 15:11	3.04	28.00	
726/BFC-60-062615	06/26/15 14:15	06/26/15 19:45	06/27/15 11:05	0.87	28.00	06/29/15 15:11	3.04	28.00	
727/BFC-61-062615	06/26/15 14:20	06/26/15 19:45	06/27/15 11:05	0.86	28.00	06/29/15 15:11	3.04	28.00	
728/BFC-62-062615	06/26/15 14:25	06/26/15 19:45	06/27/15 11:05	0.86	28.00	06/29/15 15:11	3.03	28.00	
729/DUP-7-062615	06/26/15 00:00	06/26/15 19:45	06/27/15 11:05	1.46	28.00	06/29/15 15:11	3.63	28.00	
730/DUP-8-062615	06/26/15 00:00	06/26/15 19:45	06/27/15 11:05	1.46	28.00	06/29/15 15:11	3.63	28.00	

METHOD DETECTION AND REPORTING LIMITS

SM 2540G

Laboratory: York Analytical Laboratories, Inc. **SDG:** 15F1084

Client: Langan Engineering & Environmental Services (NJ) **Project:** 363 Bond St

Matrix: Soil **Instrument:**

Analyte	LOD	LOQ	Units
% Solids	0.100	0.100	%

PREPARATION BENCH SHEET

BF51393

York Analytical Laboratories, Inc.

Printed: 7/13/2015 7:58:59AM

Matrix: Soil

(No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	ul Surrogate	Preparation	Sample Comments
15F0639-03	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F0639-04	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F0639-05	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F0639-08	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1054-02	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1054-03	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-01	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-02	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-03	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-04	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-05	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-06	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-07	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-08	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-09	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-10	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-11	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-12	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-13	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
15F1084-14	Total Solids	06/27/2015 11:0	KK	5	5					% Solids Prep	
BF51393-DUP1	QC	06/27/2015 11:0	KK	5	5		15F1084-14			% Solids Prep	

PREPARATION BENCH SHEET

BF51393

York Analytical Laboratories, Inc.

Printed: 7/13/2015 7:58:59AM

Matrix: Soil

(No Surrogate)

Lab Number	Analysis	Prepared	By	Initial (g)	Final (g)	Spike ID	Source ID	ul Spike	ul Surrogate	Preparation	Sample Comments

Batch Comments:

YORK
ANALYTICAL LABORATORIES, INC.

TOTAL SOLIDS ELECTRONIC LOG

Sample No.	Analyte	Analysis Date	Analyst	Batch ID	Init. Result	Final Result	Units	Prep. Units
15F1084-01	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	92.92	92.9	%	g
15F1084-01	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	6.72	6.72	%	g
15F1084-01	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	7.13	7.13	%	g
15F1084-01	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.29	1.29	%	g
15F1084-02	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	93.08	93.1	%	g
15F1084-02	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	6.44	6.44	%	g
15F1084-02	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	6.82	6.82	%	g
15F1084-02	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-03	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	92.28	92.3	%	g
15F1084-03	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.30	5.30	%	g
15F1084-03	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.63	5.63	%	g
15F1084-03	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-04	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	91.37	91.4	%	g
15F1084-04	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.16	4.16	%	g
15F1084-04	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.43	4.43	%	g
15F1084-04	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-05	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	91.59	91.6	%	g
15F1084-05	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.28	5.28	%	g
15F1084-05	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.65	5.65	%	g
15F1084-05	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-06	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	92.65	92.7	%	g
15F1084-06	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.39	5.39	%	g
15F1084-06	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.72	5.72	%	g
15F1084-06	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-07	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	92.37	92.4	%	g
15F1084-07	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.79	4.79	%	g
15F1084-07	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.08	5.08	%	g
15F1084-07	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-08	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	91.30	91.3	%	g
15F1084-08	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.51	4.51	%	g
15F1084-08	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.81	4.81	%	g
15F1084-08	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.30	1.30	%	g
15F1084-09	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	90.52	90.5	%	g
15F1084-09	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.56	5.56	%	g
15F1084-09	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	6.01	6.01	%	g
15F1084-09	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.31	1.31	%	g
15F1084-10	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	93.11	93.1	%	g
15F1084-10	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.49	5.49	%	g
15F1084-10	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.80	5.80	%	g
15F1084-10	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.30	1.30	%	g
15F1084-11	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	93.83	93.8	%	g
15F1084-11	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.74	4.74	%	g
15F1084-11	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	4.97	4.97	%	g

Note: Units for Tare, Initial and Final Wts. are in grams

YORK
ANALYTICAL LABORATORIES, INC.

TOTAL SOLIDS ELECTRONIC LOG

Sample No.	Analyte	Analysis Date	Analyst	Batch ID	Init. Result	Final Result	Units	Prep. Units
15F1084-11	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-12	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	93.53	93.5	%	g
15F1084-12	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.26	5.26	%	g
15F1084-12	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	5.53	5.53	%	g
15F1084-12	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.29	1.29	%	g
15F1084-13	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	95.07	95.1	%	g
15F1084-13	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	6.24	6.24	%	g
15F1084-13	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	6.50	6.50	%	g
15F1084-13	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g
15F1084-14	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	92.97	93.0	%	g
15F1084-14	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	3.68	3.68	%	g
15F1084-14	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	3.86	3.86	%	g
15F1084-14	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.30	1.30	%	g
BF51393-DUP1	% Solids	6/29/2015 3:11:34PM	SCA	BF51393	91.89	91.9	%	g
BF51393-DUP1	Final Wt.	6/29/2015 3:11:34PM	SCA	BF51393	3.21	3.21	%	g
BF51393-DUP1	Initial Wt.	6/29/2015 3:11:34PM	SCA	BF51393	3.38	3.38	%	g
BF51393-DUP1	Tare Wt.	6/29/2015 3:11:34PM	SCA	BF51393	1.28	1.28	%	g

Note: Units for Tare, Initial and Final Wts. are in grams

APPENDIX U

Imported Backfill DUSRs

LANGAN

LANGAN

Technical Memorandum

2700 Kelly Road, Suite 200 Warrington, PA 18976 T: 215.491.6500 F: 215.491.6501
Mailing Address: P.O. Box 1569 Doylestown, PA 18901

To: Amanda Forsburg - Langan Project Scientist

From: Emily Strake - Langan Senior Project Chemist/Risk Assessor

Date: 14 July 2015

Re: Data Usability Summary Report
For 363 Bond Street
Post-Excavation Samples Collected June 2015
Langan Project No. 100287501

This memorandum presents the findings of an analytical data validation of the data generated from the analysis of soil samples collected in June 2015 by Langan Engineering and Environmental Services ("Langan") at 363 Bond Street located in Brooklyn, New York ("the Site"). The samples were analyzed by York Analytical Laboratories, Inc. (NYSDOH ELAP registration # 10854) for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) metals, mercury (Hg), hexavalent chromium (Cr6+), and percent solids (%S).

- VOCs by SW-846 Method 8260C
- SVOCs SW-846 Method 8270D
- Pesticides by SW-846 Method 8081A
- PCBs by SW-846 Method 8082
- Metals by SW-846 6010C
- Mercury by SW-846 Methods 7473
- Cr6+ by SW-846 Method 7196A
- Percent solids by Method SM 2540G

Table 1, below, summarizes the laboratory and client sample identification numbers, sample collection dates, and analytical parameters subject to review.

Table 1: Sample Summary

SDG	*Lab Sample ID*	*Client Sample ID*	*Sample Date*	*Analytical Parameters*
15F1084	15F1084-01	717/BFC-51-062615	6/16/15	SVOCs, Pest, PCBs, Metals, Hg, Cr6+, %S
15F1084	15F1084-02	718/BFC-52-062615	6/16/15	SVOCs, Pest, PCBs, Metals, Hg, Cr6+, %S

SDG	*Lab Sample ID*	*Client Sample ID*	*Sample Date*	*Analytical Parameters*
15F1084	15F1084-03	719BFC-53-062615	6/16/15	SVOCs, Pest, PCBs, Metals, Hg, Cr6+, %S
15F1084	15F1084-04	720/BFC-54-062615	6/16/15	VOCs, %S
15F1084	15F1084-05	721/BFC-55-062615	6/16/15	VOCs, %S
15F1084	15F1084-06	722/BFC-56-062615	6/16/15	VOCs, %S
15F1084	15F1084-07	723/BFC-57-062615	6/16/15	VOCs, %S
15F1084	15F1084-08	724/BFC-58-062615	6/16/15	VOCs, %S
15F1084	15F1084-09	725/BFC-59-062615	6/16/15	VOCs, %S
15F1084	15F1084-10	726/BFC-60-062615	6/16/15	VOCs, %S
15F1084	15F1084-11	727/BFC-61-062615	6/16/15	VOCs, %S
15F1084	15F1084-12	728/BFC-62-062615	6/16/15	VOCs, %S
15F1084	15F1084-13	729/DUP-7-062615	6/16/15	SVOCs, Pest, PCBs, Metals, Hg, %S
15F1084	15F1084-14	730/DUP-8-062615	6/16/15	VOCs, %S
15F1084	15F1084-15	FB01_062615	6/16/15	VOCs, SVOCs, Pest, PCBs, Metals, Hg
15F1084	15F1084-16	TB01_062615	6/16/15	VOCs

Validation Overview

This data validation was performed in accordance with USEPA Region II Standard Operating Procedure (SOP) #HW-34, "Trace Volatile Data Validation" (February 2013, Revision 3), USEPA Region II SOP #HW-35, "Semivolatile Data Validation" (March 2013, Revision 2), USEPA Region II SOP #HW-2a, "ICP-AES Data Validation" (December 2012, Revision 15), USEPA Region II SOP #HW-2c, "Mercury and Cyanide Data Validation" (December 2012, Revision 15), the USEPA Contract Laboratory Program "National Functional Guidelines for Superfund Organic Methods Data Review" (USEPA-540R-08-01, June 2008), and the "National Functional Guidelines for Inorganic Superfund Data Review" (USEPA-540R-10-011, January 2010).

Validation includes review of the analytical data to verify that data are easily traceable and sufficiently complete to permit logical reconstruction by a qualified individual other than the originator. Items subject to review in this memorandum include holding times, sample preservation, sample extraction and digestion, instrument tuning, instrument calibration, laboratory blanks, laboratory control samples, system monitoring compounds, internal standard area counts, matrix spike/spike duplicate recoveries, target compound identification and quantification, chromatograms, overall system performance, serial dilutions, field duplicate results, field blank and trip blank sample results.

As a result of the review process, the following qualifiers may be assigned to the data in accordance with the USEPA's guidelines and best professional judgment:

- **R –** The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
- **J –** The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
- **UJ –** The analyte was not detected at a level greater than or equal to the reporting limit (RL); however, the reported RL is approximate and may be inaccurate or imprecise.
- **U –** The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
- **NJ –** The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

If any validation qualifiers are assigned these qualifiers should supersede any laboratory-applied qualifiers. Data that is not qualified as a result of this data validation is considered acceptable on the basis of the items specified for review. Data that is qualified as "R" are not sufficiently valid and technically supportable to be used for data interpretation. Data that is otherwise qualified due to minor data quality anomalies are usable, as qualified.

Table 2: Validator-applied qualification

Client Sample ID	*Analysis*	*Analyte*	*CAS #*	*Validator Qualifier*
717/BFC-51-062615	Cr6+	Hexavalent Chromium	18540-29-9	J
717/BFC-51-062615	Metals	Silver	7782-49-2	UJ
717/BFC-51-062615	Metals	Sodium	7440-23-5	J
717/BFC-51-062615	SVOCs	Indeno(1,2,3-cd)pyrene	193-39-5	J
717/BFC-51-062615	SVOCs	Dibenz(a,h)anthracene	53-70-3	UJ
717/BFC-51-062615	SVOCs	Benzo(g,h,i)perylene	191-24-2	J
717/BFC-51-062615	SVOCs	Pyrene	129-00-0	J
717/BFC-51-062615	SVOCs	Benzyl butyl phthalate	85-68-7	UJ
717/BFC-51-062615	SVOCs	Bis(2-ethylhexyl)phthalate	117-81-7	J
717/BFC-51-062615	SVOCs	Benzo(a)anthracene	56-55-3	J
717/BFC-51-062615	SVOCs	3,3'-Dichlorobenzene	91-94-1	UJ

Client Sample ID	*Analysis*	*Analyte*	*CAS #*	*Validator Qualifier*
717/BFC-51-062615	SVOCs	Chrysene	218-01-9	J
717/BFC-51-062615	SVOCs	Di-n-octylphthalate	117-84-0	UJ
717/BFC-51-062615	SVOCs	Benzo(b)fluoranthene	205-99-2	J
717/BFC-51-062615	SVOCs	Benzo(k)fluoranthene	207-08-9	J
717/BFC-51-062615	SVOCs	Benzo(a)pyrene	50-32-8	J
717/BFC-51-062615	SVOCs	Benzoic acid	65-85-0	UJ
717/BFC-51-062615	SVOCs	2,6-Dinitrotoluene	606-20-2	UJ
717/BFC-51-062615	SVOCs	2,4-Dinitrophenol	51-28-5	UJ
717/BFC-51-062615	SVOCs	4-Chlorophenyl phenyl ether	7005-72-3	UJ
717/BFC-51-062615	SVOCs	Phenanthrene	85-01-8	J
717/BFC-51-062615	SVOCs	Hexachlorocyclopentadiene	77-47-4	UJ
717/BFC-51-062615	SVOCs	Pentachlorophenol	87-86-5	UJ
718/BFC-52-062615	Cr6+	Hexavalent Chromium	18540-29-9	UJ
718/BFC-52-062615	SVOCs	Indeno(1,2,3-cd)pyrene	193-39-5	J
718/BFC-52-062615	SVOCs	Dibenz(a,h)anthracene	53-70-3	UJ
718/BFC-52-062615	SVOCs	Benzo(g,h,i)perylene	191-24-2	UJ
718/BFC-52-062615	SVOCs	Benzoic acid	65-85-0	UJ
718/BFC-52-062615	SVOCs	2,6-Dinitrotoluene	606-20-2	UJ
718/BFC-52-062615	SVOCs	2,4-Dinitrophenol	51-28-5	UJ
718/BFC-52-062615	SVOCs	4-Chlorophenyl phenyl ether	7005-72-3	UJ
718/BFC-52-062615	SVOCs	Phenanthrene	85-01-8	J
718/BFC-52-062615	SVOCs	Hexachlorocyclopentadiene	77-47-4	UJ
718/BFC-52-062615	SVOCs	Pentachlorophenol	87-86-5	UJ
718/BFC-52-062615	Metals	Chromium	7440-47-3	J
718/BFC-52-062615	Metals	Lead	7439-92-1	J
719BFC-53-062615	Cr6+	Hexavalent Chromium	18540-29-9	UJ
719BFC-53-062615	SVOCs	Indeno(1,2,3-cd)pyrene	193-39-5	J
719BFC-53-062615	SVOCs	Dibenz(a,h)anthracene	53-70-3	UJ
719BFC-53-062615	SVOCs	Benzo(g,h,i)perylene	191-24-2	UJ
719BFC-53-062615	SVOCs	Benzoic acid	65-85-0	UJ
719BFC-53-062615	SVOCs	2,6-Dinitrotoluene	606-20-2	UJ
719BFC-53-062615	SVOCs	2,4-Dinitrophenol	51-28-5	UJ
719BFC-53-062615	SVOCs	4-Chlorophenyl phenyl ether	7005-72-3	UJ

Client Sample ID	*Analysis*	*Analyte*	*CAS #*	*Validator Qualifier*
719BFC-53-062615	SVOCs	Phenanthrene	85-01-8	J
719BFC-53-062615	SVOCs	Hexachlorocyclopentadiene	77-47-4	UJ
719BFC-53-062615	SVOCs	Pentachlorophenol	87-86-5	UJ
720/BFC-54-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
721/BFC-55-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
722/BFC-56-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
723/BFC-57-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
724/BFC-58-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
725/BFC-59-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
726/BFC-60-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
727/BFC-61-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
728/BFC-62-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
729/DUP-7-062615	SVOCs	Indeno(1,2,3-cd)pyrene	193-39-5	J
729/DUP-7-062615	SVOCs	Dibenz(a,h)anthracene	53-70-3	UJ
729/DUP-7-062615	SVOCs	Benzo(g,h,i)perylene	191-24-2	J
729/DUP-7-062615	SVOCs	Pyrene	129-00-0	J
729/DUP-7-062615	SVOCs	Benzyl butyl phthalate	85-68-7	UJ
729/DUP-7-062615	SVOCs	Bis(2-ethylhexyl)phthalate	117-81-7	J
729/DUP-7-062615	SVOCs	Benzo(a)anthracene	56-55-3	J
729/DUP-7-062615	SVOCs	3,3'-Dichlorobenzene	91-94-1	UJ
729/DUP-7-062615	SVOCs	Chrysene	218-01-9	J
729/DUP-7-062615	SVOCs	Di-n-octylphthalate	117-84-0	UJ
729/DUP-7-062615	SVOCs	Benzo(b)fluoranthene	205-99-2	J
729/DUP-7-062615	SVOCs	Benzo(k)fluoranthene	207-08-9	J
729/DUP-7-062615	SVOCs	Benzo(a)pyrene	50-32-8	J
729/DUP-7-062615	SVOCs	Benzoic acid	65-85-0	UJ
729/DUP-7-062615	SVOCs	2,6-Dinitrotoluene	606-20-2	UJ
729/DUP-7-062615	SVOCs	2,4-Dinitrophenol	51-28-5	UJ
729/DUP-7-062615	SVOCs	4-Chlorophenyl phenyl ether	7005-72-3	UJ
729/DUP-7-062615	SVOCs	Phenanthrene	85-01-8	J
729/DUP-7-062615	SVOCs	Hexachlorocyclopentadiene	77-47-4	UJ
729/DUP-7-062615	SVOCs	Pentachlorophenol	87-86-5	UJ
729/DUP-7-062615	Metals	Chromium	7440-47-3	J

Client Sample ID	*Analysis*	*Analyte*	*CAS #*	*Validator Qualifier*
729/DUP-7-062615	Metals	Lead	7439-92-1	J
730/DUP-8-062615	VOCs	1,2-Dibromo-3-chloropropane	96-12-8	UJ
FB01_062615	Metals	Arsenic	7440-38-2	U (7)
FB01_062615	Metals	Selenium	7782-49-2	UJ
FB01_062615	Metals	Zinc	7440-66-6	J
FB01_062615	SVOCs	Acetophenone	98-86-2	UJ
FB01_062615	SVOCs	Benzoic Acid	65-85-0	UJ
FB01_062615	SVOCs	Hexachloroethane	67-72-1	UJ
FB01_062615	SVOCs	4-Nitroaniline	100-01-6	UJ
FB01_062615	SVOCs	Hexachlorocyclopentadiene	77-47-4	UJ
FB01_062615	SVOCs	Phenanthrene	85-01-8	UJ
TB01_062615	VOCs	Carbon disulfide	75-15-0	U (5.9)

Major Deficiencies:

Major deficiencies include those that grossly impact data quality and necessitate the rejection of results. No major deficiencies were identified.

Minor Deficiencies:

Minor deficiencies include anomalies that directly impact data quality and necessitate qualification, but do not result in unusable data. The following section describes the minor deficiencies that were identified.

VOCs by SW-846 Method 8260C:

Laboratory control sample/control sample duplicate (LCS/LCSD) BF51418 displayed a recovery less than the lower control limit for 1,2-dibromo-3-chloropropane at 11.7%. In addition, the LCS/LCSD relative percent difference (RPD) was greater than the control limit at 161%. The associated sample results are qualified as "UJ."

Method blank sample BF51422 displayed positive detections for 1,2,4-trichlorobenzene (0.25 µg/L), carbon disulfide (1.9 µg/L), and 1,2,3-trichlorobenzene (0.35 µg/L). The associated positive detections in the trip blank sample are qualified as "U" at the sample concentration and are not used to assess contamination resulting from sample transport

SVOCs by SW-846 Method 8270D:

LCS/LCSD BF51415 displayed recoveries outside of control limits for acetophenone, benzoic acid, hexachloroethane, and 4-nitroaniline. The associated field blank sample results are qualified as "UJ."

Samples 717/BFC-51-062615 and 729/DUP-7-062615 displayed internal standard area counts less than the lower control limit for chrysene-d12 at 45.5% and 34.9%, respectively. Compounds quantitated by chrysene-d12 are qualified as estimated.

Samples 718/BFC-52-062615, 719/BFC-53-062615, 717/BFC-51-062615 and 729/DUP-7-062615 displayed internal standard area counts less than the lower control limit for perylene-d12 at 22.9%, 19.5%, 12.1%, 8.8%, and respectively. Compounds quantitated by perylene-d12 are qualified as estimated.

The initial calibration analyzed on instrument BNAS#4 displayed percent relative standard deviations (%RSDs) greater than the control limit for benzoic acid (24.35%), hexachlorocyclopentadiene (51.24%), and pentachlorophenol (30.29%). The associated sample results are qualified as estimated.

The continuing calibration analyzed on 6/29/15 at 8:41 displayed a percent difference (%D) greater than the control limit with a negative bias for phenanthrene at 27.1%. The associated sample result was non-detect and is qualified as "UJ."

The initial calibration analyzed on instrument BNA#2 displayed %RSDs greater than the control limit for benzoic acid (30.26%), 2,6-dinitrotoluene (23.78%), 2,4-dinitrophenol (41.82%), and phenanthrene (21.45%). The associated sample results are qualified as estimated.

The continuing calibration analyzed on 6/29/15 at 8:52 exhibited %Ds greater than the control limit with negative biases for hexachlorocyclopentadiene (45.7%) and pentachlorophenol (37.1%). The associated sample results are qualified as estimated.

Metals by SW-846 Method 6010C:

Matrix spike sample 717/BFC-51-062615 displayed recoveries outside of control limits for iron and silver at 529% and 50.3%, respectively. The result for silver is qualified as "UJ." For iron, the sample concentration is greater than 4X the spiked amount; qualification is not necessary.

Laboratory duplicate sample 717/BFC-51-062615 displayed a RPD greater than the control limit for sodium at 108%. The associated positive detection is qualified as "J."

Continuing calibration blanks bracketing the analysis of the field blank sample displayed positive detections for arsenic. The associated sample result is qualified as "U" at the sample concentration and is not used to assess contamination resulting from field activities.

CRDL standards bracketing the analysis of the field blank sample displayed recoveries less than the lower control limit for selenium at 60.1% and greater than the upper control limit for zinc (145% and 144%). The associated sample results were qualified as estimated.

Hexavalent Chromium by SW-846 Method 7196A:

LCS BG50012 displayed a recovery less than the lower control limit (i.e., 80%) at 73%. The associated sample results are qualified as estimated.

Other Deficiencies:

Other deficiencies include anomalies that do not directly impact data quality and do not necessitate qualification. The section below describes the other deficiencies that were identified.

VOCs by SW-846 Method 8260C:

LCS/LCSD BF51422 displayed recoveries greater than the upper control limit for bromochloromethane and 1,4-dioxane. The associated sample results were non-detect; qualification is not necessary.

LCS/LCSD BF51418 displayed recoveries greater than the upper control limit for 4-methyl-2-pentanone at 143% and 150%. The associated sample results were non-detect; qualification is not necessary.

Method blank sample BF51418 displayed a positive detection for 1,2,4-trichlorobenzene at 3.7 µg/kg. The associated sample results were non-detect; qualification is not necessary.

The continuing calibration analyzed on 6/29/15 at 9:10 displayed %Ds greater than the control limit with positive biases for acrolein, 1,4-dioxane, and 4-methyl-2-pentanone. The associated sample results were non-detect; qualification is not necessary.

The continuing calibration analyzed on 6/29/15 at 9:30 displayed a %D greater than the control limit a positive bias for bromomethane at 44.3%. The associated sample results were non-detect; qualification is not required.

The continuing calibration analyzed on 6/29/15 at 10:31 displayed %Ds greater than the control limit with positive biases for bromomethane and 1,4-dioxane. The associated sample results were non-detect; qualification is not required.

SVOCs by SW-846 Method 8270D:

LCS/LCSD BF51415 multiple RPDs outside of control limits. The LCS and LCSD recoveries were within control and the associated field blank sample results were non-detect. On the basis of professional judgment, qualification is not necessary.

Sample 729/DUP-7-062615 displayed surrogate recoveries outside of control limits for 2,4,6-tribromophenol and terphenyl-d14. The remaining 4 acid-extractable and base-neutral surrogates recovered within control. On the basis of professional judgment, qualification is not necessary.

Metals by SW-846 Method 6010C:

Continuing calibration check Y5F3002-CCV9 displayed a recovery greater than the upper control limit for selenium at 111%. The associated field blank sample results was non-detect; qualification is not necessary.

CRDL standard Y5F2903-CRL1 and CRL2 displayed recoveries outside of control limits for arsenic, selenium, and thallium. The associated sample results did not exhibit low-level detections near the reporting limit. On the basis of professional judgment, qualification is not necessary.

Initial and continuing calibration blank samples Y5F2903-ICB1, CCB1, CCB4, and CCB5 displayed low level positive detections for antimony. In addition, blank Y5F2903-CCB6 displayed a positive detection for iron. The associated sample results were either non-detect or orders of magnitude greater than the blank amount; qualification is not necessary.

Continuing calibration blanks bracketing the analysis of the field blank sample displayed positive detections for selenium and thallium. The associated sample results were non-detect; qualification is not required.

CRDL standards bracketing the analysis of the field blank sample displayed recoveries greater than the upper control limit for lead, nickel, and thallium. The associated field blank sample results was non-detect; qualification is not necessary.

The field blank sample displayed positive detections for arsenic, thallium zinc, calcium, manganese, potassium, and sodium. The associated sample results were orders of magnitude greater than the blank amounts; qualification is not necessary.

Comments:

On the basis of this evaluation, the laboratory appears to have followed the specified analytical methods with the exception of errors discussed above. If a given fraction is not mentioned above, that means that all specified criteria were met for that parameter. The requirements for ASP-B data packages were met and all holding times were met.

Two field duplicate and parent sample pairs (718/BCF-52-062615 and 729/DUP-7-062615, and 723/BCF-57-062615 and 730/DUP-8-062615) were collected and analyzed for VOCs, SVOCs, pesticides, PCBs, metals, Cr6+ and percent solids. For results less than 5X the RL, analytes meet the precision criteria if the absolute difference is less than ±2X the RL. For results greater than 5X the RL, analytes meet the precision criteria if the RPD is less than or equal to 50%. All analytes in the field duplicate sample met the precision criteria, with the exception of chromium and lead.

All data are considered usable, as qualified. In addition, completeness, defined as the percentage of analytical results that are judged to be valid, is 100%.

Signed:

Emily Strake
Senior Project Chemist/Risk Assessor

APPENDIX V

Site Survey Map and Composite Cover System As-Built Drawings

LANGAN

WRITTEN DESCRIPTION OF BLOCK 452 LOTS 1 & 15 AND THE EASEMENT PERIMETER:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY SIDE OF 1ST STREET AND THE EASTERLY SIDE OF BOND STREET;

THENCE ALONG THE NORTHERLY SIDE OF 1ST STREET A DISTANCE OF 437.66' TO A POINT ALONG THE GOWANUS CANAL;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 64°20'47" ALONG THE WESTERLY SIDE OF THE GOWANUS CANAL A DISTANCE OF 210.64'

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 112°53' 31" BOUNDED NORTHERLY BY BLOCK 452 LOT 19 A DISTANCE OF 101.31' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°55'08" BOUNDED EASTERLY BY BLOCK 452 LOT 19 A DISTANCE OF 15.00' TO A POINT IN THE SOUTHERLY SIDE OF CARROLL STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°4'52" ALONG THE SOUTHERLY SIDE OF CARROLL STREET A DISTANCE OF 60.10' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°19'58" BOUNDED WESTERLY BY BLOCK 452 LOT 5 A DISTANCE OF 100.00' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°40'02" BOUNDED NORTHERLY BY BLOCK 452 LOT 5 A DISTANCE OF 204.16' TO A POINT IN THE EASTERLY SIDE OF BOND STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 95°24'16" ALONG THE EASTERLY SIDE OF BOND STREET A DISTANCE OF 88.36' TO THE POINT OF BEGINNING AND CREATING AN INTERIOR ANGLE OF 87°21'26" WITH THE FIRST DESCRIBED LINE.

CONTAINING APPROXIMATELY 56,364 SQUARE FEET (1.29394 ACRES).

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, DEED INFORMATION AND THE FOLLOWING REFERENCES:
   - A. SECTION MAP 23
   - B. CURRENT TAX MAPS
   - C. FOR BLOCK 458 LOT 1 – CHICAGO TITLE INSURANCE COMPANY TITLE NO. 3411–00259, EFFECTIVE DATE NOVEMBER 4, 2011.
   - D. SURVEY RELATED EXCEPTIONS:

     EXCEPTION 6 – ORDER FOR PERMANENT CITY WATER TUNNEL IN FAVOR OF THE CITY OF NEW YORK FOR CITY TUNNEL NO. 3 STAGE 2. CRFN 2010000249407. AS DEPICTED ON SURVEY
   - E. FOR BLOCK 452 LOT 1 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901209, EFFECTIVE DATE NOVEMBER 22, 2011.

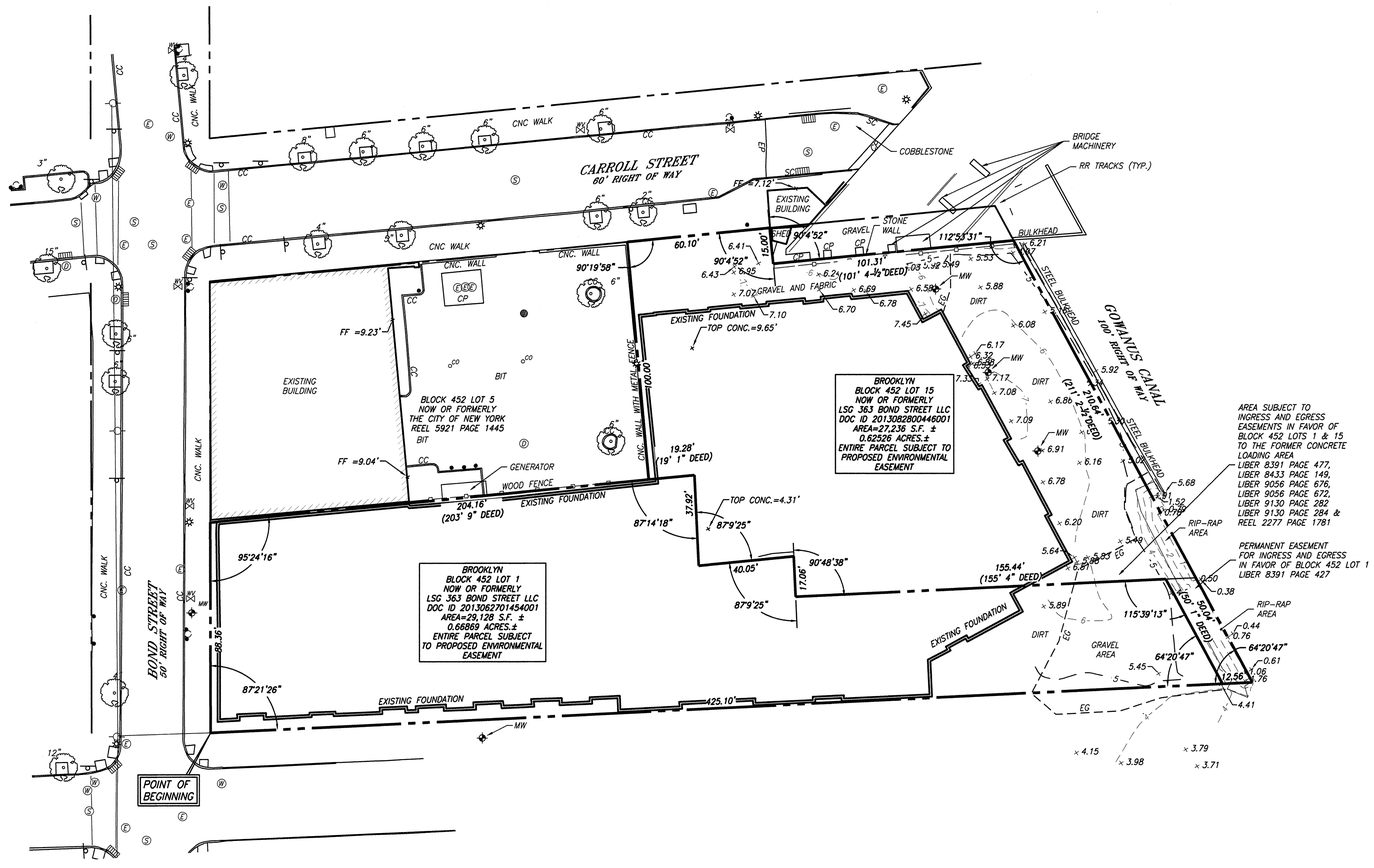
     SURVEY RELATED EXCEPTIONS:

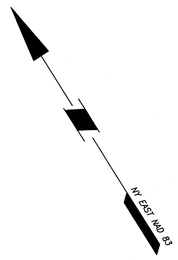
     EXCEPTIONS 5–9. EASEMENTS AND RIGHTS FOR DRIVEWAY RIGHTS AND RIGHTS OF INGRESS AND EGRESS FOR AND AROUND THE EXISTING CONCRETE LOADING AREA LOCATED AT THE NORTHEAST CORNER OF BLOCK 452 LOT 1. REFERENCE DOCUMENTS AND LOCATIONS ARE DEPICTED ON THE SURVEY.
   - F. FOR BLOCK 452 LOT 15 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901583, EFFECTIVE DATE JANUARY 10, 2012.

     NO SURVEY RELATED EXCEPTIONS:
   - G. MAP TITLED "CITY OF NEW YORK COUNTY OF KINGS, TAX BLOCK 452 & 458" SCALE 1"=20' DATED MAY 5, 2012 BY MONTROSE SURVEYING CO., LLP.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO NEW YORK EAST STATE PLANE COORDINATE SYSTEM NAD 83 AS ESTABLISHED THROUGH GPS METHODS.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE BROOKLYN HIGHWAY DATUM (BHD) WITH A CONVERSION OF +2.56' = BHD = NGVD 29. THIS CONVERSION WAS ESTABLISHED ON THE HALCROW PLANS WHICH HAVE BEEN SUBMITTED FOR PREVIOUS EPA/DEC SUBMISSIONS FOR THIS SITE.
4. ESTABLISHED LEGAL GRADES SHOWN PER FINAL SECTION MAP #23 DATED 8/10/95. ELEVATIONS PUBLISHED ON MAP #23 REFER TO THE BROOKLYN HIGHWAY DATUM AND ARE IN REFERENCE TO THE TOP OF CURB ELEVATION.
5. STREET NAMES AND AND R.O.W WIDTHS, BLOCK, AND LOT NUMBERS AS PER CURRENT TAX MAPS.
6. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN, ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C.. FIELD WORK COMPLETED DURING THE MONTH OF JULY 2015.
7. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.
8. AS PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP TITLED CITY OF NEW YORK, NEW YORK, BRONX, RICHMOND, NEW YORK, QUEENS, AND KING COUNTIES PANEL NUMBER 211 OF 457, MAP NUMBER 360497 PANEL 0211F, EFFECTIVE DATE SEPTEMBER 5, 2007. PORTIONS OF THE PROJECT AREA ARE WITHING THE DOTTED ZONE X, AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AND PORTIONS OF THE PROJECT AREA ARE WITHIN ZONE AE, WITH A BASE FLOOD ELEVATION OF 10 (NGVD 29). THE DELINEATION OF THE ZONE X AND ZONE AE LINE IS DEPICTED ON THE SURVEY.
9. PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
10. THE GOWANUS CANAL IS A WATER COURSE ON THE PROPERTY AS SHOWN ON THE SURVEY.
11. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB–DIVISION 2 OF N.Y STATE EDUCATION LAW ARTICLE 145.
12. THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.

LEGEND (NOT SHOWN TO SCALE)

	HYDRANT	G	GAS LINE
	STREET LIGHT	W	WATER LINE
	AREA LIGHT	E	ELECTRIC LINE
	SIGNAL POLE	T	TELEPHONE LINE
	POLE	S	COMBINED SEWER LINE
	ANCHOR POLE	D	DRAINAGE LINE
	MANHOLE (TYPE AS LABELED)		OVERHEAD WIRE
	WATER VALVE		GUIDE RAIL (TYPE AS NOTED)
	GAS VALVE		FENCE (TYPE AS NOTED)
	UNKNOWN VALVE		TREE LINE
	CATCH BASIN		PROPERTY LINE
x322.35	SPOT ELEVATION		RIGHT-OF-WAY LINE
	CLEAN OUT	322	CONTOUR LINE
	TREE	EP	EDGE OF PAVEMENT
BM-1	BENCH MARK	SWS	SINGLE WHITE STRIPE
	SIGN	DYS	DOUBLE YELLOW STRIPE
	BOLLARD	BC	BITUMINOUS CURB
	SPAN POLE	SC	STONE CURB
	TRANSFORMER	CC	CONCRETE CURB
	MONITOR WELL	GC	GRANITE CURB
WD	WOOD	DW	DETECTABLE WARNING
CP	CONCRETE PAD	EW	EDGE OF WALK
FM	FENCE METAL	BIT	BITUMINOUS
FC	FENCE CHAIN LINK	CNC	CONCRETE
FS	FENCE STOCKADE	EG	EDGE OF GRAVEL
LG	ESTABLISHED LEGAL GRADE		





THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV.

30 0 15 30
SCALE IN FEET

10 0 10
SCALE IN METERS

Date	Description	No.

REVISIONS

" I HEREBY STATE THAT THIS PLAN IS BASED ON A FIELD SURVEY MADE BY ME OR UNDER MY IMMEDIATE SUPERVISION IN ACCORDANCE WITH NYSPLS CODE OF PRACTICE FOR LAND SURVEYS, AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, AND IN MY PROFESSIONAL OPINION, CORRECTLY REPRESENTS THE CONDITIONS FOUND ON THE DATE OF THE FIELD SURVEY AT THE SUBJECT PROPERTY"

ANDREW G. IVES — 7/16/2015 DATE
PROFESSIONAL LAND SURVEYOR
STATE LIC. No. 50794

LANGAN
555 Long Wharf Drive, New Haven, CT 06511
T: 203.562.5771 F: 203.789.6142 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

363 BOND ST. & 388-400 CARROLL ST.

BROOKLYN
KINGS COUNTY NEW YORK

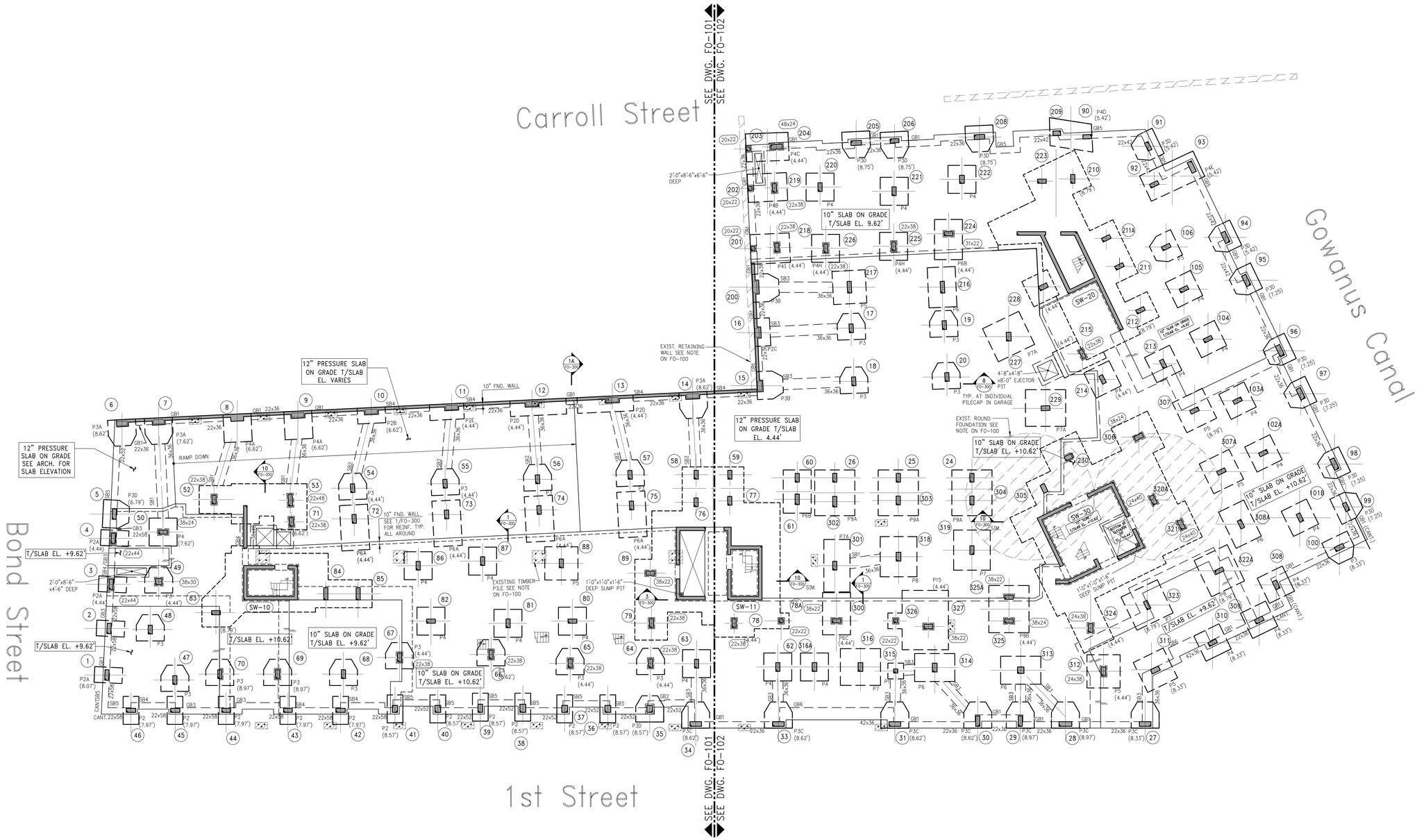
CAP AS-BUILT

100287503		Drawing No.
JULY 16, 2015		AB101
1"=30'		
RLH	AGI	

LANGAN
100287503

©2015 Langan

Filename: \\langan.com\data\NH\data5\100287503\Survey Data - 100287503\Civil 3D\Existing\100287503-V-EX401-CAP-363.dwg Date: 7/16/2015 Time: 12:46 User: alves Style Table: Langan.stb Layout: AB-101



NOTE FOR:
PARKING FLOORS, RAMPS, DRIVEWAYS EXPOSED TOPPING, SIDE WALKS – ALL DIRECTLY EXPOSED TO CARS AND/OR PEDESTRIAN TRAFFIC & CONCRETE TANKS.

1. CONCRETE TO BE:
   A. DCI (CALCIUM NITRITE) CORROSION INHIBITOR, (4.0 GAL/YD3) OR EPOXY COATED BARS (TOP BARS ONLY).
   B. WATER/CEMENT RATIO NOT TO EXCEED 0.40
   C. USE OF SUPERPLASTICIZER TO ACHIEVE THE W/C RATIO.
   D. CONCRETE TO CONTAIN SILICA FUME (5% OF TOTAL CEMENT) OR SLAG (40%)
   E. 1.5 LBS./YD.3 POLYPROPYLENE FIBER MESH.
   F. ENTRAINED AIR AT 6% ± 1.
2. THE CURING SHALL BE ONLY MOIST TYPE. NO CURING COMPOUND ACCEPTABLE.
3. ALTHOUGH PROTECTIVE MEASURES WERE INCORPORATED IN THE DESIGN OF THE PARKING AREAS AND RAMPS, THESE AREAS MUST BE CAREFULLY MAINTAINED IN ORDER TO PREVENT EARLY DETERIORATION.

NOTE FOR:
CONCRETE PLACED UNDER WATER

1. IF FORMWORK FOR THE PILE CAP CAN'T BE DE-WATERED DUE TO THE HIGH LEVEL AND AMOUNT OF WATER, TREMIE METHOD OF CONCRETE PLACEMENT OR DIRECT PUMPING METHOD IS ACCEPTABLE RELATIVE TO CONSTRUCTING THE RESPECTIVE PILE CAP.
2. REFER TO "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE", ACI-304R, CHAPTER 8, "CONCRETE PLACED UNDER WATER", FOR ADDITIONAL REQUIREMENTS FOR THE CONCRETE MIX DESIGN.
3. ALL TOP AND BOTTOM REBAR TO BE EPOXY COATED. FOR LENGTHS SEE TYP. DETAIL.

NOTE FOR:
EXISTING TIMBER PILES

1. LOCATE EXISTING TIMBER PILES AND CONFIRM THAT NEW PILES AND PILE CAPS CAN BE PLACED AS SHOWN IN THE DRAWINGS. DEMOLISH EXISTING PILE CAPS AND PILES AS REQUIRED TO PLACE NEW PILES AND PILE CAPS.

EXISTING ROUND FOUNDATIONS

1. DEMOLISH EXISTING PILE CAPS. WHERE EXISTING PILES PREVENT NEW PILES FROM BEING DRIVEN WHERE SHOWN IN THE STRUCTURAL DRAWINGS, PROVIDE A PLAN LOCATING ALL INTERFERING PILES FOR REVIEW AND RECOMMENDED ALTERNATIVE PILE PLACEMENTS BY STRUCTURAL ENGINEER.

EXISTING RETAINING WALL

1. VERIFY LOCATIONS OF EXISTING RETAINING WALL PRIOR TO CONSTRUCTING NEW FOUNDATIONS, DO NOT DEMOLISH. CONSTRUCT NEW STRUCTURE AGAINST THE FACADE OF THE EXISTING WALL. PRIOR TO CONSTRUCTING THE NEW STRUCTURE, PROVIDE DRAWINGS PRECISELY LOCATING THE EXISTING WALL FOR REVIEW BY THE DESIGN TEAM.

1 FO-100 FOUNDATION (1ST FLOOR/GARAGE) PLAN

SCALE: 3/32"=1'-0"

NOTES:

1. STRUCTURAL SLAB ON GRADE SHALL BE 10" NORMAL WEIGHT CONCRETE AT 1ST FL, 12" CONC. AT GARAGE. SEE TYPICAL DETAIL ON FO-201 FOR SLAB CONSTRUCTION
2. TOP OF SLAB EL. SEE PLAN. PROJECT DATUM 0'-0"= +2.547' BROOKLYN HIGHWAY DATUM.
3. BOTTOM OF GRADE BEAM ELEVATION SHALL BE 3'-0" BELOW TOP OF PILE CAP U.O.N. ON PLAN. SEE 5/FO-300 FOR GRADE BEAM REINF.
4. SLAB REINFORCEMENT SHALL BE: #5@12 CONT. TOP (EPOXY COATED) & BOTT. E.W. FOR 12" SLAB. #4@12 CONT. TOP E.W. & #4@10 CONT. BOTT. E.W. FOR 10" SLAB.
   ALL ADDITIONAL TOP BARS IN 12" SLAB NEED TO BE EPOXY COATED.
5. FOR PIER THICKNESS BELOW SHEARWALL SEE FO-110 SERIES DRAWINGS.
6. P... ON PLAN INDICATES PILE CAP. FOR PILE CAP SCHEDULE, SEE FO-200 SERIES DWG'S. TOP OF PILE CAP ELEVATION SHALL BE 10" BELOW TOP OF SLAB ON GRADE AT 1st FLOOR AND AT TOP OF SLAB IN GARAGE, U.O.N. THUS (...) ON PLAN. WHERE TOP OF PILE CAP IS AT TOP OF SLAB ELEVATION, SLAB AND PILE CAP ARE POURED MONOLITHICALLY.
7. CENTER OF PILE CAP SHALL BE CENTER OF SINGLE COLUMN ABOVE U.O.N.
8. ALL SUBGRADE PREPARATION SHALL BE PER GEOTECHNICAL REPORT.
9. FOR DEPTH OF ELEVATOR PIT SEE ELEVATOR CONTRACTOR'S DWG.
10. PROVIDE 4" THICK NORMAL WEIGHT CONCRETE (fc'=3500PSI AT 28 DAYS) HOUSE KEEPING PAD. FOR EQUIPMENT AS REQUIRED. SEE TYPICAL DETAIL ON FO-200 SERIES DRAWINGS.
11. FOR DETAIL OF CONTINUOUS MEMBRANE AT UNDERSIDE OF SLAB AND GRAVEL DRAINAGE COURSE, REFER TO TYPICAL DETAIL ON DWG. FS-201
12. THE REINFORCEMENT (HORIZ. AND VERTICAL) IN THE WALL PIER UNDER THE SHEARWALLS SHALL BE THE SAME AS IN SHEAR WALL SHOWN ON S-940 SERIES OF DRAWINGS (MIN. #5@12 E.W. E.F.).
13. PROVIDE DOWELS IN PILE CAPS UNDER SHEARWALL TO MATCH VERTICAL WALL/PIER REINFORCEMENT. SEE S-940 FOR SHEARWALL REINFORCING
14. THE REINFORCEMENT (VERTICAL & TIES) IN COLUMN PIERS AND BUTTRESSES SHALL MATCH OR EXCEED THE COLUMN REINFORCEMENT SHOWN IN S-950 SERIES DRAWINGS (SUBJECTED TO THE MIN. REQUIREMENTS SHOWN IN TYPICAL BUTTRESS/PIER DETAILS IN FO-200 SERIES OF DRAWINGS.
15. WHERE SHOWN ON PLAN BUILT-UP SLAB CONSTRUCTION TO BE 5" NORMAL WEIGHT CONC. (f'c=3500 PSI) OVER 60 PSI STYROFOAM. FOR REINF. SEE TYPICAL DETAIL ON DWG. S-961.
16. FOR GENERAL NOTES, ABBREVIATIONS AND LEGEND SEE DRAWING FO-001
17. FOR FOUNDATION TYPICAL DETAILS SEE FO-200 SERIES DRAWINGS.
18. FOR FOUNDATION SECTIONS SEE FO-300 SERIES DRAWINGS.
19. FOR LINK BEAM SCHEDULE AND SHEARWALL DETAILS SEE S-940 SERIES DRAWINGS.
20. FOR COLUMN SIZES, REINFORCEMENT AND DETAILS SEE S-950 SERIES DRAWINGS.

STRAP BEAM SCHEDULE

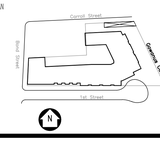
MARK	SIZE	BOTTOM REINFORCING CONT.	TOP REINFORCING CONT.	TOP ADDED AT RIGHT SUPPORT	STIRRUPS SIZE	STIRRUPS TYPE	STIRRUPS SPACING EACH END	REMARKS
SB1	36x36	6–#9	16–#11		#4	3	@ 10" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB2	36x36	6–#9	11–#11		#4	2	@ 12" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB3	36x36	6–#9	11–#11		#4	2	@ 12" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB4	22x58	6–#9	9–#11		#4	2	@ 12" O/C	3–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
SB5	22x52	6–#9	9–#11		#4	2	@ 12" O/C	4–#5 H.E.F. @ EXTERIOR COL. PROVIDE 3–#6@6 HORIZONTAL TIES(OVER HEIGHT) ADD'L @ EXTERIOR COLUMN. SEE STRAP BEAM DETAIL.
GB1	22x36	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.
GB2	22x52	6–#9	4–#9		#4	2	@ 12" O/C	4–#5 H.E.F.
GB3	22x58	6–#9	4–#9		#4	2	@ 12" O/C	4–#5 H.E.F.
GB4	36x48	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.
GB5	22x42	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.
GB6	42x36	6–#9	4–#9		#4	2	@ 12" O/C	3–#5 H.E.F.

STIRRUP TYPE
N.T.S.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	10-10-14	REVISED LOCATION OF GAS VAPOR ROOM
	07-25-14	90% CD
	06-18-14	75% CD

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754
Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501
Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271
Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942
Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366
Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546
Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

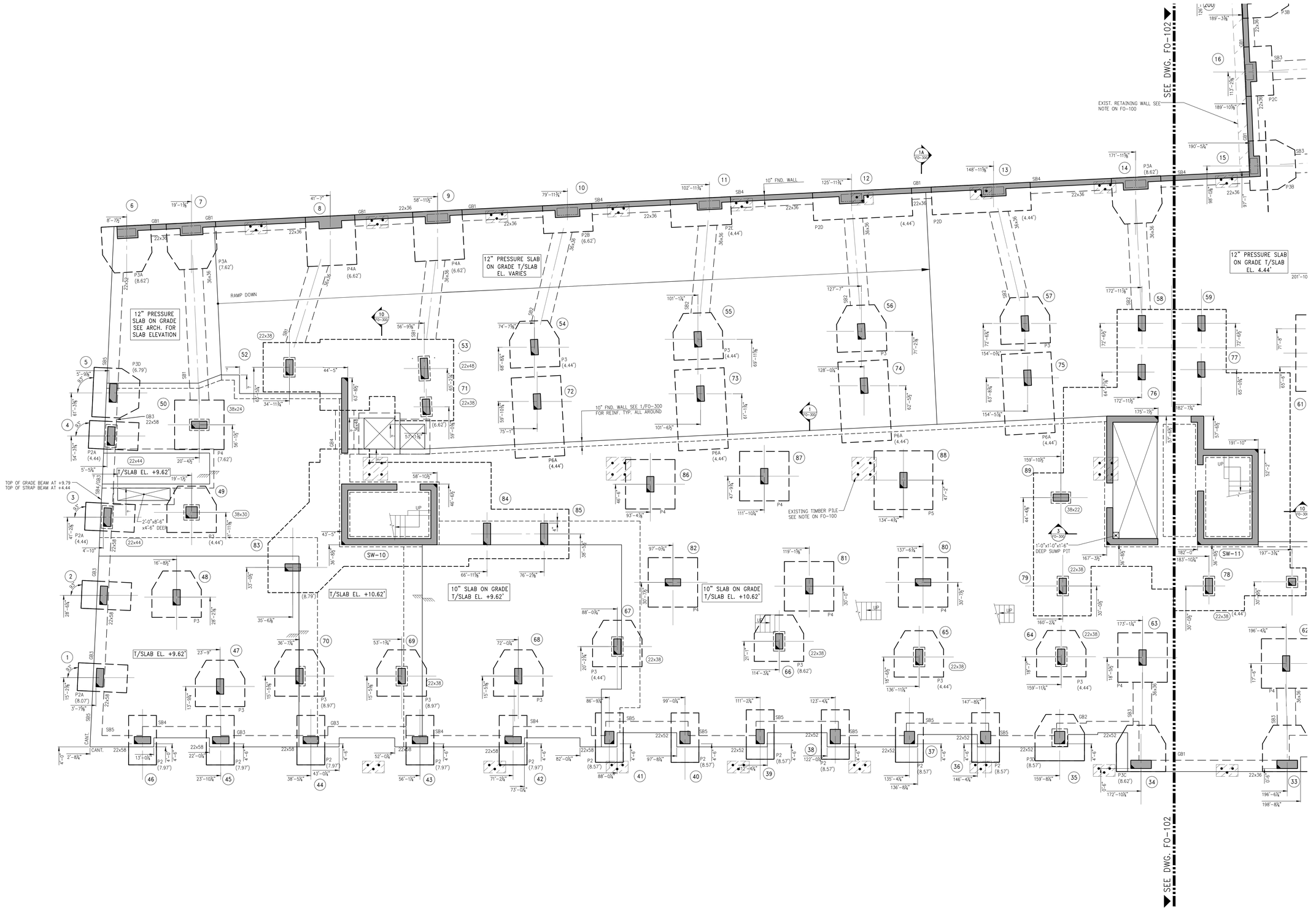
FOUNDATION (1st FLOOR/GARAGE) OVERALL PLAN

SEAL & SIGNATURE

DATE: 05/09/2013
PROJECT No: 1306380
SCALE: 3/32"=1'-0"
DRAWING BY:
CHKD. BY:
DWG NO: FO-100.00
CADD FILE No: XX OF XX

BSCAN STICKER

48" x 36"



1 FO-101 FOUNDATION (1ST FLOOR/GARAGE) PLAN – PART 1

SCALE: 3/16"=1'-0"

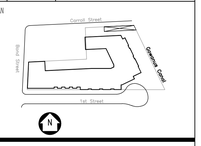
NOTES:

1. FOR BALANCE OF INFORMATION SEE CORRESPONDING OVERALL FOUNDATION PLAN.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	10-10-14	REVISED LOCATION OF GAS VAPOR ROOM
	07-25-14	90% CD
	06-18-14	75% CD

KEY PLAN



Client

THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT

363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

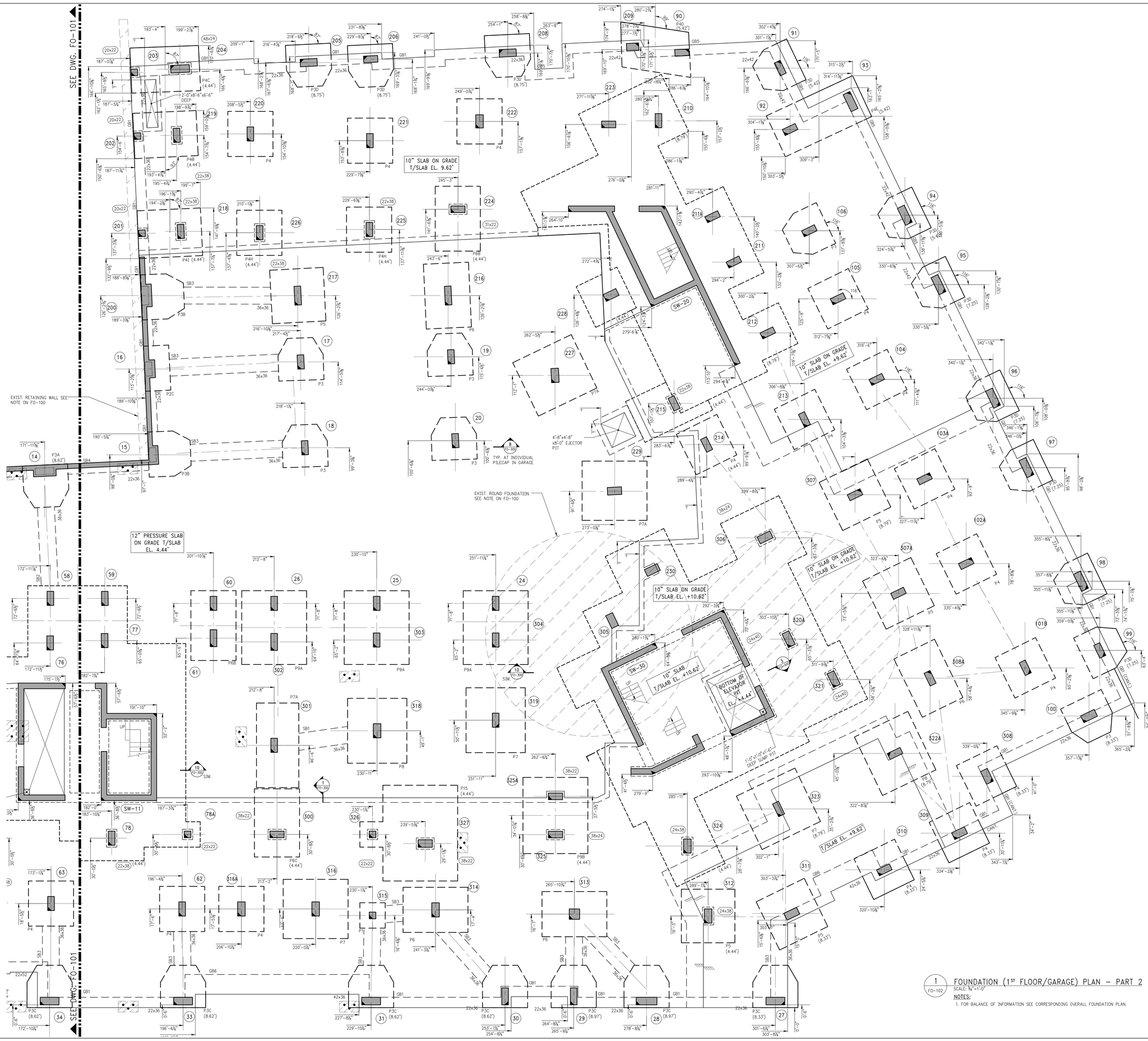
FOUNDATION (1st FLOOR/GARAGE) PLAN – PART 1

SEAL & SIGNATURE

DATE:	05/09/2013
PROJECT No:	1306380
SCALE:	3/16"=1'-0"
DRAWING BY:	
CHKD. BY:	
DWG NO:	FO-101.00
CADD FILE No:	XX OF XX

BSCAN STICKER

48" x 36"



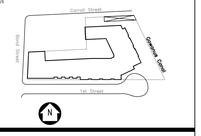
1 FO-102 FOUNDATION (1ST FLOOR/GARAGE) PLAN – PART 2
SCALE: 3/16"=1'-0"

NOTES:
1. FOR BALANCE OF INFORMATION SEE CORRESPONDING OVERALL FOUNDATION PLAN.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	10-10-14	REVISED LOCATION OF GAS VAPOR ROOM
	07-25-14	90% CD
	06-18-14	75% CD

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754
Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501
Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271
Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942
Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366
Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546
Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

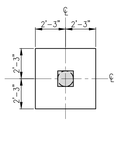
FOUNDATION (1st FLOOR/GARAGE) PLAN – PART 2

SEAL & SIGNATURE

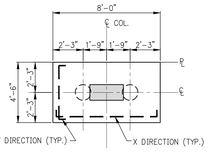
DATE:	05/09/2013
PROJECT No:	1306380
SCALE:	3/16"=1'-0"
DRAWING BY:	
CHKD. BY:	
DWG NO:	FO-102.00
CADD FILE No:	XX OF XX

BSCAN STICKER

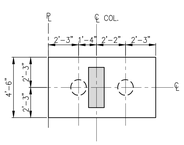
48" x 36"



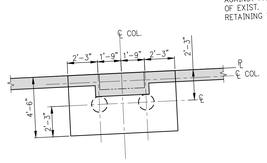
P1
DEPTH = 3'-0"
5-#5 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION



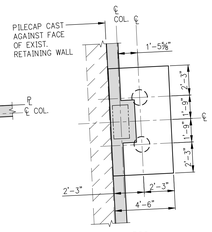
P2
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION



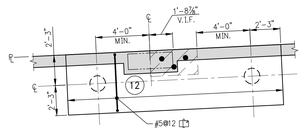
P2A
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION



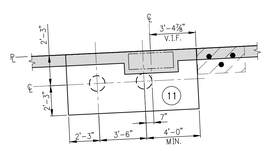
P2B
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION
5-#5 (T) Y-DIRECTION



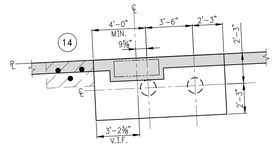
P2C
DEPTH = 3'-6"
5-#5 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) X-DIRECTION



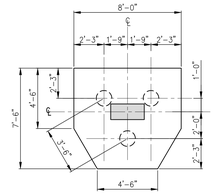
P2D
DEPTH = 3'-6"
12-#9 (B) X-DIRECTION



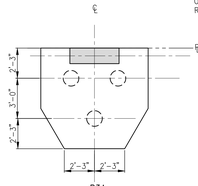
P2E
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION
12-#9 (T) X-DIRECTION
5-#5 (T) Y-DIRECTION



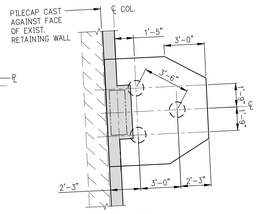
P2F
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#5 (B) Y-DIRECTION
12-#9 (T) X-DIRECTION
5-#5 (T) Y-DIRECTION



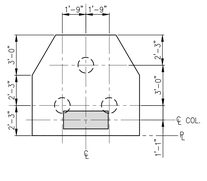
P3
DEPTH = 3'-0"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION



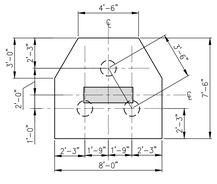
P3A
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) Y-DIRECTION



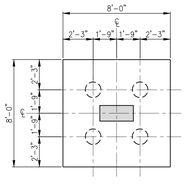
P3B
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) X-DIRECTION



P3C
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION
5-#6 (T) Y-DIRECTION

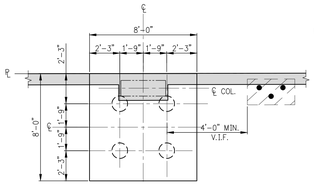


P3D
DEPTH = 3'-6"
5-#9 (B) X-DIRECTION
5-#9 (B) Y-DIRECTION

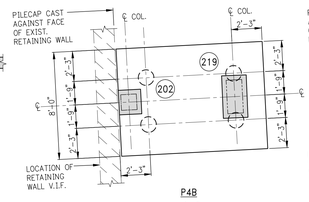


P4
DEPTH = 3'-0"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION

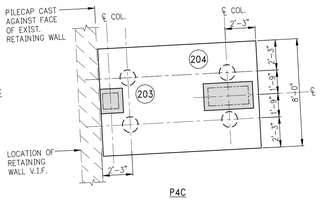
P4H
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION



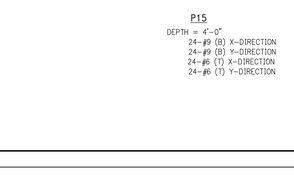
P4A
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION



P4B
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION



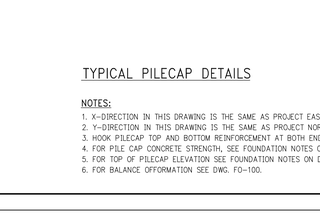
P4C
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION



P4D
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION

P4E
DEPTH = 3'-6"
12-#9 (B) Y-DIRECTION

P4G
DEPTH = 3'-0"
8-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION



P4I
DEPTH = 3'-6"
8-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION
8-#6 (T) X-DIRECTION
8-#6 (T) Y-DIRECTION

P5
DEPTH = 3'-0"
12-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION

P5A
DEPTH = 3'-6"
12-#9 (B) X-DIRECTION
12-#9 (B) Y-DIRECTION

P6
DEPTH = 3'-8"
12-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION

P6A
DEPTH = 3'-0"
12-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION

P6B
DEPTH = 3'-0"
12-#9 (B) X-DIRECTION
8-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION

P6C
DEPTH = 3'-8"
12-#9 (B) X-DIRECTION
9-#9 (B) Y-DIRECTION
8-#6 (T) Y-DIRECTION

P7
DEPTH = 3'-10"
12-#10 (B) X-DIRECTION
12-#10 (B) Y-DIRECTION
9-#6 (T) Y-DIRECTION

P7A
DEPTH = 3'-10"
15-#9 (B) X-DIRECTION
9-#11 (B) Y-DIRECTION
15-#6 (T) Y-DIRECTION

P8
DEPTH = 4'-0"
12-#10 (B) X-DIRECTION
12-#10 (B) Y-DIRECTION

P9
DEPTH = 4'-0"
15-#10 (B) X-DIRECTION
15-#10 (B) Y-DIRECTION

P9A
DEPTH = 4'-0"
15 # 9 (B) X-direction
15 # 9 (B) Y-direction
11 # 6 (T) Y-direction

P9B
DEPTH = 4'-0"
15-#9 (B) X-DIRECTION
15-#9 (B) Y-DIRECTION
11-#6 (T) Y-DIRECTION

P15
DEPTH = 4'-0"
24-#9 (B) X-DIRECTION
24-#9 (B) Y-DIRECTION
24-#6 (T) X-DIRECTION
24-#6 (T) Y-DIRECTION

TYPICAL PILECAP DETAILS

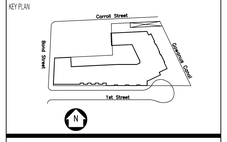
NOTES:

1. X-DIRECTION IN THIS DRAWING IS THE SAME AS PROJECT EAST-WEST DIRECTION.
2. Y-DIRECTION IN THIS DRAWING IS THE SAME AS PROJECT NORTH-SOUTH DIRECTION.
3. HOOK PILECAP TOP AND BOTTOM REINFORCEMENT AT BOTH ENDS.
4. FOR PILE CAP CONCRETE STRENGTH, SEE FOUNDATION NOTES ON DWG. F0-001.
5. FOR TOP OF PILECAP ELEVATION SEE FOUNDATION NOTES ON DWG F0-100
6. FOR BALANCE OFFORMATION SEE DWG. F0-100.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	07-25-14	90% CD
	06-18-14	75% CD
	04-30-14	50% CD
	02-14-14	DOB FILING
	12-02-13	80% FOUNDATION-ISSUED FOR BID
	08-30-13	REVISED FOUNDATION PACKAGE
	07-12-13	FOUNDATION PACKAGE PRICING

KEY PLAN:



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

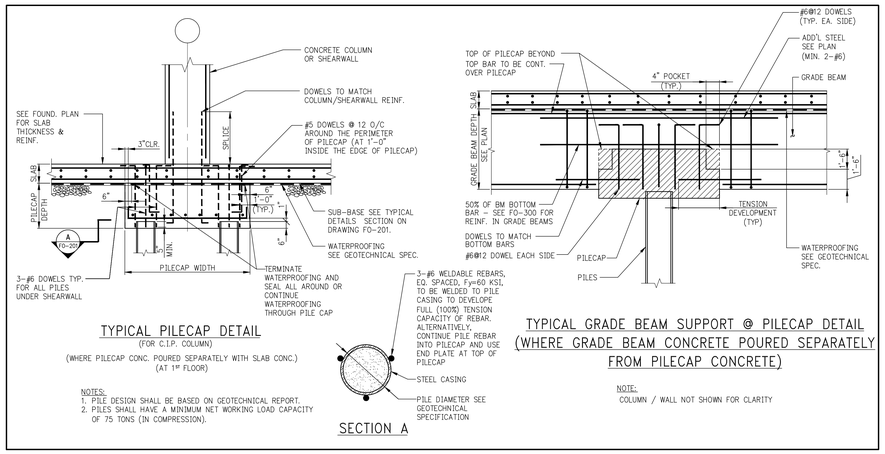
FOUNDATION
TYPICAL DETAILS 1

SEAL & SIGNATURE

DATE: 05/09/2013
PROJECT No: 1306380
SCALE: 1/4" = 1'-0"
DRAWING BY:
CHKD. BY:
DWG NO:
F0-200.00
CADD FILE No:
XX OF XX

BSCAN STICKER

48" x 36"



TYPICAL PILECAP DETAIL
(FOR C.I.P. COLUMN)

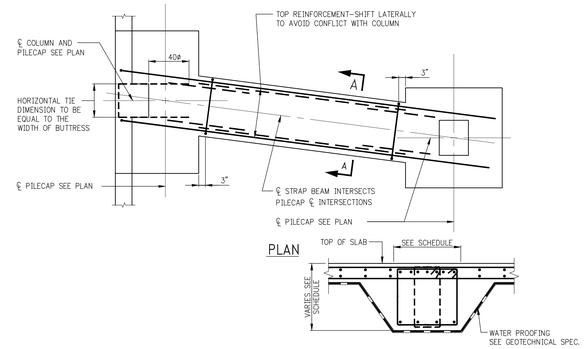
(WHERE PILECAP CONC. POURED SEPARATELY WITH SLAB CONC.)
(AT 1ST FLOOR)

NOTES:
1. PILE DESIGN SHALL BE BASED ON GEOTECHNICAL REPORT.
2. PILES SHALL HAVE A MINIMUM NET WORKING LOAD CAPACITY OF 75 TONS (IN COMPRESSION).

SECTION A

TYPICAL GRADE BEAM SUPPORT @ PILECAP DETAIL
(WHERE GRADE BEAM CONCRETE POURED SEPARATELY FROM PILECAP CONCRETE)

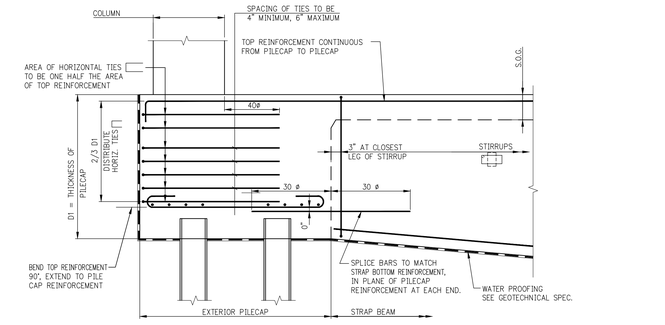
NOTE:
COLUMN / WALL NOT SHOWN FOR CLARITY



STRAP BEAM BETWEEN PILECAPS

NOTE: STRAP BEAM MUST FRAME DIRECTLY TO PILECAPS.

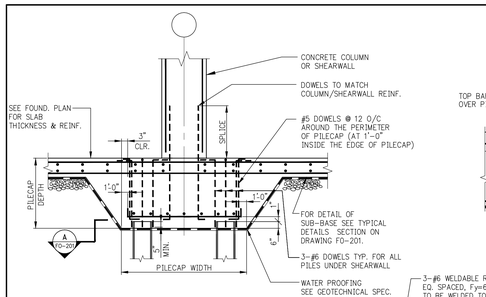
SECTION A–A



STRAP BEAM TO – EXTERIOR PILECAP DETAIL

THESE STRAP DETAILS ARE LIMITED TO PILES WITH A MAXIMUM LOAD CAPACITY OF 200 TONS/PILE.

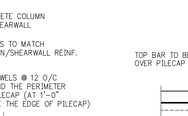
NOTE:
SEE FOUNDATION DRAWINGS FOR STRAP BEAM SIZE, REINFORCEMENT, AND STIRRUPS.



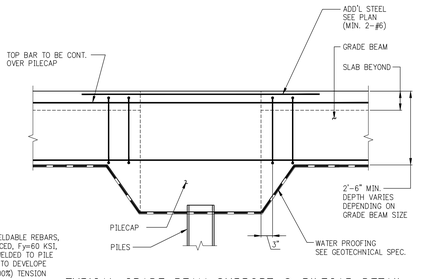
TYPICAL PILECAP DETAIL
(FOR C.I.P. COLUMN)

(WHERE PILECAP CONC. POURED MONOLITHICALLY WITH SLAB CONC.)
(AT GARAGE LEVEL)

NOTES:
1. PILE DESIGN SHALL BE BASED ON GEOTECHNICAL REPORT.
2. PILES SHALL HAVE A MINIMUM NET WORKING LOAD CAPACITY OF 75 TONS (IN COMPRESSION).
3. PILECAP & SLAB SHALL BE POURED MONOLITHICALLY. NO HORIZONTAL JOINT ALLOWED BETWEEN PILECAP & SLAB.
4. SEE SECTION B ON F0-300 FOR BALANCE OF INFO.

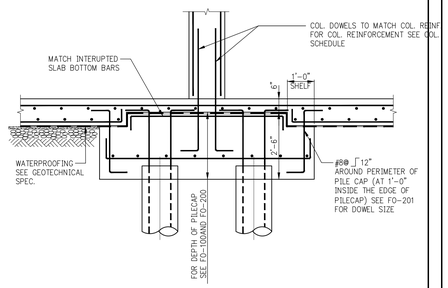


SECTION A



TYPICAL GRADE BEAM SUPPORT @ PILECAP DETAIL
(WHERE GRADE BEAM CONCRETE POURED MONOLITHICALLY W/FROM PILECAP CONCRETE)

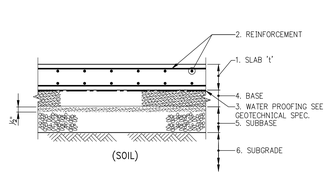
NOTE:
COLUMN / WALL NOT SHOWN FOR CLARITY



PILE CAP AT GARAGE LEVEL – ALTERNATIVE DESIGN
SCALE: ¾"=1'-0"

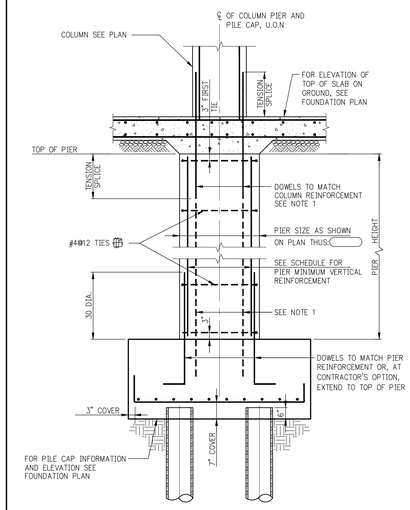
NOTE:

VERIFY WITH WATERPROOFING MANUFACTURER THAT ALL BARS PENETRATING WATERPROOFING MEMBRANE BARS EXTENDING FROM PILES, COLUMN DOWELS AND Z-BARS AT PERIMETER – ARE COMPATIBLE WITH WATERPROOFING SYSTEM.



TYPICAL DETAIL – SLAB ON GRADE

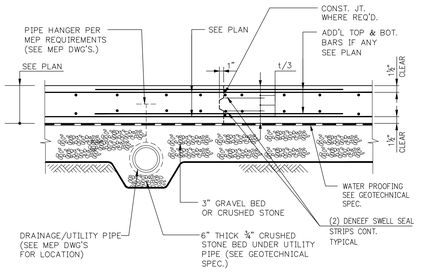
NOTES:
1. STRUCTURAL SLAB THICKNESS, SEE DRAWING F0-100.
2. STRUCTURAL SLAB REINFORCEMENT, SEE DRAWING F0-100.
3. WATER PROOFING AS PER GEOTECHNICAL SPEC.
4. BASE = LAYERS AS PER GEOTECHNICAL SPEC.
5. SUBBASE: 3" GRAVEL LAYER OR CRUSHED STONE. COVER ROUGH FILL WITH 1/2" OF BASE AGGREGATE AND COMPACT IT ONTO SUBBASE.
6. SUBGRADE: COMPACTED FILL, OR BACKFILL.



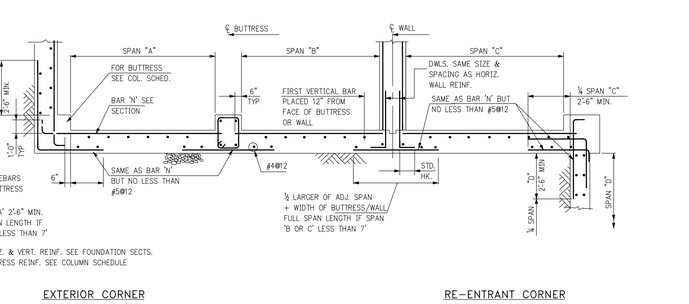
PIER: MINIMUM VERTICAL REINFORCEMENT	
PIER SIZE (OR EQUIVALENT)	VERTICAL REINF.
38x24	10–#6
38x22	10–#6
40x22	12–#6

INTERIOR PILE CAP AND PIER AT CONCRETE COLUMN

NOTE:
1. WHERE PIER HEIGHT IS LESS THAN EMBEDMENT LENGTH OF COLUMN DOWELS, EMBED DOWELS IN PILE CAP AND EXTEND THROUGH PIER INTO COLUMN ABOVE.



TYPICAL FRAMED SLAB DETAIL ON GRADE (AT 1ST FLOOR)
SCALE: 1" = 1'-0"

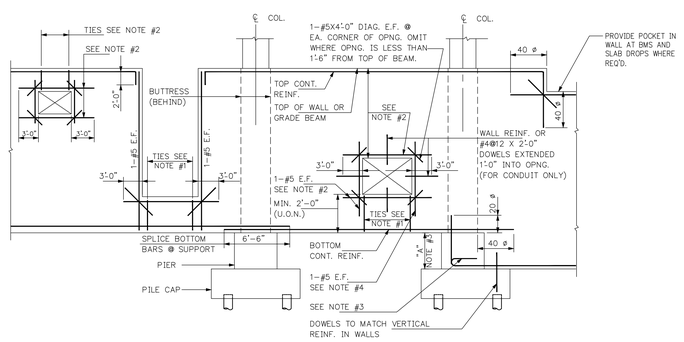


FOR HORIZ. & VERT. REINF. SEE FOUNDATION SECTS.
FOR BUTTRESS REINF. SEE COLUMN SCHEDULE

EXTERIOR CORNER

RE–ENTRANT CORNER

HORIZONTAL SECTION SHOWING METHOD OF PLACING WALL REINFORCEMENT



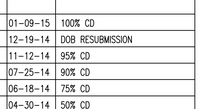
NOTES:
1. WHERE EDGE OF OPN'G. IS 2'-6" OR LESS FROM BOTTOM OF WALL OR GRADE BEAM ADD #3 @12
2. WHERE EDGE OF OPN'G. IS 2'-6" OR LESS FROM TOP OF WALL OR GRADE BEAM ADD 1–#7 E.F. OVER OPN'G. (INSTEAD OF 1#5 E.F.)PROVIDE #3 @12
3. WHERE DIMENSIONS "A" EXCEEDS 1'-6" BOTT. BARS MAY BE HOOKED 180°.
4. ADD #5 BARS EA. SIDE OF OPENING EQUAL IN AREA TO ½ OF INTERRUPTED BARS MIN. 1–#5 E.F.

ELEVATION SHOWING REQUIRED REINFORCING AT OPENING AND MISC. DETAILS

NOTES

No.	Date	Revision
	01–09–15	100% CD
	12–19–14	DOB RESUBMISSION
	11–12–14	95% CD
	07–25–14	90% CD
	06–18–14	75% CD
	04–30–14	50% CD
	02–14–14	DOB FILING
	12–02–13	80% FOUNDATION–ISSUED FOR BID
	08–30–13	REVISED FOUNDATION PACKAGE
	07–12–13	FOUNDATION PACKAGE PRICING

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754
Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501
Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271
Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942
Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366
Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546
Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

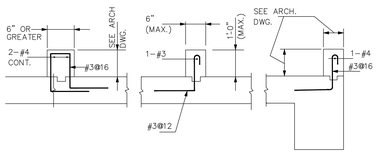
FOUNDATION TYPICAL DETAILS 2

SEAL & SIGNATURE

DATE: 05/09/2013
PROJECT No: 1306380
SCALE: N.T.S.
DRAWING BY:
CHKD. BY:
DWG NO:
F0–201.00
CADD FILE No:
XX OF XX

BSCAN STICKER

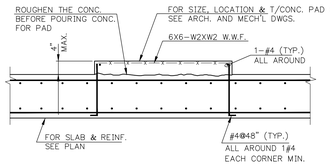
48" x 36"



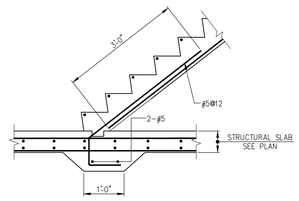
TYPICAL CONCRETE CURB DETAILS

NOTES:

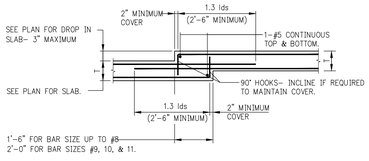
1. FOR LOCATION SEE ARCH. DWGS.
2. ALL BARS SHALL BE EPOXY COATED IF EXPOSED TO WEATHER.



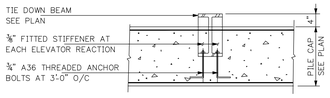
TYPICAL CONCRETE PAD DETAIL



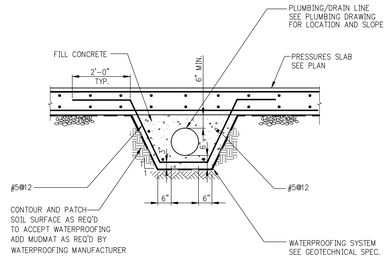
TYP. STAIR DETAIL AT SLAB ON GRADE



DROP IN TOP AND BOTTOM OF SLAB

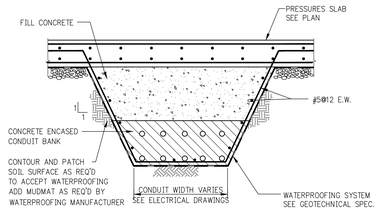


TYPICAL ELEVATOR TIE DOWN BEAM DETAIL



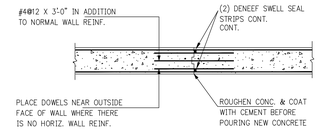
TYPICAL PLUMBING/DRAINAGE LINE WATERPROOFING DETAIL AT GARAGE

SEE MEP DWGS FOR LOCATIONS (AT CELLAR LEVEL)



TYPICAL CONDUIT BANK WATERPROOFING DETAIL

SEE ELECTRICAL DWGS FOR LOCATIONS (AT CELLAR LEVEL)



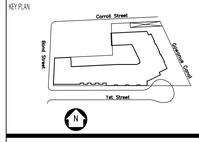
TYPICAL VERTICAL CONSTRUCTION JOINT IN WALL

KEY WIDTH NOT TO EXCEED ⅓ DEPTH OF WALL OR BEAM. VERTICAL CONSTRUCTION JOINT PERMITTED IN WALL OR GRADE BEAM AT ANY POINT 4'-0" MIN. AWAY FROM FACE OF SUPPORTING PIER, BUTTRESS AND/OR WALL OPENING PROVIDE ONE VERTICAL CONSTRUCTION JOINT FOR EVERY 40'-0" OF A STRAIGHT RUN OF WALL.

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	07-25-14	90% CD
	06-18-14	75% CD
	04-30-14	50% CD
	02-14-14	DOB FILING
	12-02-13	80% FOUNDATION-ISSUED FOR BID
	08-30-13	REVISED FOUNDATION PACKAGE
	07-12-13	80% FOUNDATION-ISSUED FOR BID

KEY PLAN



Client

THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
VSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT

363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

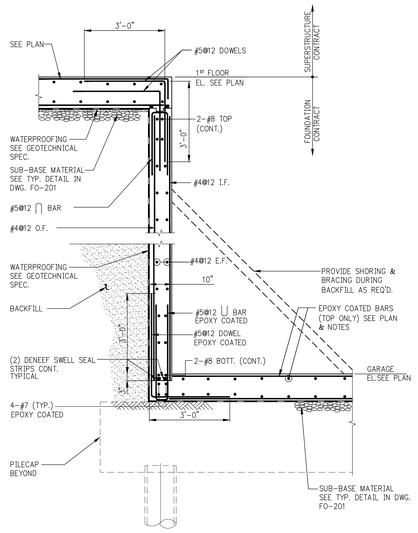
FOUNDATION TYPICAL DETAILS 3

SEAL & SIGNATURE

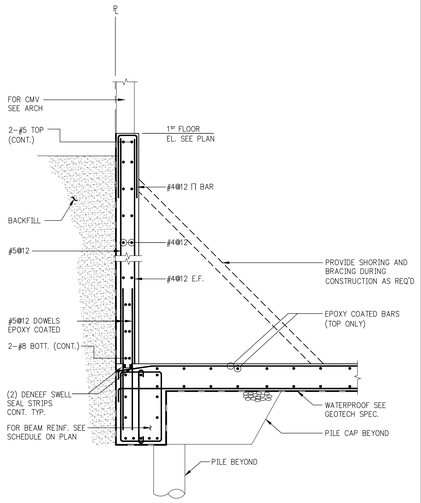
DATE: 05/09/2013
PROJECT No: 1306380
SCALE: N.T.S.
DRAWING BY:
CHKD. BY:
DWG NO:
F0-202.00
CADD FILE No:
XX OF XX

BSCAN STICKER

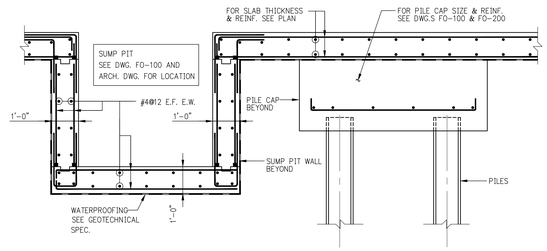
48" x 36"



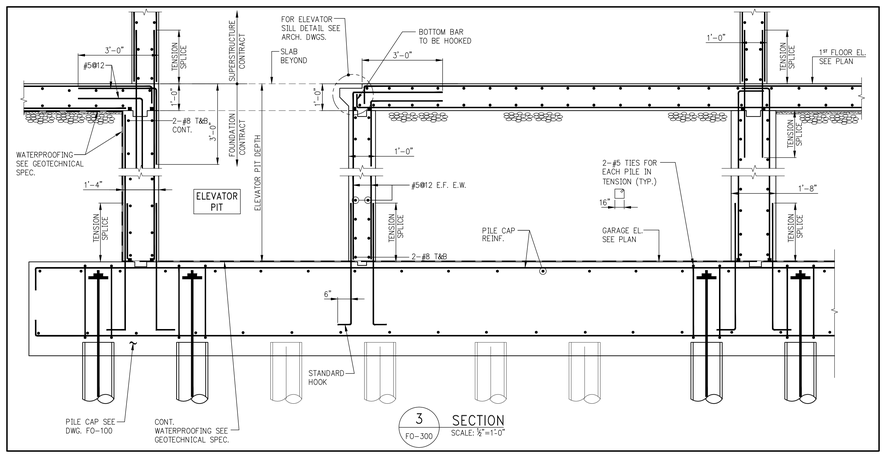
1 FO-300 FOUNDATION WALL SECTION
SCALE: ½"=1'-0"



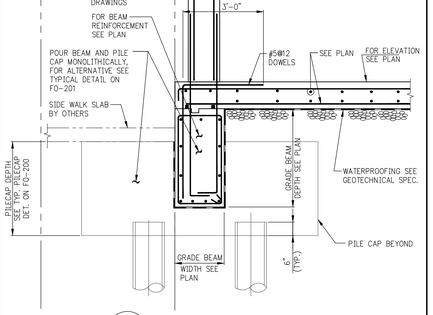
1A FO-300 FOUNDATION WALL SECTION
SCALE: ½"=1'-0"



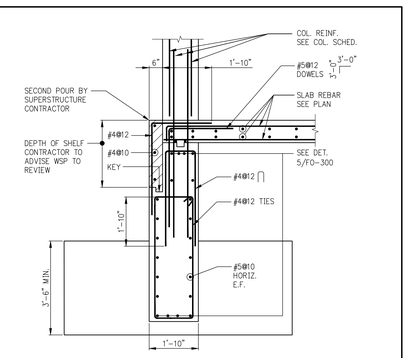
2 FO-300 SECTION
SCALE: ½"=1'-0"



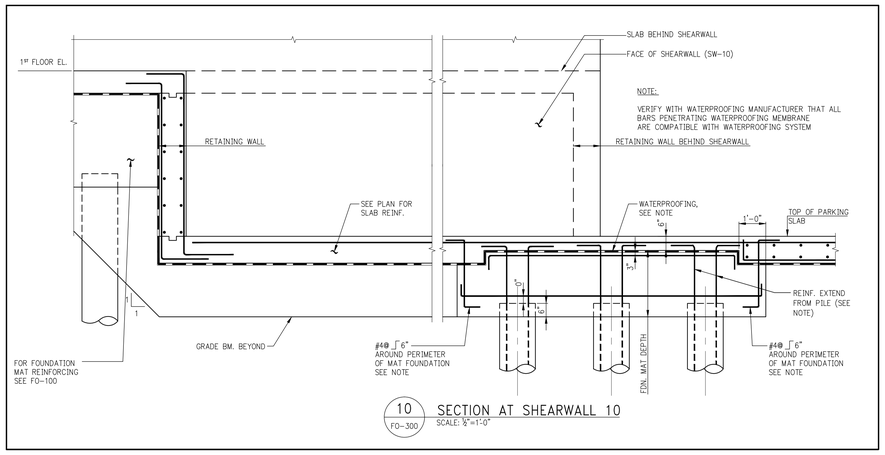
3 FO-300 SECTION
SCALE: ½"=1'-0"



5 FO-300 SECTION
SCALE: ½"=1'-0"
NOTE:
1. EXTEND ALL TOP REINF. FROM GB & GBI INTO CANT.



SECTION AT GRADE BEAM WITH SHELF FOR SECOND POUR W/ FORMLINER
9 FO-300
SCALE: ½"=1'-0"



10 FO-300 SECTION AT SHEARWALL 10
SCALE: ½"=1'-0"

NOT USED

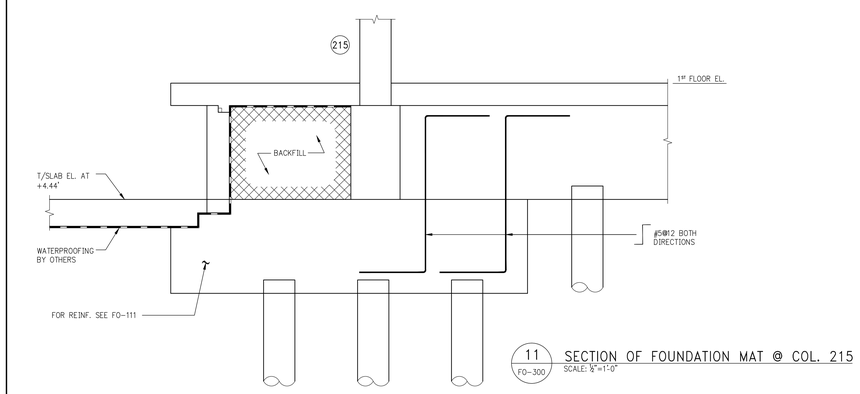
6 FO-300 SECTION
SCALE: ½"=1'-0"

NOT USED

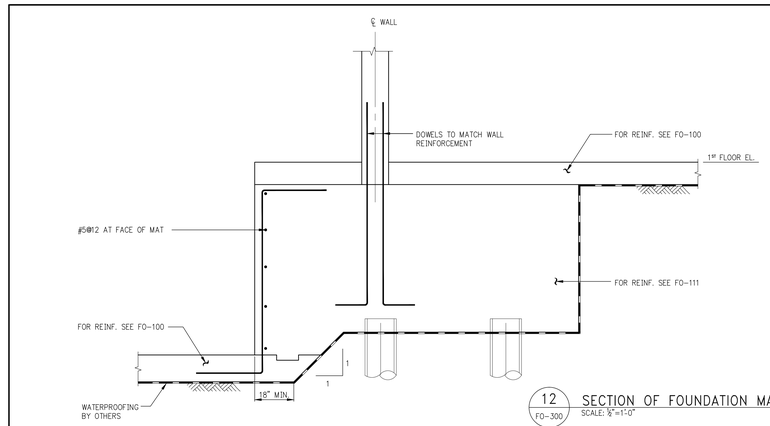
7 FO-300 SECTION
SCALE: ½"=1'-0"

NOT USED

8 FO-300 SECTION
SCALE: ½"=1'-0"



11 FO-300 SECTION OF FOUNDATION MAT @ COL. 215
SCALE: ½"=1'-0"

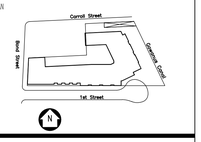


12 FO-300 SECTION OF FOUNDATION MAT @ SW-20
SCALE: ½"=1'-0"

NOTES

No.	Date	Revision
	01-09-15	100% CD
	12-19-14	DOB RESUBMISSION
	11-12-14	95% CD
	07-25-14	90% CD
	04-30-14	50% CD
	02-14-14	DOB FILING
	12-02-13	80% FOUNDATION-ISSUED FOR BID
	08-30-13	REVISED FOUNDATION PACKAGE
	07-12-13	FOUNDATION PACKAGE PRICING

KEY PLAN:



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
LEE WEINTRAUB LANDSCAPE ARCHITECTURE, LLC
59 Edgecliff Terrace
Yonkers, New York 10705
Tel. 914.965.6540 Fax 914.965.6546

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
363 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

FOUNDATION SECTIONS 1

SEAL & SIGNATURE

DATE:	05/09/2013
PROJECT No:	1306380
SCALE:	1/2=1'-0"
DRAWING BY:	
CHKD. BY:	
DWG NO:	FO-300.00
CADD FILE No:	XX OF XX

BSCAN STICKER

48" x 36"

APPENDIX W

Foundation Construction Photographic Log

LANGAN

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 1: Piles driven in the northeastern section of the site, facing north. 27 February 2015.

Photo 2: Piles driven in the northeastern section of the site, facing northeast. 10 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 3: Concrete poured into piles in the northeastern perimeter of the site, facing northeast. 13 March 2015.

Photo 4: Pile cap formwork installation along the northeastern perimeter of the site and site grading, facing northeast. 16 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 5: Concrete poured into piles in the northeastern perimeter of the site, facing northeast. 16 March 2015.

Photo 6: Concrete poured into pile caps along the northeastern perimeter of the site, facing southwest. 16 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 7: Site grading in the northeastern perimeter of the site, facing northeast. 19 March 2015.

Photo 8: Stripping formwork from pile cap along the northeastern perimeter of the site, facing northeast. 24 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 9: Site grading in the northeastern perimeter of the site, facing north. 6 April 2015.

Photo 10: Installation of SSDS V3 in the northeastern section of the site, facing southeast. 15 May 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 11: First floor subbase graded along the northeastern perimeter, facing north. 18 May 2015.

Photo 12: Stego 15-mil Vapor Barrier installed in the northeastern perimeter, facing north. 22 May 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 13: First floor slab installed on northeastern perimeter, facing northwest. 28 May 2015.

Photo 14: Piles driven in the eastern corner of the southeastern perimeter of the site, facing east. 19 February 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 15: Piles driven in the southeastern perimeter of the site, facing northeast. 10 March 2015.

Photo 16: Piles driven in the southeastern perimeter of the site, facing northwest. 11 March 2015.

Photo 17: Concrete poured into piles in the southeastern perimeter of the site, facing southeast. 16 March 2015.

Photo 18: Pile cap and grade beam formwork installation along the southeastern perimeter of the site, facing northeast. 19 March 2015.

Photo 19: Pile cap formwork installation along the southeastern perimeter of the site, facing northeast. 24 March 2015.

Photo 20: Concrete poured into pile caps and grade beam in the southeastern perimeter of the site, facing north. 27 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 21: Site grading in the southeastern perimeter of the site, facing southwest. 28 March 2015.

Photo 22: Pile cap and mat formwork installation along the southeastern perimeter of the site, facing southeast. 30 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 23: Concrete poured into pile caps and mat in the southeastern perimeter of the site, facing north. 31 March 2015.

Photo 24: Site grading in the southeastern perimeter of the site, facing south. 6 April 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 25: Installation of SSDS V3 in the southeastern section of the site, facing northeast. 18 May 2015.

Photo 26: Stego 15-mil Vapor Barrier installed in the southeastern perimeter, facing north. 26 May 2015.

Photo 27: First floor slab installed on southeastern perimeter, facing north. 28 May 2015.

Photo 28: Piles driven in the southern corner of the site, facing southeast. 9 March 2015.

Photo 29: Concrete poured into piles in the southern corner of the site, facing southeast. 16 April 2015.

Photo 30: Site grading in the southern corner of the site, facing southwest. 23 April 2015.

Photo 31: Multi-phase extraction (MPE) wells and horizontal piping installed in the southern corner of the southwestern portion of the site, facing southeast. 15 June 2015.

Photo 32: Installation of SSDS V2 in the southern corner of the southwestern perimeter of the site, facing southwest.15 June 2015.

Photo 33: Stego 15-mil Vapor Barrier installed in the southern corner of the southwestern perimeter, facing northeast. 16 June 2015.

Photo 34: Concrete poured onto first floor slab in the southern corner of the site, facing southeast. 17 June 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 35: First floor slab installed on the southern corner of the site, facing north. 2 July 2015.

Photo 36: Piles driven in the southwestern perimeter of the site, facing northeast. 18 March 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 37: Pile cap formwork installation in the western corner of the site, facing north. 5 May 2015.

Photo 38: Concrete poured into pile caps in the western corner of the site, facing northeast. 8 May 2015.

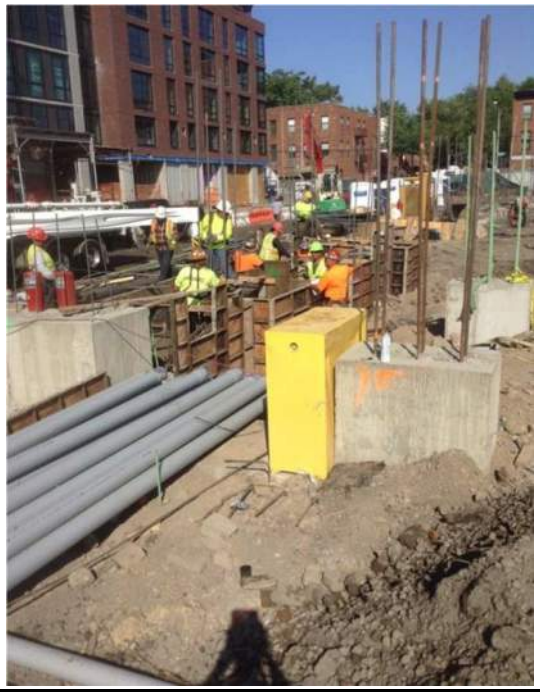


Photo 39: Pile cap formwork installation in the southwestern perimeter of the site, facing northwest. 29 May 2015.

Photo 40: Installation of SSDS V2 in the western corner of the southwestern perimeter of the site, facing southwest.15 June 2015.

Photo 41: Site grading in the western corner of the site, facing north. 18 June 2015.

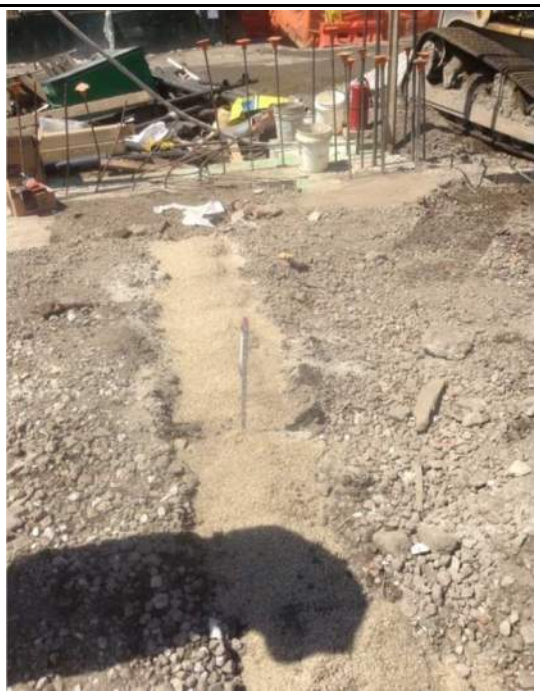


Photo 42: Installation of SSDS V1 in the western corner of the southwestern perimeter of the site, facing southwest. 25 June 2015.

Photo 43: First floor subbase graded along the western corner of the site, facing east. 26 June 2015.

Photo 44: Stego 15-mil Vapor Barrier installed along the southwestern perimeter, facing north. 30 June 2015.

Photo 45: Air sparge (AS) and soil vapor extraction (SVE) well horizontal piping installed in the western corner of the southwestern perimeter of the site, facing east. 1 July 2015.

Photo 46: Stego 15-mil Vapor Barrier installation in the western corner of the southwestern perimeter, facing southwest. 1 July 2015.

Photo 47: Stego 15-mil Vapor Barrier installed in the western corner of the southwestern perimeter, facing southeast. 2 July 2015.

Photo 48: Stego 15-mil Vapor Barrier installed in the western corner of the southwestern perimeter, facing northeast. 2 July 2015.

Photo 49: Stego 15-mil Vapor Barrier installed in the western corner of the southwestern perimeter, facing east. 2 July 2015.

Photo 50: Concrete poured onto first floor slab in the western corner of the southwestern perimeter of the site, facing northwest. 2 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 51: Piles driven in the southeastern section of the cellar, facing southwest. 4 March 2015.

Photo 52: Piles driven in the southeastern section of the cellar, facing southeast. 12 March 2015.

Photo 53: Pile cap formwork installation in the southeastern section of the cellar, facing northwest. 12 March 2015.

Photo 54: Concrete poured into pile caps in the southeastern section of the cellar, facing northeast. 13 March 2015.

Photo 55: Concrete poured into pile caps in the southeastern section of the cellar, facing northeast. 16 March 2015.

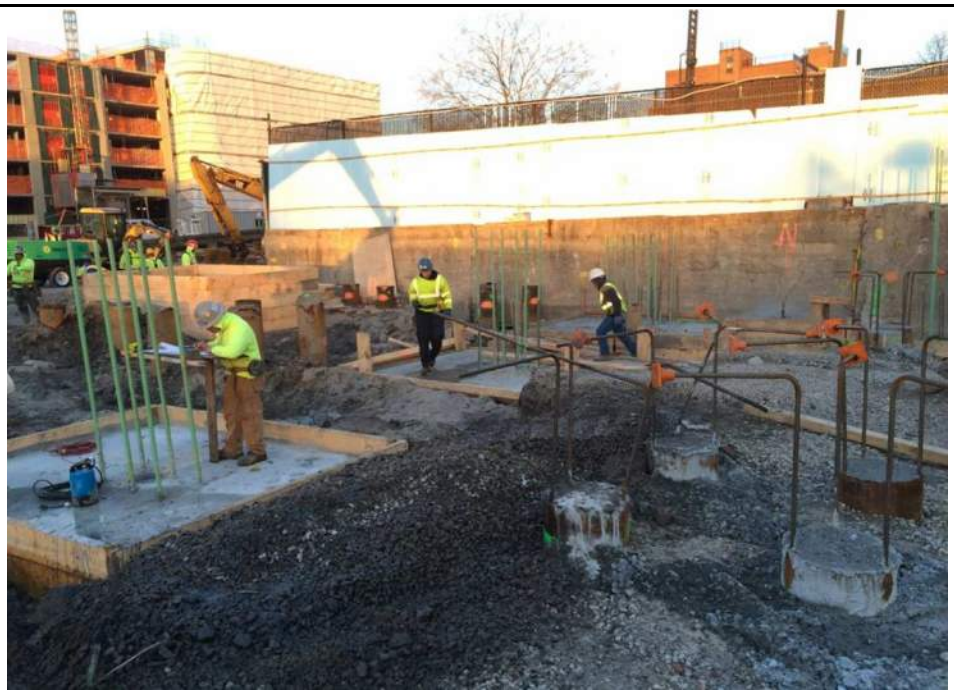


Photo 56: Pile cap formwork installation in the southeastern section of the cellar, facing northwest. 16 March 2015.

Photo 57: Concrete poured into pile caps in the southeastern section of the cellar, facing northeast. 18 March 2015.

Photo 58: Pile cap and mat formwork installation in the southeastern section of the cellar, facing northwest. 2 April 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 59: Poured mat in the southeastern section of the cellar, facing northeast. 6 April 2015.

Photo 60: Grace 300R Vapor Barrier installed in the southeastern section of the cellar floor, facing southwest. 28 April 2014.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

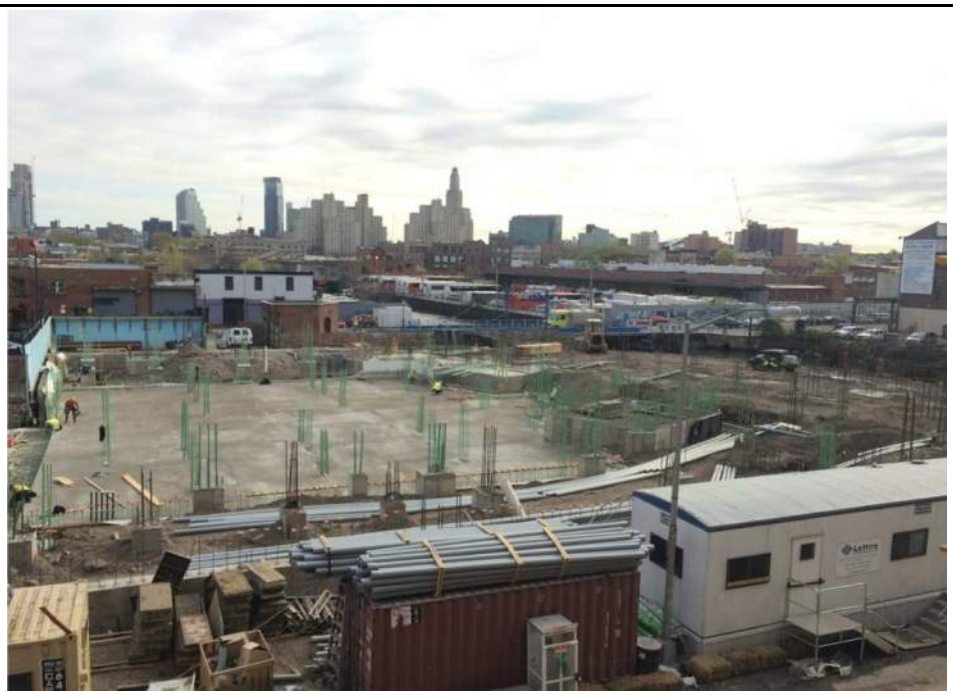


Photo 61: Completed cellar slab in the southeastern section of the cellar, facing northeast. 30 April 2015.

Photo 62: Grace 300R Vapor Barrier installation along the exterior of the northeastern cellar wall, facing northeast. 28 April 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

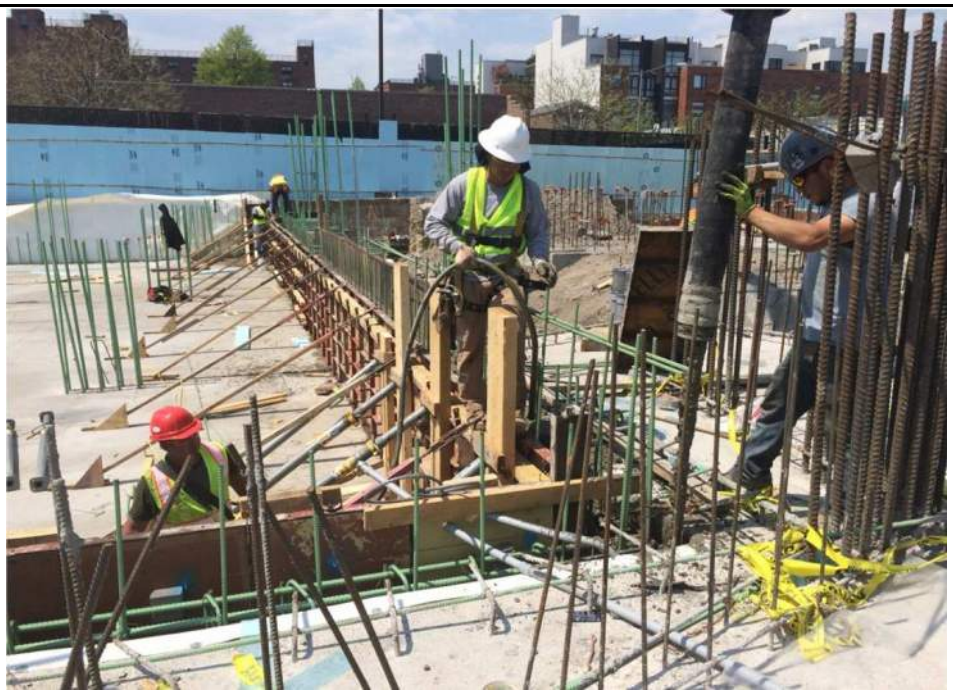


Photo 63: Concrete poured into northeastern and southeastern cellar walls, facing northwest. 4 May 2015.

Photo 64: Bituthene 4000 Vapor Barrier installation along the exterior of the southwestern cellar wall, facing southeast. 6 May 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 65: Piles driven in the mid-section of the cellar, facing northeast. 11 March 2015.

Photo 66: Concrete poured into piles in the mid-section and northwestern section of the cellar, facing southwest. 17 April 2015.

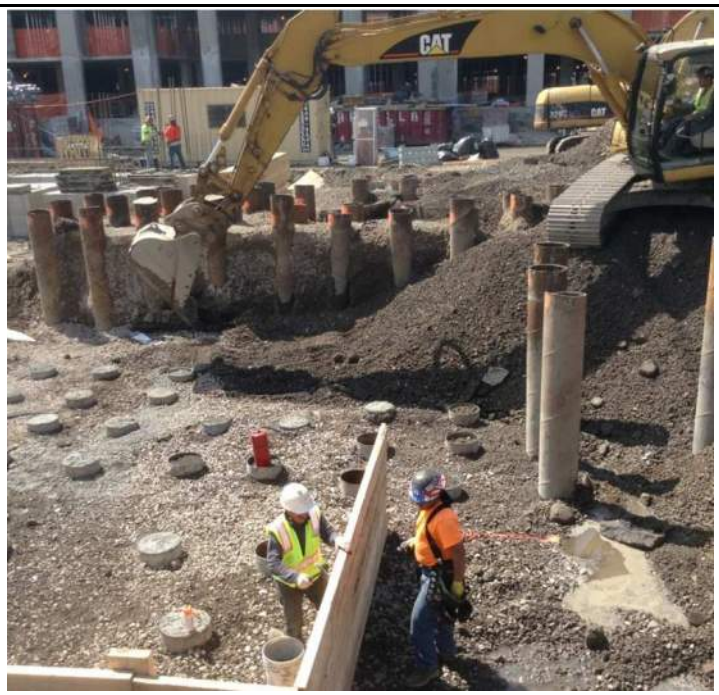


Photo 67: Pile cap excavation and formwork installation in the mid-section of the cellar, facing southwest. 18 April 2015.

Photo 68: Pile cap and mat formwork installation in the mid-section of the cellar, facing northeast. 21 April 2015.

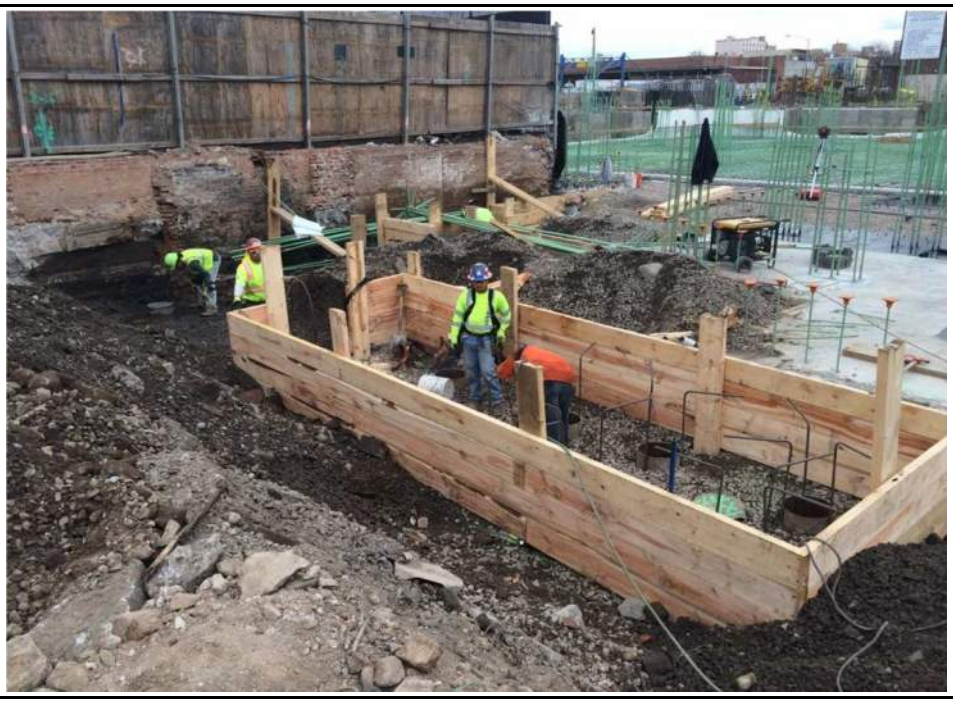


Photo 69: Pile cap formwork installation in the mid-section of the cellar, facing east. 27 April 2015.

Photo 70: Concrete poured into pile cap in the mid-section of the cellar, facing east. 1 May 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 71: Concrete poured into pile cap in the mid-section of the cellar, facing northeast. 1 May 2015.

Photo 72: Grace 300R Vapor Barrier installation along the exterior of the northeastern cellar wall in the mid-section and northwestern section of the cellar, facing north. 12 May 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 73: Grace 300R Vapor Barrier installation in the mid-section of the cellar, facing northeast. 12 May 2015.

Photo 74: Completed cellar slab in the mid-section of the cellar, facing east. 20 May 2015.

Photo 75: Cellar subbase graded in the northwestern section, facing northeast. 30 May 2015.

Photo 76: Grace 300R Vapor Barrier installed in the mid-section of the cellar, facing northeast. 12 May 2015.

Photo 77: Completed cellar slab in mid-section of cellar, facing north. 12 June 2015.

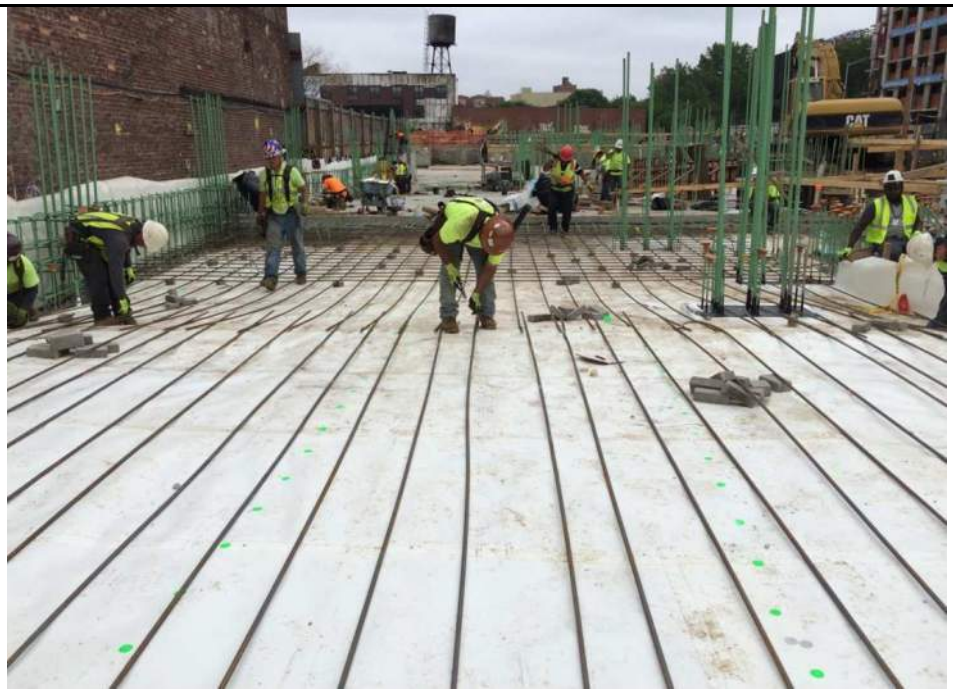


Photo 78: Grace 300R Vapor Barrier installed in the northwester section of the cellar, facing southeast. 18 June 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 79: Bituthene 4000 Vapor Barrier installed along the exterior of the southwestern cellar wall in the mid-section and northwestern section of the cellar, facing northeast. 19 June 2015.

Photo 80: Completed foundation of future 363 Bond Street building, facing northeast. 8 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 81: Completed foundation of future 363 Bond Street building, facing northeast. 8 July 2015.

Photo 80: Demarcation layer in the form of a geotextile fabric is laid on top of the native material in the eastern corner of the site approximately 2 feet below proposed finished grade to allow for a 2 foot cover of clean cap, facing northeast.6 July 2015.

Photo 81: Approved clean Item #4 is unloaded onto demarcation layer in the eastern corner of the site to construct the two-foot thick clean cap, facing northeast. 6 July 2015.

Photo 82: Approved clean Item #4 is spread over the demarcation layer in the eastern corner of the site to construct the two-foot thick clean cap, facing east. 6 July 2015.

Photo 83: Demarcation layer placed two feet below proposed finished grade elevation in the southeastern section of the site, facing northwest. 6 July 2015.

Photo 84: Approved clean Item #4 is spread over the demarcation layer in the southeastern section of the site to construct the two-foot thick clean cap, facing south. 6 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 85: Approved clean Item #4 is spread over demarcation layer in the southeastern section of the site to construct the two-foot thick clean cap, facing southeast. 6 July 2015.

Photo 86: Demarcation layer in the form of a geotextile fabric is placed over the ground in the southeastern section of the site approximately 2 feet below proposed finished grade to allow for construction of a two-foot thick clean cap, facing southeast. 6 July 2015.

Photo 87: Approved clean Item #4 is spread over the demarcation layer in the southeastern section of the site to construct the two-foot thick clean cap, facing southeast. 6 July 2015.

Photo 88: Approved clean Item #4 is spread over the demarcation layer in the southeastern section of the site to construct the two-foot thick clean cap, facing southeast. 6 July 2015.

Photo 89: Measured mark on rebar indicating two-foot thick layer of clean Item #4 in the eastern corner of the site, facing northeast. 6 July 2015.

Photo 90: Demarcation layer in the form of a geotextile fabric is placed over the ground in the southern corner of the site approximately two feet below proposed finished grade to allow for the construction of a two-foot thick clean cap, facing southeast. 7 July 2015.

Photo 91: Demarcation layer placed two feet below proposed finished grade elevation in the southern corner of the site, facing northwest. 7 July 2015.

Photo 92: Measured mark on rebar indicating two-foot thick layer of clean Item #4 in the southern corner of the site, facing northeast. 7 July 2015.

Photo 93: RCA is spread over the demarcation layer in the southeastern section of the site to construct the two-foot thick clean cap, facing east. 8 July 2015.

Photo 94: Measured mark on rebar indicating two-foot thick layer of RCA in the southeastern section of the site, facing south. 9 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 95: Measured mark on rebar indicating two-foot thick layer of RCA in the southeastern section of the site, facing east. 9 July 2015.

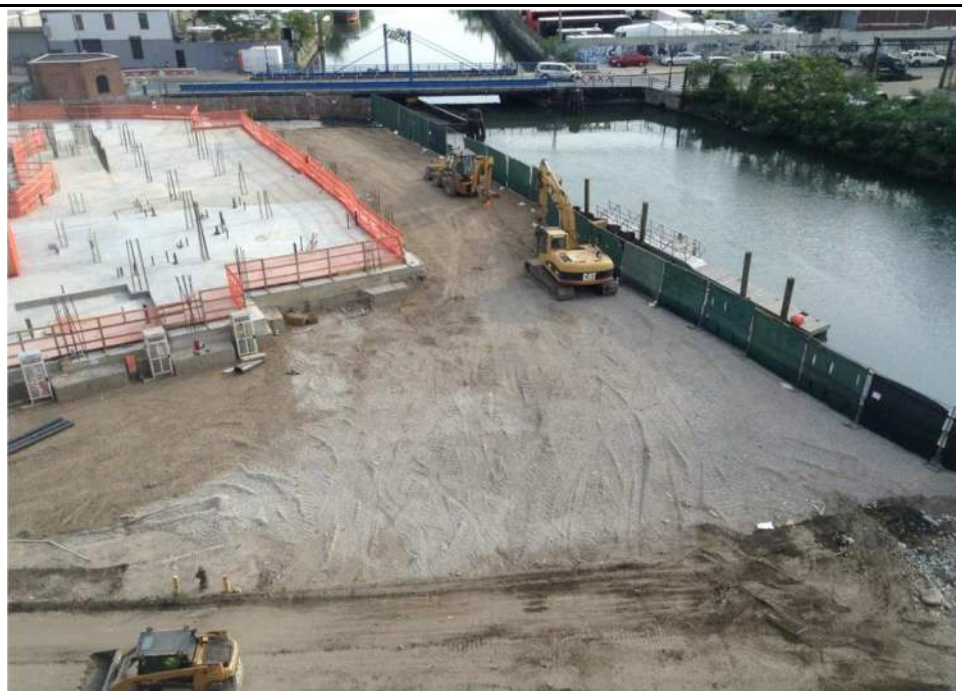


Photo 96: Completed temporary soil cover in the southeastern section of the site constructed of two feet of approved Item #4 and RCA, facing east. 14 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 97: Demarcation layer placed two feet below proposed finished grade elevation in the northeastern section of the site, facing northeast. 9 July 2015.

Photo 98: RCA is spread over the demarcation layer in the northeastern section of the site to construct the two-foot thick clean cap, facing south. 9 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 99: Completed temporary soil cover in the northeastern section of the site constructed of two feet of RCA, facing north. 10 July 2015.

Photo 100: Completed temporary soil cover in the northeastern section of the site constructed of two feet of RCA, facing northeast. 10 July 2015.

LANGAN

APPENDIX W
Composite Cover System Construction
Photographic Log
363 Bond Street
Brooklyn, New York

Photo 101: Completed temporary soil cover in the northeastern section of the site constructed of two feet of RCA, facing east. 10 July 2015.

APPENDIX X

Waterfront Esplanade Landscaping Plans

LANGAN

STREET TREE IN 5'X10' STD DPR TREE PIT; TYP. FOR 4; SEE PLANTING PLAN

FLOWERING TREE IN PLANTING BEDS; TYP. FOR 6 ; SEE PLANTING PLAN

5'X10' BIOSWALES BY OTHERS; TYP. FOR 2

BROOKLYN HIGHWAY DATUM +2.547' BROOKLYN SEWER DATUM +1.678' (EL. 0.00' NGVD 1929)

STREET TREE IN 5'X15' BIOSWALE TREE PIT; TYP. FOR 2; SEE PLANTING PLAN

5'X10' STD DPR TREE PIT; EX. TREE TO REMAIN; TYP. FOR 2;

STREET TREE IN 5'X15' BIOSWALE TREE PIT; TYP. FOR 3; SEE PLANTING PLAN

CONCRETE SIDEWALK & STEEL CURB; SEE B.P.P.

STREET TREE IN 5'X10' TREE PIT; TYP. FOR 13; SEE B.P.P.

NYC OWNED PARCEL

5'X10' STD DPR TREE PIT; EX. TREE TO REMAIN;

BLOCK 458

BLOCK 452

SPONGE PARK SHOWN FOR REFERENCE ONLY (PROPOSED BY DLAND STUDIO); REFER TO DESIGN PLANS DATED 10/10/2012

1 L-300

2 L-300

3 L-300

4 L-300

5 L-300A

5 L-300

6 L-300

1 L-301

1 L-200 1 L-210 1 L-221 ESPLANADE PLANS

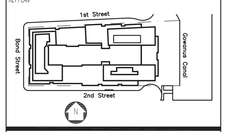
1 L-201 1 L-211 1 L-222 ESPLANADE PLANS

0 4 8 16 SCALE IN FEET

NOTES

No.	Date	Revision
	04/28/14	90% Construction Documents

KEY PLAN:



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
WEINTRAUB DIAZ, LLC
19 New Street
Nyack, New York 10960
Tel. 845.353.2500 Fax 845.353.2599

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
365 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

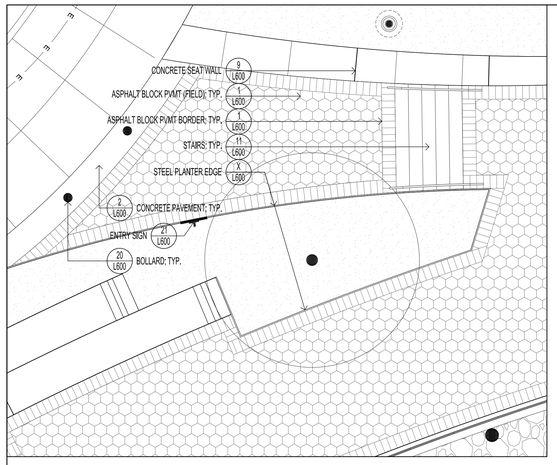
SITE PLAN

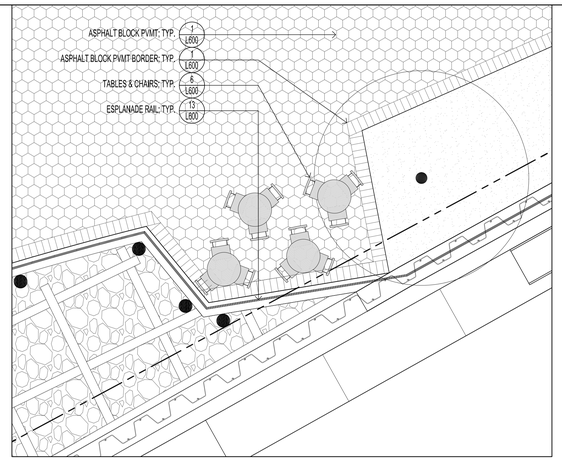
SEAL & SIGNATURE

DATE: 04/28/2014
PROJECT No: 0503
SCALE: 1/16"=1'-0"
DRAWING BY: AD
CHKD. BY: LW
DWG NO: L-100.00
CADD FILE No:

BSCAN STICKER

48" x 36"

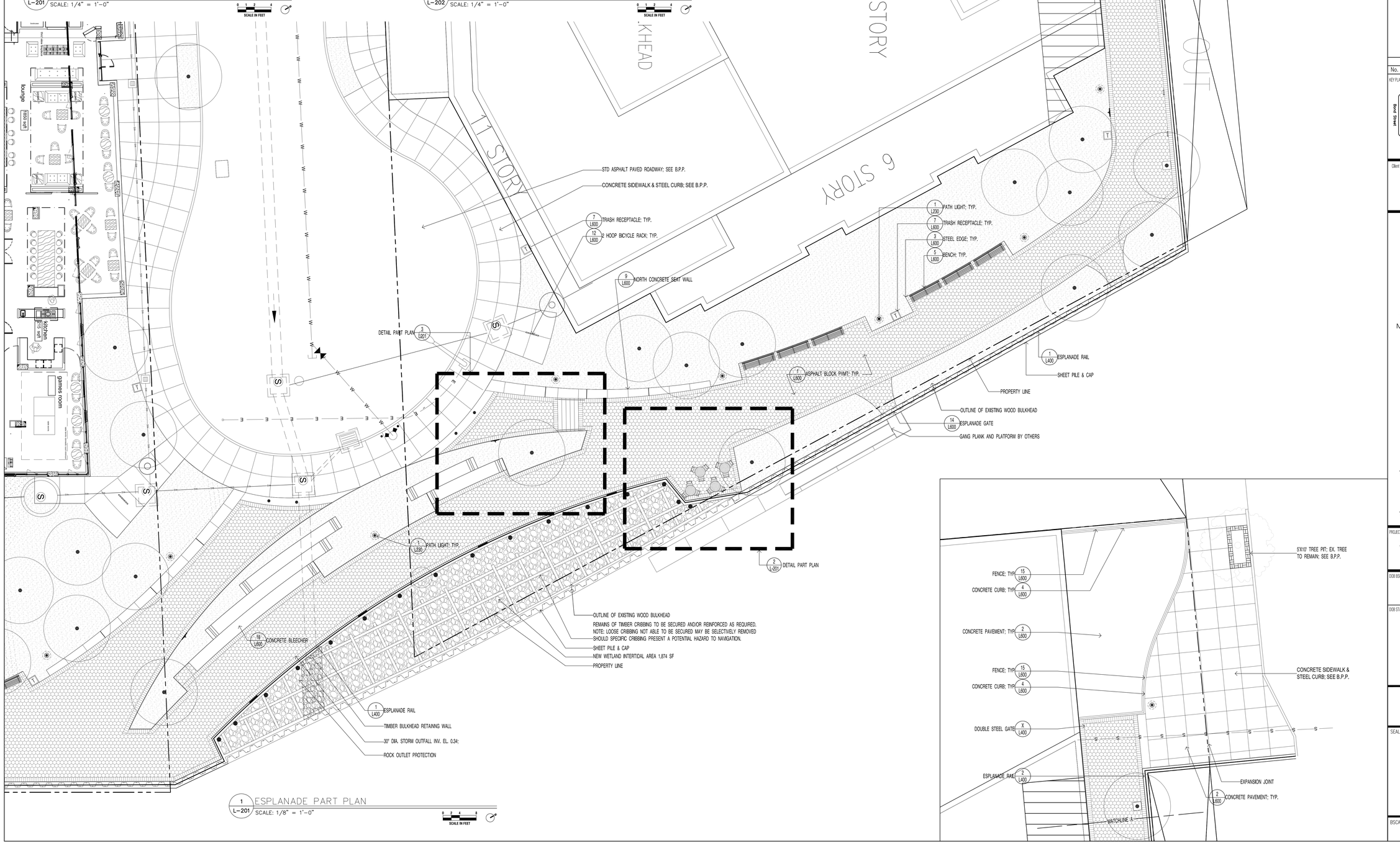




2 L-201 DETAIL PART PLAN
SCALE: 1/4" = 1'-0"

2 L-202 DETAIL PART PLAN

SCALE IN FEET 0 1 2 4



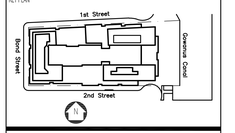
1 L-201 ESPLANADE PART PLAN
SCALE: 1/8" = 1'-0"

SCALE IN FEET 0 2 4 8

NOTES

No.	Date	Revision
	04/28/14	90% Construction Documents

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
WEINTRAUB DIAZ, LLC
19 New Street
Nyack, New York 10960
Tel. 845.353.2500 Fax 845.353.2599

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
365 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

ESPLANADE MATERIALS PLAN

SEAL & SIGNATURE

DATE: 4/28/2014
PROJECT No: 0503
SCALE: 1/4" = 1'-0"
DRAWING BY:
CHKD. BY:
DWG NO: L-201.00
CADD FILE No:

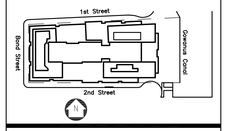
BSCAN STICKER

48" x 36"

NOTES

No.	Date	Revision
	04/28/14	90% Construction Documents

KEY PLAN



Client

THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
WEINTRAUB DIAZ, LLC
19 New Street
Nyack, New York 10960
Tel. 845.353.2500 Fax 845.353.2599

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT

365 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

ESPLANADE
GRADING PLAN

SEAL & SIGNATURE

DATE: 04/28/2014
PROJECT No: 0503
SCALE: 1/8"=1'-0"
DRAWING BY:
CHKD. BY:
DWG NO: L-221.00
CADD FILE No:

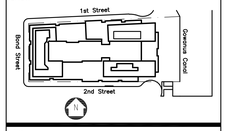
BSCAN STICKER

48" x 36"

NOTES

No.	Date	Revision
	04/28/14	90% Construction Documents

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
WEINTRAUB DIAZ, LLC
19 New Street
Nyack, New York 10960
Tel. 845.353.2500 Fax 845.353.2599

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
365 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

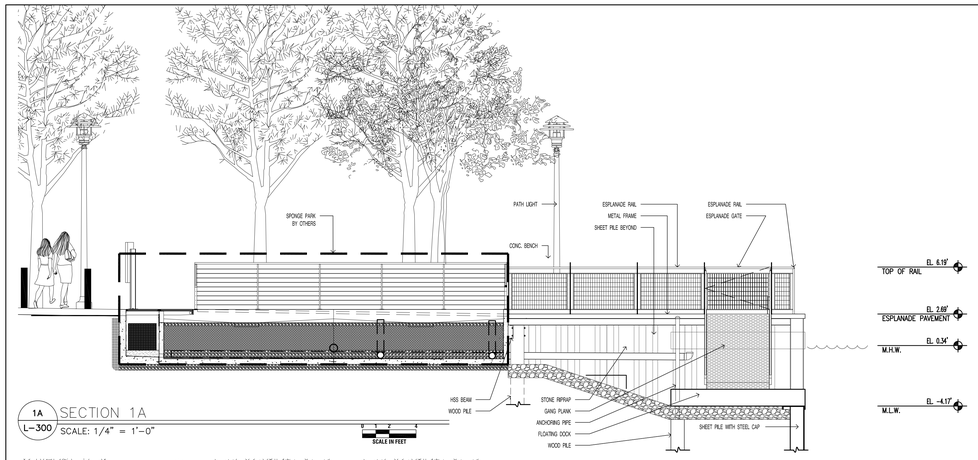
ESPLANADE
PLANTING PLAN

SEAL & SIGNATURE

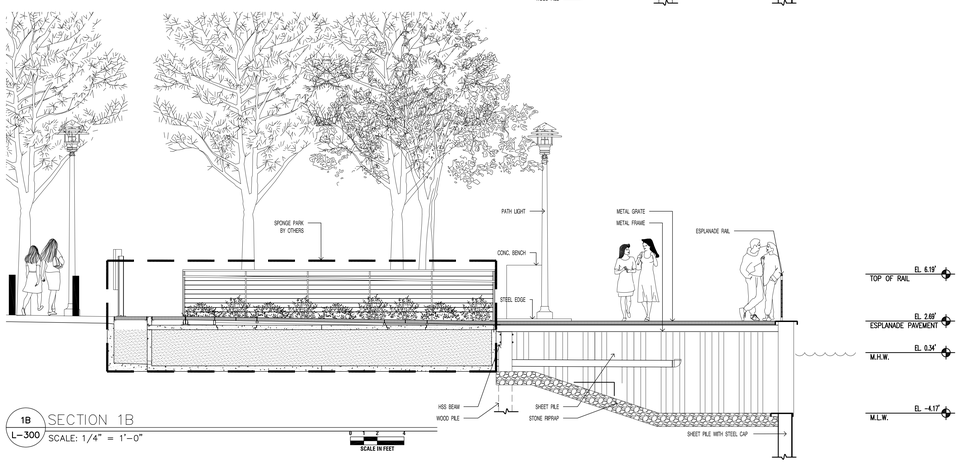
DATE: 04/28/2014
PROJECT No: 0503
SCALE: 1/8"=1'-0"
DRAWING BY: KD
CHKD. BY: LW
DWG NO: L-242.00
CADD FILE No:

BSCAN STICKER

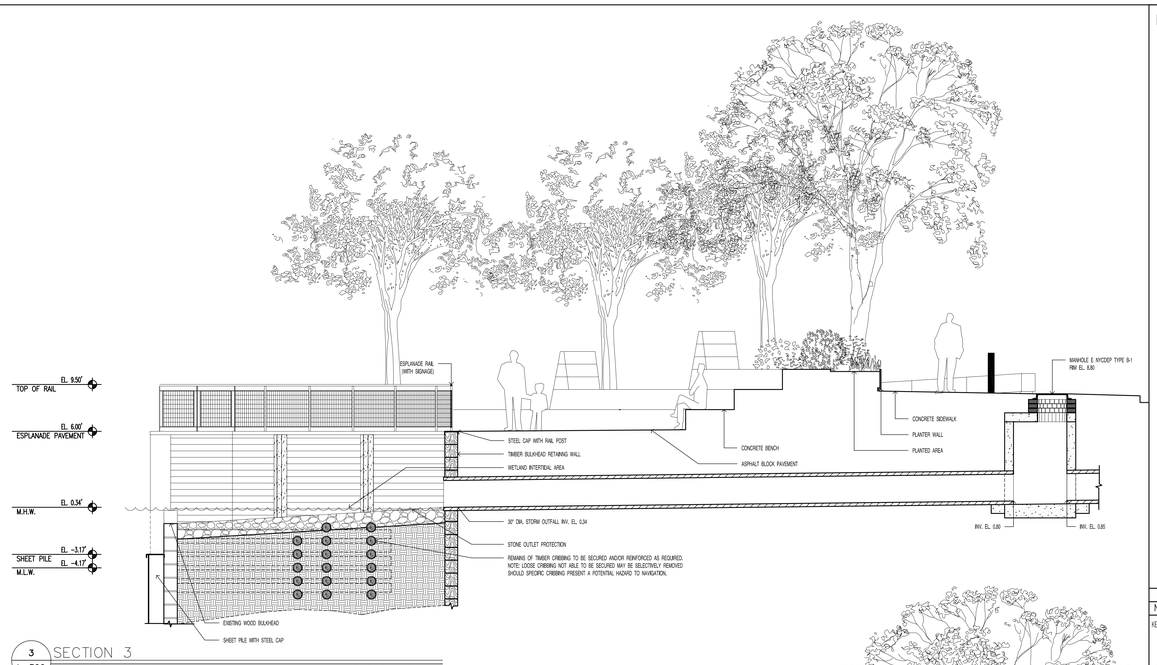
48" x 36"



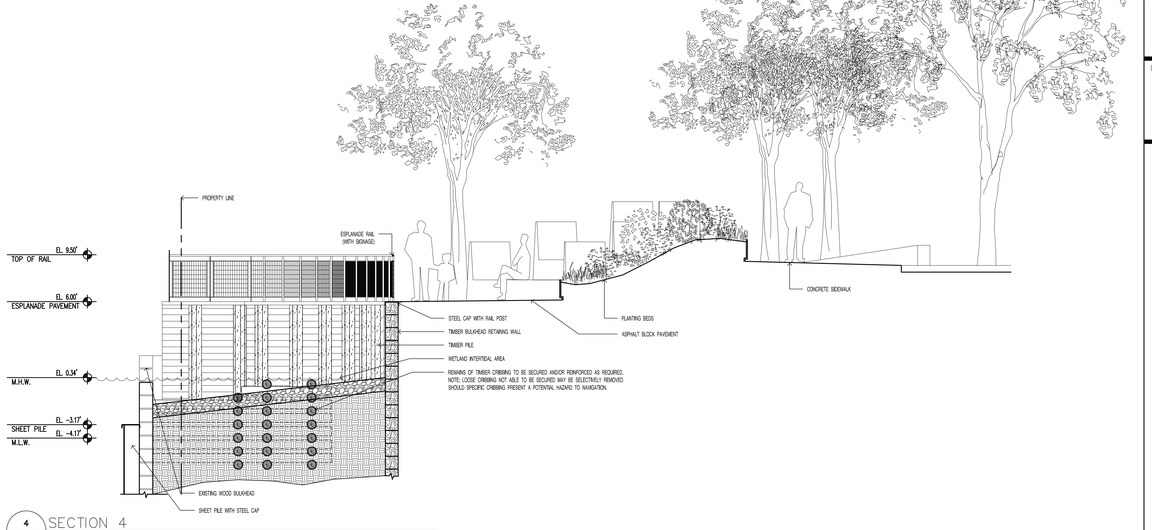
1A SECTION 1A
L-300 SCALE: 1/4" = 1'-0"



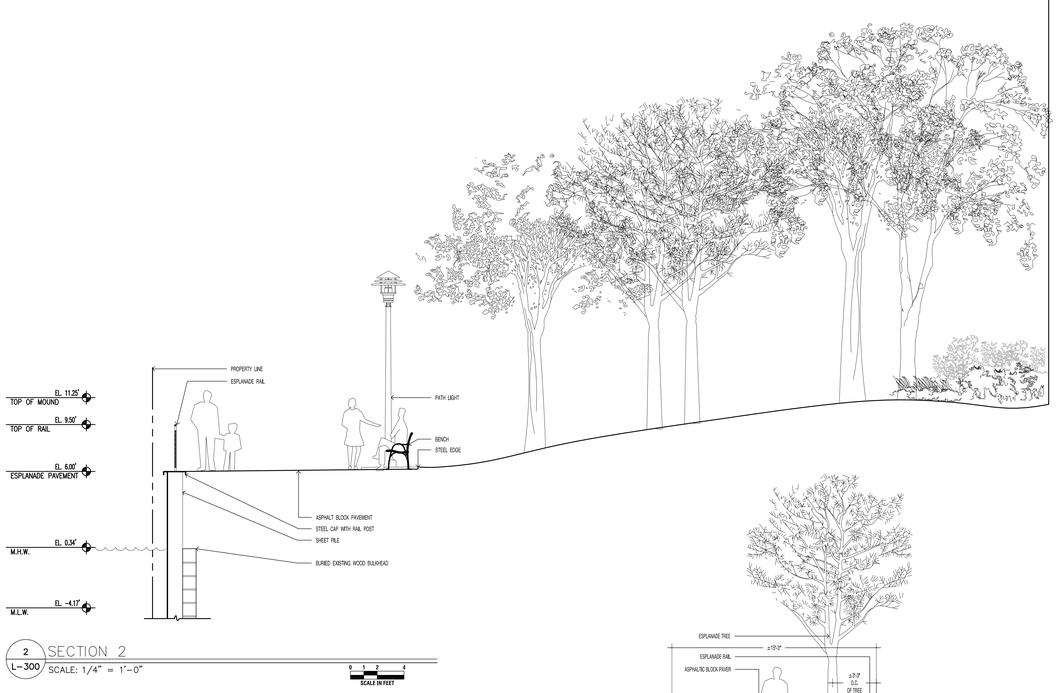
1B SECTION 1B
L-300 SCALE: 1/4" = 1'-0"



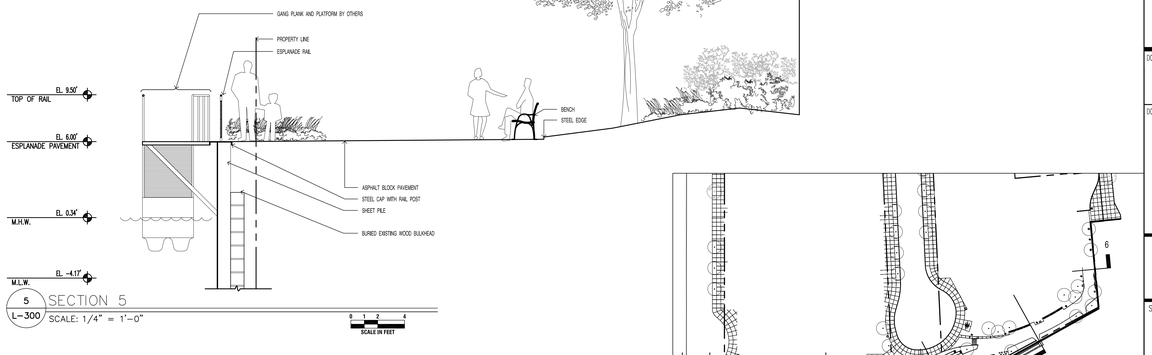
3 SECTION 3
L-300 SCALE: 1/4" = 1'-0"



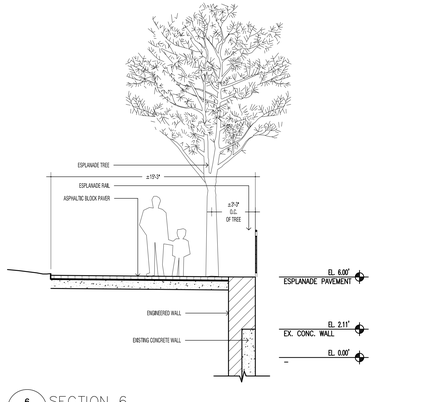
4 SECTION 4
L-300 SCALE: 1/4" = 1'-0"



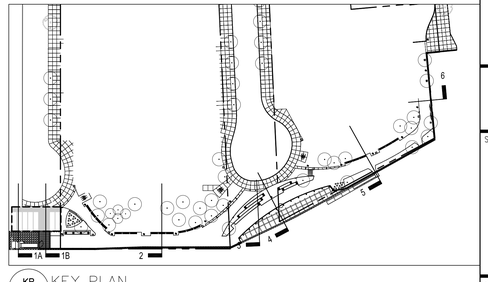
2 SECTION 2
L-300 SCALE: 1/4" = 1'-0"



5 SECTION 5
L-300 SCALE: 1/4" = 1'-0"



6 SECTION 6
L-300 SCALE: 1/4" = 1'-0"

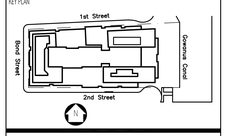


KP KEY PLAN
L300 SCALE: 1/32"=1'-0"

NOTES

No.	Date	Revision
	04/28/14	90% Construction Documents

KEY PLAN



Client
THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
WEINTRAUB DIAZ, LLC
19 New Street
Nyack, New York 10960
Tel. 845.353.2500 Fax 845.353.2599

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
365 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

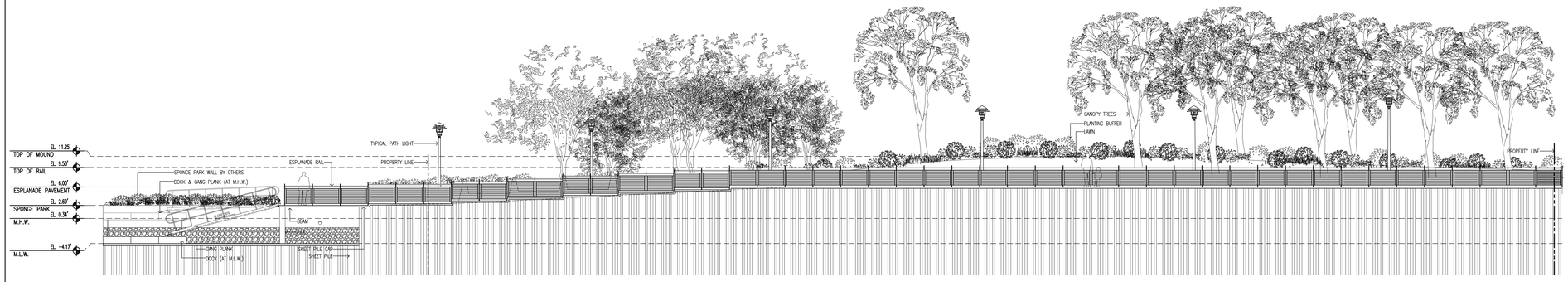
SITE SECTIONS

SEAL & SIGNATURE

DATE 04/28/2014
PROJECT No: 0503
SCALE: 1/4"=1'-0"
DRAWING BY: AD
CHKD. BY: LW
DWG NO: L-300.00
CADD FILE No:

BSCAN STICKER

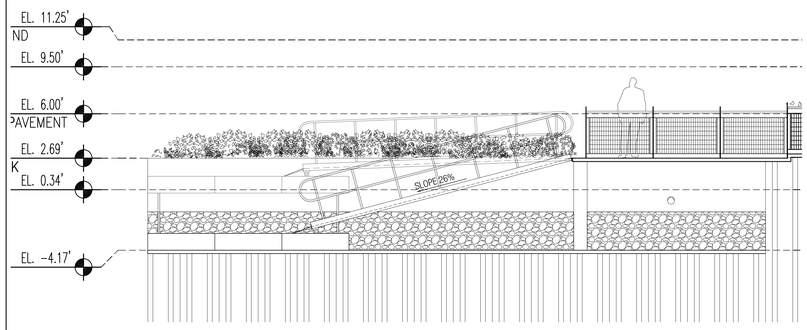
48" x 36"



1 L-400 ESPLANADE EAST ELEVATION (BETWEEN 2ND & 1ST STREET)

SCALE: 1/8" = 1'-0"

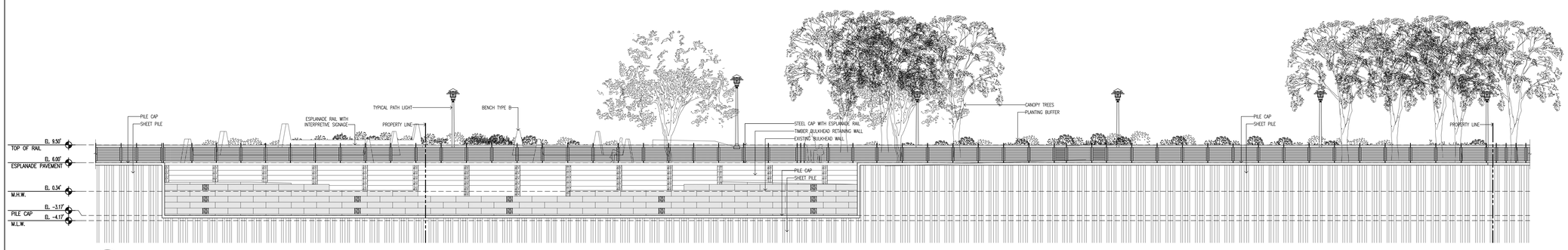
SCALE IN FEET 0 2 4 8



1A L-400 ENLARGED ELEVATION OF ESPLANADE AT 2ND STREET/SPONGE PARK

SCALE: 1/4" = 1'-0"

SCALE IN FEET 0 1 2 4



1 L-400 ESPLANADE EAST ELEVATION (BETWEEN 1ST & CARROLL STREET)

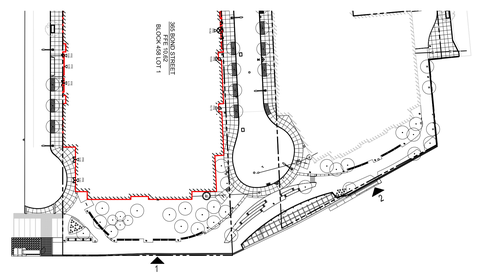
SCALE: 1/8" = 1'-0"

SCALE IN FEET 0 2 4 8

INTERPRETIVE SIGNAGE: THE LANDSCAPE ARCHITECT WILL RETAIN THE SERVICES OF AN HISTORIAN WHO WILL DEVELOP A "NARRATIVE" OF THE CANAL. THIS NARRATIVE WILL BE EXECUTED ON A SET OF "EXPLAINER" PANELS FIXED TO THE ESPLANADE RAIL.

THE EXPLAINER PANELS SHALL BE SIMILAR IN SIZE, CHARACTER AND FASTENING TO THE ILLUSTRATION PHOTO SHOWN BELOW.

SAMPLE PHOTO OF TYPICAL INTERPRETIVE SIGNAGE PANEL AT ERIE BASIN PARK, BROOKLYN, NY SHOWN FOR REFERENCE ONLY.

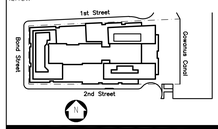


SCALE IN FEET 0 16 32 64

NOTES

No.	Date	Revision
	04/28/14	90% Construction Documents

KEY PLAN



Client

THE LIGHTSTONE GROUP
460 Park Avenue, 13th Floor
New York, NY 10022

GHWA
Goldstein, Hill & West Architects, LLP
11 Broadway, Suite 1700
New York, NY 10004
Tel 212.213.8007 Fax 212.686.1754

Structural Engineers
WSP Cantor Seinuk
228 East 45th Street
New York, NY 10017
Tel 212.687.9888 Fax 646.487.5501

Mechanical and Electrical Engineers
Ventrop ECG, PLLC
365 W. 34th Street, 3rd Floor
New York, NY 10001
Tel 212.244.1309 Fax 212.244.4271

Site/Civil Engineer
AKRF ENGINEERING, P.C.
440 Park Avenue South
New York, NY 10016
Tel 212.696.0670 Fax 212.726.0942

Geotechnical
LANGAN
River Drive Center 1 , 619 River Drive
Elmwood Park, NJ 07407
Tel. 201.794.6900 Fax 201.794.0366

Landscape Architect
WEINTRAUB DIAZ, LLC
19 New Street
Nyack, New York 10960
Tel. 845.353.2500 Fax 845.353.2599

Interior Designer
MARKZEFF
515 West 20th Street #4W
New York, NY 10011
Tel. 212.624.4004 Fax 212.624.4008

PROJECT
365 Bond Street
Brooklyn, NY 11231

DOB BSCAN:

DOB STAMPS & SIGNATURES:

SEAL & SIGNATURE

DATE: 04/28/2014
PROJECT No: 0503
SCALE:
DRAWING BY: AD
CHKD. BY: LW
DWG NO:
CADD FILE No:

BSCAN STICKER

48" x 36"

APPENDIX Y

Environmental Easement

LANGAN

WRITTEN DESCRIPTION OF BLOCK 452 LOTS 1 & 15 AND THE EASEMENT PERIMETER:

BEGINNING AT THE INTERSECTION OF THE NORTHERLY SIDE OF 1ST STREET AND THE EASTERLY SIDE OF BOND STREET;

THENCE ALONG THE NORTHERLY SIDE OF 1ST STREET A DISTANCE OF 437.66' TO A POINT ALONG THE GOWANUS CANAL;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 64°20'47" ALONG THE WESTERLY SIDE OF THE GOWANUS CANAL A DISTANCE OF 210.64'

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 112°53' 31" BOUNDED NORTHERLY BY BLOCK 452 LOT 19 A DISTANCE OF 101.31' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°55'08" BOUNDED EASTERLY BY BLOCK 452 LOT 19 A DISTANCE OF 15.00' TO A POINT IN THE SOUTHERLY SIDE OF CARROLL STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°4'52" ALONG THE SOUTHERLY SIDE OF CARROLL STREET A DISTANCE OF 60.10' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 90°19'58" BOUNDED WESTERLY BY BLOCK 452 LOT 5 A DISTANCE OF 100.00' TO A POINT;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 269°40'02" BOUNDED NORTHERLY BY BLOCK 452 LOT 5 A DISTANCE OF 204.16' TO A POINT IN THE EASTERLY SIDE OF BOND STREET;

THENCE TURNING AN INTERIOR ANGLE TO THE RIGHT OF 95°24'16" ALONG THE EASTERLY SIDE OF BOND STREET A DISTANCE OF 88.36' TO THE POINT OF BEGINNING AND CREATING AN INTERIOR ANGLE OF 87°21'26" WITH THE FIRST DESCRIBED LINE.

CONTAINING APPROXIMATELY 56,364 SQUARE FEET (1.29394 ACRES).

NOTES:

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, DEED INFORMATION AND THE FOLLOWING REFERENCES:
   - A. SECTION MAP 23
   - B. CURRENT TAX MAPS
   - C. FOR BLOCK 458 LOT 1 – CHICAGO TITLE INSURANCE COMPANY TITLE NO. 3411–00259, EFFECTIVE DATE NOVEMBER 4, 2011.
   - D. SURVEY RELATED EXCEPTIONS:

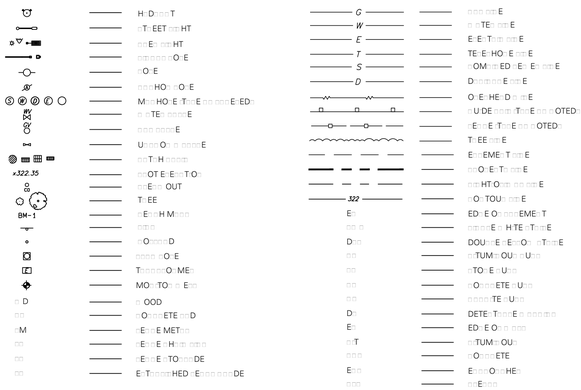
     EXCEPTION 6 – ORDER FOR PERMANENT CITY WATER TUNNEL IN FAVOR OF THE CITY OF NEW YORK FOR CITY TUNNEL NO. 3 STAGE 2. CRFN 2010000249407. AS DEPICTED ON SURVEY
   - E. FOR BLOCK 452 LOT 1 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901209, EFFECTIVE DATE NOVEMBER 22, 2011.

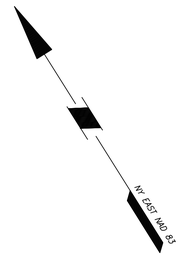
     SURVEY RELATED EXCEPTIONS:

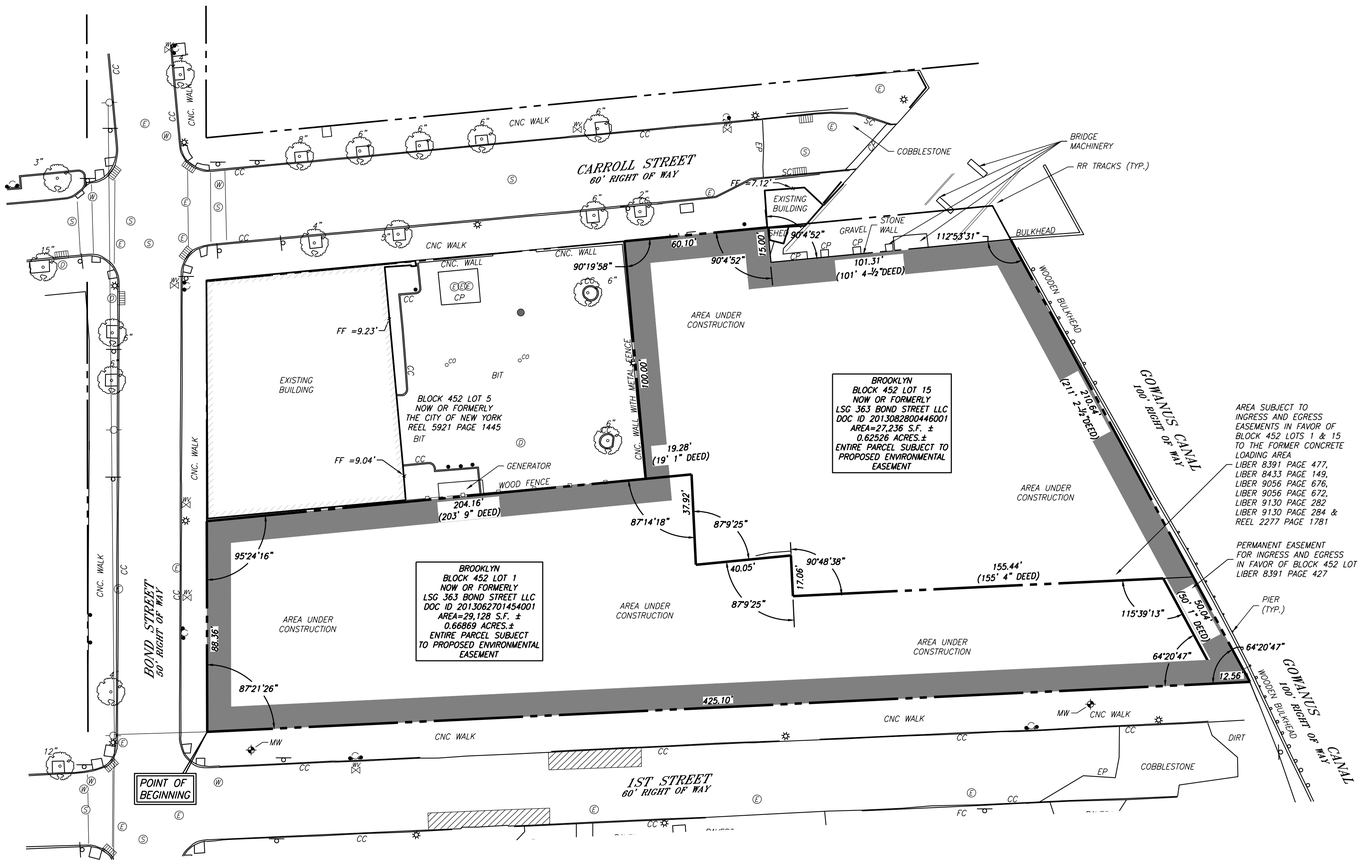
     EXCEPTIONS 5–9. EASEMENTS AND RIGHTS FOR DRIVEWAY RIGHTS AND RIGHTS OF INGRESS AND EGRESS FOR AND AROUND THE EXISTING CONCRETE LOADING AREA LOCATED AT THE NORTHEAST CORNER OF BLOCK 452 LOT 1. REFERENCE DOCUMENTS AND LOCATIONS ARE DEPICTED ON THE SURVEY.
   - F. FOR BLOCK 452 LOT 15 – STEWART TITLE INSURANCE COMPANY TITLE NO. 901583, EFFECTIVE DATE JANUARY 10, 2012.

     NO SURVEY RELATED EXCEPTIONS:
   - G. MAP TITLED "CITY OF NEW YORK COUNTY OF KINGS, TAX BLOCK 452 & 458" SCALE 1"=20' DATED MAY 5, 2012 BY MONTROSE SURVEYING CO., LLP.
2. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO NEW YORK EAST STATE PLANE COORDINATE SYSTEM NAD 83 AS ESTABLISHED THROUGH GPS METHODS.
3. ELEVATIONS SHOWN ARE REFERENCED TO THE BROOKLYN HIGHWAY DATUM (BHD) WITH A CONVERSION OF +2.56' + BHD = NGVD 29. THIS CONVERSION WAS ESTABLISHED ON THE HALCROW PLANS WHICH HAVE BEEN SUBMITTED FOR PREVIOUS EPA/DEC SUBMISSIONS FOR THIS SITE.
4. ESTABLISHED LEGAL GRADES SHOWN PER FINAL SECTION MAP #23 DATED 8/10/95. ELEVATIONS PUBLISHED ON MAP #23 REFER TO THE BROOKLYN HIGHWAY DATUM AND ARE IN REFERENCE TO THE TOP OF CURB ELEVATION.
5. STREET NAMES AND AND R.O.W WIDTHS, BLOCK, AND LOT NUMBERS AS PER CURRENT TAX MAPS.
6. PLANIMETRIC AND TOPOGRAPHIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN, ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C.. FIELD WORK COMPLETED DURING THE MONTHS OF DECEMBER 2012 AND JANUARY 2013.
7. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.
8. AS PER THE NATIONAL FLOOD INSURANCE PROGRAM FIRM MAP TITLED CITY OF NEW YORK, NEW YORK, BRONX, RICHMOND, NEW YORK, QUEENS, AND KING COUNTIES PANEL NUMBER 211 OF 457, MAP NUMBER 360497 PANEL 0211F, EFFECTIVE DATE SEPTEMBER 5, 2007. PORTIONS OF THE PROJECT AREA ARE WITHING THE DOTTED ZONE X, AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD AND PORTIONS OF THE PROJECT AREA ARE WITHIN ZONE AE, WITH A BASE FLOOD ELEVATION OF 10 (NGVD 29). THE DELINEATION OF THE ZONE X AND ZONE AE LINE IS DEPICTED ON THE SURVEY.
9. PRIOR TO ANY DESIGN OR CONSTRUCTION, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
10. THE GOWANUS CANAL IS A WATER COURSE ON THE PROPERTY AS SHOWN ON THE SURVEY.
11. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB–DIVISION 2 OF N.Y STATE EDUCATION LAW ARTICLE 145.
12. THIS SURVEY IS NOT VALID WITHOUT THE EMBOSSED OR INKED SEAL OF THE PROFESSIONAL.

LEGEND







30 0 15 30
SCALE IN FEET

10 0 10
SCALE IN METERS

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DERWEB@DEC.NY.GOV.

No.	Description	Date
	REVISIONS	

"I HEREBY STATE THAT THIS PLAN IS BASED ON A FIELD SURVEY MADE BY ME OR UNDER MY IMMEDIATE SUPERVISION IN ACCORDANCE WITH NYSPLS CODE OF PRACTICE FOR LAND SURVEYS, AND TO THE BEST OF MY PROFESSIONAL KNOWLEDGE, INFORMATION, AND BELIEF, AND IN MY PROFESSIONAL OPINION, CORRECTLY REPRESENTS THE CONDITIONS FOUND ON THE DATE OF THE FIELD SURVEY AT THE SUBJECT PROPERTY"

ANDREW G. IVES — DATE
PROFESSIONAL LAND SURVEYOR
STATE LIC. No. 50794

LANGAN
555 Long Wharf Drive, New Haven, CT 06511
T: 203.562.5771 F: 203.789.6142 www.langan.com
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

363 BOND ST. & 388-400 CARROLL ST.

BROOKLYN
KINGS COUNTY NEW YORK

EASEMENT MAP

100287503		Drawing No.
APRIL 28, 2015		EA101
1"=30'		
RLH	AGI	

©2015 Langan

LANGAN 100287503

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument.The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2015070100881001003E8B67

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 10**

Document ID: 2015070100881001 Document Date: 06-01-2015 Preparation Date: 07-07-2015
Document Type: EASEMENT
Document Page Count: 9

PRESENTER:
MADISON TITLE AGENCY, LLC
(PICK-UP-SDS) AS AGENT FOR
1125 OCEAN AVENUE
LAKEWOOD, NJ 08701
212-808-9400
BAILAB@MADISONTITLE.COM

RETURN TO:
PAM HORN
460 PARK AVENUE, 13TH FLOOR
LIGHTSTONE GROUP
NEW YORK, NY 10022
MTANY-104769 NK

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BROOKLYN	452	1	Entire Lot		363 BOND STREET

Property Type: APARTMENT BUILDING

Borough	Block	Lot		Unit	Address
BROOKLYN	452	15	Entire Lot		388-400 CARROLL STREET

Property Type: NON-RESIDENTIAL VACANT LAND

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year____ Reel____ Page____ *or* File Number_____

PARTIES

GRANTOR/SELLER:
LSG 363 BOND STREET LLC
C/O LIGHTSTONE GROUP, LLC, 460 PARK AVENUE
NEW YORK, NY 10022

GRANTEE/BUYER:
PEOPLE OF STATE OF NEW YORK BY
COMMISSIONER, DEPT
625 BROADWAY
ALBANY, NY 12233

FEES AND TAXES

Mortgage :		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	85.00
Affidavit Fee:	$	0.00

Filing Fee:	$	100.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK
Recorded/Filed 07-09-2015 12:57
City Register File No.(CRFN): **2015000236153**

City Register Official Signature

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made as of this 1st day of June, 2015 between Owner(s) LSG 363 Bond Street LLC, having an office at c/o The Lightstone Group, LLC, 460 Park Avenue, County of New York, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 363 Bond Street and 388-400 Carroll Street in the City of New York, County of Kings and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel numbers: Block 452 Lots 1 and 15, being the same as that property conveyed to Grantor by deeds dated June 26, 2013 and August 19, 2013 and recorded in the City Register of the City of New York in Instrument No. 2013062701454001 and 2013082800446001, respectively. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.293 +/- acres, and is hereinafter more fully described in the Land Title Survey dated April 28, 2015 prepared by Andrew G. Ives, Professional Land Surveyor for Langan Engineering and Environmental Services, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the

protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C224173-07-13 as amended April 2, 2014, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C224173
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation

NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

LSG 363 Bond Street LLC:

By: _____

Print Name: Joseph E. Teichman

Title: EVP and General Counsel Date: 5-12-2015

Grantor's Acknowledgment

STATE OF NEW ~~YORK~~ JERSEY)
) ss:
COUNTY OF OCEAN)

On the 12th day of May, in the year 2015, before me, the undersigned, personally appeared Joseph E. Teichman personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New ~~York~~ Jersey

MIRIAM ELLINSON
Notary Public, State of New Jersey
My Commission Expires
December 09, 2015

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 1st day of June, in the year 2015, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Andrew Guglielmi
Notary Public - State of New York

ANDREW O. GUGLIELMI
Notary Public, State of New York
No. 02GU6177593
Qualified in Albany County
Commission Expires November 13, 2015

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT CERTAIN plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the Borough of Brooklyn, County of Kings, City and State of New York, bounded and described as follows:

BEGINNING at the intersection of the northerly side of 1st Street and the easterly side of Bond Street;

THENCE along the northerly side of 1st Street a distance of 437.66' to a point along the Gowanus Canal;

THENCE turning an interior angle to the right of 64°20'47" along the westerly side of the Gowanus Canal a distance of 210.64';

THENCE turning an interior angle to the right of 112°53'31" bounded northerly by Block 452 Lot 19 a distance of 101.31' to a point;

THENCE turning an interior angle to the right of 269°55'08" bounded easterly by Block 452 Lot 19 a distance of 15.00' to a point in the southerly side of Carroll Street;

THENCE turning an interior angle to the right of 90°4'52" along the southerly side of Carroll Street a distance of 60.10' to a point;

THENCE turning an interior angle to the right of 90°19'58" bounded westerly by Clock 452 Lot 5 a distance of 100.00' to a point;

THENCE turning an interior angle to the right of 269°40'02" bounded northerly by Block 452 Lot 5 a distance of 204.16' to a point in the easterly side of Bond Street;

THENCE turning an interior angle to the point of 95°24'16" along the easterly side of Bond Street a distance of 88.36' to the point of beginning and creating an interior angle of 87°21'26" with the first described line.

Containing approximately 56,364 square feet (1.29394 Acres).