CONSTRUCTION COMPLETION REPORT

for

177 HARRISON AVENUE
Brooklyn, New York
NYSDEC VCA Index No. D2-0010-0703 / Site No. V-00350-2
Pfizer Site B, Operable Unit 2 (Western Portion)
Block 2266, Lot 1 (Southern Portion)

Prepared For:

YGS, Inc. (f/k/a Congregation YGS)
174 Rodney Street
Brooklyn, New York 11211

Prepared By:

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LANGAN

February 2015
Langan Project No. 170091701

CERTIFICATIONS

I, Jason Hayes, am currently a registered professional engineer licensed by the State of New York, I had primary direct responsibility for implementation of the remedial program activities, and I certify that the Remedial Action Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Action Work Plan.

I certify that all documents generated in support of this report have been submitted in accordance with the DER's electronic submission protocols and have been accepted by the Department.

I certify that all data generated in support of this report have been submitted in accordance with the Department's electronic data deliverable and have been accepted by the Department.

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, Jason Hayes, of Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. (Langan), am certifying as Owner's Designated Site Representative and I have been authorized and designated by all site owners to sign this certification for the site.

NYS Professional Engineer #	2/27/2015 Date	Signature

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LIST OF ACRONYMS

Acronym	Definition
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition
CCR	Construction Closure Report
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
CO	Certificate of Occupancy
CPC	City Planning Commission
"E"	E-Designation
EC/IC	Engineering Control and Institutional Control
ELAP	Environmental Laboratory Accreditation Program
FDNY	New York City Fire Department
FEIS	Final Environmental Impact Statement
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation Derived Waste
NTP	Notice To Proceed
NYC DEP	New York City Department of Environmental Protection
NYCRR	New York Codes Rules and Regulations
NYCOER	New York City Office of Environmental Remediation
NYCDCP	New York City Department of City Planning
NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
OU	Operable Unit
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
PE	Professional Engineer

PID	Photoionization Detector
PM	Particulate Matter
QEP	Qualified Environmental Professional
RAOs	Remedial Action Objectives
RAWP	Remedial Action Work Plan
RCA	Recycled Concrete Aggregate
RD	Restrictive Declaration
RI	Remedial Investigation
SSSCOs	Site Specific Soil Cleanup Objectives
SCGs	Standards, Criteria and Guidance
SMP	Site Management Plan
SMDS	Sub-Membrane Depressurization System
SVOCs	Semi-Volatile Organic Compounds
USGS	United States Geological Survey
TAL	Target Analyte List
TCL	Target Compound List
VB	Vapor Barrier
VCA	Voluntary Cleanup Agreement
VOCs	Volatile Organic Compounds

CONSTRUCTION COMPLETION REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

YGS, Inc. (f/k/a Congregation YGS) has investigated and remediated the southern 15,000-square-foot portion of the property located at 177 Harrison Avenue (Tax Block 2266, Lot 1) in Brooklyn, New York (the "Site") (see Figure 1). YGS, Inc. transferred ownership of Block 2266, Lot 1 to Bais Ruchel High School, Inc. (BRHS), the current owner, on January 17, 2013. The property was remediated to allow restricted residential, commercial, and industrial uses with Track 4 Site-Specific Soil Cleanup Objectives (SSSCO), and will be used for a private high school.

The Site constitutes the western portion of Pfizer Site B Operable Unit #2 (OU-2), which is subject to a Voluntary Cleanup Agreement (VCA Index No. D2-0010-0703, Site No. V-00350-2) entered into between Pfizer Inc. (former lessee of the Site) and the New York State Department of Environmental Conservation (NYSDEC) on August 18, 2003. The VCA was subsequently amended to add Oholei Shloma and YGS, Inc. as Volunteers on September 19, 2012. The eastern portion of OU-2 (Block 2266, Lot 52) and the eastern portion of Pfizer Site B (OU-3), which consists of Block 2266, Lots 45-50, are owned by Oholei Shloma. The Pfizer Site D property (OU-1), which is located south of the Site on Block 2269, Lot 1, is owned by Pfizer Inc. and became subject to the VCA for Site No. V-00350-2 by an amendment to the VCA in March 2011. This report addresses activities conducted in accordance with the August 2011 Decision Document prepared for the western portion of OU-2.

Cleanup of the eastern portion of OU-2, OU-1, and OU-3 is being addressed under separate remedial work plans. The eastern exterior wall of the BRHS building extends to the property line shared with Lot 52. A single doorway that will provide access from BRHS to a paved recreation area following completion of interim remedial activities on Lot 52 will be locked to prevent egress during construction. An additional barrier to access from BRHS will be a plywood barrier installed around the doorway prior to remedial activities. Signage indicating that access is prohibited will also be installed on the interior of the doorway until completion of the remedial measures on Lot 52. The remaining three sides of Lot 52 and OU-3 are surrounded by approximately eight-foot high construction fencing.

The Site is located in the County of Kings, New York and is identified as the southern portion of Block 2266, Lot 1 on New York City Planning Commission Zoning Map No. 13b. YGS, Inc. developed the entirety of Lot 1, which includes a 14,200-square-foot northern portion that was remediated under an agreement between YGS, Inc. and the New York City Brownfield Cleanup Program (NYCBCP). The northern portion of Lot 1 is referenced in this report as the "City VCA Parcel." The development site (entirety of Lot 1) is bounded by a poultry market and Wallabout

Street to the northwest; multiple-family residential buildings along Wallabout Street and the eastern portion of OU-2 (Tax Block 2266, Lot 52) along Gerry Street to the northeast; Gerry Street and Pfizer Site D (OU-1) to the southeast across Gerry Street; and Harrison Avenue and a parking lot to the southwest across Harrison Avenue (see Figure 2). The boundaries of the Site are fully described in Appendix A: Survey Map, Metes and Bounds. A digital copy of this Construction Completion Report (CCR) with all supporting documentation is included as Appendix B.

2.0 SUMMARY OF SITE REMEDY

2.1 REMEDIAL ACTION OBJECTIVES

Based on the results of the Remedial Investigations (RI) completed at the property, the following Remedial Action Objectives (RAO) were identified for this site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection:

- Prevent ingestion of groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.

2.1.2 Soil RAOs

RAOs for Public Health Protection:

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of, or exposure to, contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection:

- Prevent migration of contaminants that would result in groundwater or surface water contamination.

2.1.3 Soil Vapor RAOs

RAOs for Public Health Protection:

- Prevent contact or inhalation of volatiles emanating from contaminated groundwater or soil.

2.2 DESCRIPTION OF SELECTED REMEDY

The Site was remediated in accordance with the remedy selected by the NYSDEC in the August 23, 2011 Decision Document and the modified soil cleanup objectives for lead, barium, and mercury established in a November 3, 2011 e-mail from NYSDEC. The factors considered during the selection of the remedy are those listed in 6 NYCRR 375-1.8. The following are the components of the selected remedy:

1. Implementation of a Community Air Monitoring Program (CAMP) for particulates and volatile organic compounds (VOC).
2. Soil excavation, as required, to a minimum depth of 2 feet below ground surface (bgs) to bring the Site to the development grade and accommodate foundation elements and a sub-membrane slab depressurization (SMD) system for the school building development. Construction excavation to approximately 7 feet bgs was required to accommodate an elevator pit on the northeastern portion of the Site.
3. Targeted excavation of seven areas of concern (AOC) to depths below construction sub-grade to remove all soil exceeding the SSSCOs. The SSSCOs established for this site were (1) the Part 375 Restricted Use Restricted Residential SCOs for volatile organic compounds (VOCs), PCBs, pesticides, and herbicides; (2) the Part 375 Commercial Use SCOs for metals; and (3) a total semivolatile organic compound (SVOC) concentration of 500 mg/kg with the exception of the following modifications:
    - The SSSCOs for lead and barium were increased to 1,500 mg/kg from the Part 375 Commercial Use SCOs of 1,000 mg/kg and 400 mg/kg, respectively; and
    - The SSSCO for mercury was increased to 5 mg/kg from the Part 375 Commercial Use SCO of 2.8 mg/kg.
4. Excavation of characteristic lead hazardous soil (i.e., soil exceeding 5 mg/l for lead via toxicity characteristic leaching procedure [TCLP] analysis).
5. Import of recycled concrete aggregate (RCA) conforming to the requirements of NYSDEC Policy DER-10 (Technical Guidance for Site Investigation and Remediation) and New York State Department of Transportation (NYSDOT) specifications for use in AOC excavation areas as backfill to construction grade.
6. Construction and maintenance of an engineered composite cover consisting of a building slab to prevent human exposure to residual contaminated soil/fill.
7. Installation of a vapor barrier system beneath the building slab and along exterior slab sidewalls to prevent contaminated soil vapors from migrating into the building.
8. Installation of an active sub-membrane depressurization (SMD) system to prevent accumulation and potential migration of contaminated soil vapors into the building.
9. Import of virgin stone as backfill beneath the composite cover system in compliance with the Remedial Action Work Plan (RAWP) and in accordance with applicable laws and regulations.

10. Sampling and analysis of excavated soil/fill in accordance with the requirements of the selected disposal facilities. The excavated soil/fill was classified and segregated based on the analytical results of soil characterization sampling.
11. Collection and analysis of soil endpoint samples in accordance with NYSDEC DER-10 section 5.4(b).
12. Transportation and off-site disposal of soil/fill material at permitted facilities in accordance with the RAWP, disposal facility requirements, and applicable laws and regulations for handling, transport, and disposal.
13. Screening of imported stone and RCA and excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a photoionization detector (PID).
14. Implementation of stormwater pollution prevention measures in compliance with applicable laws and regulations.
15. Performance of activities required for the remedial action in compliance with applicable laws and regulations.
16. Execution and recording of a Deed Restriction to restrict land use and prevent future exposure to any contamination remaining at the Site.
17. Submittal of a CCR that describes the remedial activities, certifies that the remedial requirements have been achieved, describes all Engineering and Institutional Controls to be implemented at the Site, and lists any deviations from this RAWP.
18. 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.
19. Periodic certification of the institutional and engineering controls listed above.

3.0 INTERIM REMEDIAL MEASURES, OPERABLE UNITS AND REMEDIAL CONTRACTS

The remedy for this site was performed as a single project, and no interim remedial measures, internal operable units or separate construction contracts were performed.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RAWP for the 177 Harrison Avenue site (August 22, 2011). All deviations from the RAWP are described in Section 4.9.

4.1 GOVERNING DOCUMENTS

4.1.1 Site-Specific Health & Safety Plan

All remedial work performed under the RAWP was in full compliance with governmental requirements, including site and worker safety requirements mandated by Federal Occupational Health and Safety Administration (OSHA).

The Health and Safety Plan (HASP) was complied with for all remedial and invasive work performed at the Site. The HASP provided a mechanism for establishing on-site safe working conditions, safety organization, procedures, and personal protective equipment (PPE) requirements. The HASP met the requirements of 29 CFR 1910 and 29 CFR 1926 (which include 29 CFR 1910.120 and 29 CFR 1926.65). The HASP included, but was not limited to, the following components listed below:

- Organization and identification of key personnel;
- Training requirements;
- Medical surveillance requirements;
- List of site hazards;
- Excavation safety;
- Work zone descriptions;
- Personal safety equipment and protective clothing requirements;
- Decontamination requirements;
- Standard operating procedures;
- Contingency Plan;
- Community Air Monitoring Plan; and
- Material Safety Data Sheets.

4.1.2 Quality Assurance Project Plan

The Quality Assurance Project Plan (QAPP) was included in Appendix E of the NYSDEC-approved RAWP. The QAPP describes the specific policies, objectives, organization, functional activities and quality assurance/quality control activities designed to achieve the project data quality objectives.

4.1.3 Construction Quality Assurance Plan

The Construction Quality Assurance Plan (CQAP) managed performance of the Remedial Action tasks through designed and documented QA/QC methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality and confirm that remedial construction was in conformance with the remediation objectives and specifications. This plan described and included the following:

- Responsibilities and authorities of the organizations and key personnel involved in the design and construction of the remedy.
- The observations and tests that were used to monitor construction and the frequency of performance of such activities.
- The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures as addressed in the plans and specifications.
- A detailed description of field equipment decontamination and management of investigation and remediation derived wastes.
- Requirements for project coordination meetings between the Applicant and its representatives, the Construction Manager, Excavation Contractor, remedial or environmental subcontractors, and other involved parties.
- Description of the reporting requirements for quality assurance activities including such items as daily summary reports, schedule of data submissions, inspection data sheets, problem identification and corrective measures reports, evaluation reports, acceptance reports, and final documentation.
- Field instrument calibration procedures and sample identification and custody guidelines.

The CQAP also provided information about the qualifications of the quality assurance personnel that demonstrated possession of proper training and experience necessary to fulfill project-specific responsibilities.

4.1.4 Soil/Materials Management Plan

The Soil/Materials Management Plan (SoMP) was included in RAWP Section 5.4. The SoMP included detailed plans for managing all soils/materials that were disturbed at the Site, including excavation, handling, storage, transport and disposal. It also included plans for the importation of backfill from off-site sources, fluid management, and controls applied to assure effective, nuisance-free performance in compliance with all applicable Federal, State and local laws and regulations.

4.1.5 Erosion and Sediment Control Plan

An Erosion and Sediment Control Plan (ESCP) was provided in RAWP Appendix K. The ESCP described the methods to control and/or divert surface water flows and to limit the potential for erosion and migration of site soil, via wind or water during implementation of the RAWP. Items included in the ESCP were silt fences, a stabilized construction entrance, dust control, dewatering, and tree protection. The erosion and sediment controls were in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control.

4.1.6 Community Air Monitoring Plan

A CAMP was incorporated into the HASP, which was provided in RAWP Appendix D. Real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone or work area were performed. Continuous monitoring was performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities included, but were not limited to, soil/waste excavation and handling, test pit excavation and trenching, and backfilling.

Periodic monitoring for VOCs was performed during non-intrusive activities such as the collection of soil and sediment samples. Periodic monitoring during sample collection, for instance, consisted of taking a reading upon arrival at a sample location, monitoring while overturning soil, and taking a reading prior to leaving a sample location. Exceedances of action levels observed during performance of the CAMP were reported to the NYSDEC Project Manager and included in the daily reports.

VOC Monitoring, Response Levels, and Actions

VOCs were monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations were measured, at a minimum, at the start of each workday and periodically thereafter to establish background conditions. The monitoring work was performed using MiniRAE 2000 10.6 eV PIDs for VOCs and DustTRAK 8260 aerosol monitors for dust. The equipment was calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment was capable of calculating 15-minute running average concentrations, which were compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeded 5 parts per million (ppm) above background for the 15-minute average, work activities were temporarily halted and monitoring continued. If the total organic vapor level readily decreased (per instantaneous readings) below 5 ppm over background, work activities resumed with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persisted at levels in excess of 5 ppm over background but less than 25 ppm, work activities were halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities resumed provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever was less, but in no case less than 20 feet, was below 5 ppm over background for the 15-minute average.
- If the organic vapor level was above 25 ppm at the perimeter of the work area, activities were shut down.

All 15-minute readings were recorded and made available for NYSDEC personnel to review.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations were monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring was performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment was equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration was visually assessed during all work activities.

- If the downwind PM-10 particulate level was 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust was observed leaving the work area, then dust suppression techniques were employed. Work continued with dust suppression techniques provided that downwind PM-10 particulate levels did not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust migrated from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels were greater than 150 mcg/m^3 above the upwind level, work was stopped and a re-evaluation of activities initiated. Work resumed provided that dust suppression measures and other controls were successful in reducing the downwind PM-10

particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings were recorded and made available for NYSDEC personnel to review. The CAMP field data sheets for each day that Community Air Monitoring was performed are provided in Appendix E (electronically).

4.1.7 Contractors Site Operations Plans

The Remediation Engineer reviewed all plans and submittals for this remedial project (i.e., those listed above plus contractor and subcontractor submittals) and confirmed that they were in compliance with the RAWP. All remedial documents were submitted to NYSDEC and NYSDOH in a timely manner and prior to the start of work.

4.1.8 Citizen Participation Plan

The Citizen Participation Plan established a protocol for citizen participation, including creating a document repository to contain a copy of all applicable project documents. A certification and/or confirmation of mailing was sent by Langan to the NYSDEC project manager following the distribution of all Fact Sheets and notices that included: (1) certification that the Fact Sheets were mailed; (2) the date they were mailed; (3) a copy of the Fact Sheet; (4) a list of recipients (contact list); and (5) a statement that the Fact Sheet was placed in the repository, which contained all applicable project documents, on the specified date. Further, no changes were made to approved Fact Sheets authorized for release by NYSDEC without written consent of the NYSDEC. The approved Citizen Participation Plan for this project was provided in RAWP Appendix G.

A document repository was established at the following location for the duration of the project and contains all applicable project documents:

Brooklyn Public Library – Williamsburg Branch
240 Division Avenue, Brooklyn, NY 11211
Phone No.: (718) 302-3485

4.2 REMEDIAL PROGRAM ELEMENTS

4.2.1 Contractors and Consultants

United Talmudical Academy (UTA) operated as the project construction manager on behalf of YGS, Inc./BRHS. Langan was retained as the Remediation Engineer. The RAWP states that Mr. Joel Landes, P.E. of Langan will be the Remediation Engineer; however, Mr. Jason Hayes, P.E. of Langan is the Remediation Engineer of record and is certifying the CCR. The role of Remediation Engineer (RE) of record was transferred from Joel Landes, the specified RE of record in the RAWP, to Jason Hayes on or about June 1, 2014. Rotondi Construction, in collaboration with BBM Construction, was retained as the General Contractor and maintained a full staff and complement of equipment to conduct remedial excavation activities. Remedial activities were coordinated by the Construction Manager and implemented by the General Contractor and Remedial Engineer. Roux Associates, Inc. (Roux) provided environmental engineering and consultation to Pfizer, Inc., a VCA co-volunteer.

4.2.2 Site Preparation

Prior to commencing major earthwork, the Construction Contractor completed mobilization and site preparation for remedial activities during the months of September and October 2011. Site preparation and mobilization were conducted as follows:

- Identified the location of all aboveground and underground utilities (e.g., power, gas, water, sewer, telephone, etc.), equipment, and structures as necessary to implement the remediation;
- Mobilized the necessary remediation personnel, equipment, and materials to the Site;
- Constructed two stabilized construction entrances consisting of gravel underlain by polyethylene sheeting at the site exits;
- Constructed an equipment decontamination area for trucks, equipment, and personnel that were exposed to impacted materials during remedial activities;
- Installed erosion and sedimentation control measures in conformance with requirements presented in the New York State Guidelines for Urban Erosion;
- Installed temporary fencing to limit unauthorized access to the areas where remediation activities were conducted; and
- Acquired agency (e.g., NYCDOB and NYCDOT) approvals and permits for the Site, including perimeter fencing and signs, sidewalk use, and sewer and water permits.

NYSDEC approved the RAWP and CHASP in the August 23, 2011 Decision Document. A pre-construction meeting was conducted at the NYSDEC Region 2 offices in Long Island City, New York on September 7, 2011 with representatives of NYSDEC, YGS/BRHS, UTA, Langan, Rotondi, BBM and Roux in attendance. Remedial activities, including waste characterization sampling, were completed between September 2, 2011 and March 23, 2012. Documentation of agency approvals required by the RAWP is included in Appendix C. Other non-agency permits relating to the remediation project are provided in Appendix D.

All SEQRA requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this Remedial Action.

An NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the Remedial Action.

4.2.3 General Site Controls

Site Security

The Site was secured during the remedial activities with the use of:

- Perimeter security fencing and access gates with locks installed at the boundary of the Site to prevent access by unauthorized persons.
- Safe work practices, which included:
  - Parking heavy equipment in a designated area each night and removing keys;
  - Maintaining an organized work area, including the proper storage of tools, equipment, and fuels;
  - Warning tape and/or barricades placed around open excavations, hot spots/AOCs in the process of remediation, and other potentially unsafe areas as determined by the Remediation Engineer; and
  - Maintaining on-site access roads, covers on staging areas, and stormwater collection sumps.
- Conducting regular health and safety meetings. A Field Safety Officer (FSO) was present on site during the day throughout the course of the remedial activities. The table below provides a list of relevant site personnel.

Relevant Site Personnel Table	
Project Manager	Wolf Englender (UTA)
Remediation Contractor	Bruno Rotondi (Rotondi/BBM)
Health & Safety Officer	Tony Moffa (Langan)
Field Safety Officer (FSO) & Qualified Environmental Professional (QEP)	Luke McCartney (Langan) Stuart Knoop (Langan)
Quality Assurance Officer (QAO)	September 1, 2011 – February 1, 2012: John Gavras, P.G. (Langan) February 2, 2012 – November 8, 2013: Joel Landes, P.E. (Langan)

Progress Reports

Daily and monthly progress reports were submitted to NYSDEC and NYSDOH by electronic media. The progress reports generally included a description of the following:

- Specific remedial activities conducted during the reporting period and those anticipated for the next reporting period;
- Description of approved modifications to the work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and
- Update of schedule including anticipated date of project completion, unresolved delays encountered or anticipated that could affect the future schedule, and efforts made to mitigate such delays.

Unanticipated conditions at the Site were promptly communicated to NYSDEC and NYSDOH project managers. Necessary modifications to the work scope and additional remedial plans developed to address specific conditions encountered at the Site were communicated verbally and via e-mail with NYSDEC and NYSDOH. In addition, during implementation of the remedial action, several on-site meetings were held and attended by representatives of YGS, Inc./BRHS, the Construction Manager, the Construction Contractor, and the Remediation Engineer. Roux conducted multiple site visits on behalf of Pfizer Inc. during the remedial action.

Erosion Control Measures and Site Perimeter Security Fencing

Stormwater pollution prevention and erosion control measures included:

- Frequent watering of the roadways, excavation, and fill areas;
- Maintenance of the perimeter security fencing; and
- Construction and maintenance of stabilized construction entrance/exit pads.

Equipment Decontamination

Vehicle cleaning was conducted at a truck wash station located near the southeastern corner of the Site along Gerry Street. Equipment, such as excavator buckets and tracks, were cleaned in the truck wash area using hand-held equipment.

Waste Management

Miscellaneous wastes generated during remedial activities, including general refuse, used construction equipment and excess material, perimeter and temporary fencing, used disposable sampling equipment, and PPE, were managed and disposed as non-hazardous solid waste.

Subsurface Screening

Field screening was conducted during the removal of all surface cover, subsurface structures, and invasive soil excavation work. The field engineer under the supervision of the Remediation Engineer continuously inspected and field screened fill and soil for petroleum/solvent odors and staining, for VOCs using a PID, and for material deemed potentially unacceptable by the selected disposal facility. PID readings were obtained from soil contained within the excavator bucket and directly from the excavation sidewalls and bottom. No positive PID readings (i.e., above background levels) were detected throughout the Site.

Construction of Material Stockpile Areas

Excavated soil was directly loaded onto transport vehicles between October 6 and December 9, 2011. The presence of construction and demolition (C&D) debris within historic fill warranted the separation of soil from entrained debris to ensure proper off-site disposal between December 16 and 23, 2011. Under the supervision of the Remediation Engineer, the Construction Contractor created and maintained various stockpile areas for staging of segregated soil, pending loading or characterization testing. Stockpile areas were created as required to prevent mixing of contaminated material with C&D debris to be re-used on site as backfill. Each stockpile conformed to the following criteria:

- The base consisted of a layer of minimum 16 mil (0.008 inch) polyethylene sheeting;
- Equipment and procedures to minimize the potential for tearing the liner were used to place and remove the soil;

- Stockpiles of contaminated material were covered, when not in use, with minimum 8-mil plastic sheeting or tarps that were securely anchored to the ground. Stockpiles were routinely inspected and broken sheeting was promptly replaced;
- Stockpiles were securely covered upon reaching their capacity (never exceeding 2,000 CY) until ready for loading. Stockpiles that had not reached their capacity were covered at the end of each work day; and
- The stockpile areas were inspected daily and noted deficiencies were promptly addressed.

Field engineers under the direction of the Remediation Engineer monitored and documented the handling and transport of contaminated material removed from the Site for disposal as a regulated solid waste. Field engineers identified impacted materials during excavation, determined materials suitable for direct load out versus temporary on-site stockpiling, selected samples for waste characterization, and confirmed that the soil was suitable for disposal at the designated off-site disposal facility. Separate stockpile areas were constructed by the Construction Contractor as needed to most efficiently manage and characterize the materials and avoid co-mingling impacted materials with non-impacted soil. Material types encountered during remediation included: hazardous lead-contaminated soil, non-hazardous metals- and SVOC-contaminated soil, and C&D debris.

Problems Encountered

Three loads of soil excavated from the southern portion of the Site were returned by the disposal facility (Soil Safe of Logan Township, New Jersey) on December 8, 2011, due to the presence of excess C&D debris (i.e., concrete, brick and rock fragments). A mechanical screening unit was mobilized to the Site on December 16, 2011, and excavated material was subsequently screened for C&D debris. The segregated soil was stockpiled pending off-site transport.

4.2.4 Nuisance controls

Truck Wash

Vehicle cleaning was conducted at a wash station constructed in the southeast corner of the Site near the exit along Gerry Street. Each transport vehicle was manually inspected along the truck fenders, tires, and mud flaps for accumulated soil/fill. Soil/fill found to be present on the truck was removed using hand tools (i.e., brushes, brooms, and scrapers). Each truck was then pressure washed (if warranted) and inspected prior to leaving the Site.

Dust Control

A field engineer under the supervision of the Remediation Engineer and the Construction Manager monitored the remediation and construction activities for dust generation and evaluated the need for dust suppression. Nuisance dust was controlled with mitigation measures as required (e.g., use of water hoses and covering stockpiled soil with tarps). Preventative measures for dust generation included:

- routinely applying water on haul roads;
- hauling material in properly tarped/covered containers;
- restricting on-site vehicle speeds to 10 miles per hour (mph);
- maintaining site entrances, site roadways, and the truck wash area;
- wetting equipment, stockpiles, and excavation faces;
- spraying water on excavator buckets during excavation; and
- covering soil stockpiles.

Odor Control

The field engineer monitored the remediation and construction activities for odor generation. Based on Site conditions, the application of engineering controls to suppress odors and vapors was not required during remedial activities.

Truck Routing

Truck routing was executed as follows:

- Traffic routing and signage changes were coordinated with the NYSDOT, and all appropriate permits were received prior to commencing fieldwork. Only trucks possessing a valid NYSDEC Part 364 Permit were allowed to enter the Site for purposes of transporting contaminated materials requiring this permit. Truck entrances were made via one of two locked gates at Gate #1 (northwest corner of the Site) and Gate #2 (southeast corner of the Site). The Site was fenced and there were no other means of entrance or egress. On-site vehicle traffic was generally limited to the entrance ramps and the center of the Site for direct loading.
- The truck route between the Site and the nearest major highway (Brooklyn Queens Expressway – Route 278) as presented in the RAWP was followed. Truck queuing was minimized; however, when queuing was required, trucks positioned themselves along Harrison Avenue and Gerry Street.

Complaints

No complaints were filed during the project.

4.2.5 CAMP results

The CAMP was implemented in accordance with the approved RAWP for the duration of remedial activities to protect the health and safety of site workers and the surrounding community, and to address potential nuisance dust and/or odors. Implementation of the CAMP was accomplished at each air monitoring station using TSI Model 8520 DustTRAKs to monitor for particulates and MiniRAE 2000 PIDs to monitor for VOCs.

Particulate and VOC air monitoring data was collected during initial waste characterization sampling from test pits in September 2011, and continued during intermittent construction earthwork activities between October 6, 2011 and December 30, 2011. The particulate and organic vapor action levels were 150 $\mu g/m^3$ and 5 ppm above background, respectively. PIDs and DustTRAKs were monitored on a continuous basis during remediation and construction activities. Fifteen minute running averages were calculated from the data recorded in each respective unit and averages were compared to the action levels prescribed in the CAMP.

The action levels were not exceeded throughout the duration of the project. CAMP was suspended during periods of continuous rain, and routine maintenance was conducted to address incidental malfunctions (e.g., battery change outs and recalibration) as summarized in the daily reports. Dust mitigation was accomplished primarily through the application of water onto exposed dry soil, maintenance and control of site roadways, and plastic sheeting covering stockpiles. Copies of all field data sheets relating to the CAMP are provided in electronic format in Appendix E.

4.2.6 Reporting

Langan submitted daily, weekly, and monthly/periodic progress reports to NYSDEC and NYSDOH by e-mail. Daily reports were submitted throughout earthwork activities (October 6 – December 30, 2011) and during installation of the sub-slab vapor barrier (October 8 – 29, 2013). Langan submitted a weekly report summarizing installation of the sub-membrane depressurization system from November 4 through November 8, 2013. Langan submitted monthly/periodic reports summarizing the project progress during the remedial and post-remedial phases between October 2011 and March 2013. The progress reports generally included a description of the following:

- Specific remedial activities conducted during the reporting period and those anticipated for the next reporting period;
- Description of approved modifications to the work scope and/or schedule;

- Sampling results received following internal data review and validation, as applicable; and
- Update of schedule including unresolved delays encountered or anticipated that could affect the future schedule, and efforts made to mitigate such delays.

During implementation of the remedial action, several on-site meetings were held and attended by the Volunteer, the Construction Manager, the Remediation Contractor, and the Remediation Engineer.

All daily, weekly, and monthly reports are included in electronic format in Appendix F. The digital photo log required by the RAWP is included in electronic format in Appendix G.

4.3 CONTAMINATED MATERIALS REMOVAL

A Track 4 remedy, which conformed to the Site's RAOs, was implemented in accordance with 6 NYCRR Part 375, the DER Technical Guidance for Site Investigation and Remediation (DER 10), the site-specific RAWP (August 22, 2011) and the NYSDEC Decision Document (August 23, 2011). This strategy included the removal of fill and soil exceeding the SSSCOs. The SSSCOs established for the Site were (1) the Part 375 Restricted Use Restricted Residential SCOs per 6 NYCRR §375-6.8 (b) for VOCs, PCBs, pesticides, and herbicides; (2) the Part 375 Commercial Use SCOs per 6 NYCRR §375-6.8 (b) for metals; and (3) a total SVOC concentration of 500 mg/kg, with the exception of the following modifications:

- The SSSCOs for lead and barium were increased to 1,500 mg/kg from the Part 375 Commercial Use SCOs of 1,000 mg/kg and 400 mg/kg, respectively; and
- The SSSCO for mercury was increased to 5 mg/kg from the Part 375 Commercial Use SCO of 2.8 mg/kg.

Characteristic lead hazardous soil (i.e., soil exceeding 5 mg/l for lead via TCLP analysis) was also excavated. Seven AOCs were over-excavated below the depth of excavation required for construction (i.e., approximately 2.5 feet below grade). The AOCs contained soil with hazardous concentrations of lead and concentrations of metals and SVOCs above the SSSCOs, as determined during Langan's 2011 Remedial Investigation, previous investigations by Pfizer Inc., and endpoint sampling. The former AOCs and corresponding constituents exceeding the SSSCOs are summarized as follows:

- AOC 1 – Lead and barium (Approximate depth: 0 - 8 ft bgs)
- AOC 2 – Arsenic, lead, barium, and SVOCs (Approximate depth: 0 - 7 ft bgs)
- AOC 3 – Lead (hazardous and non-hazardous), mercury, and arsenic (Approximate depth: 0 - 10.5 ft bgs)

- AOC 4 – Lead (hazardous and non-hazardous), mercury, barium, and SVOCs (Approximate depth: 0 – 10 ft bgs)
- AOC 5 – Lead and barium (Approximate depth: 0 – 7 ft bgs)
- AOC 6 – Lead, mercury, barium, and SVOCs (Approximate depth: 0 - 8 ft bgs)
- AOC 7 – Barium (Approximate depth: 0 - 7 ft bgs)

The Remediation Contractor, under the supervision of the Remediation Engineer, categorized the excavated material based on known or suspected contaminant levels. The excavated material was managed to 1) avoid co-mingling confirmed and presumed contaminated with uncontaminated material, and 2) enable characterization and/or segregation for off-site disposal at an approved facility. The material was categorized as follows:

- Hazardous Lead-Contaminated Soil – Soil that contained lead at concentrations above the EPA (TCLP) limit for hazardous waste.
- Contaminated, Non-Hazardous Soil – Non-hazardous historic fill and underlying native soil that contained concentrations of SVOCs, lead, barium, arsenic, and mercury above the SSSCOs.
- Soil Conforming to the SSSCOs – Historic fill or underlying native soil that contained contaminant concentrations below the SSSCOs.
- Un-contaminated Construction and Demolition Debris – Brick, concrete, and metal fragments entrained in historic fill.

The Remediation Contractor arranged for transportation and off-site disposal of excavated material in accordance with applicable federal, state, and local regulations. All soil removed from the Site was transported in 6 NYCRR Part 364-permitted vehicles. The entire site was excavated to a minimum depth of 2.5 feet bgs for construction purposes, and AOCs were excavated to approximate depths ranging between 5 and 11 feet bgs.

A list of the SSSCOs for the contaminants of concern for this project is provided in Table 1. Figure 3 shows the location of AOCs and areas where excavations were performed.

4.3.1 Soil

Excavation and disposal of material types per AOC is as follows:

Hazardous Lead-Contaminated Soil

This material was excavated from portions of AOCs 3, 4, and 6, transported off site, and disposed at an appropriately permitted facility. Delineation of hazardous lead-impacted areas is described in Section 4.3.1.1. All soil exceeding a TCLP lead concentration of 5 mg/l was removed as part of the remedy. The hazardous lead-contaminated excavation areas extended to approximately 8 feet bgs in AOC 6 and 10.5 feet bgs in AOCs 3 and 4. Soil in AOC 6 was initially identified as non-hazardous, but reclassified as hazardous following secondary testing at the disposal facility (CENJ).

Contaminated, Non-Hazardous Soil

This material was excavated from portions of AOCs 1 through 7, transported off-site, and disposed at an appropriately permitted facility. These AOCs were completely removed as part of the remedy. The depth of the AOC excavation areas ranged from about 5 to 11 feet bgs.

Soil Conforming to Track 4 SSSCOs

This soil was excavated from all areas outside of the AOCs to a minimum depth of approximately 2.5 feet bgs for grading purposes, transported off-site, and disposed at an appropriately permitted facility. Soil was also excavated to a depth of approximately 7 feet bgs to accommodate an elevator pit on the eastern portion of the State VCA parcel outside of the AOCs.

Excavated material was stockpiled or direct-loaded, depending on space considerations and sequencing of transport vehicles. Following excavation to depths containing soil meeting the SSSCOs, as determined by endpoint samples or Remedial Investigation samples, the AOCs were backfilled with imported RCA and site-derived, mechanically segregated C&D debris. As agreed upon by the NYSDEC on December 27, 2011, a demarcation barrier was not placed between the residual contaminated soil meeting the Track 4 SSSCOs and the backfill material, due to the infeasibility of installing a barrier within the groundwater table and foreseen damage to the barrier during foundation pile installation. The differentiation between the backfill material and underlying soil was deemed sufficient without the addition of a demarcation barrier.

The sequence of excavation consisted of removal of hazardous lead-contaminated soil, followed by the removal of contaminated, non-hazardous soil. Following the removal of all soil containing contaminant concentrations above the SSSCOs and confirmation endpoint sampling, approximately 2.5 feet of soil was excavated throughout the remainder of the Site (i.e., outside of the AOCs) for construction purposes. A contour map showing elevations following removal of the AOCs and the general construction excavation is included in Figure 4. A Remedial Excavation Depth Plan is provided as Figure 15. Hazardous and non-hazardous soil transport manifests and bills of lading are provided in Appendix H. Soil profile forms, disposal facility acceptance letters and permits, and Part 364 Waste Transporter Permits are included in Appendix I.

4.3.1.1 Disposal Details

Waste Characterization

Langan conducted sampling for waste characterization and delineation of hazardous lead-contaminated soil in September 2011. Langan collected samples from 40 test pits excavated by BBM/Rotondi. The test pits were excavated to the projected depths required to remediate AOCs and complete construction (in areas outside of the AOCs). The samples were analyzed for parameters required by the proposed disposal facilities. Delineation samples collected from AOCs 3 and 4 were analyzed for lead via TCLP.

The Site was divided into eight sampling grids, WC-5 through WC-12, and five test pits were excavated within each grid. Composite and grab samples were collected from each test pit. The grids typically included soil from AOCs and the general construction excavation area. Grids 9 and 11 were established within AOCs 3 and 4 to be representative of hazardous lead-contaminated soil.

BBM/Rotondi excavated the test pits under Langan's oversight using a mechanical excavator. The five test pit samples within each grid were combined into a single, 5-point composite sample representative of that grid. Discrete grab samples were collected separately in each grid for VOC analysis. The samples were placed in an ice-chilled cooler and transported via courier under standard chain of custody protocol to Spectrum Analytical, Inc.; a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory in Agawam, Massachusetts. The samples were analyzed for the following parameters:

- Total petroleum hydrocarbons (TPH), EPA Method 3545;
- Target Compound List (TCL) VOCs, EPA Method 8260;
- TCL SVOCs, EPA Method 8270;

- Polychlorinated biphenyls (PCBs), EPA Method 8082;
- Target Analyte List (TAL) metals, EPA Method 6000/7000 series;
- Pesticides, EPA Method 8081;
- Herbicides, EPA Method 8151A;
- Hexavalent Chromium;
- Total Cyanide;
- RCRA Hazardous Waste Characteristics - ignitability, corrosivity, and reactivity; and
- TCLP VOCs, SVOCs, metals and pesticides and herbicides.

Tables 2A through 2D summarize waste characterization sampling results. The sample locations are shown on Figure 5. A waste disposal grid map is provided as Figure 8. The laboratory analytical reports are provided in Appendix J.

Hazardous Materials Delineation Sampling

Hazardous lead concentrations were identified in four soil samples collected from AOCs 3 and 4 during the 2011 Remedial Investigation. Langan collected samples for total and TCLP lead analysis in September 2011 to delineate the extent of lead-contaminated soil requiring specialized disposal as a hazardous waste. The samples collected from AOC 4 sufficiently delineated the extent of hazardous soil in that area. One delineation sample collected from a depth interval of 0 to 7 feet bgs in the northeast portion of AOC 3 (sample A3-1) contained lead at a concentration of 5.81 mg/l, which exceeded the EPA Hazardous Waste Limit of 5.0 mg/l. The extent of the lead-impacted soil in AOC 3 was further constrained by step-out delineation samples to the north (A3-1A and A3-1B), east (A3-1D), northwest (A3-1B) and south (A3-1C) of sample A3-1, all of which identified lead at concentrations below the hazardous waste standard. Hazardous levels of other metals were not detected in the waste characterization or lead delineation samples. The locations of the delineation samples and areas analytical results are shown on Figure 6, and the hazardous waste excavation areas are shown on Figure 7. The results of delineation sampling are summarized in Table 3, and laboratory reports are provided in Appendix J.

Soil Transport and Disposal – Hazardous Waste

A total of 1,487.69 tons of hazardous lead-contaminated soil were transported from the entire Lot 1 by 6 NYCRR Part 364-permitted vehicles to Clean Earth of North Jersey (CENJ) in South Kearny, New Jersey. Of the exported material, 640.4 tons (29 loads) originated exclusively from the State VCA Parcel. The remainder of the soil was comingled between the City and State VCA Parcels. CENJ is a New Jersey Department of Environmental Protection (NJDEP) permitted solid and hazardous waste treatment, storage, and transfer facility. The transported material included the following:

- 38 loads of soil from Grids 9 and 11 (AOCs 3 and 4), including hazardous material from the northern portion of Lot 1, delineated as hazardous in September 2011 and transported on October 6 and 7, 2011.
- Four loads of soil from Grid 12 (AOC 6) initially identified as non-hazardous, but reclassified as hazardous following secondary testing at CENJ (transported on October 7, 2011).
- Eight loads of soil from Grid 10 (AOC 4) initially identified as non-hazardous, but reclassified as hazardous following secondary testing at CENJ (transported on October 11, 2011).
- 18 loads of soil from Grids 8 and 10, including hazardous material from the northern portion of Lot 1, transported on October 24, 2011. The hazardous lead soil from Grid 10 was derived from over-excavation of the northern and western sidewalls of AOC 4 following TCLP lead detections above the EPA hazardous waste limit in endpoint samples AOC4-5E-NW-6 and AOC4-5E-WW-6. The soil from Grid 8 consisted of non-hazardous material derived from over-excavation of the eastern sidewall of AOC 3. Due to space limitations on the Site and elevated concentrations of metals in that portion of the excavation, the soil was incorporated into the bulk of the out-going hazardous classified soil.

Soil Transport and Disposal – Non-Hazardous Soil

A total of 5,828.38 tons of non-hazardous fill and native soil were excavated from the entirety of Lot 1 and transported on NYSDEC Part 364-permitted vehicles to the following disposal facilities:

- CENJ: 426.18 tons (17 loads) excavated from Grids 8 and 10 (AOCs 3 and 4) were disposed on October 11 and 12, 2011.
- Soil Safe, Inc.: 4,838.41 tons (158 loads) excavated from Grids 5, 6, 7, 8, and 10 (AOCs 1 through 5 and 7) as well as the northern portion of Lot 1 were disposed between October 31st and March 23, 2012. Soil Safe is an NJDEP-permitted Class B recycling facility in Logan Township, New Jersey.
- Cumberland Landfill: 563.79 tons (19 loads) excavated from Grids 5, 6, and 12 (AOCs 1, 6, and 7 and the general construction excavation area) as well as the northern

portion of Lot 1 and disposed between December 20 and 27, 2011. Cumberland is an NJDEP-permitted Class I solid waste facility in Teterboro, New Jersey.

Of the exported soil, 2,655.89 tons (91 loads) originated exclusively from the State VCA Parcel, and 2,844.88 tons (92 loads) were comingled from the City and State VCA Parcels. A contour map showing the final elevation of the remedial excavation is included as Figure 4. Table 5 shows the total quantities of each category of material removed from the Site and the corresponding disposal facilities.

4.3.1.2 On-Site Reuse

Soil excavated from the Site was not re-used as backfill, as stipulated in the RAWP.

4.3.2 Construction and Demolition Debris

BBM/Rotondi mechanically separated C&D debris consisting of brick, rock, and concrete fragments from soil derived from Grids 5, 6, and 12 between December 16 and 23, 2011. Segregation of C&D debris was warranted due to the limitations of the Soil Safe and Cumberland facilities regarding acceptance of non-soil debris. The segregated debris was derived from areas of the Site containing non-hazardous soil, and maintained in separate stockpiles pending re-use as backfill (see Section 4.3.2.2).

4.3.2.1 Disposal Details

No C&D debris was transported off site for disposal.

4.3.2.2 On-Site Reuse

Per approval received by e-mail from the NYSDEC on November 8, 2011, the segregated C&D debris was used to backfill portions of the remedial excavations for AOCs 3 and 6. The debris was combined with imported recycled concrete aggregate to backfill the excavations to construction grade.

4.4 REMEDIAL PERFORMANCE/DOCUMENTATION SAMPLING

Endpoint soil sampling was conducted to demonstrate that AOCs 1 through 7 were remediated in accordance with the selected remedy and the SSSCOs were attained. Endpoint samples were also collected from the central portion of the general construction (i.e., non-AOC) excavation area. Samples collected from the eastern portion of the Site during historical investigations conducted by Roux (e.g., SBB-08 and SBB-03) also served as endpoint samples, as indicated by NYSDEC in a November 8, 2011 e-mail. Endpoint samples were analyzed for contaminants of concern (i.e., SVOCs and metals) identified during the July 2011 RI and previous investigations conducted by Pfizer Inc.

A total of 61 endpoint soil samples were collected, not including QA/QC samples, during six sampling intervals between October 7 and November 16, 2011. Endpoint sampling was performed in accordance with DER-10 sample frequency requirements and the RAWP. Endpoint sampling protocol conformed to a frequency of one bottom sample for every 900 square feet of remedial excavation area and one sidewall sample for every 30 linear feet of perimeter. Per the RAWP, a minimum of one bottom sample and three sidewall samples were collected from each AOC excavation. Each sample was analyzed for the AOC-specific contaminant(s) of concern. Twelve (approximately 20%) of the endpoint samples were also analyzed for VOCs, PCBs, pesticides, and herbicides. The soil samples were collected into laboratory-supplied glassware, packed into an ice-chilled cooler, and transported to Spectrum Analytical, Inc. via courier for analysis.

Following excavation of the AOCs to the limits indicated in the RAWP, Langan collected sidewall and bottom endpoint samples from each AOC excavation to confirm removal of hazardous lead-contaminated soil and soil containing metals and SVOCs at concentrations above the SSSCOs. Sidewall samples were collected directly from the approximate mid-point of the excavation and bottom samples were collected at the lower vertical limit of the excavation. Bottom endpoint samples were not collected from AOCs 1, 2, and 5 due to the presence of a concrete slab at about 7 feet bgs. The concrete slab defined the vertical limit of the excavation in those areas.

Excavation of the AOCs beyond the limits initially indicated in the RAWP was warranted, due to the detection of the following compounds at concentrations above the SSSCOs in endpoint samples:

- Lead (AOCs 1, 2, 4, 5, and 6): 1,740 – 9,470 mg/kg;
- Mercury (AOCs 3, 4, and 6): 6.59 – 27.30 mg/kg;
- Barium (AOCs 1, 2, 4, and 6): 1,510 – 3,220 mg/kg;
- Arsenic (AOCs 2 and 3): 30 - 38.4 mg/kg; and
- SVOCs (AOC 2): 539.9 mg/kg.

The final round of endpoint samples were collected via 33 soil borings on November 16, 2011. Aquifer Drilling & Testing, Inc. (ADT) of New Hyde Park, New York advanced the soil borings with a track-mounted, direct-push Geoprobe® unit in proposed over-excavation areas along the perimeters of AOCs 1 through 6. A total of 33 samples were submitted to Spectrum Analytical for laboratory analysis. The laboratory results were used to determine the final extent of the remedial excavation.

QA/QC Samples and Data Usability Summary Reports

Quality Assurance/Quality Control samples were collected in accordance with the RAWP and QAPP. Field blanks, coded field duplicates and matrix spike/matrix spike duplicates were collected at a rate of one per 20 samples. Field blanks were analyzed for the contaminants of concern.

Category B laboratory reports were provided by Spectrum Analytical and evaluated by Langan for completeness and consistency with the QAPP. Data Usability Summary Reports (DUSRs) were generated for the endpoint sampling data. The data were determined to be usable, and no major deficiencies were identified with respect to the contaminants of concern.

Tables and figures summarizing endpoint sampling are included as Tables 4A through 4F and Figures 9 through 14, and all exceedances of SCOs are highlighted. DUSRs were prepared for all data generated in this remedial performance evaluation program. The DUSRs are included in Appendix L, and associated raw data is provided electronically in Appendix K. NYSDEC's acceptance of the endpoint samples is documented in Appendix M.

4.5 IMPORTED BACKFILL

Following the excavation of all AOCs and the partial backfilling of AOCs 3 and 6 with site-derived C&D material, RCA was imported to the Site to backfill the remedial and general construction excavation areas to development grade. A total of 2,460 CY of RCA was imported to the Site between December 2 and 30, 2011. The RCA was imported from Pebble Lane Associates in Maspeth, New York, complied with NYSDEC DER-10 Section 5.4(e) guidelines for imported RCA, and contained less than 10% material passing through a Number 80 sieve. Pebble Lane is an NYSDEC-registered Solid Waste Management facility (NYSDEC Registration No. 41W64). NYSDEC approved the delivery of the RCA in an e-mail correspondence on November 1, 2011.

On December 12, 2011, six loads (i.e., approximately 120 CY) of "mole rock" comprised of pulverized and cobble-sized schistose bedrock was imported to the Site as backfill. The material was transported directly to the Site from a stockpile of blast rock derived from excavation for the East Side Access Tunnel project on behalf of the New York City Metropolitan Transit Authority (MTA). The material originated from tunneling operations underneath Midtown Manhattan and was staged at the MTA Sunnyside Yard in Long Island City, New York. Langan and UTA notified Rotondi that all material imported to the Site is subject to pre-approval by Langan, NYSDEC, and NYCOER, and directed Rotondi to cease further import of the material pending the required approvals. Following NYSDEC's approval, the material was placed into the excavation areas of AOCs 2 and 5. NYSDEC approved the use of mole rock for backfill in an e-mail correspondence on December 13, 2011.

The entire site was backfilled to an approximate elevation of el 9.5 (Brooklyn Highway Datum). The thickness of the imported fill varied from approximately 8.6 feet in AOC 3 to 0.5 feet in the general construction excavation area. Imported backfill with quantities and dates of import are shown in Table 6. Imported material documentation, including the source facility registration, regulatory approvals, import tickets, and the results of the sieve analysis are provided in Appendix N. The range of backfill depths is presented in Figure 16.

4.6 CONTAMINATION REMAINING AT THE SITE

Soil/Fill

Historic fill containing SVOCs and metals at concentrations above the Part 375 Unrestricted Use SCOs remains throughout the Site. The historic fill is overlain by RCA of varying thickness, imported stone for the sub-membrane depressurization system (discussed below), a vapor barrier, and the concrete building slab. All soil containing exceedances of the SSSCOs was removed, with the exception of the following two localized areas as indicated on Figures 13 and 14:

- Endpoint sample AOC4-4E-EB-11 collected from AOC 4 at 11 feet bgs contained mercury at a concentration of 27.30 mg/kg, which exceeds the SSSCO of 5 mg/kg.
- Endpoint sample AOC4-4E-EW-6 along the eastern sidewall of AOC 4 at 6 feet bgs contained a total SVOC concentration of 642 mg/kg, which exceeds the SSSCO of 500 mg/kg.

Excavation in the central portion of AOC 4 near sample AOC4-4E-EB-11 was terminated due to the infiltration of groundwater into the excavation, upon approval by NYSDEC. Excavation along the eastern sidewall of AOC 4 near AOC4-4E-EW-6 was terminated, as NYSDEC determined the analytical results were acceptable in a November 8, 2011 e-mail. The final extents of the remedial excavation were approved by NYSDEC, as documented in e-mail correspondences on November 28 and 29, 2011.

The following samples collected from the site boundary (off-site) contained contaminant concentrations above the SSSCOs:

- AOC1-2G-SW-4 (southern boundary): Barium and lead at concentrations of 3,220 mg/kg and 9,470 mg/kg, respectively, as compared to the SSSCO of 1,500 mg/kg (see Figures 9 and 10).
- AOC3-4D-NW-6 (northern boundary): Mercury at a concentration of 6.59 mg/kg, as compared to the SSSCO of 5 mg/kg (see Figures 10 and 11).

The thickness of the RCA placed on top of the remaining contaminated soil varies from approximately 0.5 to 8.6 feet. The RCA was placed directly on top of the contaminated material without an intermediate demarcation barrier. A barrier was not used due to the presence of groundwater in the deeper portions of the excavation and the density of foundation piles penetrating throughout the Site. The RCA and underlying historic fill can be differentiated, based on composition, texture, and grain size. NYSDEC concurred that installation of a demarcation barrier was not necessary in a December 27, 2011 e-mail.

Table 4 and Figure 17 summarize the results of all soil samples remaining at the Site after completion of the Remedial Action that exceed the Track 1 Part 375 Unrestricted Use SCOs (Track 1). Figure 4 shows the final elevation of the top of remaining historic fill. NYSDEC correspondence concerning residual contamination and omission of the demarcation barrier is provided in Appendix M.

Groundwater/Soil Vapor

Previous investigations conducted by Pfizer Inc. identified VOCs in groundwater and soil vapor samples at concentrations above the NYSDEC TOGS 1.1.1 Class GA Ambient Water Quality Standards (TOGS AWQS) and New York State Department of Health (NYSDOH) Air Guideline Values (AGVs), respectively. It has been determined that the contaminated groundwater identified on OU-2 is coming from the other Operable Units (OU-1 and OU-3) of Pfizer Sites B and D. The Volunteers are addressing potential groundwater impacts on OU-1 and OU-3 and will perform site-wide groundwater monitoring in accordance with the August 2003 VCA and approved Remedial Action Work Plans for those OUs. Groundwater remediation was not a component of the Remedial Action Work Plan for OU-2. Post-remedial soil vapor sampling has not been conducted; however, an SMD system and soil vapor barrier have been installed in the new building to prevent infiltration of contaminated soil vapor from contaminated groundwater into the occupied spaces of the new structure.

Residual Contamination Management

Since contaminated soil and potentially contaminated groundwater and soil vapor remain beneath the Site after completion of the Remedial Action, Engineering and Institutional Controls (ECs/ICs) are required to protect human health and the environment. These ECs/ICs are described in the following sections. Long-term management of these EC/ICs and of residual contamination will be performed under the Site Management Plan (SMP) approved by the NYSDEC.

4.7 ENGINEERING CONTROLS

ECs have been implemented to protect public health and the environment by managing residual contamination at the Site. The Site has three primary EC systems. These are (1) a cover system consisting of a building slab; (2) a soil vapor barrier; and (3) an active sub-membrane depressurization system.

4.7.1 COVER SYSTEM

Exposure to remaining contamination in fill at the Site is prevented by a cover comprised of a 10-inch-thick concrete building slab, which covers the entire Site. A Site-Wide Cover System Plan is provided as Figure 18. An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed after completion of the Remedial Action, is provided in the SMP. Maintenance of the composite cover system is provided in Appendix A of the SMP.

4.7.2 SOIL VAPOR BARRIER

A soil vapor barrier was installed between the concrete floor slab and underlying imported stone (see Section 4.7.3) to prevent infiltration of potentially impacted soil vapors into the structure. The barrier/membrane system was installed along the entire footprint of the Site beneath the floor slab and elevator pit. The system consists of VaporBlock® Plus 20, a 20 mil polyethylene vapor retarder manufactured by Raven Industries. Overlaps between sheets were sealed with VaporBond® 4" Seaming Tape and Butyl Seal 2-Sided Tape. Penetrations for utilities were sealed with VaporBoot® Pipe Boot System 25/Tube plus Tape.

The soil vapor barrier was installed by East Coast Concrete (ECC) of Jessup, Maryland between October 22 and November 8, 2013. Ariel Czemerinski, a New York State Licensed Professional Engineer (PE) employed by AMC Engineering, inspected the vapor barrier for consistency with the product specifications on October 25 and 31, 2013 and November 6, 14, 25, and 29, 2013. During the inspections, Mr. Czemerinski inspected the integrity of the vapor barrier and seals around penetrations, and instructed ECC to make repairs where warranted. On February 27, 2014, Mr. Czemerinski issued a PE-sealed letter confirming that the barrier conforms to the approved design plan. The location of the soil vapor barrier system and cross sections of the composite cover system are shown in Figure 18. Documentation of the vapor barrier, including specifications, product and technical data sheets, a letter from the manufacturer documenting compatibility with the site-specific contaminants of concern, and the PE-sealed inspection reports, is provided in Appendix O. Photographs of the vapor barrier installation are provided in Appendix G.

Procedures for monitoring, operating and maintaining the soil vapor barrier/membrane system are provided in the Operation and Maintenance Plan in Section 4 of the SMP. The Monitoring Plan also addresses inspection procedures that must occur after any severe weather condition has taken place that may affect on-site ECs.

4.7.3 SUB-MEMBRANE DEPRESSURIZATION SYSTEM

An active sub-membrane depressurization (SMD) system was installed beneath the soil vapor barrier (Section 4.7.2) to prevent infiltration of potentially impacted soil vapors into the structure. The system was installed in accordance with the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006. The SMD system uses a roof-mounted vacuum blower to create a negative pressure field underneath the vapor barrier and the building that prevents the intrusion of soil vapor into the building. Soil vapor is collected into sub-grade piping and vented from a roof-mounted stack. The SMD system will operate continuously.

The SMD system consists of a system of horizontal, interconnected, 4-inch diameter perforated high density polyethylene (HDPE) piping placed in a 6-inch layer of clean ¾-inch stone. The ¾-inch stone was placed directly onto a geotextile base above the RCA and consisted of virgin trap rock (diabase) meeting New York State Department of Transportation specifications. The stone was obtained from a Tilcon-operated quarry located in Haverstraw, New York. The system underlies the soil vapor barrier, which extends underneath the entire floor slab. The horizontal piping is connected to a vertical, sub-grade vapor collection pipe located on the western portion of the Site. The collection pipe attaches to a 4-inch diameter metal riser that extends through the floor slab, along the interior wall of the building, to the roof where it connects with a roof-mounted regenerative blower unit. The blower is a Model No. 3BA1600-7AT16 unit manufactured by Airtech Inc. of Englewood, New Jersey. The blower operates with a 3.4 horsepower motor and is capable of maintaining a flow rate of 190 cubic feet per minute with a vacuum of 25 inches of water column. The blower connects to a remote alarm box located in the maintenance office on the first floor. The red light alarm signal is activated by shutdown of the blower.

<u>SMD System Inspection and Start-Up</u>

ECC installed the sub-grade components of the SMD system between October 17 and November 18, 2014. Ariel Czemerinski, a PE-certified inspector employed by AMC Engineering, inspected the SMD system for consistency with the product specifications and confirmed that the sub-grade system components conform to the design plan in a PE-sealed inspection report dated February 27, 2014. Figure 18 shows the location of the sub-grade component of the SMD system, and the as-built design for the SMD system is provided in Appendix P. The PE-sealed SMD System inspection report documenting the sub-grade integrity of the system, post-installation testing data, and documentation regarding the imported clean stone are provided in Appendix Q.

The roof-mounted blower unit was installed and connected to the vertical riser in December 2014. The system was started on December 16, 2014. John Alexander of Langan documented the start-up and completed an SMD System Inspection Checklist, which is included in Appendix Q. The inspection included an evaluation of the blower performance via general observations of the integrity of the system components, measurement of the effluent discharge rate, and testing of the system alarm. During a follow-up inspection on January 26, 2015, Mr. Alexander removed the blower cover to document that the relief and inlet isolation valves were functioning properly. Notes from the follow-up inspection are included in Appendix Q. The system was observed to be working as designed and troubleshooting of errors was not warranted. Photographs of the system are included in Appendix G. Procedures for monitoring, operating and maintaining the SMD system are provided in the Operation and Maintenance Plan in Section 4 of the SMP. The Monitoring Plan also addresses inspection procedures that must occur after any severe weather condition has taken place that may affect on-site ECs.

4.7.4 SOIL VAPOR INTRUSION EVALUATION

Air sampling and leak testing were conducted on December 23, 2014, one week following start-up of the SMD System and approximately 24 hours after start-up of the heating system. The air sampling was conducted to document the effectiveness of the building vapor mitigation measures (SMD system and vapor barrier) in preventing negative impacts to indoor air quality from the site subsurface. Smoke testing was conducted to document the integrity of the seal around ground-floor utility penetrations.

Exterior entry doors had yet to be installed at nine locations during the sampling event. On December 4, 2014, Langan proposed to NYSDOH and NYSDEC a contingency plan to seal the exposed doorways by affixing 6-mil polyethylene sheeting to the doorframes prior to sample collection. In a December 9, 2014 e-mail, NYSDOH and NYSDEC accepted the contingency plan with the provision that a second round of confirmation indoor air samples be collected following completion of the doorways and occupancy of the building by BRHS. Copies of e-mail correspondence between Langan and NYSDEC regarding the contingency sampling and the proposed air sampling plan are provided in Appendix Q. The locations of the sealed doorways are shown in the Proposed Indoor Air Sampling Plan, and photographs of the sealed doorways are included in Appendix G.

Sampling activities were conducted in accordance with the October 2006 NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York and consisted of the following:

- Site inspection and chemical inventory on December 16, 2014;
- Sealing of nine exterior doorways between December 16 and 22, 2014; and
- Collection and analysis of one indoor air and duplicate sample (IA01 and DUP) from the accessory lunchroom, two indoor air samples (IA02 and IA03) from Classrooms 112 and

136, and one exterior ambient air sample (AA01) along the northern paved walkway area.

Sample IA02 was relocated from the proposed location in Classroom 137 to Classroom 136 to avoid interference detections of organic vapors emanating from a temporary paint storage area in Classroom 137. Indoor and ambient air sample locations are shown on Figure 19.

Pre-Sampling Building Inspection and Chemical Inventory

Langan conducted a personnel interview and an inspection/inventory of building chemicals and potential VOC sources (e.g., construction materials, solvents, and cleaning supplies) in accordance with NYSDOH soil vapor intrusion guidance on December 16, 2014. The findings of the inspection were documented in an NYSDOH Indoor Air Quality Questionnaire and Building Inventory form. Eli Bleich, the UTA Site construction manager, was interviewed during the inspection. Organic vapor concentrations were measured in the sample location and chemical storage areas with a parts per billion (ppb)-range PID (ppbRAE Plus PGM-7240). A copy of the completed NYSDOH Indoor Air Quality and Building Survey is provided in Appendix Q.

The inspection/inventory identified construction-related chemicals, paints, and domestic cleaning products on shelves and the floor in various areas throughout the first floor of the building, including those listed below:

- Accessory Lunchroom contained one sealed container of thread cutting oil and one sealed container of vapor permeable emulsion. The two containers were subsequently relocated to non-sampling areas.
- Classroom 111 (temporary plumbing supplies storage room) contained WD-40, PVC pipe cement, and thread sealant containers. An air sample was not collected from this room.
- Classroom 137 (temporary painting supplies storage room) contained sealed containers of paint, enamel, paint thinner, sealant, and concrete block filler, and used paint rollers and trays. The proposed air sample was consequently relocated to Classroom 136.
- Corridor areas contained sealed and opened paint containers.

Indoor ambient organic vapor concentrations measured during the December 16 inspection ranged from 38 ppb in the Accessory Lunchroom to 3,855 ppb in Classroom 136. Organic vapor concentrations as high as 6,728 ppb were detected in the corridor areas in which painting activities were ongoing. Organic vapor concentrations measured in the exterior areas were 0 ppb.

Following the pre-sampling inspection, the nine uninstalled exterior doorways were sealed with polyethylene sheeting, which was affixed to the doorframes with low VOC tape. First floor painting activities were completed by the December 23 sampling event. Organic vapor concentrations in the sampling areas exhibited a subsequent decrease during PID screening prior to sampling on December 23, 2014 (organic vapor concentrations ranged from 2 ppb in the Accessory Lunchroom to 162 ppb in Classroom 112).

Smoke Testing

Langan conducted smoke testing to confirm that potential soil vapor intrusion pathways (i.e., ground floor utility penetrations) were sealed and the temporary sheeting installed around the exposed exterior doorways was restricting air flow out of the building. Draeger H_2SO_4/SO_3 smoke tubes were deployed near floor drains, clean outs, a sump, the riser penetration to the SMD system suction pit located in the water service room (Room 129), and the sealed doorways. The smoke test indicated no preferential air flow between the subsurface and the top of the ground floor slab, and no interior-exterior air exchange around the sealed doorways.

Indoor Air Sampling

The samples were collected using individually certified-clean, 6-liter-capacity Summa® canisters equipped with flow controllers calibrated for an eight-hour sampling period, with an approximate rate of 9.8 milliliters per minute (mL/min). The samples were analyzed by Alpha Analytical of Mansfield, Massachusetts (ELAP # NY 11627) via USEPA Method TO-15 with selective ion monitoring (SIM) for the following VOCs:

Target TO-15 VOCs	
1,2,4-trimethylbenzene	1,2,5-trimethylbenzene
4-ethyltoluene	acetone
ethylbenzene	hexane
m,p-xylene	naphthalene
n-heptane	o-xylene
styrene	PCE
TCE	toluene

Air Sampling Results

The laboratory analytical results were compared with the following reference values published in the NYSDOH 2006 soil vapor intrusion guidance:

- NYSDOH Air Guideline Values (AGVs) for PCE and TCE;

- NYSDOH 2003 Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes Background Concentrations (Upper Fence Limit);
- US EPA 1991 Building Assessment and Survey Evaluation 90th Percentile Background Values; and
- Health Effect Institute: Relationship of Indoor, Outdoor, and Personal Air 2005 95th Percentile Background Values.

Based on the analytical results, there is no evidence for soil vapor intrusion into the building. Concentrations of TCE or PCE were below the NYSDOH AGVs. Other VOCs were within the referenced background values, with the exception of heptane and n-hexane, which were detected at maximum concentrations of 25.6 µg/m^3 and 72.2 µg/m^3, respectively, in the samples collected from Classrooms 112 and 136. Heptane and n-hexane are common ingredients of paints, coatings, adhesives, and varnishes; therefore, their detection likely reflected interference from painting or other construction activities at the Site. Post-installation sampling has documented that the soil vapor mitigation measures are operating as designed. The air sampling results are summarized in Table 7, and the sampling locations are shown on Figure 19. The laboratory analytical results are provided in Appendix Q.

<u>Confirmation Air Sampling</u>

To confirm that the SMD System is effective under normal building operating conditions, a second round of indoor air sampling will be conducted following completion of the doorways and during occupancy of the building by the students. The sampling event will be conducted within one month following the opening of BRHS and student occupancy of the building. Three indoor air samples and one background ambient air sample will be collected for laboratory analysis of the target VOCs listed above.

The samples will be collected from the locations sampled during the December 2014 sampling event. The sampling will be conducted in accordance with the 2006 NYSDOH soil vapor intrusion guidance and the Quality Assurance Project Plan provided in the Site Management Plan. The analytical results of the sampling will be provided to the NYSDEC and NYSDOH for review and interpretation.

4.8 INSTITUTIONAL CONTROLS

The site remedy requires that a deed restriction be placed on the property to (1) implement, maintain and monitor the Engineering Controls; (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 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) uses only.

The deed restriction for the Site was executed on June 11, 2014, and filed with the Kings County Clerk on June 30, 2014 The County Recording Identifier number for this filing is 2014000220216. A copy of the deed restriction and proof of filing are provided in Appendix R.

4.9 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

This section summarizes deviations from the RAWP, including original RAWP requirements, actual remedial actions performed, reason(s) for the change, and notice to NYSDEC.

Deviation 1: Off-Site Materials Disposal

RAWP Requirement – "All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations."

Deviation – On December 8, 2011, three loads of historic fill from AOCs 2 and 5 (Grid 7) were rejected for disposal by Soil Safe due to the size and volume of entrained C&D debris. The loads were returned and staged in a designated area on the northern portion of the Site. The returned material and future excavated fill were mechanically screened between December 19 and 23, 2011, and coarse C&D debris was segregated from soil for use as backfill in the excavations in AOCs 3 and 6. Segregated soil was disposed at Soil Safe.

Reason for the Change – Historic fill in portions of the Site contained coarse fragments of C&D debris. The NJDEP Class B recycling permit under which Soil Safe operates prohibits the acceptance of C&D debris. On-site mechanical screening of the historic fill allowed remedial excavation and off-site soil disposal to continue.

NYSDEC Notification – NYSDEC was notified of the rejected loads in the December 8, 2011 Daily Status Report. NYSDEC approved on-site usage of a mechanical separator in an e-mail dated December 27, 2011. A copy of the e-mail is provided in Appendix M.

Deviation 2: Backfill from Off-Site Sources

RAWP Requirement – "All materials proposed for import onto the Site will be approved by the Remedial Engineer and will be in compliance with provisions in this RAWP prior to receipt at the Site. All imported soils will meet NYSDEC approved backfill or cover soil quality objectives for this Site. 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."

Deviation – On December 12, 2011, six loads (i.e., approximately 120 CY) of "mole rock" comprised of pulverized and cobble-sized schistose bedrock was imported to the Site as backfill. The material was transported directly to the Site from a stockpile of blast rock derived from excavation for the East Side Access Tunnel project on behalf of the New York City Metropolitan Transit Authority (MTA). The material originated from tunneling operations underneath Midtown Manhattan and was staged at the MTA Sunnyside Yard in Long Island City, New York. Langan and UTA notified Rotondi that all material imported to the Site is subject to pre-approval by Langan, NYSDEC, and NYCOER, and directed the Rotondi to cease further import of the material pending the required approvals. Following NYSDEC's approval, the material was placed into the excavations of AOCs 2 and 5.

Reason for the Change – Rotondi imported the mole rock to the Site without pre-approval from Langan. Based on the virgin bedrock source, the imported material was deemed acceptable for use as backfill by NYSDEC.

NYSDEC Notification – NYSDEC was notified of the imported mole rock in the December 12 Daily Status Report, and approved the material for use as backfill in a December 13, 2011 e-mail. A copy of the e-mail is provided in Appendix M.

Deviation 3: Revision of Track 4 SSSCOs

RAWP Requirement – "The SSSCOs established for this site are the restricted residential use SCOs, with the exception of:

- characteristic lead hazardous soils (i.e., 5 mg/l TCLP);
- metals exceeding Part 375 Commercial Use SCOs; and
- total SVOCs above 500 mg/kg."

Deviation – On November 3, 2011, NYSDEC approved modification of the SSSCOs as follows:

- Barium exceeding 1,500 mg/kg (modified from 400 mg/kg);
- Lead exceeding 1,500 mg/kg (modified from 1,000 mg/kg); and
- Mercury exceeding 5 mg/kg (modified from 2.8 mg/kg).

Reason for the Change – Endpoint sampling conducted during the remedial excavation revealed that historic fill throughout the Site contains concentrations of the above compounds that exceed the Track 4 SSSCOs established in the RAWP. The distribution of fill exhibiting exceedances of the RAWP SSSCOs is asystematic with respect to location or depth. The SSSCOs were modified, because extensive excavation of historic fill below the groundwater table was impractical and engineering controls precluded exposure to remaining historic fill.

NYSDEC Notification – NYSDEC approved the SCO modification following a meeting with Langan. The modification is documented in an e-mail from NYSDEC dated November 3, 2011. A copy of the e-mail is provided in Appendix M.

Deviation 4: Remaining soil exceeding Track 4 SSSCOs

RAWP Requirement – "Soil will be excavated in the AOCs to, at a minimum, the maximum depth of confirmed Track 4 SSSCO exceedances."

Remedial Actions Performed – All soil containing exceedances of the Track 4 SSSCOs was removed, with the exception of the following two locations:

- Soil below 11 ft bgs in the eastern portion of the AOC 4 excavation - Endpoint sample AOC4-4E-EB-11 contained mercury at a concentration of 27.30 mg/kg, which exceeds the Track 4 SSSCO of 5 mg/kg.
- Soil below 6 ft bgs in the eastern sidewall of the AOC 4 excavation - Endpoint sample AOC4-4E-EW-6 contained a total SVOC concentration of 642 mg/kg, which exceeds the Track 4 SSSCO of 500 mg/kg.

Reason for the Change – Excavation below the depth of sample AOC4-4E-EB-11 was impractical, due to the infiltration of groundwater. Over-excavation of AOC 4 along the eastern sidewall near AOC4-4E-EW-6 was deemed adequate; total SVOC concentrations in adjacent endpoint samples were an order of magnitude less than the SSSCO.

NYSDEC Notification – NYSDEC was continually notified of the results of endpoint sampling during excavation activities. NYSDEC approved termination of excavation at the eastern AOC 4 sidewall in an e-mail dated November 8, 2011. The final extents of the remedial excavation, including the bottom of AOC 4, were approved by NYSDEC in e-mails on November 28 and 29, 2011. Copies of the e-mail correspondences are provided in Appendix M.

Deviation 5: Reclassification of depressurization system as SMD system

RAWP Requirement – "In addition to the soil vapor barrier, an active sub-slab depressurization system (SSDS) will be installed beneath the foundation slab of the building in accordance with the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006."

Remedial Actions Performed – Because the selected soil vapor mitigation system incorporates a soil vapor barrier with an active depressurization system, the SSDS has been re-classified as a sub-membrane depressurization system. In accordance with the 2006 NYSDOH Guidance document, the post-mitigation testing requirements for an SMD system apply, in lieu of those pertaining to an SSDS. Specifically, the NYSDOH Guidance omits the sub-slab pressure field extension test from the post-mitigation testing requirements for an SMD system. These tests were not conducted to preserve the integrity of the soil vapor membrane. The SMD system design and installation procedures were otherwise consistent with the RAWP.

Reason for the Change – Penetration of the floor slab as required for pressure field and manometer tests would compromise the integrity of the soil vapor membrane. Classification of the depressurization system as an SMD system accords with the 2006 NYSDOH Guidance.

NYSDEC Notification – NYSDEC was notified of the modification within a draft copy of this CCR, which was submitted on July 24, 2014.

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Table 1
Track 4 Site-Specific Soil Cleanup Objectives
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Contaminant of Concern	Track 4 SSSCO
Metals*	Part 375 Restricted Use Commercial SCOs with the exception of lead and barium (1,500 mg/kg) and mercury (5 mg/kg)
SVOC	Total SVOCs ≤ 500 mg/kg
VOC	Part 375 Restricted Use Restricted-Residential SCOs
PCB	
Pesticides/Herbicides	

Notes:
mg/kg: milligram per kilogram
SSSCO: site-specific soil cleanup objectives
SCO: soil cleanup objectives
SVOC: semivolatile organic compounds
VOC: volatile organic compounds
PCB: polychlorinated biphenyls
*End-Point samples in hazardous lead-impacted AOCs were also be analyzed for lead via toxicity characteristic leaching procedure to confirm that concentrations were non-hazardous (i.e., < 5 mg/l).

Table 2A
Waste Characterization Soil Sampling Results
AOC 3
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Area of Concern	NJDEP Non-Residential Direct Contact Soil Remediation Standards	AOC 3									
Client ID		**WC-8**	**WC-9 (fill)**	**WC-9 (native)**	**A3-1 (0-7)**	**A3-2 (0-7)**	**A3-3 (0-7)**	**A3-4 (0-7.5)**	**A3-5 (0-8.5)**	**A3-6 (0-6.5)**	**A3-7 (0-7)**
Lab Sample ID		**SB34733-13**	**SB34733-39**	**SB34733-40**	**SB34733-01**	**SB34733-22**	**SB34733-03**	**SB34733-04**	**SB34733-05**	**SB34733-06**	**SB34733-07**
Sampling Depth (ft)		**0 - 11**	**0 - 8**	**8 - 11**	**0 - 7**	**0 - 7**	**0 - 7**	**0 - 7.5**	**0 - 8.5**	**0 - 6.5**	**0 - 7**
Date Sampled		**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**	**09/02/11**
Metals (mg/kg)											
Mercury	65	2.26 D^{10}, GS1	**132** D^{500}, GS1	1.74 D^{5}, GS1	7.87 D^{20}, GS1	29.4 D^{100}, GS1	59.4 D^{200}, GS1	2.93 D^{10}, GS1	**111** D^{500}, GS1	**112** D^{1000}, GS1	27.7 D^{100}, GS1
Lead	800	**867**	NA	NA	**1570**	867	420	507	282	694	329
TCLP Metals (mg/l)											
Mercury	0.2 [2]	0.00146	0.0238 D^{5}, GS1	0.00016 J	0.0028	0.00529	0.0442 D^{5}, GS1	0.0154 D^{5}, GS1	0.0136 D^{5}, GS1	0.00626	0.00069
Lead	5 [2]	0.77	NA	NA	**5.81**	0.77	0.392	1.44	2.53	0.245	0.876

Area of Concern	NJDEP Non-Residential Direct Contact Soil Remediation Standards	AOC 3			
Client ID		**A3-8 (0-7)**	**A3-8 (7-11)**	**A3-1A (0-11)**	**A3-1 (7-11)**
Lab Sample ID		**SB34733-12**	**SB34733-28**	**SB34733-08**	**SB34733-21**
Sampling Depth (ft)		**0 - 7**	**7 - 11**	**0-11**	**7-11**
Date Sampled		**09/02/11**	**09/02/11**	**9/2/2011**	**9/2/2011**
Metals (mg/kg)					
Mercury	65	47.2 D^{100}, GS1	5.38 D^{10}, GS1	NA	NA
Lead	800	516	27.7	422	6.57
TCLP Metals (mg/l)					
Mercury	0.2 [2]	0.00666	0.00127 D^{5}, GS1	NA	NA
Lead	5 [2]	0.796	0.0106 J	0.48	0.0153

Notes:

1. Soil sample analytical results are compared to the New Jersey Department of Environmental Protection (NJDEP) Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) and the Resource Conservation and Recovery Act (RCRA)
2. Only compounds with detections are shown in table.
3. **Exceedances are bolded and highlighted.**
4. TCLP = Toxicity Characteristic Leaching Procedure
5. µg/kg = micrograms per kilogram
6. mg/l = milligrams per liter

U = Analyte included in the analysis, but not detected.

J = Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration.

$D^{\#}$ = Results for a diluted sample, # indicates the dilution factor.

NA = Not Analysed

- = Not available

Table 2B
Waste Characterization Soil Sampling Results
AOC 4
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Area of Concern	**NJDEP Non-Residential Direct Contact Soil Remediation Standards**	**AOC 4**													
Client ID		**WC-10 (Fill)**	**WC-10 (Native)**	**WC-11 (Fill)**	**WC-11 (Native)**	**A4-1 (0-9)**	**A4-2 (0-8)**	**A4-3 (0-9)**	**A4-4 (0-8)**	**A4-4 (8-11)**	**A4-5 (0-8.5)**	**A4-5 (8.5-11)**	**A4-6 (0-9)**	**A4-7 [WC-11C (8-11)]**	**WC-10D (7.5-11)**
Lab Sample ID		**SB34884-01**	**SB34884-02**	**SB34884-12**	**SB34884-13**	**SB34884-23**	**SB34884-25**	**SB34884-27**	**SB34884-28**	**SB34884-29**	**SB34884-30**	**SB34884-31**	**SB34884-32**	**SB34884-19**	**SB34884-10**
Sampling Depth (ft)		**0 - 8**	**8 - 11**	**0 - 8**	**8 - 11**	**0 - 9**	**0 - 8**	**0 - 9**	**0 - 8**	**8 - 11**	**0 - 8.5**	**8.5 - 11**	**0 - 9**	**8 - 11**	**7.5 - 11**
Date Sampled		**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**	**09/06/11**
Dilution		**25**	**1**	**25**	**1**	**25**	**10**	**20**	**20**	**1**	**20**	**1**	**20**	**1**	**1**
Semi-Volatile Organic Compounds (µg/kg)															
1-Methylnaphthalene	-	< 811 U	< 31 U	< 683 U	< 32 U	< 782 U	834 J	< 614 U	636 J	< 29.4 U	< 554 U	< 30.1 U	1,250 J	NA	NA
2-Methylnaphthalene	2,400,000	704 J	< 25 U	< 550 U	< 25.8 U	< 630 U	749 J	< 495 U	636 J	< 23.7 U	< 446 U	< 24.3 U	1,160 J	NA	NA
Acenaphthene	37,000,000	1,880 J	< 23.8 U	1,720 J	< 24.6 U	1,810 J	2,120	1,130 J	2490 J	< 22.6 U	1,650 J	< 23.1 U	3,330 J	NA	NA
Acenaphthylene	300,000,000	< 634 U	< 24.2 U	< 533 U	< 25 U	< 611 U	283 J	< 480 U	944 J	< 22.9 U	< 432 U	< 23.5 U	909 J	NA	NA
Anthracene	-	4,170 J	< 24.9 U	4,260 J	< 25.7 U	4,590 J	4,440	2,670 J	6,710	< 23.5 U	3,220 J	< 24.1 U	8,440	NA	NA
Benzo (a) anthracene	2,000	**9,780**	< 24.6 U	**10,200**	37.5 J	**11,600**	**11,700**	**6,570**	**19,000**	< 23.3 U	**9,630**	< 23.9 U	**22,000**	NA	NA
Benzo (a) pyrene	200	**8,170**	< 27.9 U	**8,580**	32.2 J	**9,860**	**10,700**	**5,770**	**16,800**	< 26.5 U	**8,570**	< 27.1 U	**17,200**	NA	NA
Benzo (b) fluoranthene	2,000	**7,420**	< 25.5 U	**7,990**	31.7 J	**9,300**	**12,500**	**5,770**	**18,900**	< 24.1 U	**9,700**	< 24.8 U	**18,100**	NA	NA
Benzo (g,h,i) perylene	30,000,000	4,350 J	< 32.4 U	4,700	< 33.5 U	5,600	4,670	2,550 J	7,490	< 30.7 U	3,790	< 31.5 U	7,670	NA	NA
Benzo (k) fluoranthene	23,000	6,140	< 37.4 U	6,040	< 38.6 U	7,410	7,940	5,090	14,000	< 35.4 U	6,560	< 36.3 U	10,600	NA	NA
Carbazole	96,000	1,880 J	< 44 U	1,810 J	< 45.4 U	2,140 J	3,110	1,380 J	3,450 J	< 41.6 U	1,850 J	< 42.7 U	3,900	NA	NA
Chrysene	230,000	9,980	< 25.3 U	10,500	36.2 J	11,900	12,100	6,630	18,800	< 23.9 U	9,210	< 24.5 U	22,600	NA	NA
Dibenzo (a,h) anthracene	200	**1,230** J	< 29.2 U	**1,260** J	< 30.2 U	**1,510** J	**1,400** J	**778** J	**2,200** J	< 27.7 U	**1,090** J	< 28.4 U	**2,470** J	NA	NA
Dibenzofuran	-	1,250 J	< 33.1 U	931 J	< 34.1 U	1,110 J	1,580 J	762 J	1,480 J	< 31.3 U	763 J	< 32.1 U	2,200 J	NA	NA
Fluoranthene	24,000,000	24,000	< 38.7 U	24,200	75.4 J	27,800	30,800	15,600	47,400	< 36.6 U	21,500	< 37.6 U	52,800	NA	NA
Fluorene	24,000,000	1,910 J	< 26.9 U	1,770 J	< 27.8 U	1,810 J	2,220	1,100 J	2,930 J	< 25.5 U	1,430 J	< 26.1 U	4,000	NA	NA
Indeno (1,2,3-cd) pyrene	2,000	**4,500** J	< 39.1 U	**4,840**	< 40.3 U	**5,750**	**5,140**	**2,760** J	**8,310**	< 37 U	**4,040**	< 38 U	**8,540**	NA	NA
Naphthalene	17,000	1,680 J	< 21.4 U	931 J	< 22.1 U	1,100 J	1,430 J	< 424 U	1,070 J	< 20.3 U	618 J	< 20.8 U	2,410 J	NA	NA
Phenanthrene	300,000,000	23,300	35.9 J	21,700	53.8 J	22,500	27,800	13,200	35,200	< 22.6 U	15,600	< 23.1 U	47,900	NA	NA
Pyrene	18,000,000	20,400	< 42.6 U	20,400	60.8 J	23,100	26,300	14,700	41,700	< 40.3 U	19,800	< 41.3 U	44,100	NA	NA
TCLP Metals (mg/l)															
TCLP Lead	5 (2)	0.0394 D'	0.01 J, D'	4.79 D'	0.81 D'	4.79 D'	0.813 D'	3.43 D'	4.24 D'	0.0385 D'	2.84 D'	0.033 D'	NA	0.01 J, D'	0.0394 D'

Notes:

1. Soil sample analytical results are compared to the New Jersey Department of Environmental Protection (NJDEP) Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) and the the Resource Conservation and Recovery Act (RCRA) hazardous waste regulatory levels for toxicity characteristics.
2. Only compounds with detections are shown in table.
3. Exceedances are in bold and highlighted.
4. TCLP = Toxicity Characteristic Leaching Procedure
5. µg/kg = micrograms per kilogram
6. mg/l = milligrams per liter

U = Analyte included in the analysis, but not detected.
J = Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration.
D" = Results for a diluted sample, # indicates the dilution factor.
NA = Not Analysed
- = Not available

Table 2C
Waste Characterization Soil Sampling Results
AOC 6
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Area of Concern	NJDEP Non-Residential Direct Contact Soil Remediation Standards	AOC 6														
Client ID			WC-12			A6-1			A6-2			A6-3			A6-4	
Lab Sample ID			SB34890-43			SB34884-49			SB34884-50			SB34890-45			SB34884-51	
Sampling Depth (ft)			0 - 8			0 - 8			0 - 8			0 - 8			0 - 8	
Date Sampled			09/07/11			09/06/11			09/06/11			09/07/11			09/06/11	
Semi-Volatile Organic Compounds (µg/kg)																
Acenaphthene	37,000,000	<	455	U, D^{20}		87.2	J, D^{2}		112	J, D^{2}		371	J, D^{10}	<	478	U, D^{20}
Anthracene	-		644	J, D^{20}		388	J, D^{2}		310	J, D^{2}		867	J, D^{10}		1,180	J, D^{20}
Benzo (a) anthracene	2,000		1,860	J, D^{20}		833	D^{2}		557	D^{2}		**2,060**	D^{10}		**2,570**	J, D^{20}
Benzo (a) pyrene	200		**1,700**	J, D^{20}		**674**	D^{2}		**441**	D^{2}		**1,740**	J, D^{10}		**2,010**	J, D^{20}
Benzo (b) fluoranthene	2,000		1,520	J, D^{20}		507	D^{2}		378	J, D^{2}		1,590	J, D^{10}		1,830	J, D^{20}
Benzo (g,h,i) perylene	30,000,000		1,000	J, D^{20}		277	J, D^{2}		181	J, D^{2}		623	J, D^{10}		1,180	J, D^{20}
Benzo (k) fluoranthene	23,000		1,370	J, D^{20}		615	D^{2}		406	J, D^{2}		1,720	J, D^{10}		1,780	J, D^{20}
Carbazole	96,000	<	839	U, D^{20}		236	J, D^{2}		117	J, D^{2}		401	J, D^{10}	<	881	U, D^{20}
Chrysene	230,000		1,920	J, D^{20}		869	D^{2}		525	D^{2}		2,070	D^{10}		2,620	J, D^{20}
Dibenzofuran	-	<	631	U, D^{20}	<	74.2	U, D^{2}		70.8	J, D^{2}	<	296	U, D^{10}	<	663	U, D^{20}
Fluoranthene	24,000,000		4,110	D^{20}		1,880	D^{2}		1,310	D^{2}		4,860	D^{10}		6,170	D^{20}
Fluorene	24,000,000	<	514	U, D^{20}		106	J, D^{2}		104	J, D^{2}		348	J, D^{10}	<	539	U, D^{20}
Indeno (1,2,3-cd) pyrene	2,000		946	J, D^{20}		278	J, D^{2}		198	J, D^{2}		707	J, D^{10}		1,210	J, D^{20}
Phenanthrene	300,000,000		3,170	J, D^{20}		1,970	D^{2}		1,150	D^{2}		4,170	D^{10}		5,400	D^{20}
Pyrene	18,000,000		3,640	J, D^{20}		1,810	D^{2}		1,030	D^{2}		3,990	D^{10}		5,230	D^{20}
Metals (mg/kg)																
Aluminum	-		5,980			6,610			6,990			5,590			7,420	
Antimony	450		2.94	J		3.73	J		2.27	J		1.66	J		3.54	J
Arsenic	19		12.4			16.5			14.9			10.3			**23**	
Barium	59,000		551			386			300			743			1,610	
Beryllium	140		2.3			0.523	J		0.741			1.42			2.16	
Cadmium	78		2.35			4.14			1.43			1.96			7.66	
Calcium	-		33,700	D^{10}, GS1		15,900			23,000			25,600	D^{10}, GS1		12,000	
Chromium	-		25.3			22.8			14.4			20.3			30.8	
Cobalt	590		37.7			6.36			6.77			17			29.8	
Copper	45,000		542			713			230			312			455	
Iron	-		26,900			11,700			16,400			17,900				
Lead	800		**2,800**			701			693			**1,140**			**1,550**	
Magnesium	-		14,000	D^{10}, GS1		1,470			3,370			7,210	D^{10}, GS1		2,940	
Manganese	5,900		484			592			457			534	D^{10}, GS1			
Nickel	23,000		76.7			25.5			14.8			37			59.2	
Potassium	-		678			735			833			583			695	
Selenium	5,700		1.17	J		1.33	J		0.863	J		0.904	J		1.53	J
Silver	5,700		1.69	J		1.74	J		1.14	J		0.797	J		1.42	J
Sodium	-		456			467			329			355			422	
Thallium	79		2.13	J		2.11	J		2.2	J		2.27	J		6.63	
Vanadium	1,100		29.4			28.9			24.1			35			28.6	
Zinc	110,000		4,090	D^{10}, GS1		944	D^{10}, GS1		823	D^{10}, GS1		2,510	D^{10}, GS1		5,110	D^{10}, GS1
Mercury	65		55	D^{100}, GS1		**93.6**	D^{100}, GS1		**190**	D^{500}, GS1		55	D^{20}, GS1		7	D^{20}, GS1
TCLP Metals (mg/l)																
Mercury	0.2 (2)		0.00113			NA			NA			NA			NA	
Arsenic	5 (2)		0.0107			NA			NA			NA			NA	
Barium	100 (2)		0.846			NA			NA			NA			NA	
Cadmium	1 (2)		0.0142			NA			NA			NA			NA	
Lead	5 (2)		1.1			NA			NA			NA			NA	

Notes:

1. Soil sample analytical results are compared to the New Jersey Department of Environmental Protection (NJDEP) Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) and the Resource Conservation and Recovery Act (RCRA) hazardous waste regulatory levels for toxicity characteristics.
2. Only compounds with detections are shown in table.
3. Exceedances are bolded and highlighted.
4. TCLP = Toxicity Characteristic Leaching Procedure
5. µg/kg = micrograms per kilogram
6. mg/l = milligrams per liter

U = Analyte included in the analysis, but not detected.

J = Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration.

$D^{\#}$ = Results for a diluted sample, # indicates the dilution factor.

NA = Not Analysed

\- = Not available

Table 2D
Waste Characterization Soil Sampling Results
Grids 5 through 7
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Client ID	**NJDEP Non-Residential Direct Contact Soil Remediation Standards**	**WC-5**		**WC-6**		**WC-7**	
Lab Sample ID		**SB34890-25**		**SB34890-26**		**SB34890-27**	
Sampling Depth (ft)		**0 - 2.5/0 - 8**		**0 - 2.5/0 - 8**		**0 - 2.5/0 - 9**	
Date Sampled		**09/07/11**		**09/07/11**		**09/07/11**	
Volatile Organic Compounds (µg/kg)							
Methylene chloride	97,000	23.8	O01	10.1	O01, J	8.9	O01, J
Semi-Volatile Organic Compounds (µg/kg)							
2-Methylnaphthalene	2,400,000	< 232	U, D^{10}	< 1,140	U, D^{50}	235	J, D^{10}
Acenaphthene	37,000,000	532	J, D^{10}	2,720	J, D^{50}	609	J, D^{10}
Anthracene	-	984	J, D^{10}	5,800	J, D^{50}	1,580	J, D^{10}
Benzo (a) anthracene	2,000	**2,410**	D^{10}	**12,300**	D^{50}	**3,830**	D^{10}
Benzo (a) pyrene	200	**2,180**	D^{10}	**10,800**	D^{50}	**3,480**	D^{10}
Benzo (b) fluoranthene	2,000	**2,200**	D^{10}	**11,000**	D^{50}	**3,510**	D^{10}
Benzo (g,h,i) perylene	30,000,000	1,160	J, D^{10}	6,700	J, D^{50}	1,550	J, D^{10}
Benzo (k) fluoranthene	23,000	1,460	J, D^{10}	7,560	J, D^{50}	2,620	D^{10}
Carbazole	96,000	679	J, D^{10}	3,050	J, D^{50}	798	J, D^{10}
Chrysene	230,000	2,450	D^{10}	12,600	D^{50}	3,830	D^{10}
Dibenzo (a,h) anthracene	200	**282**	J, D^{10}	**1,450**	J, D^{50}	**470**	J, D^{10}
Dibenzofuran	-	365	J, D^{10}	2,050	J, D^{50}	412	J, D^{10}
Fluoranthene	24,000,000	6,490	D^{10}	37,300	D^{50}	9,650	D^{10}
Fluorene	24,000,000	504	J, D^{10}	2,050	J, D^{50}	686	J, D^{10}
Indeno (1,2,3-cd) pyrene	2,000	1,190	J, D^{10}	**6,680**	J, D^{50}	1,700	J, D^{10}
Naphthalene	17,000	397	J, D^{10}	1,330	J, D^{50}	428	J, D^{10}
Phenanthrene	300,000,000	5,860	D^{10}	36,000	D^{50}	7,510	D^{10}
Pyrene	18,000,000	5,130	D^{10}	28,800	D^{50}	7,250	D^{10}
Metals (mg/kg)							
Aluminum	-	6,750		5,450		7,210	
Antimony	450	5.23	J	0.866	J	1.8	J
Arsenic	19	12.9		**30.2**		8.07	
Barium	59,000	619		708		279	
Beryllium	140	0.51	J	0.355	J	0.513	J
Cadmium	78	1.96		1.24		1.22	
Calcium	-	20,200		39,200	D^{10}, GS1	14,500	
Chromium	-	16.8		13.2		17.1	
Cobalt	590	5.93		4.57		6.29	
Copper	45,000	113		69.3		82.5	
Iron	-	17,900		15,100		18,800	
Lead	800	**17,100**	D^{10}, GS1	631		506	
Magnesium	-	2,850		3,480		2,790	
Manganese	5,900	307		332		325	
Nickel	23,000	15.2		12.8		15.2	
Potassium	-	955		791		769	
Selenium	5,700	0.504	J	< 0.225	U	0.271	J
Silver	5,700	1.08	J	0.547	J	0.581	J
Sodium	-	255		166		147	
Thallium	79	3.48	J	2.09	J	2.52	J
Vanadium	1,100	23.6		22.7		28.4	
Zinc	110,000	704	D^{10}, GS1	477		449	
Mercury	65	5.72	D^{10}, GS1	0.261		0.97	D^{5}, GS1

Table 2D
Waste Characterization Soil Sampling Results
Grids 5 through 7
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Client ID Lab Sample ID Sampling Depth (ft) Date Sampled	NJDEP Non-Residential Direct Contact Soil Remediation Standards	WC-5 SB34890-25 0 - 2.5/0 - 8 09/07/11	WC-6 SB34890-26 0 - 2.5/0 - 8 09/07/11	WC-7 SB34890-27 0 - 2.5/0 - 9 09/07/11
PCBs (µg/kg)				
Aroclor-1248	-	134	< 11 U	< 11.4 U
Aroclor-1260	-	16.2 J	9 J	17.5 J
Total PCBs	1,000	704	0	0
Pesticides (µg/kg)				
4,4'-DDE (p,p')	9,000	7.69 J	< 4.32 U	< 5.06 U
4,4'-DDT (p,p')	8,000	5.09 J	< 6.68 U	< 6.93 U
Herbicides (µg/kg)				
Total Herbicides	-	ND	ND	ND
Miscellaneous Characteristics				
Reactivity (mg/kg)	-	0	0	0
pH (pH Units)	-	8.88	8.43	9.21
Cyanide (total) (mg/kg)	-	1.61	0.782 J	< 0.347 U
Ignitability by Definition	-	0 IgHT	0 IgHT	0 IgHT
TPH	-	208	193	247
Oxidation-reduction Potential (ORP)	-	508	510	509
TCLP Metals (mg/l)				
Mercury	0.2 (2)	< 0.00007 U	0.0002	0.00055
Barium	100 (2)	0.58	0.755	0.67
Cadmium	1 (2)	0.0099	0.0049 J	0.0076
Chromium	5 (2)	0.0133	0.0081 J	< 0.0063 U
Lead	5 (2)	0.366	0.553	1.11
TCLP Pesticides (µg/l)				
Total TCLP Pesticides	50,000 (2)	ND	ND	ND
TCLP Herbicides (µg/l)				
Total TCLP Herbicides	-	ND	ND	ND

Notes:

1. Soil sample analytical results are compared to the New Jersey Department of Environmental Protection (NJDEP) Non-Residential Direct Contact Soil Remediation Standards (NRDCSRS) and the Resource Conservation and Recovery Act (RCRA) hazardous waste regulatory levels for toxicity characteristics.

2. Only compounds with detections are shown in table.

3. Exceedances are bolded and highlighted.

4. TCLP = Toxicity Characteristic Leaching Procedure

5. µg/kg = micrograms per kilogram

6. mg/l = milligrams per liter

U = Analyte included in the analysis, but not detected.
J = Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration.

$D^{\#}$ = Results for a diluted sample, # indicates the dilution factor.

NA = Not Analysed
\- = Not available

Table 3
Hazardous Lead Delineation Sampling Results
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Langan Sample ID	Lab Sample ID	Date Collected	TCLP Lead Results (mg/L)
A3-1 (0-7)	SB34733-01	02 Sep 2011	**5.81**
A3-3 (0-7)	SB34733-03		0.392
A3-4 (0-7.5)	SB34733-04		1.44
A3-5 (0-8.5)	SB34733-05		2.53
A3-6 (0-6.5)	SB34733-06		0.245
A3-7 (0-7)	SB34733-07		0.876
A3-1A	SB34733-08		0.477
A3-8 (0-7)	SB34733-12		0.796
A3-1 (7-11)	SB34733-21		0.0153
A3-2 (0-7)	SB34733-22		0.77
A3-8 (7-11)	SB34733-28		0.0163
A4-1 (0-9)	SB34884-23	06 Sep 2011	4.79
A4-2 (0-8)	SB34884-25		0.813
A4-3 (0-9)	SB34884-27		3.43
A4-4 (0-8)	SB34884-28		4.24
A4-4 (8-11)	SB34884-29		0.0385
A4-5 (0-8.5)	SB34884-30		2.84
A4-5 (8.5-11)	SB34884-31		0.0327
A3-1B (0-7)	SB36165-16	26 Sep 2011	0.615
A3-1C (0-7)	SB36165-17		0.65
A3-1D (0-7)	SB36165-18		0.699
A3-1E (0-7)	SB36165-20		0.658
AOC4-5E-NW-6'	SB37248-01	11 Oct 2011	**33.6**
AOC4-4E-NW-6'	SB37248-02		4.28
AOC4-5E-WW-6'	SB37248-06		**5.02**
AOC4-5E-WW 2-6'	SB38029-03	24 Oct 2011	2.6

NOTES:

TCLP: Toxicity Characteristic Leaching Procedure

mg/L: milligrams per liter

1. The EPA Hazardous Waste Limit for lead is 5 mg/L
1. Hazardous Waste Limit exceedances are **bold** and in red.

TABLE 4A
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 1
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION **SAMPLING DATE** **LAB SAMPLE ID**	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	AOC1-2G-SW-4' 16 NOV 2011 SB39456-01	AOC1-2G-EW-4' 16 NOV 2011 SB39456-033	AOC1-2C-NW-4' 16 NOV 2011 SB39456-06	AOC1-2C-SW-4' 16 NOV 2011 SB39456-08	AOC1-2F-NW-4' 16 NOV 2011 SB39456-02RE1	AOC1-NWT1-4' 16 NOV 2011 SB39456-04	SBB-08 2-24" Roux (1998-2005) SBB-08 2-24"	SBB-08 5-7" Roux (1998-2005) SBB-08 5-7"
VOCs (ug/kg)										
Methylene chloride	50	100,000	NA	10 J	NA	9.4 O01, J	NA	NA	NA	NA
SVOCs (ug/kg)										
1-Methylnaphthalene	-	-	NA	NA	1520 J	1090 U	NA	NA	NA	NA
Acenaphthene	20000	-	NA	NA	6670 J	1720 J	NA	NA	NA	NA
Acenaphthylene	100000	-	NA	NA	2110 J	850 U	NA	NA	NA	NA
Anthracene	100000	-	NA	NA	14900	5530 J	NA	NA	NA	NA
Benzo (a) anthracene	1000	-	NA	NA	*29700*	*18200*	NA	NA	NA	NA
Benzo (a) pyrene	1000	-	NA	NA	*27300*	*19500*	NA	NA	NA	NA
Benzo (b) fluoranthene	1000	-	NA	NA	*22700*	*17900*	NA	NA	NA	NA
Benzo (g,h,i) perylene	100000	-	NA	NA	15500	12100	NA	NA	NA	NA
Benzo (k) fluoranthene	800	-	NA	NA	*22700*	*13200*	NA	NA	NA	NA
Chrysene	1000	-	NA	NA	*25600*	*15600*	NA	NA	NA	NA
Dibenzo (a,h) anthracene	330	-	NA	NA	*3520* J	*2760* J	NA	NA	NA	NA
Dibenzofuran	-	-	NA	NA	4210 J	1160 U	NA	NA	NA	NA
Fluoranthene	100000	-	NA	NA	66800	31900	NA	NA	NA	NA
Fluorene	30000	-	NA	NA	6670 J	1470 J	NA	NA	NA	NA
Indeno (1,2,3-cd) pyrene	500	-	NA	NA	*14600*	*11300*	NA	NA	NA	NA
Naphthalene	12000	-	NA	NA	*1100* J	751 U	NA	NA	NA	NA
Phenanthrene	100000	-	NA	NA	72700	21900	NA	NA	NA	NA
Pyrene	100000	-	NA	NA	79900	43000	NA	NA	NA	NA
Total SVOCs	-	500000	NA	NA	418200	216080	NA	NA	NA	NA
Herbicides (ug/kg)										
	-	-	ND	ND	NA	ND	NA	NA	NA	NA
PCBs (ug/kg)										
	-	-	ND	ND	NA	ND	NA	NA	NA	NA
Pesticides (ug/kg)										
	-	-	ND	ND	NA	ND	NA	NA	NA	NA
Total Metals (mg/kg)										
Mercury	0.18	5	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	13	16	NA	NA	8.25	5.92	NA	NA	NA	NA
Lead	63	1500	***9470*** GS1	*404*	*689*	*695*	*1010*	NA	*657*	*1330*
Barium	350	1500	***3220*** GS1	***2120***	*866*	*411*	***1850***	156	*539*	*1320*
TLCP Metals (mg/l)										
	-	-	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use SCO.
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Hazardous Soils (i.e., 5 mg/L TCLP), (2) Total SVOCs at 500000 ug/kg, and (3) Metals exceeding Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b) 5 mg/kg for mercury.
3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and Track 4 SSSCOs are bold and highlighted.

U = analyte not detected at or above the level indicated
J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
- = this indicates that no regulatory limit has been established for this analyte
NA = Sample not analyzed for this parameter.
ND = Compound was not detected.
GS1 = Sample dilution required for high concentration of target analytes to be within instrument calibration range.
O01 = Compound has is a common labroatory contaminant.
SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4B
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 2
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION	TRACK 1 SOIL	TRACK 4 SITE-SPECIFIC SOIL	AOC2-3F-NW-4'		AOC2-3F-EW-4'		AOC2-3G-SW-4'		AOC2-4F-WW-4'		3F-B-3		3G-SW-3		AOC2D-SW-4'	
SAMPLING DATE			1 NOV2011		1 NOV2011		1 NOV2011		1 NOV2011		1 NOV2011		1 NOV2011		16 NOV2011	
LAB SAMPLE ID	CLEANUP OBJECTIVE	CLEANUP OBJECTIVE	K2255-02A		K2255-03A		K2255-04A		K2255-05A		K2255-10A		K2255-11A		SB39456-10	
VOCs (ug/kg)																
Methylene chloride	50	100,000	NA		NA		NA		NA		NA		NA		7.9	O01, J
SVOCs (ug/kg)																
1,2,4-Trichlorobenzene	-	-	NA		NA		NA		NA		NA		NA		318	U
1-Methylnaphthalene	-	-	NA		NA		NA		NA		NA		NA		510	U
2,4-Dimethylphenol	-	-	45	U	280	J	44	U	210	U	41	U	39	U	337	U
2-Methylnaphthalene	-	-	52	U	5400		51	U	250	U	240	J	46	U	411	U
2-Methylphenol	-	-	47	U	190	J	47	U	230	U	43	U	41	U	486	U
3 & 4-Methylphenol	-	-	NA		NA		NA		NA		NA		NA		459	U
4-Methylphenol	-	-	44	U	560		220	J	210	U	40	U	38	U		
Acenaphthene	20000	-	360	J	13000	E	680		550	J	690		440		407	J
Acenaphthylene	100000	-	1300		3300		20000	E	2100		550		150	J	398	U
Aniline	-	-	NA		NA		NA		NA		NA		NA		1980	U
Anthracene	100000	-	1500		17000	E	13000	E	910	J	1800		1300		955	J
Azobenzene/Diphenyldiazine	-	-	NA		NA		NA		NA		NA		NA		368	U
Benzidine	-	-	NA		NA		NA		NA		NA		NA		2700	U
Benzo (a) anthracene	1000	-	*6300*		*60000*	E	*73000*	E	*4800*		*5900*		*5100*		*2650*	J
Benzo (a) pyrene	1000	-	*6400*		*15000*	E	*19000*	E	*2400*		*5600*		*5200*		*2180*	J
Benzo (b) fluoranthene	1000	-	*9200*	E	*30000*	E	*62000*	E	*3100*		*7600*	E	*7100*	E	*2040*	J
Benzo (g,h,i) perylene	100000	-	4200		21000	E	55000	E	1600	J	4500		3900		969	J
Benzo (k) fluoranthene	800	-	*2500*		*7000*	E	*20000*	E	*1500*	J	*3000*		*2000*		*2180*	J
Benzoic acid	-	-	NA		NA		NA		NA		NA		NA		667	U
Benzyl alcohol	-	-	NA		NA		NA		NA		NA		NA		482	U
Bis(2-chloroisopropyl)ether	-	-	NA		NA		NA		NA		NA		NA		535	U
Bis(2-ethylhexyl)phthalate	-	-	290	J	36	U	36	U	170	U	130	J	32	U	36200	
Carbazole	-	-	340	J	12000	E	4200		480	J	1000		220	J	722	U
Chrysene	1000	-	*6200*		*10000*	E	*34000*	E	*4700*		*6100*	E	*5200*		*2230*	J
Dibenzo (a,h) anthracene	330	-	*1500*		*9300*	E	*23000*	E	*580*	J	*1600*		*1300*		480	U
Dibenzofuran	-	-	250	J	8500	E	220	J	210	U	450		140	J	543	U
Di-n-butyl phthalate	-	-	180	J	140	J	130	J	170	U	110	J	95	J	526	U
Di-n-octyl phthalate	-	-	35	U	34	U	34	U	170	U	32	U	31	U	653	U
Fluoranthene	100000	-	10000	E	44000	E	45000	E	5000		10000	E	8900	E	4310	
Fluorene	30000	-	370	J	11000	E	990		450	J	660		280	J	442	U
Indeno (1,2,3-cd) pyrene	500	-	*3900*		*20000*	E	*51000*	E	*1400*	J	*4000*		*3400*		*955*	J
Naphthalene	12000	-	110	J	*16000*	E	340	J	240	U	540		45	U	352	U
N-Nitrosodimethylamine	-	-	NA		NA		NA		NA		NA		NA		960	U
Pentachloronitrobenzene	-	-	NA		NA		NA		NA		NA		NA		3410	U
Phenanthrene	100000	-	4500		48000	E	18000	E	3300		7300	E	5000		4010	
Phenol	33	-	46	U	*350*	J	*130*	J	220	U	42	U	81	U	436	U
Pyrene	100000	-	9300	E	64000	E	*100000*	E	4200		9500	E	9100		5340	
Pyridine	-	-	NA		NA		NA		NA		NA		NA		823	U
Total SVOCs	-	500000	68700		416260		**539910**		37070		71270		58825		64426	
Herbicides (ug/kg)																
	-	-	ND		NA		NA		NA		NA		NA		ND	
PCBs (ug/kg)																
Aroclor-1260	-	-	2.3	U	NA		NA		NA		NA		NA		8.78	J
Pesticides (ug/kg)																
4,4'-DDD (p,p')	3.3	13000	*5.6*		NA		NA		NA		NA		NA		2.49	U
4,4'-DDT (p,p')	3.3	7900	0.41	U	NA		NA		NA		NA		NA		*5.81*	J
alpha-Chlordane	-	4200	0.11	U	NA		NA		NA		NA		NA		2.48	P, J
Endrin aldehyde	-	-	5.2		NA		NA		NA		NA		NA		2.42	U
Endrin ketone	-	-	25		NA		NA		NA		NA		NA		2.5	U
gamma-Chlordane	-	-	0.26	U	NA		NA		NA		NA		NA		2.82	J
Total Metals (mg/kg)																
Mercury	0.18	5	NA		NA		NA		NA		*1.5*		*0.76*		NA	
Arsenic	13	16	4.7		8.8		***30***		8.4		7.2		5.8		9.69	
Lead	63	1500	*830*		***4000***		***20000***		*690*		*510*		*230*		*98.7*	
Barium	350	1500	*920*		*5700*		*4500*		*400*		*530*	B	88	B	119	
Cadmium	2.5	4.3	NA		NA		NA		NA		0.55		0.048	J	NA	
Chromium	30	180	NA		NA		NA		NA		21		8.9		NA	
Selenium	3.9	180	NA		NA		NA		NA		0.53	U	0.48	U	NA	
Silver	2	180	NA		NA		NA		NA		0.053	U	0.073	BJ	NA	
TLCP Metals (mg/l)																
	-	-	NA		NA		NA		NA		NA		NA		NA	

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use SCO.

2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Hazardous Soils (i.e., 5 mg/L TCLP), (2) Total SVOCs at 500000 ug/kg, and (3) Metals exceeding Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b) 5 mg/kg for mercury.

3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and Track 4 SSSCOs are bold and highlighted.

U = analyte not detected at or above the level indicated
J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
\- = this indicates that no regulatory limit has been established for this analyte
NA = Sample not analyzed for this parameter.
ND = Compound was not detected.
GS1 = Sample dilution required for high concentration of target analytes to be within instrument calibration range.
O01 = Compound has is a common labroatory contaminant.
SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4C
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 3
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION SAMPLING DATE LAB SAMPLE ID	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	AOC3-3E-EW-6' 24 OCT 2011 SB38029-01		AOC3-4E-WW-6' 12 OCT 2011 SB37451-06		AOC3-3D-EB-11' 12 OCT 2011 SB37451-08		AOC3-4D-NW-6' 12 OCT 2011 SB37451-01		AOC3-3D-NW-6' 12 OCT 2011 SB37451-02		AOC3-3D-NW2-6' 11 NOV 2011 SB39456-11'		AOC3-3D-EW-6' 12 OCT 2011 SB37451-03	
VOCs (ug/kg)																
Methylene chloride	50	100000	NA		16.3	O01, J	8.7	O01, J	NA		NA		NA		NA	
SVOCs (ug/kg)																
Anthracene	20000	-	NA		NA		NA		NA		NA		NA		NA	
Benzo (a) anthracene	1000	-	NA		NA		NA		NA		NA		NA		NA	
Benzo (a) pyrene	1000	-	NA		NA		NA		NA		NA		NA		NA	
Benzo (b) fluoranthene	1000	-	NA		NA		NA		NA		NA		NA		NA	
Benzo (g,h,i) perylene	100000	-	NA		NA		NA		NA		NA		NA		NA	
Benzo (k) fluoranthene	800	-	NA		NA		NA		NA		NA		NA		NA	
Bis(2-ethylhexyl)phthalate	-	-	NA		NA		NA		NA		NA		NA		NA	
Chrysene	1000	-	NA		NA		NA		NA		NA		NA		NA	
Fluoranthene	100000	-	NA		NA		NA		NA		NA		NA		NA	
Indeno (1,2,3-cd) pyrene	500	-	NA		NA		NA		NA		NA		NA		NA	
Phenanthrene	100000	-	NA		NA		NA		NA		NA		NA		NA	
Pyrene	100000	-	NA		NA		NA		NA		NA		NA		NA	
Total SVOCs	-	500000	NA		NA		NA		NA		NA		NA		NA	
Herbicides (ug/kg)																
	-	-	NA		NA		NA		NA		NA		NA		NA	
PCBs (ug/kg)																
	-	-	NA		NA		NA		NA		NA		NA		NA	
Pesticides (ug/kg)																
4,4'-DDT (p,p')	3.3	7900	NA		*6.49*	J	2.36	U	NA		NA		NA		NA	
Total Metals (mg/kg)																
Mercury	0.18	5	***7.27***	GS1	***9.09***	GS1	*1.17*	GS1	***6.59***	GS1	***10.6***	GS1	*2.91*	GS1	*0.0127*	J
Arsenic	13	16	***38.4***		*11.7*		1.5	J	7.28		11.8		5.11		8.89	
Lead	63	1500	*469*		*1110*		61.6		*247*		*593*		*379*		*614*	
Barium	350	400	NA		NA		NA		NA		NA		NA		NA	
Cadmium	2.5	4.3	NA		NA		NA		NA		NA		NA		NA	
Chromium	30	180	NA		NA		NA		NA		NA		NA		NA	
Selenium	3.9	180	NA		NA		NA		NA		NA		NA		NA	
Silver	2	180	NA		NA		NA		NA		NA		NA		NA	
TLCP Metals (mg/l)																
Lead	-	5	0.72		0.79		0.0048	U	0.135		0.326		NA		0.343	

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use SCO.
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Hazardous Soils (i.e., 5 mg/L TCLP), (2) Total SVOCs at 500000 ug/kg, and (3) Metals exceeding Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b) 5 mg/kg for mercury.
3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and Track 4 SSSCOs are bold and highlighted.

U = analyte not detected at or above the level indicated
J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
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NA = Sample not analyzed for this parameter.
ND = Compound was not detected.
GS1 = Sample dilution required for high concentration of target analytes to be within instrument calibration range.
O01 = Compound has is a common labroatory contaminant.
SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4C
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 3
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION SAMPLING DATE LAB SAMPLE ID	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	AOC3-3E-SW-6' 12 OCT 2011 SB37451-04	AOC3-4E-SW-6' 12 OCT 2011 SB37451-05	AOC3-4D-WW-6' 12 OCT 2011 SB37451-07	AOC3-4D-WB-11' 12 OCT 2011 SB37451-09	AOC3A-NW-6' 16 NOV 2011 SB39456-14	AOC3G-WW-6' 16 NOV 2011 SB39456-22	AOC3B-SW-6' 16 NOV 2011 SB39456-20	AOC3B-EW-6' 16 NOV 2011 SB39456-17
VOCs (ug/kg)										
Methylene chloride	50	100000	NA	NA	NA	NA	NA	NA	NA	NA
SVOCs (ug/kg)										
Anthracene	20000	-	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (a) anthracene	1000	-	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (a) pyrene	1000	-	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (b) fluoranthene	1000	-	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i) perylene	100000	-	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (k) fluoranthene	800	-	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	-	-	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	1000	-	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	100000	-	NA	NA	NA	NA	NA	NA	NA	NA
Indeno (1,2,3-cd) pyrene	500	-	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	100000	-	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	100000	-	NA	NA	NA	NA	NA	NA	NA	NA
Total SVOCs	-	500000	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides (ug/kg)										
	-	-	NA	NA	NA	NA	NA	NA	NA	NA
PCBs (ug/kg)										
	-	-	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides (ug/kg)										
4,4'-DDT (p,p')	3.3	7900	NA	NA	NA	NA	NA	NA	NA	NA
Total Metals (mg/kg)										
Mercury	0.18	5	*4.02* GS1	*1.55* GS1	*4.43* GS1	*0.693*	*0.638* GS1	*3.5* GS1	0.0799	*2.68* GS1
Arsenic	13	16	6.05	6.81	8.99	1.44 J	7.44	10.4	2.48	7.56
Lead	63	1500	*454*	*224*	*73.8*	22.2	*75.8*	*521*	60.3	*710*
Barium	350	400	NA	NA	NA	NA	NA	347	237	*1050*
Cadmium	2.5	4.3	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	30	180	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	3.9	180	NA	NA	NA	NA	NA	NA	NA	NA
Silver	2	180	NA	NA	NA	NA	NA	NA	NA	NA
TLCP Metals (mg/l)										
Lead	-	5	0.404	0.115	0.0182	0.013 J	NA	NA	NA	NA

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Enviro
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Haz
Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b
3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and

U = analyte not detected at or above the level indicated
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GS1 = Sample dilution required for high concentration of target analytes to be within instrument ca
O01 = Compound has is a common labroatory contaminant.
SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4C
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 3
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION **SAMPLING DATE** **LAB SAMPLE ID**	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	3B-B-3.5' 40823 SB37050-03		3C-B-3.5' 40823 SB37050-04		4C-B-3.5' 40823 SB37050-05		DUP-1 12 OCT 2011 SB37451-10		Field Blank 12 OCT 2011 SB37451-11	
VOCs (ug/kg)												
Methylene chloride	50	100000	NA		NA		NA		NA		0.7	U
SVOCs (ug/kg)												
Anthracene	20000	-	24.4	J	26.2	U	22.3	U	NA		NA	
Benzo (a) anthracene	1000	-	83.6	J	44.6	J	29.1	J	NA		NA	
Benzo (a) pyrene	1000	-	71	J	85.5	J	27.6	J	NA		NA	
Benzo (b) fluoranthene	1000	-	66.2	J	68	J	26	J	NA		NA	
Benzo (g,h,i) perylene	100000	-	30.8	U	51.8	J	29.1	U	NA		NA	
Benzo (k) fluoranthene	800	-	87.7	J	70.7	J	33.5	U	NA		NA	
Bis(2-ethylhexyl)phthalate	-	-	18	U	20	U	76.6	J	NA		NA	
Chrysene	1000	-	79.6	J	47.3	J	26.4	J	NA		NA	
Fluoranthene	100000	-	143	J	61.7	J	39.8	J	NA		NA	
Indeno (1,2,3-cd) pyrene	500	-	37.1	U	43.2	J	35	U	NA		NA	
Phenanthrene	100000	-	109	J	48.6	J	23.4	J	NA		NA	
Pyrene	100000	-	156	J	77	J	52.1	J	NA		NA	
Total SVOCs	-	500000	820.5		598.4		301		NA		NA	
Herbicides (ug/kg)												
	-	-	NA		NA		NA		NA		ND	
PCBs (ug/kg)												
	-	-	NA		NA		NA		NA		ND	
Pesticides (ug/kg)												
4,4'-DDT (p,p')	3.3	7900	NA		NA		NA		NA		0.002	U
Total Metals (mg/kg)												
Mercury	0.18	5	*4.45*	GS1	*4.29*	GS1	*1.12*	GS1	*3.96*	GS1	NA	
Arsenic	13	16	7.02		8.29		4.85		*14.4*		0.0032	U
Lead	63	1500	*277*		*210*		*103*		*823*		0.0045	U
Barium	350	400	163		163		94.1		NA		NA	
Cadmium	2.5	4.3	0.524	J	0.644		0.465	J	NA		NA	
Chromium	30	180	21		17		18.3		NA		NA	
Selenium	3.9	180	0.493	J	0.677	J	0.272	J	NA		NA	
Silver	2	180	0.271	U	0.292	U	0.251	U	NA		NA	
TLCP Metals (mg/l)												
Lead	-	5	0.0812		0.116		0.0415		0.15		0.0048	U

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Enviro
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Haz
Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b
3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and

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J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Li
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SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4D
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 4
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION SAMPLING DATE LAB SAMPLE ID	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	AOC4-5E-NW -6' 11 OCT 2011 SB37248-01	AOC4-4E-NW -6' 11 OCT 2011 SB37248-02	AOC4-4E-EW -6' 11 OCT 2011 SB37248-03RE1	AOC4-4F-EW -6' 11 OCT 2011 SB37248-04	AOC4-4F-SW -6' 11 OCT 2011 SB37248-05	AOC4-5E-WW -6' 11 OCT 2011 SB37248-06	AOC4-5E-WB -11' 11 OCT 2011 SB37248-07	AOC4-4E-EB -11' 11 OCT 2011 SB37248-08	AOC4-5F-WW-6' 11 OCT 2011 SB37248-09	AOC4-5F-SW-6' 11 OCT 2011 SB37248-10	5F-WW-3' 1 NOV 2011 K2255-13	AOC4-5E-WW 2-6' 24 NOV 2011 SB38029-03	AOC4F-SW-6' 16 NOV 2011 SB39456-23	AOC4F-SWT1-6' 16 NOV 2011 SB39456-24	AOC4H-WW-6' 16 NOV 2011 SB39456-25
VOCs (ug/kg)																	
Methylene chloride	50	100000	22.8 O01	NA	NA	NA	NA	NA	NA	NA	17.7 O01	NA	NA	NA	NA	NA	NA
SVOCs (ug/kg)																	
1-Methylnaphthalene	-	-	28.9 U	141 J	3440 J	280 U	212 J	478 J	30.6 U	40.3 U	416 J	586 U	NA	289 U	274 U	NA	26.7 U
2-Methylnaphthalene	-	-	23.3 U	135 J	4790	243 J	248 J	482 J	24.6 U	32.5 U	420 J	472 U	46 U	233 U	220 U	NA	21.5 U
Acenaphthene	20000	-	22.2 U	428	8900	649 J	563 J	1360 J	23.5 U	31 U	703 J	533 J	43 U	433 J	210 U		20.5 U
Acenaphthylene	100000	-	22.6 U	68.8 J	1370 J	219 U	141 J	288 J	23.9 U	31.5 U	211 U	977 J	76 J	225 U	347 J	NA	20.9 U
Anthracene	100000	-	25.9 J	1020	19600	1980	1440	3940	24.5 U	42.8 J	1380 J	1370 J	30 U	875 J	264 J	NA	21.4 U
Benzo (a) anthracene	1000	-	64.1 J	*2450*	*36400*	*4890*	*3640*	*10300*	24.3 U	75.5 J	*3680*	*7610*	240 J	*2200*	*1110* J	NA	37.2 J
Benzo (a) pyrene	1000	-	56.5 J	*2150*	*35400*	*4460*	*3250*	*9590*	27.5 U	65.5 J	*3310*	*8850*	250 J	*1900* J	*1350* J	NA	27.2 J
Benzo (b) fluoranthene	1000	-	42.6 J	*2320*	*42100*	*4680*	*3610*	*10000*	25.1 U	56.7 J	*3950*	*8140*	320 J	*2080*	*1320* J	NA	22 U
Benzo (g,h,i) perylene	100000	-	30.2 U	794	13700	1950	1240	3790	32 U	42.2 U	1310 J	3670 J	250 J	1060 J	1020 J	NA	27.9 U
Benzo (k) fluoranthene	800	-	48.1 J	*1810*	*22600*	*3390*	*2410*	*7980*	36.9 U	65 J	*2840*	*7560*	170 J	*1480* J	*1270* J	NA	32.2 U
Carbazole	-	-	40.9 U	565	10800	1020 J	954 J	2280	43.3 U	57.2 U	956 J	831 U	31 U	589 J	388 U	NA	37.9 U
Chrysene	1000	-	62.5 J	*2570*	*35900*	*4950*	*3470*	*11100*	24.9 U	86.1 J	*3970*	*6570*	320 J	*1990*	*1040* J	NA	30.5 J
Dibenzo (a,h) anthracene	330	-	27.2 U	218 J	*3970*	*544* J	*366* J	*1020* J	28.8 U	38 U	*350* J	*840* J	39 U	272 U	275 J	NA	25.2 U
Dibenzofuran	-	-	30.8 U	278 J	7450	432 J	445 J	863 J	32.6 U	43 U	673 J	625 U	40 U	308 U	292 U	NA	28.5 U
Di-n-butyl phthalate	-	-	29.8 U	63.7 U	572 U	290 U	160 U	292 U	31.6 U	41.7 U	279 U	605 U	130 J	298 U	283 U	NA	27.6 U
Fluoranthene	100000	-	124 J	7850	*131000* E	13300	10200	32900	40.4 J	228 J	11900	15200	520	5390	1510 J	NA	47.8 J
Fluorene	30000	-	25.1 U	454	11100	745 J	685 J	1470 J	26.5 U	96.6 J	859 J	509 U	37 U	390 J	237 U	NA	23.2 U
Indeno (1,2,3-cd) pyrene	500	-	36.4 U	*887*	*15200*	*2100*	*1350*	*4140*	38.5 U	50.8 U	*1380* J	*3780* J	160 J	*1050* J	*927* J	NA	33.7 U
Naphthalene	12000	-	19.9 U	316 J	*18200*	598 J	556 J	859 J	21.1 U	27.8 U	714 J	404 U	45 U	386 J	189 U	NA	18.4 U
Phenanthrene	100000	-	110 J	7080	*134000* E	11300	8560	24700	36.2 J	277	13100	5760	380	4760	1300 J	NA	42.3 J
Pyrene	100000	-	97.9 J	5750	86200 E	11000	7660	23800	41.9 U	157 J	9510	13600	510	4150	1960	NA	61.5 J
Total SVOCs	-	500000	631.6	37285	**642120**	68231	51000	151340	77	1150	61421	70860	3326	28733	13693	NA	246.5
Herbicides (ug/kg)																	
2,4-D	-	-	35.4	NA	NA	NA	NA	NA	NA	NA	30.4	NA	5.89 U	NA	NA	NA	NA
MCPB	-	-	1360 U	NA	NA	NA	NA	NA	NA	NA	1250 U	NA	NA	NA	NA	NA	NA
PCBs (ug/kg)																	
	-	-	ND	NA	NA	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	NA	NA
Pesticides (ug/kg)																	
4,4'-DDE (p,p')	3.3	8900	2.2 U	NA	NA	NA	NA	NA	NA	NA	2.1 U	NA	*4.7*	NA	NA	NA	NA
4,4'-DDT (p,p')	3.3	7900	2.37 U	NA	NA	NA	NA	NA	NA	NA	*4.74* J	NA	*17*	NA	NA	NA	NA
Alachlor	-	-	3.39 U	NA	NA	NA	NA	NA	NA	NA	3.24 U	NA	NA	NA	NA	NA	NA
Chlordane	94	4200	20.3 U	NA	NA	NA	NA	NA	NA	NA	19.4 U	NA	NA	NA	NA	NA	NA
Endrin aldehyde	-	-	2.68 U	NA	NA	NA	NA	NA	NA	NA	2.56 U	NA	5.7	NA	NA	NA	NA
Total Metals (mg/kg)																	
Mercury	0.18	5	*3.08* GS1	*2.39* GS1	*2.64* GS1	*1*	*4.9* GS1	*0.872*	0.0699	***27.3*** GS1	*1.33* GS1	***70.1***	*0.48*	*2.4* GS1	NA	NA	NA
Arsenic	13	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11	NA	0.902 GS1	NA	1.04 GS1
Lead	63	1500	***5700*** GS1	*1310*	*1140*	*283*	*956*	*852*	13.7	*200*	*208*	***4080***	*250*	**2830**	**1740**	792	44.1
Barium	350	1500	***3550***	*1250*	*1020*	*382*	*1380*	*1100*	66.3	127	197	***2360***	340 B	*1200*	*1310*	NA	66.1
Cadmium	2.5	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.28	NA	NA	NA	NA
Chromium	30	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.6	NA	NA	NA	NA
Selenium	3.9	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.6 J	NA	NA	NA	NA
Silver	2	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.051 U	NA	NA	NA	NA
TLCP Metals (mg/l)																	
	-	5	**33.6**	4.28	2.65	0.201	1.92	**5.02**	0.0133 J	0.0137	0.0479	1.58		2.6	NA	NA	NA

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use SCO.
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Hazardous Soils (i.e., 5 mg/L TCLP), (2) Total SVOCs at 500000 ug/kg, and (3) Metals exceeding Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b) 5 mg/kg for mercury.
3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and Track 4 SSSCOs are bold and highlighted.

U = analyte not detected at or above the level indicated
J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
- = this indicates that no regulatory limit has been established for this analyte
NA = Sample not analyzed for this parameter.
ND = Compound was not detected.
GS1 = Sample dilution required for high concentration of target analytes to be within instrument calibration range.
O01 = Compound has is a common labroatory contaminant.
SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4E
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 5
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION **SAMPLING DATE** **LAB SAMPLE ID**	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	AOC5-5F-NW-4' 1 NOV 2011 K2255-06	AOC5-5G-EW-4' 1 NOV 2011 K2255-07	AOC5-5G-WW-4' 1 NOV 2011 K2255-09	5G-WW-3' 1 NOV 2011 K2255-14	4F-B-3' 1 NOV 2011 K2255-12	AOC5-5G-SW-4' 1 NOV 2011 K2255-08	AOC5E-EW-4' 16 NOV 2011 SB39456-26	AOC5E-EWT1-4' 16 NOV 2011 SB39456-27
VOCs (ug/kg)										
Methylene chloride	50	100000	NA	NA	NA	NA	NA	NA	39.7 J	NA
Tetrachloroethene	1300	19000	NA	NA	NA	NA	NA	NA	192	NA
SVOCs (ug/kg)										
4-Methylphenol	-	-	NA	NA	NA	120 J	40 U	NA	NA	NA
Acenaphthylene	100000	-	NA	NA	NA	76 J	160 J	NA	NA	NA
Anthracene	100000	-	NA	NA	NA	30 U	170 J	NA	NA	NA
Benzo(a)anthracene	1000	-	NA	NA	NA	130 J	600	NA	NA	NA
Benzo(a)pyrene	1000	-	NA	NA	NA	120 J	600	NA	NA	NA
Benzo(b)fluoranthene	1000	-	NA	NA	NA	240 J	850	NA	NA	NA
Benzo(g,h,i)perylene	100000	-	NA	NA	NA	87 J	410	NA	NA	NA
Benzo(k)fluoranthene	800	-	NA	NA	NA	110 J	330 J	NA	NA	NA
Bis(2-ethylhexyl)phthalate	-	-	NA	NA	NA	8000 E	33 U	NA	NA	NA
Carbazole	-	-	NA	NA	NA	31 U	100 J	NA	NA	NA
Chrysene	10000	-	NA	NA	NA	190 J	630	NA	NA	NA
Di-n-butylphthalate	-	-	NA	NA	NA	130 J	98 J	NA	NA	NA
Dibenzo(a,h)anthracene	330	-	NA	NA	NA	39 U	130 J	NA	NA	NA
Diethylphthalate	-	-	NA	NA	NA	160 J	27 U	NA	NA	NA
Fluoranthene	100000	-	NA	NA	NA	340 J	1200	NA	NA	NA
Fluorene	30000	-	NA	NA	NA	37 U	77 J	NA	NA	NA
Indeno(1,2,3-cd)pyrene	500	-	NA	NA	NA	83 J	360 J	NA	NA	NA
Phenanthrene	100000	-	NA	NA	NA	190 J	790	NA	NA	NA
Pyrene	100000	-	NA	NA	NA	300 J	1100	NA	NA	NA
Total SVOCs	-	500000	NA	NA	NA	10276	7605	NA	NA	NA
Herbicides (ug/kg)										
	-	-	NA	NA	NA	NA	NA	NA	ND	NA
PCBs (ug/kg)										
Aroclor-1254	-	-	NA	NA	NA	ND	200	NA	8.26 U	NA
Pesticides (ug/kg)										
4,4'-DDD (p,p')	3.3	13000	NA	NA	NA	0.25 U	5.3	NA	2.71 U	NA
4,4'-DDE (p,p')	3.3	8900	NA	NA	NA	4.7	0.29 U	NA	2.16 U	NA
4,4'-DDT (p,p')	3.3	7900	NA	NA	NA	17	14	NA	3.34 U	NA
Alachlor	-	-	NA	NA	NA			NA	3.33 U	NA
Chlordane	94	4200	NA	NA	NA			NA	19.9 U	NA
delta-BHC	36	100000	NA	NA	NA	0.13 U	0.14 U	NA	2.62 U	NA
Endrin aldehyde	-	-	NA	NA	NA	5.7	0.27 U	NA	2.63 U	NA
Endrin ketone	-	-	NA	NA	NA	0.13 U	16	NA	2.72 U	NA
Total Metals (mg/kg)										
Mercury	0.18	5	NA	NA	NA	1.8	*0.71*	NA	NA	NA
Arsenic	13	16	NA	NA	NA	*15*	4.8	NA	NA	NA
Lead	63	1500	*200*	***2300***	*530*	*570*	*310*	*280*	***3510***	***3620***
Barium	350	1500	*450* B	*1100* B	*620* B	*400*	*670* B	200 B	***2760*** GS1	***1510***
Cadmium	2.5	4.3	NA	NA	NA	2.2	0.57	NA	NA	NA
Chromium	30	180	NA	NA	NA	22	19	NA	NA	NA
Selenium	3.9	180	NA	NA	NA	0.46 U	0.65 U	NA	NA	NA
Silver	2	180	NA	NA	NA	0.37	0.065 U	NA	NA	NA
TLCP Metals (mg/l)										
	-	-	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use SCO.
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Hazardous Soils (i.e., 5 mg/L TCLP), (2) Total SVOCs at 500000 ug/kg, and (3) Metals exceeding Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b) 5 mg/kg for mercury.
3. Only detected concentrations are presented. Track 1 SCO exceedaces are shown in *italics* and Track 4 SSSCOs are bold and highlighted.
U = analyte not detected at or above the level indicated
J = analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated
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NA = Sample not analyzed for this parameter.
ND = Compound was not detected.
GS1 = Sample dilution required for high concentration of target analytes to be within instrument calibration range.
O01 = Compound has is a common labroatory contaminant.
SCO = Soil Cleanup Objective
SSSCO = Site-Specific Soil Cleanup Objective

TABLE 4F
ENDPOINT SAMPLE DETECTION SUMMARY FOR AOC 6
177 HARRISON AVENUE
BROOKLYN, NEW YORK
NYSDEC VCA SITE NO. V-00350-2
LANGAN PROJECT NO. 170091701

LOCATION **SAMPLING DATE** **LAB SAMPLE ID**	TRACK 1 SOIL CLEANUP OBJECTIVE	TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVE	AOC6-5D-B-8' 16 NOV 2011 SB39456-28		AOC6-5D-WW-4' 16 NOV 2011 SB39456-29		AOC6-4D-EW-4' 16 NOV 2011 SB39456-30		DUP-A' 16 NOV 2011 SB39456-42		AOC6-4D-T1-4' 16 NOV 2011 SB39456-31		AOC6-5D-NW-4' 16 NOV 2011 SB39456-32		AOC6-5D-T1-4' 16 NOV 2011 SB39456-33	
VOCs (ug/kg)																
Methylene chloride	50	100000	6.3	O01, J	NA		NA		NA		NA		NA		NA	
SVOCs (ug/kg)																
1-Methylnaphthalene	-	-	27.4	U	559	U	31.8	U	3550	J	NA		2310	J	NA	
2-Methylnaphthalene	-	-	22.1	U	450	U	25.6	U	2880	J	NA		1290	J	NA	
Acenaphthene	20000	-	21.1	U	429	U	24.4	U	7890	J	NA		3010	J	NA	
Acenaphthylene	100000	-	21.4	U	436	U	24.8	U	1570	J	NA		1060	J	NA	
Anthracene	100000	-	22	U	639	J	25.5	U	12600		NA		5990		NA	
Benzo (a) anthracene	1000	-	21.8	U	*1680*	J	85.4	J	*29700*		NA		*15500*		NA	
Benzo (a) pyrene	1000	-	24.7	U	*1320*	J	64.8	J	*24400*		NA		*11500*		NA	
Benzo (b) fluoranthene	1000	-	22.6	U	*1190*	J	57	J	*22500*		NA		*10800*		NA	
Benzo (g,h,i) perylene	100000	-	28.7	U	724	J	33.3	U	11700		NA		5530		NA	
Benzo (k) fluoranthene	800	-	33.1	U	*1200*	J	60	J	*24300*		NA		*10600*		NA	
Chrysene	10000	-	22.3	U	1550	J	76.2	J	*27400*		NA		*15500*		NA	
Dibenzo (a,h) anthracene	330	-	25.9	U	526	U	30	U	*3720*	J	NA		*1760*	J	NA	
Dibenzofuran	-	-	29.3	U	596	U	33.9	U	3630	J	NA		1400	J	NA	
Fluoranthene	100000	-	34.2	U	2540	J	127	J	56900		NA		30500		NA	
Fluorene	30000	-	23.8	U	485	U	27.6	U	7560	J	NA		3250	J	NA	
Indeno (1,2,3-cd) pyrene	500	-	34.6	U	704	U	40.1	U	*11500*		NA		*5400*		NA	
Naphthalene	12000	-	18.9	U	386	U	22	U	7220	J	NA		1640	J	NA	
Phenanthrene	100000	-	21.1	U	2780	J	123	J	69200		NA		40600		NA	
Pyrene	100000	-	37.6	U	3870		183	J	67200		NA		38800		NA	
Total SVOCs	-	500000	ND		17493		776		395420		NA		206440		NA	
Herbicides (ug/kg)																
	-	-	ND		NA		NA		NA		NA		NA		NA	
PCBs (ug/kg)																
	-	-	ND		NA		NA		NA		NA		NA		NA	
Pesticides (ug/kg)																
	-	-	ND		NA		NA		NA		NA		NA		NA	
Total Metals (mg/kg)																
Mercury	0.18	5	0.0431		*16.8*	GS1	*3.9*	GS1	*11.2*	GS1	*9.44*	GS1	*7.57*	GS1	*0.798*	GS1
Arsenic	13	16	NA		NA		NA		NA		NA		NA		NA	
Lead	63	1500	19.4		*676*		*212*		*1460*		NA		*3860*		*409*	
Barium	350	1500	41.9		*375*		245		*853*		NA		*3060*	GS1	*367*	
TLCP Metals (mg/l)																
Lead	-	-	NA		NA		NA		NA		NA		NA		NA	

NOTES:

1. Track 1 Soil Cleanup Objective (SCO) corresponds to the New York State Department of Environmental Conservation (NYSDEC) 6 NYCRR Part 375 Unrestricted Use SCO.
2. Track 4 Site-Specific Soil Cleanup Objectives SSCOs are as follows: (1) Characteristic Lead Hazardous Soils (i.e., 5 mg/L TCLP), (2) Total SVOCs at 500000 ug/kg, and (3) Metals exceeding Part 375 Commercial Use SCOs, with the exception of (a) 1,500 mg/kg for lead and barium, and (b) 5 mg/kg for mercury.
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Table 5
Soil Disposal Summary
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Disposal Date	Type of Material	Waste Characterization Grid	Number of Loads	Tonnage	Facility
10/6/2011	Haz, lead contam. soil	9 and 11	21	442.25	CENJ
10/7/2011	Haz, lead contam. soil	9, 11, 12, 1A, and 3A	21	466.59	CENJ
10/11/2011	Haz, lead contam. Soil	8 and 10	8	198.15	CENJ
10/24/2011	Haz, lead contam. soil	8, 10, 1A, and 3A	18	380.7	CENJ
		Total Hazardous Soil Disposed [2]	*68*	*1487.69*	
10/11/2011	Non-haz, contam. historic fill	8 and 10	7	177.41	CENJ
10/12/2011	Non-haz, contam. historic fill	8	10	248.77	CENJ
10/31/2011	Non-haz, contam. historic fill	7	28	830.51	Soil Safe
11/1/2011	Non-haz, contam. historic fill	6,7	19	567.35	Soil Safe
12/1/2011	Non-haz, contam. historic fill	4,6,and 7	18	586.33	Soil Safe
12/2/2011	Non-haz, contam. historic fill	2,4,and 6	17	527.19	Soil Safe
12/5/2011	Non-haz, contam. historic fill	2 and 7	8	229.8	Soil Safe
12/6/2011	Non-haz, contam. historic fill	2,3, and 5	10	303.04	Soil Safe
12/8/2011	Non-haz, contam. historic fill	2,5, and 7	16	501.66	Soil Safe
12/9/2011	Non-haz, contam. historic fill	3,5, and 7	13	405.6	Soil Safe
12/13/2011	Non-haz contam. historic fill	5, 6, and 7	17	527.81	Soil Safe
12/14/2011	Non-haz contam. historic fill	5 and 6	10	304.04	Soil Safe
12/20/2011	Non-haz contam. historic fill	1, 5, 6 and 12	6	173.41	Cumberland
12/21/2011	Non-haz contam. historic fill	1	4	119.9	Cumberland
12/22/2011	Non-haz contam. historic fill	1	5	146.77	Cumberland
12/23/2011	Non-haz contam. historic fill	1	2	60.94	Cumberland
12/27/2011	Non-haz contam historic fill	1 and 12	2	62.77	Cumberland
3/23/2012	Non-haz contam. historic fill	2 and 5	2	55.08	Soil Safe
		Total Non-Hazardous Soil Disposed [2]	*194*	*5828.38*	
		Total Soil Disposed [2]	**262**	**7316.07**	

NOTES:

[1]Includes off-site grids located on the northern portion of Lot 1.

[2]Includes soil excavated from off-site grids on northern portion of Lot 1.

640.4 tons (29 loads) of hazardous soil and 2,655.89 tons (91 loads) of non-hazardous soil originated exclusively from the State VCA Parcel.

CENJ = Clean Earth of North Jersey, Kearny, NJ
Soil Safe = Soil Safe, Inc., Logan Township, NJ
Cumberland = Cumberland County Landfill, Deerfield, NJ
Haz = hazardous
Non-haz = non-hazardous

Table 6
Imported Material Summary Log
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Load Number	Trucking Company	Date Imported	Trucking Ticket Number	Source Facility
1	Rotundi/BBM	10/24/2011	2062429	Pebble Lane
2		10/24/2011	2062441	
3		10/24/2011	2062449	
4		10/31/2011	2062911	
5		12/2/2011	25001152	
6		12/2/2011	25001161	
7		12/2/2011	25001185	
8		12/6/2011	25001349	
9		12/6/2011	25001358	
10		12/6/2011	25001370	
11		12/6/2011	25001376	
12		12/6/2011	25001379	
13		12/7/2011	25001417	
14		12/7/2011	25001419	
15		12/7/2011	25001421	
16		12/7/2011	25001428	
17		12/7/2011	25001431	
18		12/7/2011	25001440	
19		12/7/2011	25001441	
20		12/7/2011	25001448	
21	Rotundi/BBM	12/7/2011	25001449	Pebble Lane
22		12/7/2011	25001454	
23		12/7/2011	25001455	
24		12/7/2011	25001462	
25		12/7/2011	25001463	
26		12/7/2011	25001468	
27		12/7/2011	25001469	
28		12/8/2011	25001503	
29		12/8/2011	25001504	
30		12/8/2011	25001510	
31		12/8/2011	25001513	
32		12/8/2011	25001518	
33		12/8/2011	25001521	
34		12/8/2011	25001525	
35		12/8/2011	25001529	
36		12/8/2011	25001537	
37		12/8/2011	25001540	
38		12/8/2011	25001542	
39		12/8/2011	25001547	
40		12/8/2011	25001549	
41		12/8/2011	25001556	
42		12/8/2011	25001567	
43		12/8/2011	-	
44		12/8/2011	-	

Table 6
Imported Material Summary Log
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Load Number	Trucking Company	Date Imported	Trucking Ticket Number	Source Facility
45	Rotundi/BBM	12/9/2011	25001597	Pebble Lane
46		12/9/2011	25001598	
47		12/9/2011	25001604	
48		12/9/2011	25001605	
49		12/9/2011	25001606	
50		12/9/2011	25001607	
51		12/9/2011	25001618	
52		12/9/2011	25001630	
53		12/9/2011	25001640	
54		12/9/2011	25001647	
55		12/12/2011	25001762	
56		12/12/2011	25001763	
57		12/12/2011	25001772	
58		12/12/2011	25001782	
59		12/12/2011	25001787	
60		12/12/2011	25001794	
61	Redwood Contracting Corp.	12/12/2011	2921	East Side Access Tunnel
62		12/12/2011	2922	
63		12/12/2011	2923	
64		12/12/2011	2925	
65		12/12/2011	2926	
66		12/12/2011	2927	
67	Rotundi/BBM	12/13/2011	25001825	Pebble Lane
68		12/13/2011	25001831	
69		12/13/2011	25001832	
70		12/13/2011	25001838	
71		12/13/2011	25001841	
72		12/13/2011	25001843	
73		12/13/2011	25001846	
74		12/13/2011	25001855	
75		12/13/2011	25001856	
76		12/13/2011	25001861	
77		12/13/2011	25001865	
78		12/13/2011	25001875	
79		12/13/2011	25001878	
80		12/13/2011	25001880	
81		12/13/2011	25001885	
82		12/13/2011	25001889	
83		12/14/2011	25001923	
84		12/14/2011	25001924	
85		12/14/2011	25001928	
86		12/14/2011	25001930	
87		12/14/2011	25001935	
88		12/14/2011	25001937	

Table 6
Imported Material Summary Log
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Load Number	Trucking Company	Date Imported	Trucking Ticket Number	Source Facility
89	Rotundi/BBM	12/14/2011	25001941	Pebble Lane
90		12/14/2011	25001942	
91		12/14/2011	25001949	
92		12/14/2011	25001950	
93		12/14/2011	25001954	
94		12/14/2011	25001957	
95		12/14/2011	25001961	
96		12/14/2011	25001962	
97		12/14/2011	25001968	
98		12/14/2011	25001972	
99		12/14/2011	25001979	
100		12/14/2011	25001980	
101		12/15/2011	25002060	
102		12/16/2011	25002129	
103		12/16/2011	25002141	
104		12/16/2011	25002154	
105		12/20/2011	25002388	
106		12/20/2011	25002399	
107		12/20/2011	25002411	
108		12/21/2011	25002475	
109		12/21/2011	25002480	
110	Rotundi/BBM	12/21/2011	25002486	Pebble Lane
111		12/22/2011	25002518	
112		12/22/2011	25002523	
113		12/22/2011	25002533	
114		12/22/2011	25002534	
115		12/22/2011	25002539	
116		12/22/2011	25002544	
117		12/22/2011	25002552	
118		12/22/2011	25002561	
119		12/22/2011	25002579	
120		12/23/2011	25002595	
121		12/23/2011	25002599	
122		12/23/2011	25002604	
123		12/23/2011	25002607	
124		12/23/2011	25002615	
125		12/23/2011	25002620	
126		12/23/2011	25002625	
127		12/23/2011	25002629	
128		12/27/2011	25002639	
129		12/27/2011	25002645	
130		12/27/2011	25002652	
131		12/27/2011	25002655	
132		12/27/2011	25002661	

Table 6
Imported Material Summary Log
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Load Number	Trucking Company	Date Imported	Trucking Ticket Number	Source Facility
133	Rotundi/BBM	12/27/2011	25002662	Pebble Lane
134		12/27/2011	25002668	
135		12/27/2011	25002672	
136		12/27/2011	25002675	
137		12/27/2011	25002682	
138		12/27/2011	25002688	
139		12/27/2011	25002692	
140		12/27/2011	25002747*	
141		12/27/2011	25002748*	
142		12/27/2011	25002749*	
143		12/27/2011	25002750*	
144		12/27/2011	25002751*	
145		12/27/2011	25002752*	
146		12/27/2011	25002753*	
147		12/27/2011	25002754*	
148		12/27/2011	25002755*	
149		12/27/2011	25002756*	
150		12/27/2011	25002757*	
151		12/28/2011	25002723	
152		12/28/2011	25002729	
153		12/28/2011	25002730	
154		12/28/2011	25002733	
155		12/28/2011	25002738	
156		12/28/2011	25002744	
157	Rotundi/BBM	12/28/2011	25002758	Pebble Lane
158		12/28/2011	25002760	
159		12/28/2011	25002761	
160		12/28/2011	25002764	
161		12/28/2011	25002767	
162		12/28/2011	25002774	
163		12/28/2011	25002776	
164		12/28/2011	25002778	
165		12/28/2011	25002782	
166		12/28/2011	25002786	
167		12/28/2011	25002788	
168		12/28/2011	25002797	
169		12/28/2011	25002798	
170		12/29/2011	25002833	
171		12/29/2011	25002835	
172		12/29/2011	25002841	
173		12/29/2011	25002842	
174		12/29/2011	25002844	
175		12/29/2011	25002845	
176		12/29/2011	25002853	

Table 6
Imported Material Summary Log
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Load Number	Trucking Company	Date Imported	Trucking Ticket Number	Source Facility
177	Rotundi/BBM	12/29/2011	25002854	Pebble Lane
178		12/29/2011	25002857	
179		12/29/2011	25002858	
180		12/29/2011	25002864	
181		12/29/2011	25002865	
182		12/29/2011	25002872	
183		12/29/2011	25002874	
184		12/29/2011	25002876	
185		12/29/2011	25002877	
186		12/29/2011	25002881	
187		12/29/2011	25002882	
188		12/30/2011	25002910	
189		12/30/2011	25002911	
190		12/30/2011	25002914	
191		12/30/2011	25002915	
192		12/30/2011	25002918	
193		12/30/2011	25002919	
194		12/30/2011	25002923	
195		12/30/2011	25002924	
196		12/30/2011	25002933	
197		12/30/2011	25002937	
198		12/30/2011	25002938	
199		12/30/2011	25002939	
200		12/30/2011	25002944	
201		12/30/2011	25002945	

NOTES:
Supply Facilities:
Pebble Lane Facility - Maspeth, NY
East Side Access Tunnel Construction Project (Metropolitan Transit Authority) - New York, NY

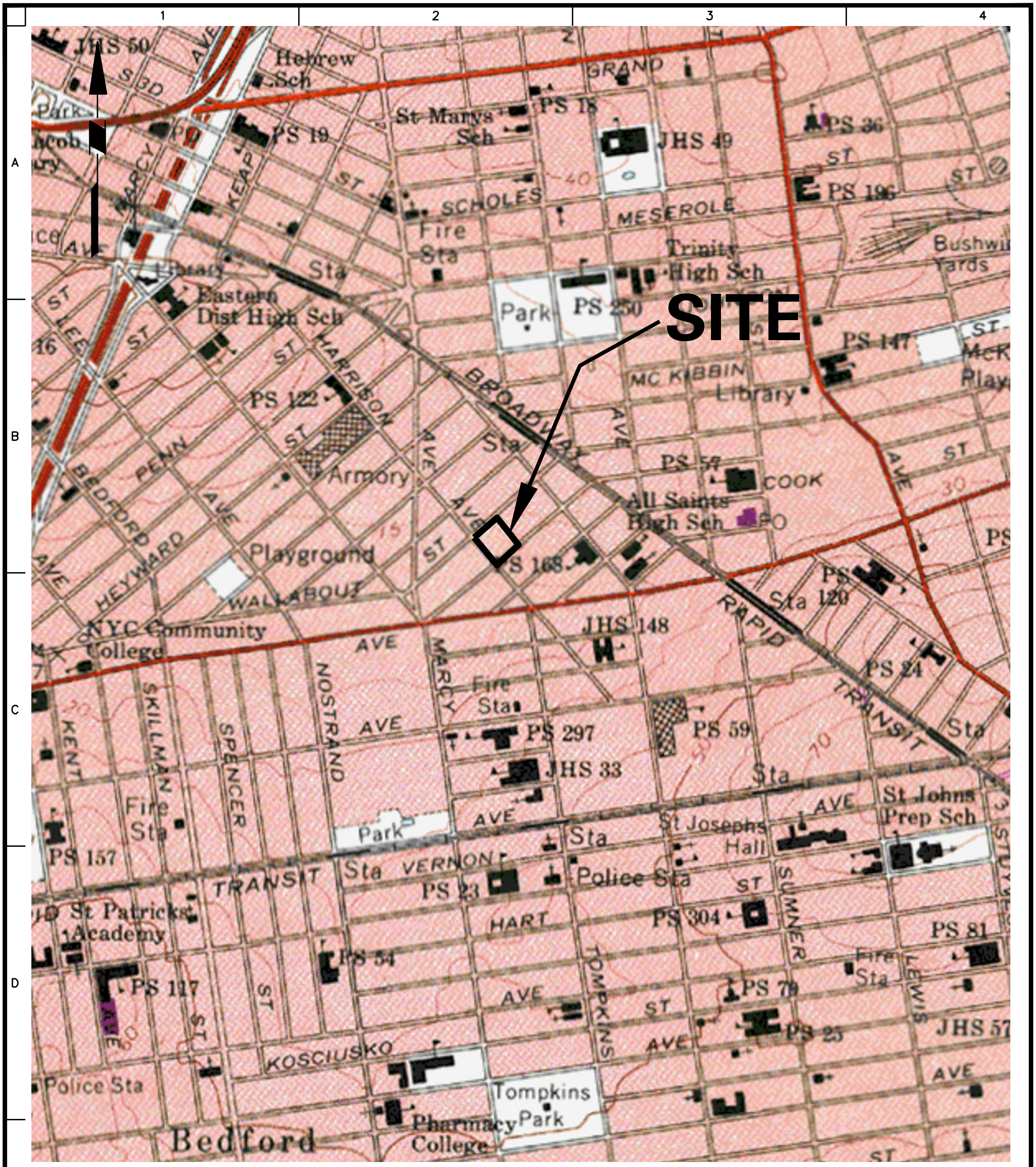
Table 7
Air Sampling Analytical Results
177 Harrison Avenue
Brooklyn, New York
Langan Project No. 170091701

Sample ID / Matrix / Date	NYSDOH Fuel Oil 2003 Upper Fence Limit (ug/m^3) (1)		USEPA 1991 BASE Data 90th Percentile Value (ug/m^3) (1)		HEI RIOPA 2005 95th Percentile Value (ug/m^3) (1)		NYSDOH AGV	Duplicates: IA01 Indoor Air 23-Dec-14	Duplicates: DUP Indoor Air 23-Dec-14	IA02 Indoor air 23-Dec-14	IA03 Indoor air 23-Dec-14	AA01 Ambient air 23-Dec-14
Compound	**Indoor**	**Outdoor**	**Indoor**	**Outdoor**	**Indoor**	**Outdoor**						
Volatile Organic Compounds (ug/m3)												
1,2,4-trimethylbenzene	9.8	1.9	9.5	5.8	--	--	--	4.69	6.19	7.67	9.83	ND
1,3,5-trimethylbenzene	3.9	0.7	3.7	2.7	--	--	--	1.46	1.78	2.49	3.29	ND
Acetone	115	30	98.9	43.7	45.8	19.6	--	14.5	14.5	58.2	44.7	8.55
Ethylbenzene	6.4	1.0	5.7	3.5	7.62	3.04	--	1.1	1.04	2.78	2.6	ND
Heptane	18	4.5	--	--	--	--	--	5.33	5.2	**25.6**	**22.5**	ND
n-Hexane	14	2.2	10.2	6.4	--	--	--	8.71	8.95	**57.1**	**72.2**	0.754
Naphthalene	--	--	5.1	4.9	--	--	--	ND	ND	ND	ND	ND
o-Xylene	7.1	1.5	7.9	4.6	7.24	3.23	--	1.84	1.71	5.13	5	ND
m,p-Xylene	11	1.0	22.2	12.8	22.2	10	--	4.82	4.56	13	12.2	ND
Styrene	1.4	0.5	1.9	1.3	5.13	1.29	--	ND	ND	1.21	2.48	ND
Tetrachloroethene (PCE)	2.5	0.7	15.9	6.5	6.01	3.17	30	1.98	ND	1.93	ND	ND
Toluene	57	5.1	43.0	33.7	39.8	19.6	--	14.8	13.9	51.3	44.1	3.14
Trichloroethene (TCE)	0.5	0.4	4.2	1.3	1.36	0.79	5	ND	ND	ND	ND	ND

Notes:
1. As per Appendix C of the 2006 Final New York State Department of Health (NYSDOH) Guidance document for Soil Vapor Intrusion in the State of New York.
2. Concentrations above the background levels for the NYSDOH, USEPA, and HEI RIOPA databases or the AGV are **BOLD**.
3. USEPA = United States Environmental Protection Agency
4. BASE = Building Assessment and Survey Evaluation.
5. HEI RIOPA = Health Effect Institute: Relationship of Indoor, Outdoor and Personal Air.
NYSDOH = New York State Department of Health
AGV = Air Guideline Value

Qualifiers:
ND = Not Detected.
-- = No Criteria.

FIGURES



SOURCE: PORTION OF USGS BROOKLYN QUADRANGLE MAP, 1954, PHOTOREVISED 1985

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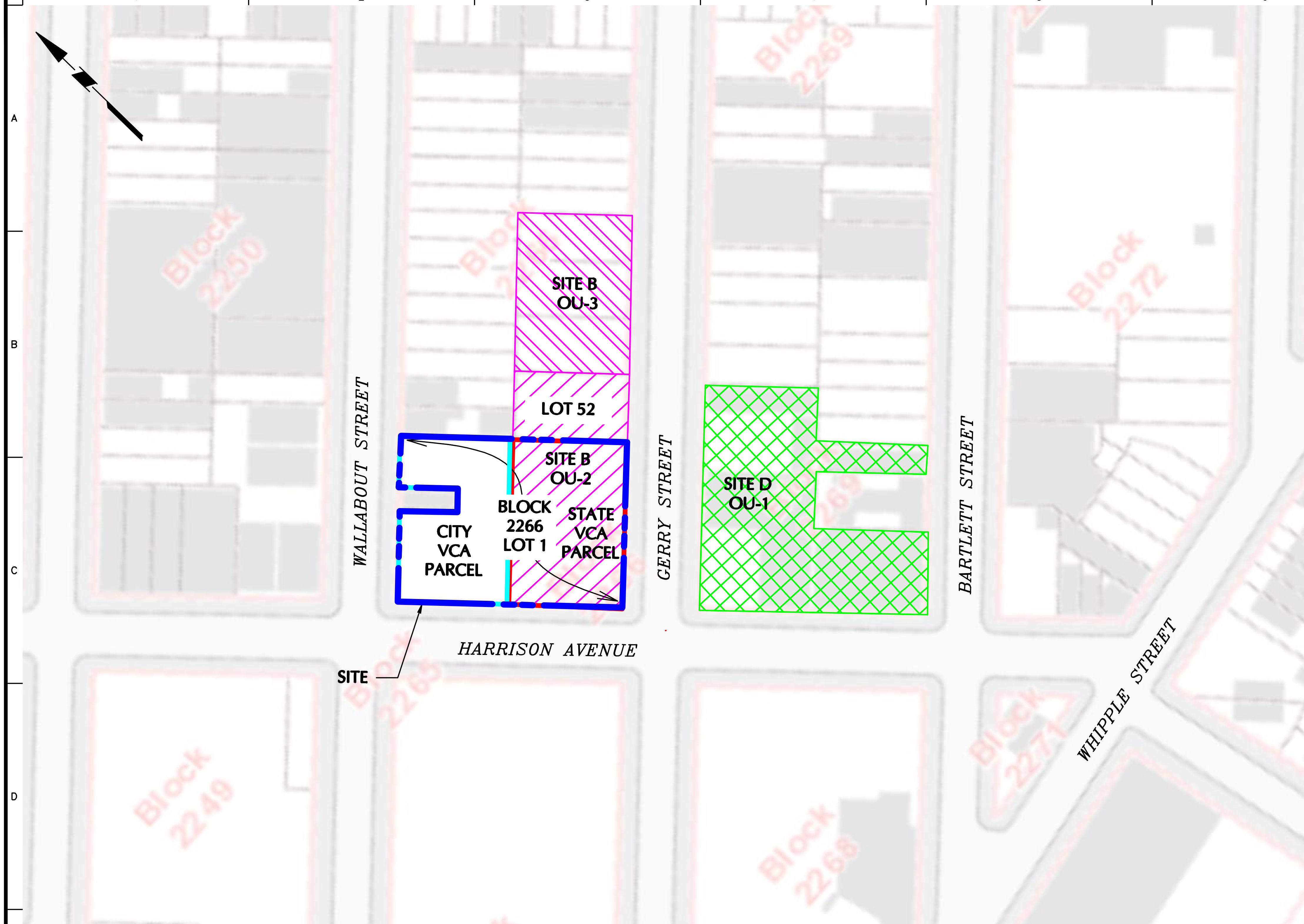
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	SITE LOCATION MAP	170091701	1
		Date: 01/06/15	
		Scale: NTS	
		Drawn By: EB / Checked By: SK	
		Submission Date: –	Sheet 1 of 18



LEGEND:

- SITE BOUNDARY
- STATE VCA PARCEL
- CITY VCA PARCEL
- PFIZER SITE D, OU-1
- PFIZER SITE B, OU-2
- PFIZER SITE B, OU-3

NOTES:

1. BASE PLAN OBTAINED FROM OASISNYC.NET
2. NYSDEC = NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
3. VCA = VOLUNTARY CLEANUP AGREEMENT

100 0 25 50 100

SCALE IN FEET

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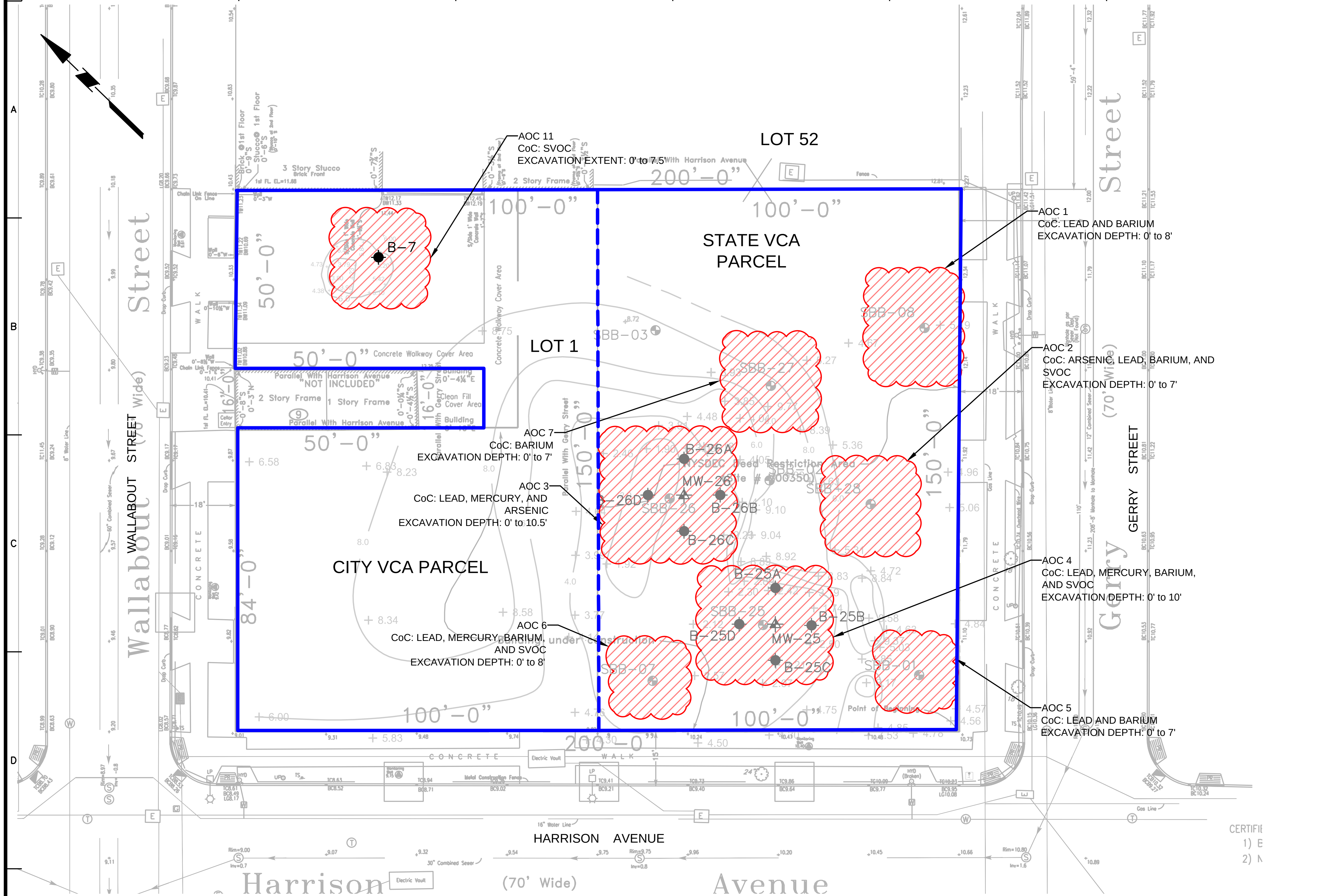
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	SITE PLAN	170091701	2
		Date 01/06/2015	
		Scale 1"=100'	
		Drawn By EB / Checked By SK	
		Submission Date	Sheet 2 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 2 - Site Map.dwg Date: 1/6/2015 Time: 16:18 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

SITE BOUNDARY

B-26A LANGAN BORING LOCATION (MAY 2011)

MW-25 LANGAN SOIL BORING/MONITORING WELL LOCATION (MAY 2011)

SBB-08 ROUX SOIL BORING LOCATION (1996-2005)

ESTIMATED EXTENT OF CONTAMINATED AREA PER LANGAN'S 2011 REMEDIAL INVESTIGATION AND PREVIOUS INVESTIGATIONS

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOCS IDENTIFIED DURING LANGAN'S 2011 REMEDIAL INVESTIGATION AND PREVIOUS INVESTIGATIONS CONDUCTED BY ROUX. AOC 10 AND AOC 12 WERE ELIMINATED FOLLOWING AN INCREASE IN THE TRACK 4 SITE-SPECIFIC SOIL CLEANUP OBJECTIVES FOR LEAD, BARIUM, AND MERCURY.
3. ALL DEPTHS ARE SHOWN IN FEET BELOW GRADE SURFACE
4. AOC = AREA OF CONCERN
5. CoC = CONTAMINANT OF CONCERN
6. SVOC = SEMI-VOLATILE ORGANIC COMPOUNDS
7. VCA = VOLUNTARY CLEANUP AGREEMENT

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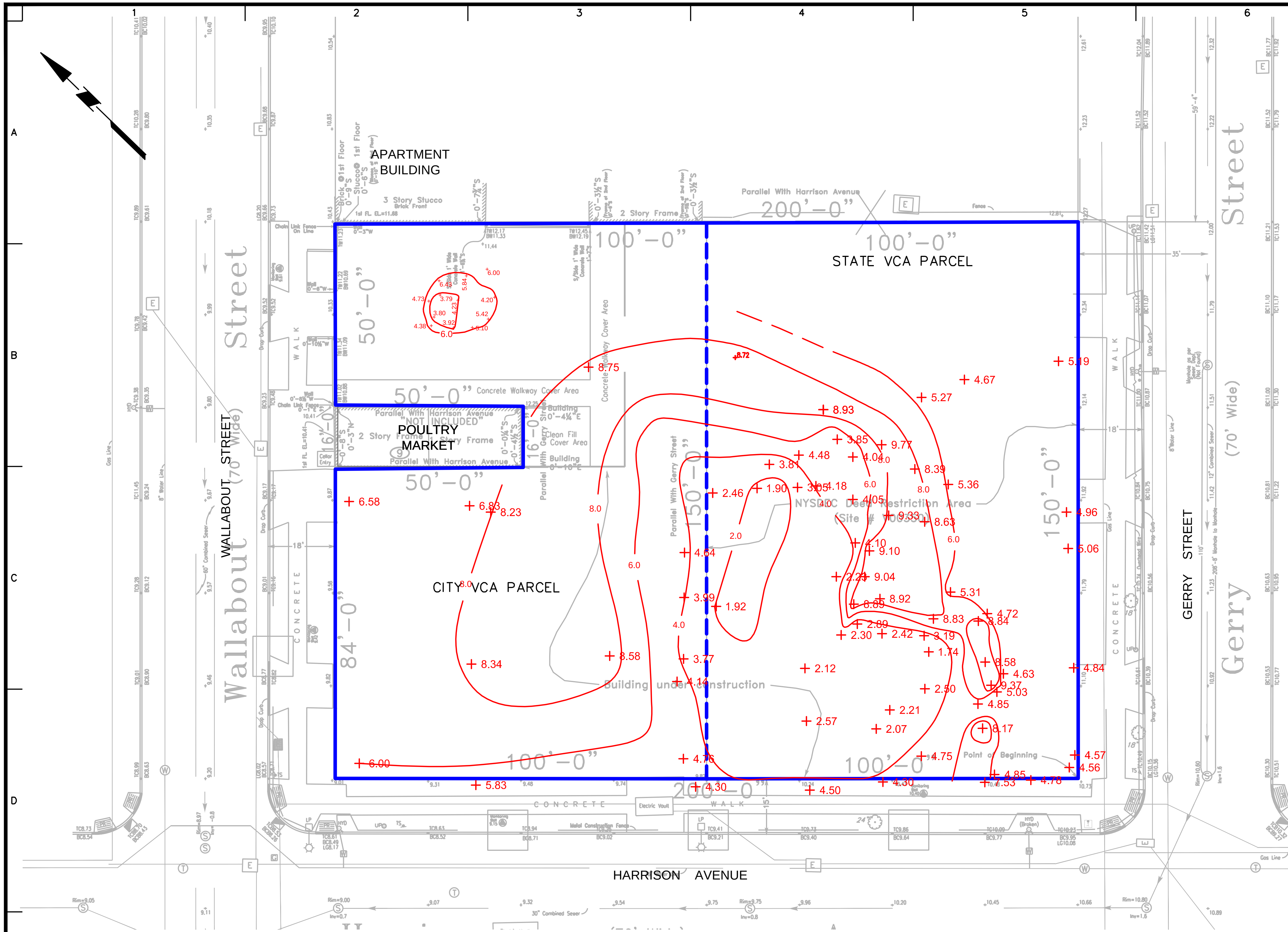
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	AREAS OF CONCERN	170091701	3
		Date 01/06/2015	
		Scale 1"=30'	
		Drawn By EB / Checked By SK	
		Submission Date	Sheet 3 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 3 - Areas of Concern.dwg Date: 1/6/2015 Time: 16:20 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

SITE BOUNDARY

SURVEYED ELEVATIONS AND ELEVATION CONTOUR LINES (12/2/2011 AND 12/20/2011) REPRESENTING EXTENT OF EXCAVATION

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. ALL ELEVATIONS SHOWN HEREON REFER TO THE BROOKLYN HIGHWAY DATUM, WHICH IS 2.56 FEET ABOVE MEAN SEA LEVEL AT SANDY HOOK AS ESTABLISHED BY THE U.S. COAST & GEODETIC SURVEY, 1929.
3. VCA = VOLUNTARY CLEANUP AGREEMENT

30 0 7.5 15 30

SCALE IN FEET

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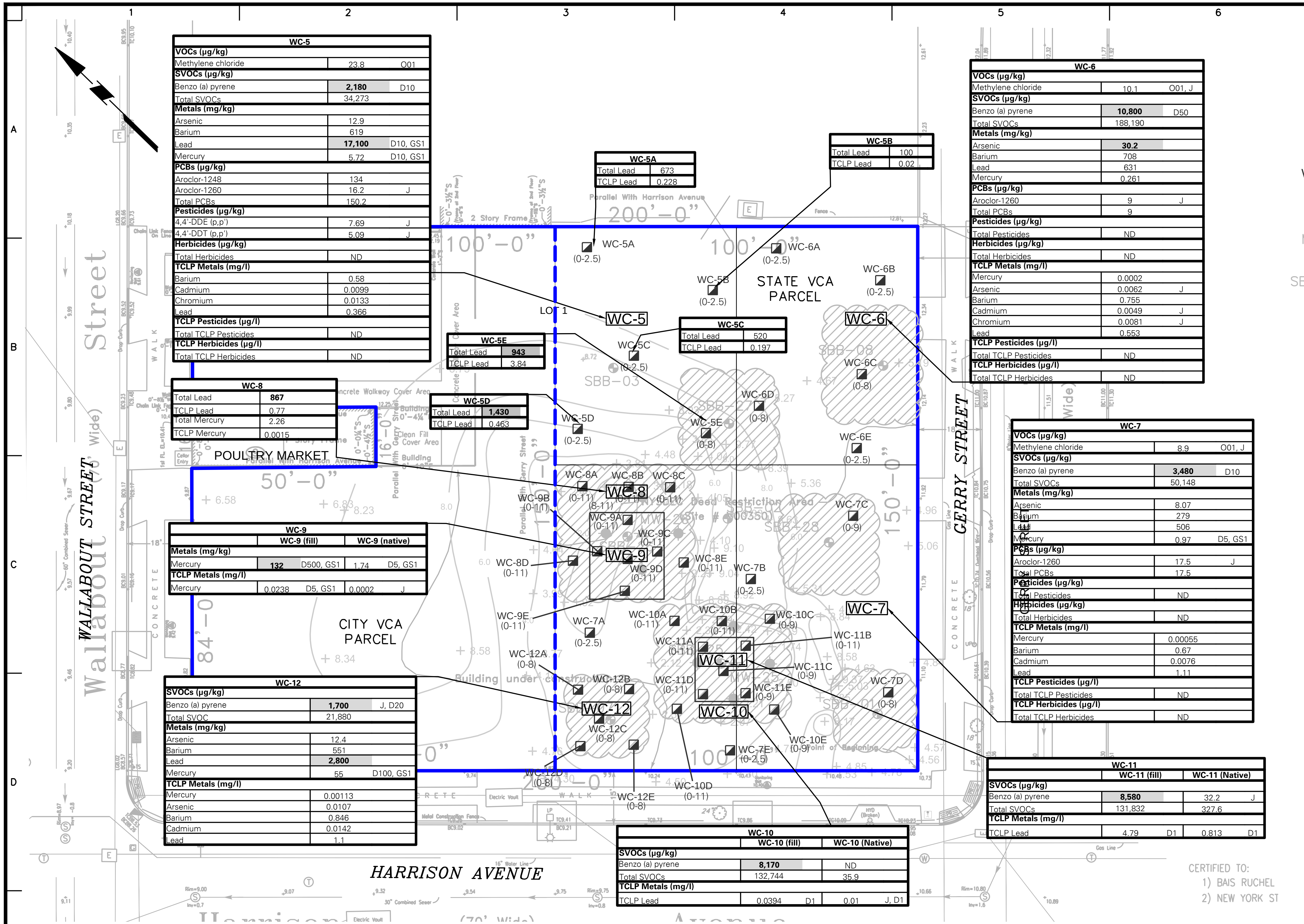
Project	Figure Title	Project No. 170091701	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	POST-REMEDIAL EXCAVATION SURVEY	Date 01/06/2015 Scale 1"=30' Drawn By JPA / Checked By SK Submission Date –	4 Sheet 4 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 4 - Post Remedial Excavation Survey.dwg Date: 1/6/2015 Time: 16:22 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



WC-5		
VOCs (µg/kg)		
Methylene chloride	23.8	O01
SVOCs (µg/kg)		
Benzo (a) pyrene	**2,180**	D10
Total SVOCs	34,273	
Metals (mg/kg)		
Arsenic	12.9	
Barium	619	
Lead	**17,100**	D10, GS1
Mercury	5.72	D10, GS1
PCBs (µg/kg)		
Aroclor-1248	134	
Aroclor-1260	16.2	J
Total PCBs	150.2	
Pesticides (µg/kg)		
4,4'-DDE (p,p')	7.69	J
4,4'-DDT (p,p')	5.09	J
Herbicides (µg/kg)		
Total Herbicides	ND	
TCLP Metals (mg/l)		
Barium	0.58	
Cadmium	0.0099	
Chromium	0.0133	
Lead	0.366	
TCLP Pesticides (µg/l)		
Total TCLP Pesticides	ND	
TCLP Herbicides (µg/l)		
Total TCLP Herbicides	ND	

WC-5A	
Total Lead	673
TCLP Lead	0.228

WC-5B	
Total Lead	100
TCLP Lead	0.02

WC-5C	
Total Lead	520
TCLP Lead	0.197

WC-5D	
Total Lead	**1,430**
TCLP Lead	0.463

WC-5E	
Total Lead	**943**
TCLP Lead	3.84

WC-6		
VOCs (µg/kg)		
Methylene chloride	10.1	O01, J
SVOCs (µg/kg)		
Benzo (a) pyrene	**10,800**	D50
Total SVOCs	188,190	
Metals (mg/kg)		
Arsenic	**30.2**	
Barium	708	
Lead	631	
Mercury	0.261	
PCBs (µg/kg)		
Aroclor-1260	9	J
Total PCBs	9	
Pesticides (µg/kg)		
Total Pesticides	ND	
Herbicides (µg/kg)		
Total Herbicides	ND	
TCLP Metals (mg/l)		
Mercury	0.0002	
Arsenic	0.0062	J
Barium	0.755	
Cadmium	0.0049	J
Chromium	0.0081	J
Lead	0.553	
TCLP Pesticides (µg/l)		
Total TCLP Pesticides	ND	
TCLP Herbicides (µg/l)		
Total TCLP Herbicides	ND	

WC-7		
VOCs (µg/kg)		
Methylene chloride	8.9	O01, J
SVOCs (µg/kg)		
Benzo (a) pyrene	**3,480**	D10
Total SVOCs	50,148	
Metals (mg/kg)		
Arsenic	8.07	
Barium	279	
Lead	506	
Mercury	0.97	D5, GS1
PCBs (µg/kg)		
Aroclor-1260	17.5	J
Total PCBs	17.5	
Pesticides (µg/kg)		
Total Pesticides	ND	
Herbicides (µg/kg)		
Total Herbicides	ND	
TCLP Metals (mg/l)		
Mercury	0.00055	
Barium	0.67	
Cadmium	0.0076	
Lead	1.11	
TCLP Pesticides (µg/l)		
Total TCLP Pesticides	ND	
TCLP Herbicides (µg/l)		
Total TCLP Herbicides	ND	

WC-8	
Total Lead	**867**
TCLP Lead	0.77
Total Mercury	2.26
TCLP Mercury	0.0015

WC-9	WC-9 (fill)		WC-9 (native)	
Metals (mg/kg)				
Mercury	**132**	D500, GS1	1.74	D5, GS1
TCLP Metals (mg/l)				
Mercury	0.0238	D5, GS1	0.0002	J

WC-10	WC-10 (fill)		WC-10 (Native)	
SVOCs (µg/kg)				
Benzo (a) pyrene	**8,170**		ND	
Total SVOCs	132,744		35.9	
TCLP Metals (mg/l)				
TCLP Lead	0.0394	D1	0.01	J, D1

WC-11	WC-11 (fill)		WC-11 (Native)	
SVOCs (µg/kg)				
Benzo (a) pyrene	**8,580**		32.2	J
Total SVOCs	131,832		327.6	
TCLP Metals (mg/l)				
TCLP Lead	4.79	D1	0.813	D1

WC-12		
SVOCs (µg/kg)		
Benzo (a) pyrene	**1,700**	J, D20
Total SVOC	21,880	
Metals (mg/kg)		
Arsenic	12.4	
Barium	551	
Lead	**2,800**	
Mercury	55	D100, GS1
TCLP Metals (mg/l)		
Mercury	0.00113	
Arsenic	0.0107	
Barium	0.846	
Cadmium	0.0142	
Lead	1.1	

SCALE IN FEET: 30 0 7.5 15 30

LEGEND:

- SITE BOUNDARY
- WC-5 — WASTE CHARACTERIZATION GRID
- WC-9A (0-11) — GRAB SAMPLE LOCATION (DEPTH INTERVAL)
- B-7 — LANGAN BORING LOCATION (MAY 2011)
- MW-25 — LANGAN SOIL BORING/MONITORING WELL LOCATION (MAY 2011)
- SBB-08 — ROUX SOIL BORING LOCATION (1996-2005)
- ESTIMATED EXTENT OF SOIL EXCEEDING TRACK 4 SSSCOs

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. BASED ON THE LOCATIONS OF THE SELECTED DISPOSAL FACILITIES, SOIL SAMPLE ANALYTICAL RESULTS WERE COMPARED TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) NON-RESIDENTIAL DIRECT CONTACT SOIL REMEDIATION STANDARDS (NRDCSRS) AND TO THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) HAZARDOUS WASTE REGULATORY LEVELS FOR TOXICITY CHARACTERISTICS.
3. FOR METALS, ONLY BARIUM, LEAD, MERCURY, AND DETECTED TCLP METALS ARE SHOWN. FOR SVOCs, ONLY BENZO (A) PYRENE AND TOTAL SVOCs ARE SHOWN. FOR ALL THE OTHER COMPOUNDS, ONLY DECTECTIONS ARE SHOWN.
4. EXCEEDANCES ARE BOLDED AND HIGHLIGHTED.
5. PCBs = POLYCHLORINATED BIPHENYLS
6. VOC = VOLATILE ORGANIC COMPOUNDS
7. SVOC = SEMI-VOLATILE ORGANIC COMPOUNDS
8. TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE
9. mg/kg = MILLIGRAMS PER KILOGRAM
10. mg/l = MILLIGRAMS PER LITER
11. µg/kg = MICROGRAMS PER KILOGRAM
12. µg/l = MICROGRAMS PER LITER

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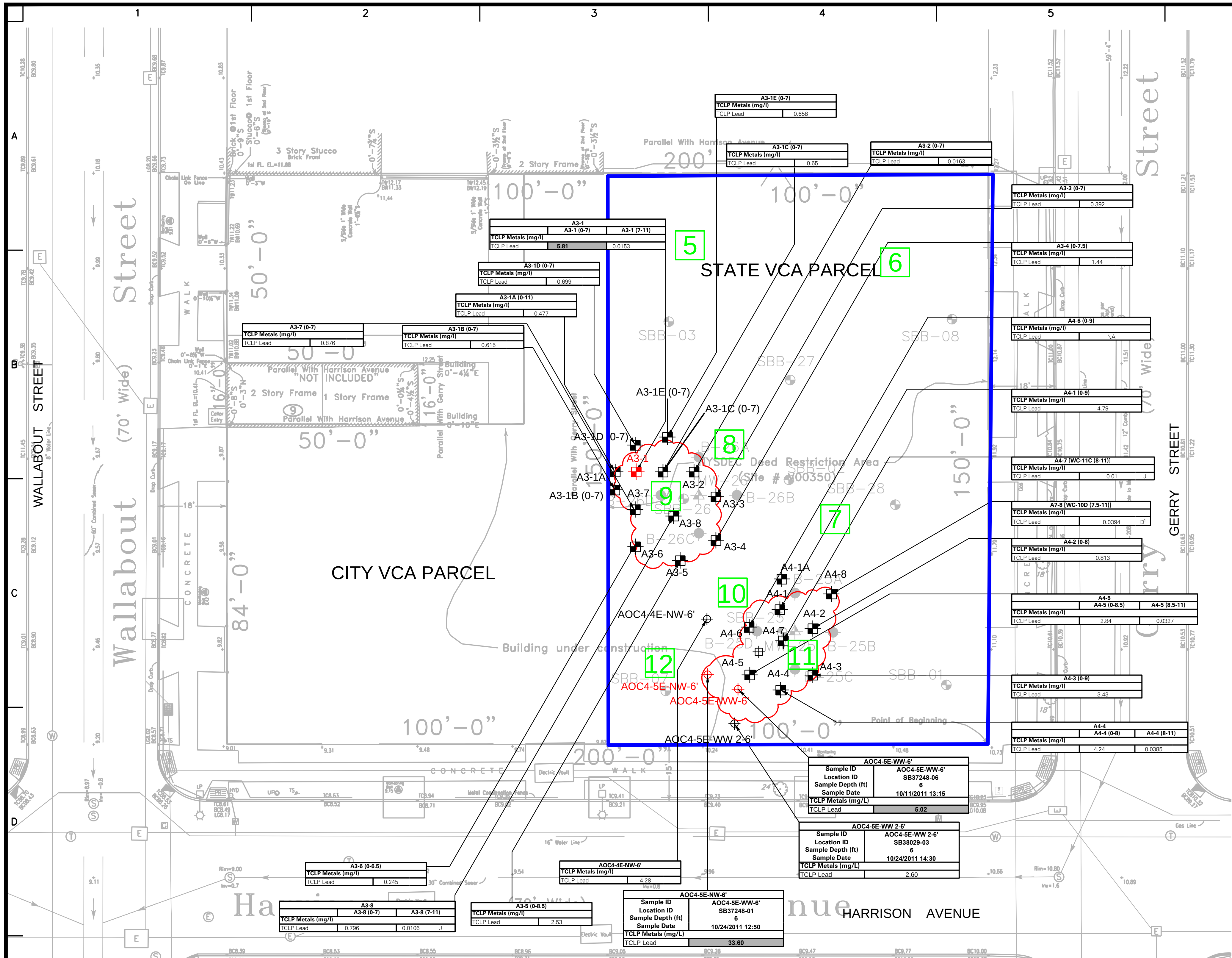
Project: **177 HARRISON AVENUE**
BLOCK No. 2266, LOT No. 1
BROOKLYN NEW YORK

Figure Title: **WASTE CHARACTERIZATION SAMPLE RESULTS MAP**
STATE VCA PARCEL

Project No.	Figure No.
170091701	5
Date: 01/06/2015	
Scale: 1"=30'	
Drawn By: EB	Checked By: SK
Submission Date	Sheet 5 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 5A - Waste Characterization Sample Results Map_State VCP Parcel.dwg Date: 1/6/2015 Time: 16:25 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- A3-2 POST-EXCAVATION ENDPOINT SAMPLE LOCATION (COLLECTED SEPTEMBER 2011)
- A3-1 ENDPOINT SAMPLE WITH HAZARDOUS LEAD CONCENTRATION (COLLECTED SEPTEMBER 2011)
- WC-3A (0-2.5) GRAB SAMPLE LOCATION (DEPTH INTERVAL)
- WC-3B-4 (0-2.5) GRAB SAMPLE WITH HAZARDOUS LEAD CONCENTRATION (DEPTH INTERVAL)
- B-26D LANGAN BORING LOCATION (MAY 2011)
- MW-25 LANGAN SOIL BORING/MONITORING WELL LOCATION (MAY 2011)
- SBB-08 ROUX SOIL BORING LOCATION (1996-2005)
- AOC4-4E-NW-6' PRELIMINARY ENDPOINT SAMPLE WITH HAZARDOUS LEAD, OVER EXCAVATED (COLLECTED OCTOBER 2011)
- HAZARDOUS LEAD EXCAVATION EXTENTS
- 5 WASTE DISPOSAL GRID

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. SOIL SAMPLES ANALYTICAL RESULTS WERE COMPARED TO THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) HAZARDOUS WASTE REGULATORY LEVELS FOR TOXICITY CHARACTERISTICS.
3. ONLY LEAD TCLP RESULTS ARE SHOWN ON FIGURE.
4. EXCEEDANCES ARE BOLDED AND HIGHLIGHTED.
5. AOC = AREA OF CONCERN
6. TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE
7. mg/l = MILLIGRAMS PER LITER

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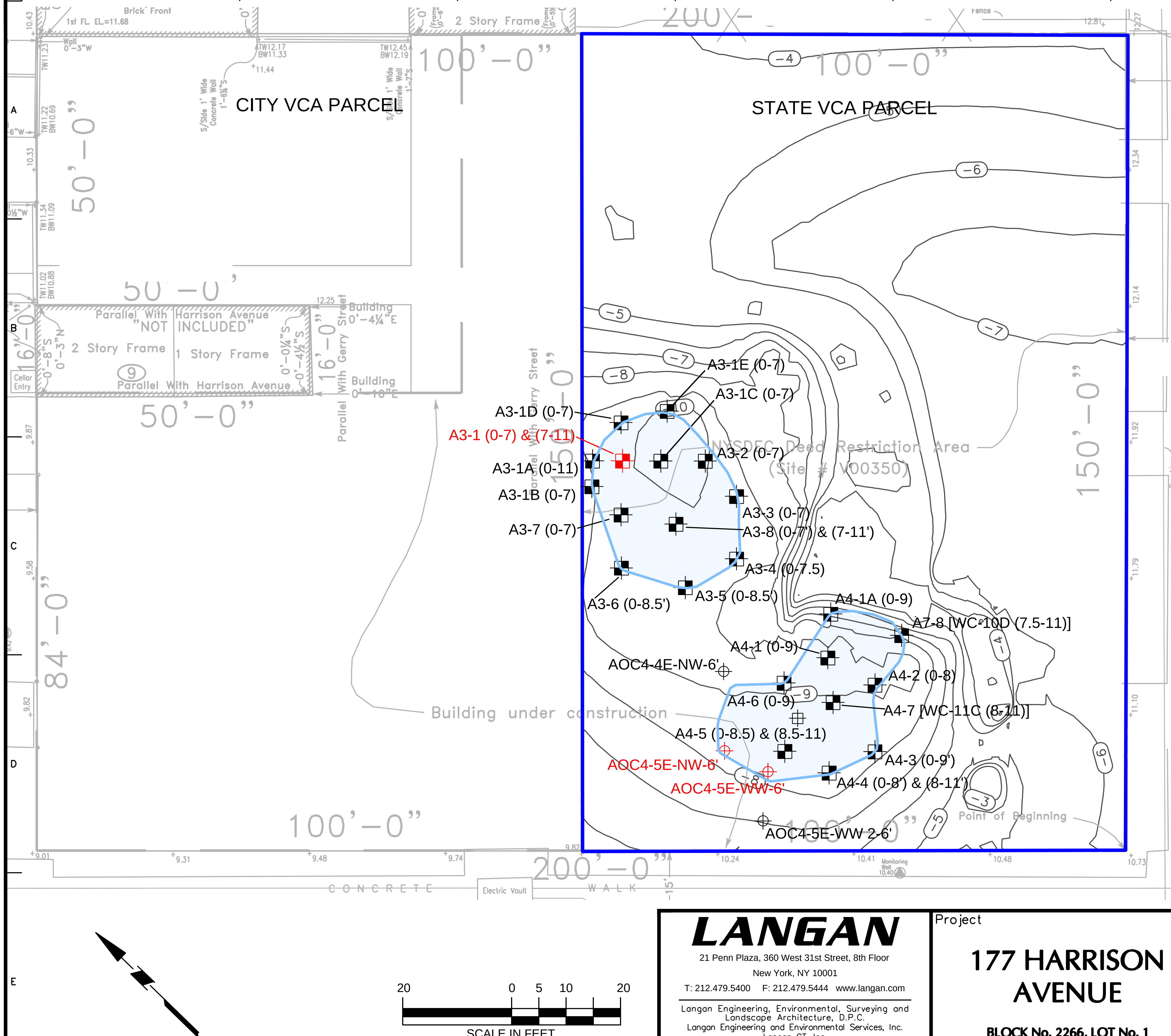
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	HAZARDOUS SOIL DELINEATION SAMPLING RESULTS	170091701 Date: 01/06/2015 Scale: 1"=30' Drawn By: EB Checked By: SK Submission Date: –	6 Sheet 6 of 18



LEGEND:

- SITE BOUNDARY
- A3-2 — POST-EXCAVATION ENDPOINT SAMPLE LOCATION (COLLECTED SEPTEMBER 2011)
- A3-1 — ENDPOINT SAMPLE WITH HAZARDOUS LEAD CONCENTRATION (COLLECTED SEPTEMBER 2011)
- WC-3A (0-2.5) — GRAB SAMPLE LOCATION (DEPTH INTERVAL)
- AOC4-4E-NW-6' — PRELIMINARY ENDPOINT SAMPLE WITH HAZARDOUS LEAD, OVER EXCAVATED (COLLECTED OCTOBER 2011)
- HAZARDOUS LEAD EXCAVATION AREA
- REMEDIAL EXCAVATION DEPTH CONTOURS (FEET)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. SOIL SAMPLES ANALYTICAL RESULTS WERE COMPARED TO THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) HAZARDOUS WASTE REGULATORY LEVELS FOR TOXICITY CHARACTERISTICS.
3. EXCAVATION DEPTHS BASED ON DIFFERENCE BETWEEN INITIAL ELEVATIONS (SURVEYED FEBRUARY 2011) AND POST-EXCAVATION ELEVATIONS (SURVEYED DECEMBER 2011).
4. VCA = VOLUNTARY CLEANUP AGREEMENT
5. PARENTHESIS ON BORING IDs INDICATE SAMPLE DEPTHS

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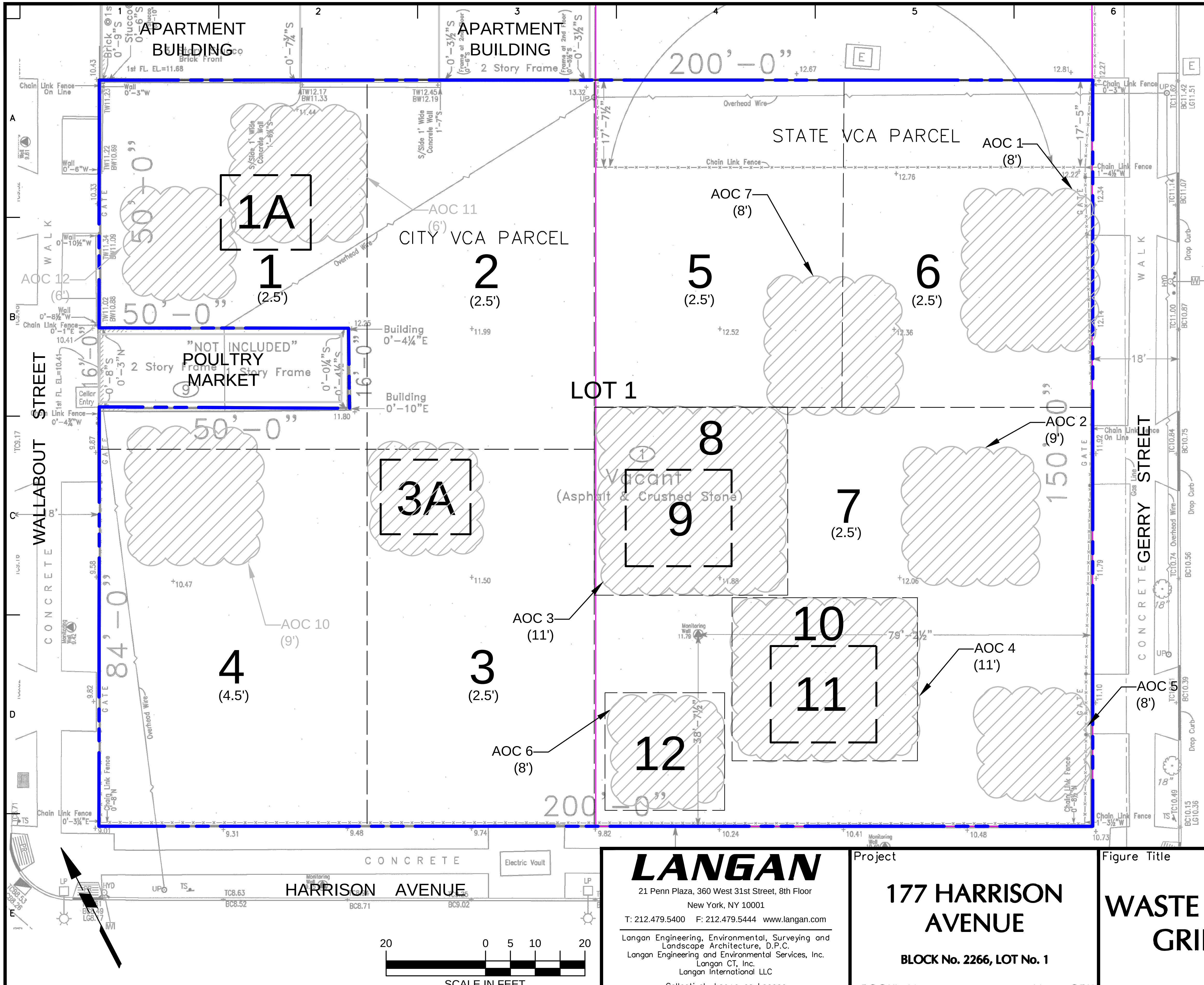
Project	Figure Title	Project No. 170091701	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	HAZARDOUS SOIL EXCAVATION PLAN	Date 01/06/2015 Scale 1"=20' Drawn By JPD / Checked By SK Submission Date	7 Sheet 7 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 6a & 6b HAZARDOUS SOIL DELINEATION SAMPLE_ Contour Version.dwg Date: 1/6/2015 Time: 16:42 User: pdiggins Style Table: Langan.stb Layout: FIG 6A



LEGEND:

- SITE BOUNDARY
- PFIZER INC SITE B BOUNDARY
- ESTIMATED EXTENT OF AOC
- (6') EXCAVATION DEPTH (FT BGS)
- 5 WASTE DISPOSAL GRID

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED FEBRUARY 9, 2011.
2. AOC = AREA OF CONCERN
3. FT BGS = FEET BELOW GRADE SURFACE

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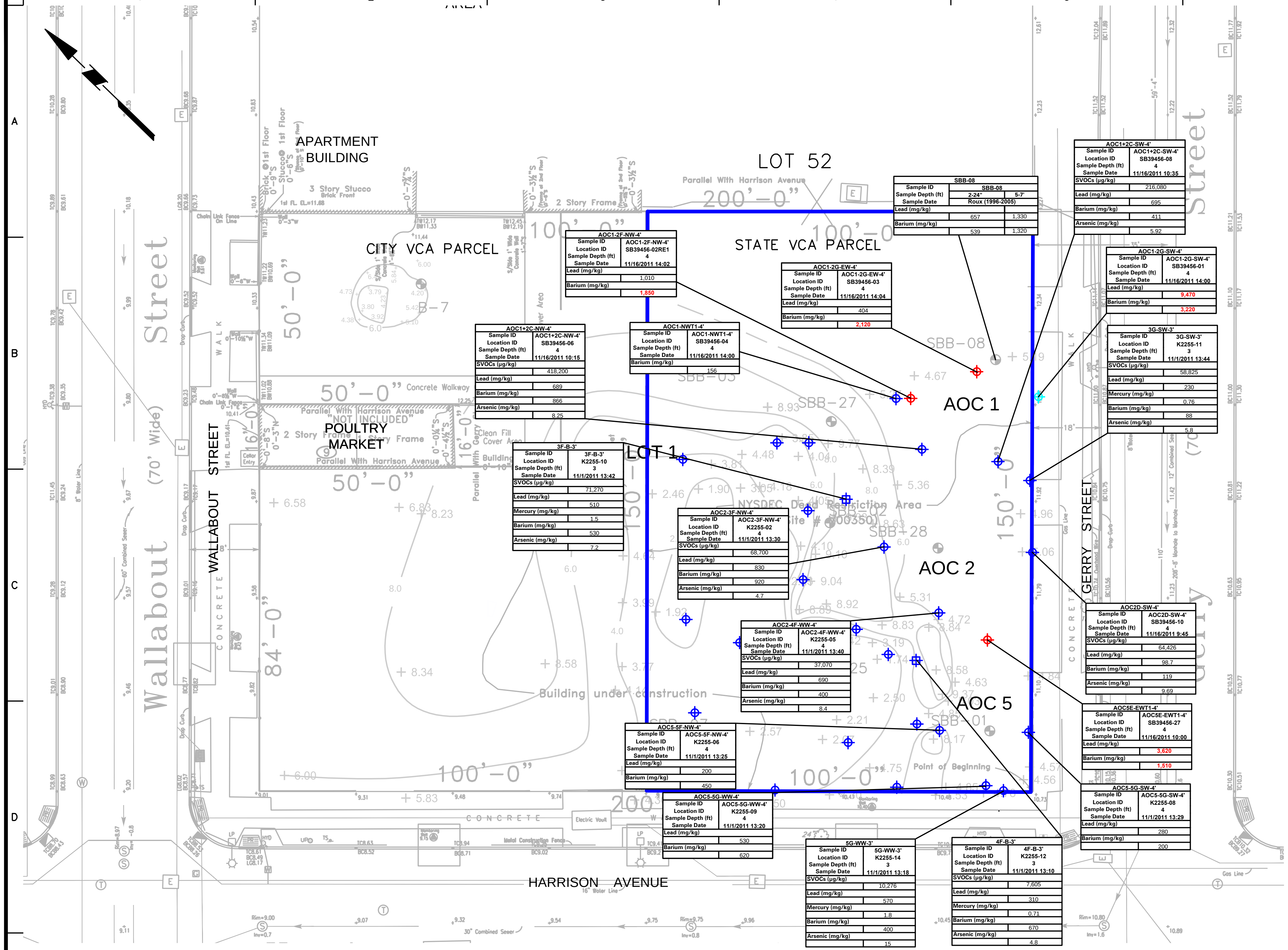
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	WASTE DISPOSAL GRID MAP	170091701 Date 01/06/2015 Scale 1"=20' Drawn By EB / Checked By SK Submission Date –	8 Sheet 8 of 18



LEGEND:

- SITE BOUNDARY
- SIDEWALL ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- BOTTOM ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- PRELIMINARY SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES (EXCEEDANCES IN RED), OVEREXCAVATED
- EXCAVATION SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES (EXCEEDANCES IN RED)
- SURVEYED POST EXCAVATION AREAS AND ELEVATIONS (DECEMBER 2011)
- SBB-07 ROUX SOIL BORING LOCATION (1996-2005)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOC = AREA OF CONCERN
3. SSSCO = SITE-SPECIFIC SOIL CLEANUP OBJECTIVE

Contaminant of Concern	TRACK 4 SITE SPECIFIC SOIL CLEANUP OBJECTIVE
Total SVOCs (µg/kg)	500000
Lead (mg/kg)	1500
Mercury (mg/kg)	5
Barium (mg/kg)	1500
Arsenic (mg/kg)	16

30 0 7.5 15 30

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BLOCK No. 2266, LOT No. 1

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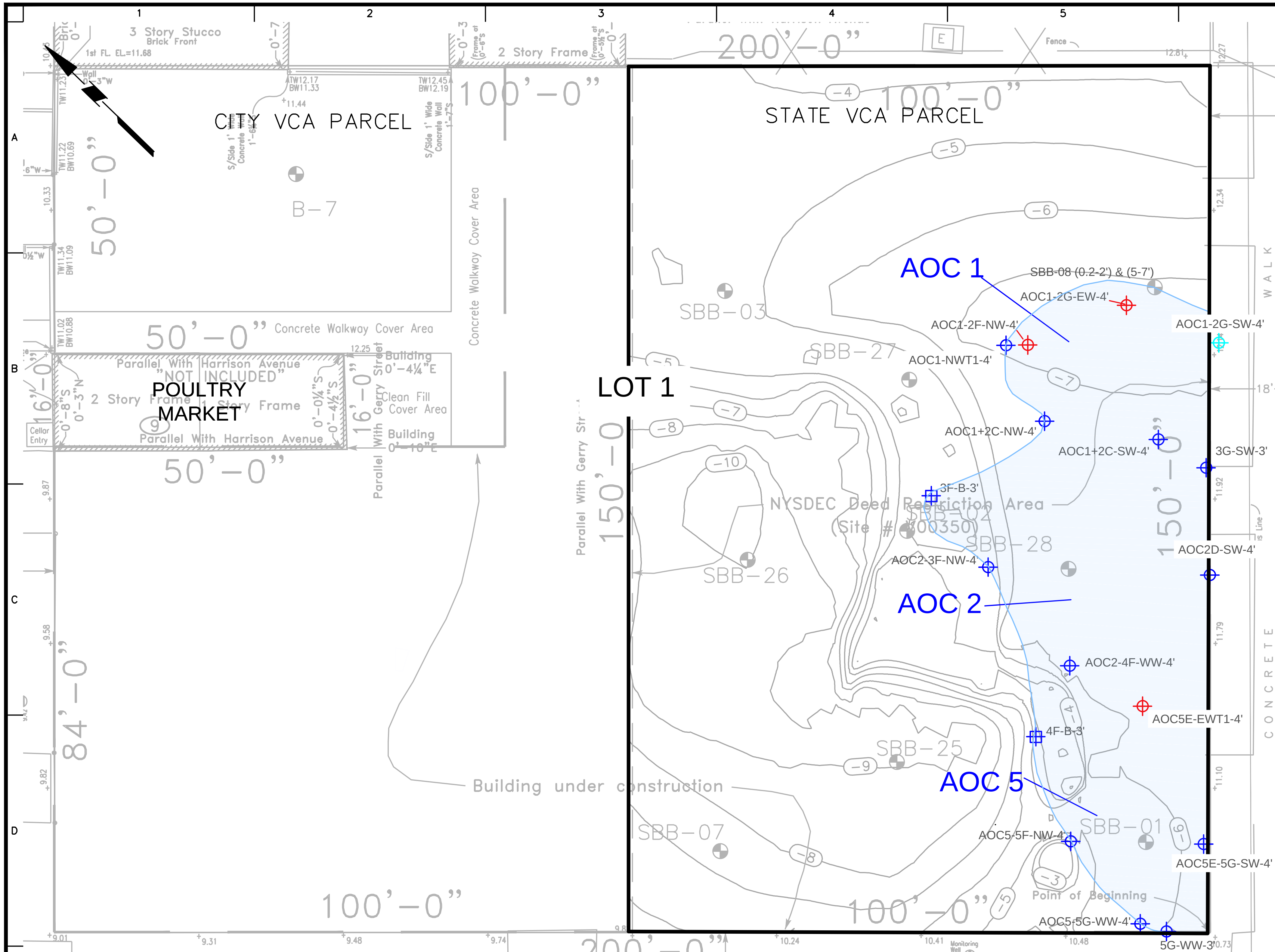
Figure Title

ENDPOINT SAMPLING RESULTS: AOC1, AOC2, AND AOC5

Project No. 170091701	Figure No. 9
Date 01/06/2015	
Scale 1"=30'	
Drawn By JPA	Checked By SK
Submission Date	Sheet 9 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 8A - End-Point Sampling Results AOC1 AOC2 AOC5.dwg Date: 1/6/2015 Time: 17:00 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



20 0 5 10 20

SCALE IN FEET

LEGEND:

- SITE BOUNDARY
- AOC EXCAVATION
- SIDEWALL ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- BOTTOM ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- PRELIMINARY SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES, OVEREXCAVATED
- EXCAVATION SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES
- REMEDIAL EXCAVATION DEPTH CONTOUR (FEET)
- SBB-08 ROUX SOIL BORING LOCATION (1996-2005)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOC = AREA OF CONCERN
3. EXCAVATION DEPTHS BASED ON DIFFERENCE BETWEEN INITIAL ELEVATIONS (SURVEYED FEBRUARY 2011) AND POST-EXCAVATION ELEVATIONS (SURVEYED DECEMBER 2011).
4. VCA = VOLUNTARY CLEANUP AGREEMENT
5. A CONCRETE SLAB WAS ENCOUNTERED AT APPROXIMATELY SEVEN FEET BELOW GROUND SURFACE WITHIN THE EXCAVATIONS FOR AOCs 1, 2 AND 5. BOTTOM ENDPOINT SAMPLES WERE THEREFORE NOT COLLECTED.
6. SAMPLE IDs INDICATE SAMPLE DEPTH (E.G. AOC1-2G-EW-4' WAS COLLECTED AT 4 FEET BELOW GROUND SURFACE [FT BGS] AND SBB-08[0.2 - 2'] WAS COLLECTED AT 0.2 - 2 FT BGS).

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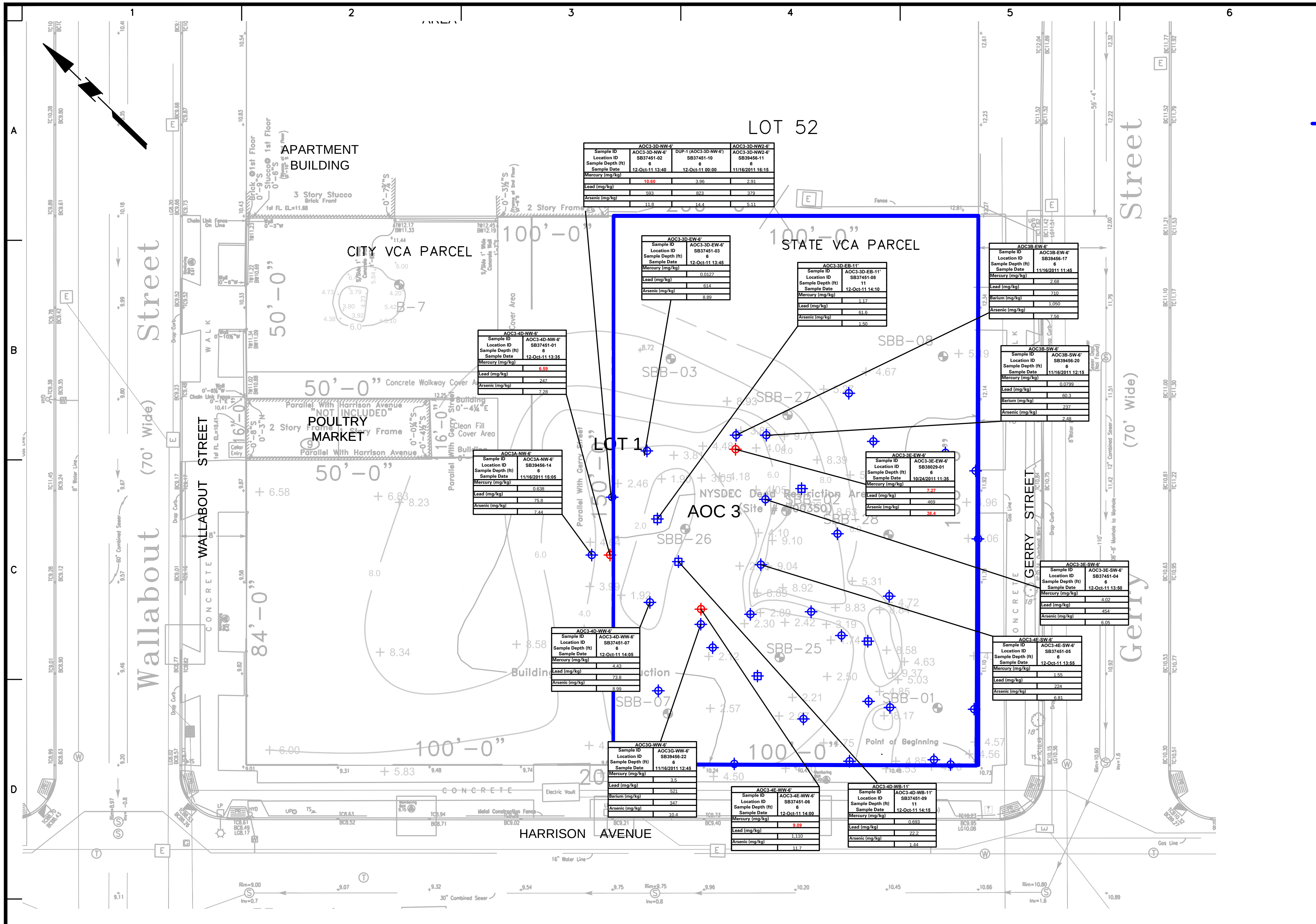
21 Penn Plaza, 360 West 31st Street, 8th Floor New York, NY 10001 T: 212.479.5400 F: 212.479.5444 www.langan.com Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. Langan Engineering and Environmental Services, Inc. Langan CT, Inc. Langan International LLC Collectively known as Langan	177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	AOC LOCATION PLAN: AOC1, AOC2, AND AOC5	Date 01/06/2015 Scale 1"=20' Drawn By JPD / Checked By SK Submission Date –	10 Sheet 10 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 8A - End-Point Sampling Results AOC1 AOC2 AOC5_Contour Version.dwg Date: 1/6/2015 Time: 17:03 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- SIDEWALL ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- BOTTOM ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- PRELIMINARY SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES (EXCEEDANCES IN RED), OVEREXCAVATED
- SURVEYED EXCAVATION AREAS AND ELEVATIONS (DECEMBER 2011)
- SBB-07 ROUX SOIL BORING LOCATION (1996-2005)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOC = AREA OF CONCERN
3. SSSCO = SITE SPECIFIC SOIL CLEANUP OBJECTIVE

Contaminant of Concern	TRACK 4 SITE SPECIFIC SOIL CLEANUP OBJECTIVE
Total SVOCs (µg/kg)	500000
Lead (mg/kg)	1500
Mercury (mg/kg)	5
Barium (mg/kg)	1500
Arsenic (mg/kg)	16

30 0 7.5 15 30

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BLOCK No. 2266, LOT No. 1

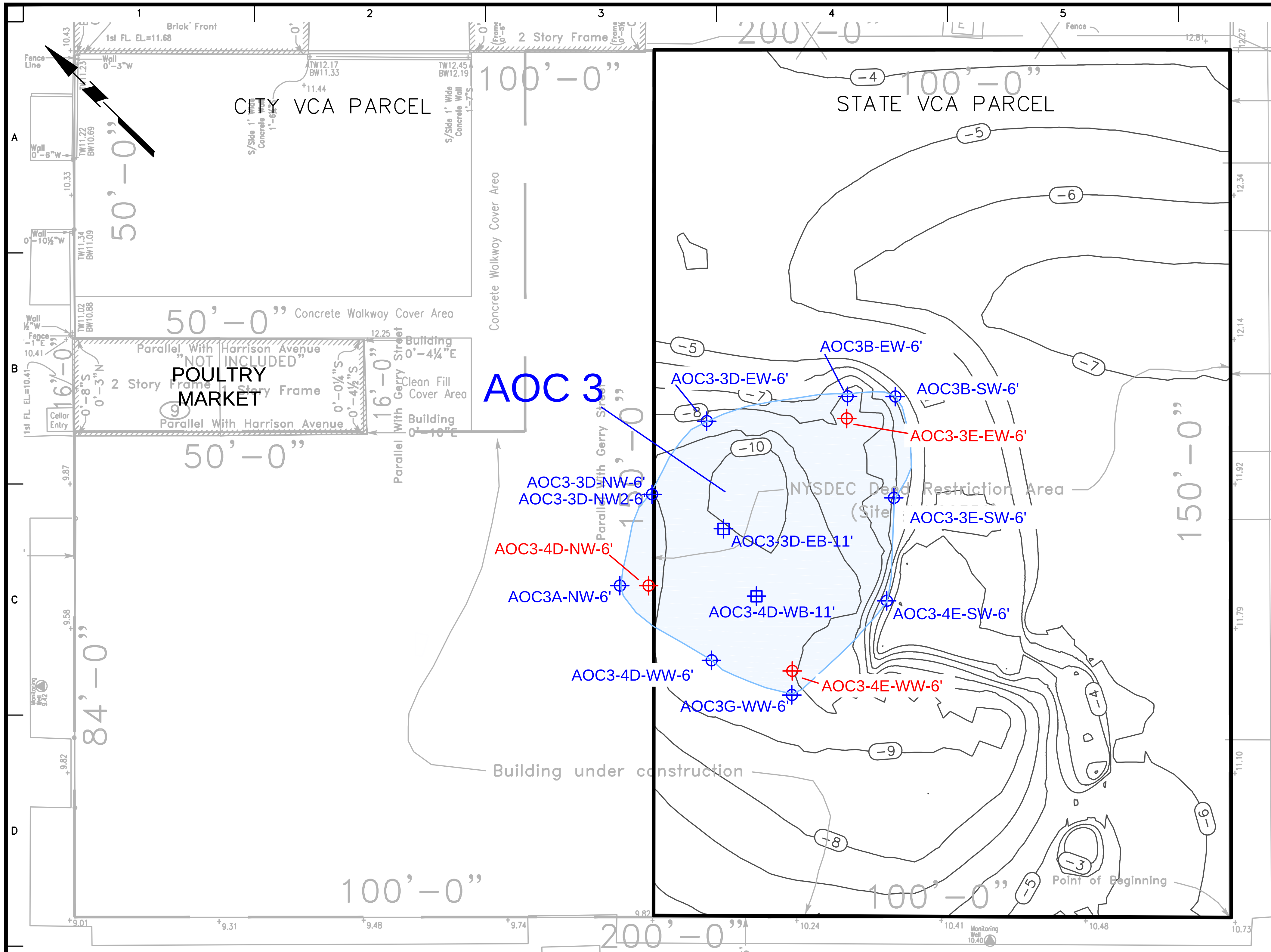
BROOKLYN **NEW YORK**

Figure Title

ENDPOINT SAMPLING RESULTS: AOC3

Project No.	170091701
Date	01/06/2015
Scale	1"=30'
Drawn By	JPA
Checked By	SK
Submission Date	
Figure No.	11

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 8B- End-Point Sampling Results AOC3.dwg Date: 1/6/2015 Time: 17:05 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- AOC EXCAVATION
- SIDEWALL ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- BOTTOM ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- PRELIMINARY SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES, OVEREXCAVATED
- REMEDIAL EXCAVATION DEPTH CONTOUR (FEET)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOC = AREA OF CONCERN
3. EXCAVATION DEPTHS BASED ON DIFFERENCE BETWEEN INITIAL ELEVATIONS (SURVEYED FEBRUARY 2011) AND POST-EXCAVATION ELEVATIONS (SURVEYED DECEMBER 2011).
4. VCA = VOLUNTARY CLEANUP AGREEMENT
5. SAMPLE IDs INDICATE SAMPLE DEPTH (E.G. AOC1-2G-EW-4' WAS COLLECTED AT 4 FEET BELOW GROUND SURFACE [FT BGS] AND SBB-08[0.2 - 2'] WAS COLLECTED AT 0.2 - 2 FT BGS).

20 0 5 10 20

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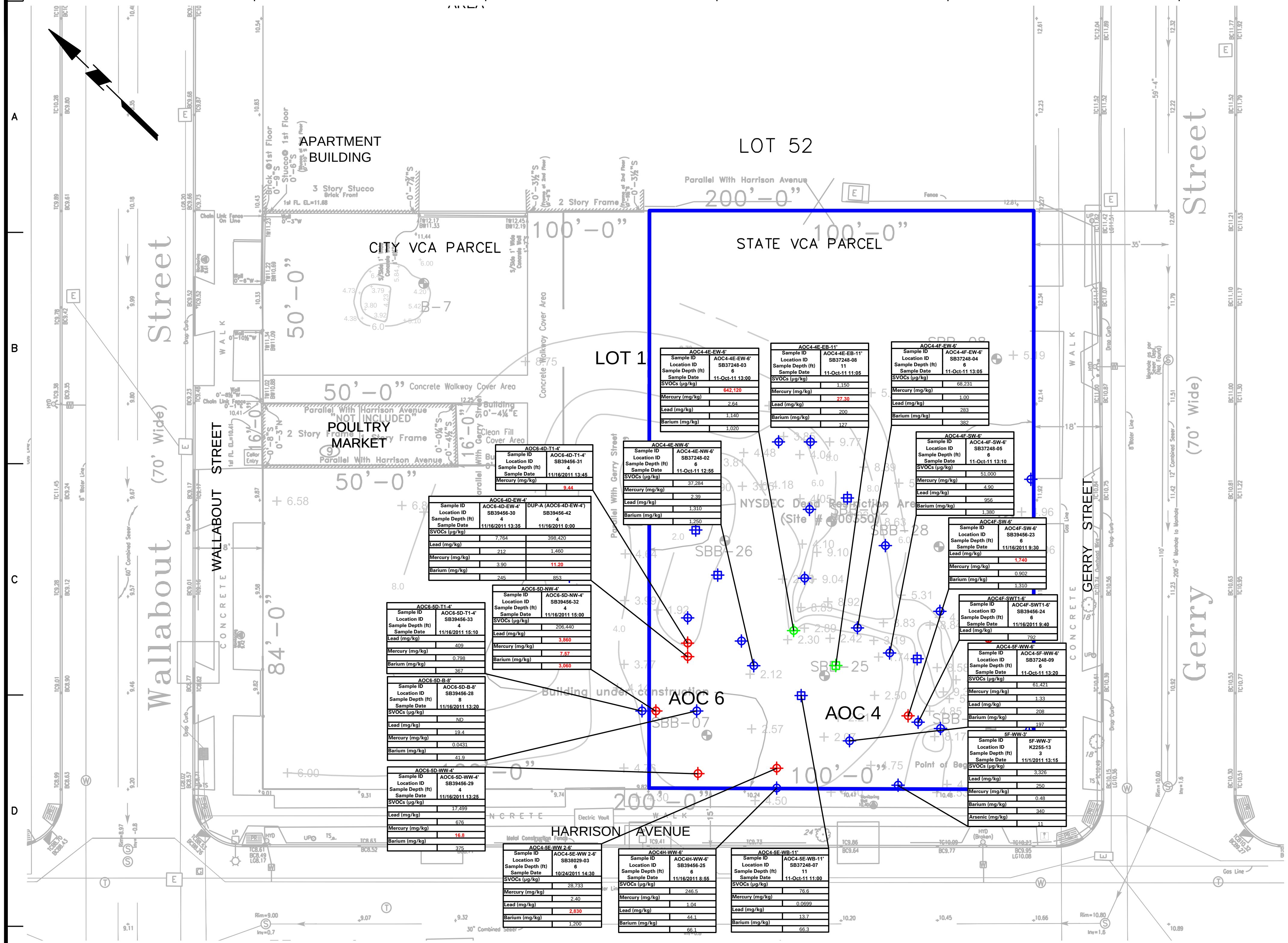
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	AOC3 LOCATION PLAN	170091701	12
		Date 01/06/2015	
		Scale 1"=20'	
		Drawn By JPD / Checked By SK	
		Submission Date	Sheet 12 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 8B- End-Point Sampling Results AOC3_Contour Version.dwg Date: 1/6/2015 Time: 17:09 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

Blue line	SITE BOUNDARY
Blue circle-cross	SIDEWALL ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
Blue square-cross	BOTTOM ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
Red circle-cross	PRELIMINARY SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES (EXCEEDANCES IN RED), OVEREXCAVATED
Red square-cross	PRELIMINARY BOTTOM ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES (EXCEEDANCES IN RED), OVEREXCAVATED
Green circle-cross	SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCE (EXCEEDANCES IN RED); CONCENTRATIONS DEEMED ACCEPTABLE PER NYSDEC COMMUNICATION
Green square-cross	BOTTOM ENDPOINT SAMPLE WITH SSSCO EXCEEDANCE (EXCEEDANCES IN RED); CONCENTRATIONS DEEMED ACCEPTABLE PER NYSDEC COMMUNICATION
Outline with 3.79	SURVEYED EXCAVATION AREAS AND ELEVATIONS (DECEMBER, 2011)
SBB-07	ROUX SOIL BORING LOCATION (1996-2005)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOC = AREA OF CONCERN
3. SSSCO = SITE SPECIFIC SOIL CLEANUP OBJECTIVE

Contaminant of Concern	TRACK 4 SITE SPECIFIC SOIL CLEANUP OBJECTIVE
Total SVOCs (µg/kg)	500000
Lead (mg/kg)	1500
Mercury (mg/kg)	5
Barium (mg/kg)	1500
Arsenic (mg/kg)	16

30 0 7.5 15 30

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BLOCK No. 2266, LOT No. 1

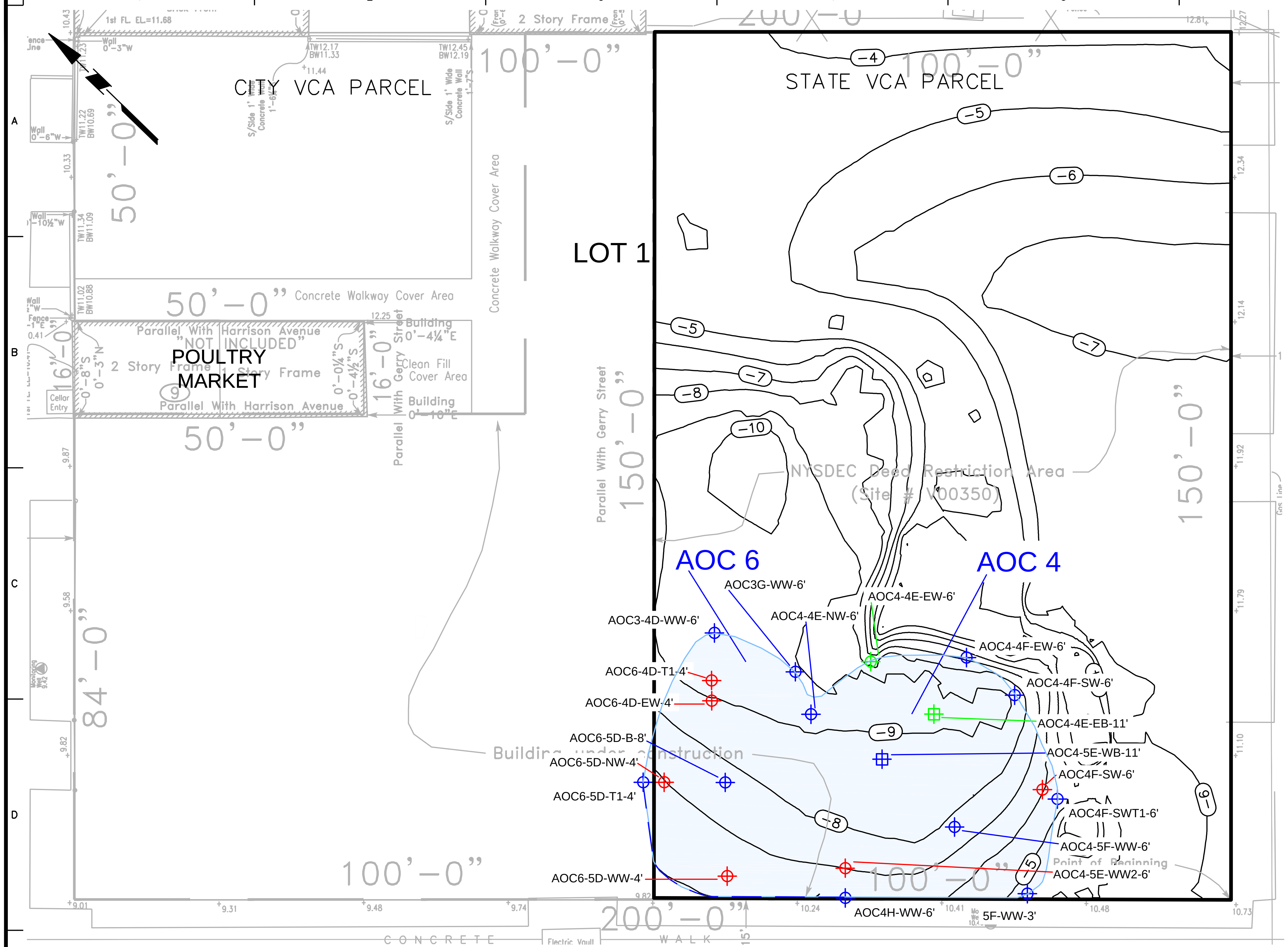
BROOKLYN NEW YORK

Figure Title

ENDPOINT SAMPLING RESULTS: AOC 4 AND AOC 6

Project No.	170091701
Date	10/24/2014
Scale	1"=30'
Drawn By	JPD
Checked By	SK
Submission Date	–
Figure No.	13

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 8C - End-Point Sampling Results AOC4 AOC6.dwg Date: 1/6/2015 Time: 17:12 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



20 0 5 10 20

SCALE IN FEET

LEGEND:

- SITE BOUNDARY
- AOC EXCAVATION
- APPROXIMATE REMEDIATION LINE
- SIDEWALL ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- BOTTOM ENDPOINT SAMPLE WITH NO SSSCO EXCEEDANCES
- PRELIMINARY SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCES, OVEREXCAVATED
- SIDEWALL ENDPOINT SAMPLE WITH SSSCO EXCEEDANCE; CONCENTRATIONS DEEMED ACCEPTABLE PER NYSDEC COMMUNICATION
- BOTTOM SAMPLE WITH SSSCO EXCEEDANCE; CONCENTRATIONS DEEMED ACCEPTABLE PER NYSDEC COMMUNICATION
- REMEDIAL EXCAVATION DEPTH CONTOUR (FEET)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. AOC = AREA OF CONCERN
3. EXCAVATION DEPTHS BASED ON DIFFERENCE BETWEEN INITIAL ELEVATIONS (SURVEYED FEBRUARY 2011) AND POST-EXCAVATION ELEVATIONS (SURVEYED DECEMBER 2011).
4. VCA = VOLUNTARY CLEANUP AGREEMENT
5. SAMPLE IDs INDICATE SAMPLE DEPTH (E.G. AOC1-2G-EW-4' WAS COLLECTED AT 4 FEET BELOW GROUND SURFACE [FT BGS] AND SBB-08[0.2 - 2'] WAS COLLECTED AT 0.2 - 2 FT BGS).

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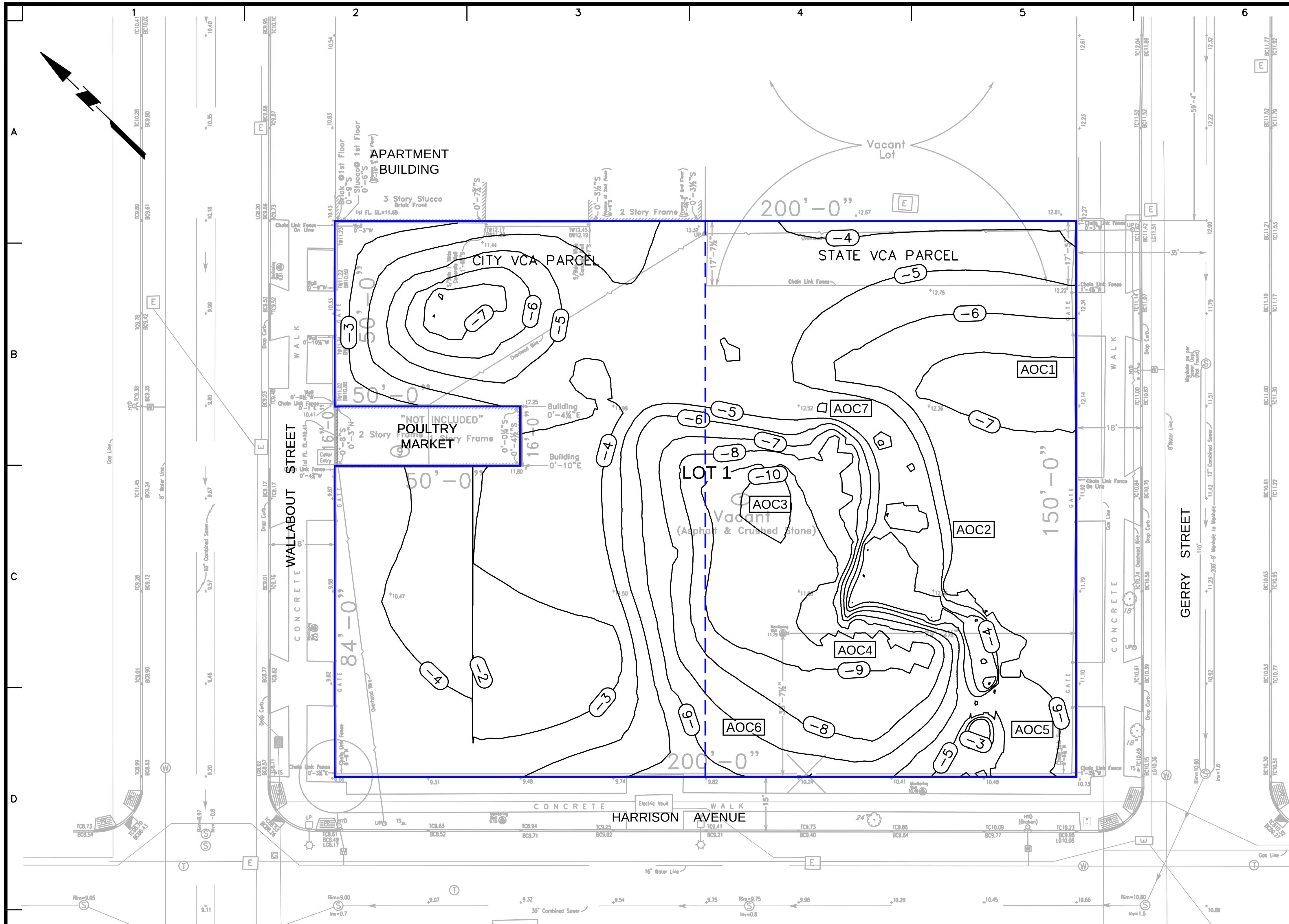
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	AOC LOCATION PLAN: AOC 4 AND AOC 6	170091701	14
		Date: 01/06/2015	
		Scale: 1"=20'	
		Drawn By: JPD / Checked By: SK	
		Submission Date	Sheet 14 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 8C - End-Point Sampling Results AOC4 AOC6_Contour Version2.dwg Date: 1/6/2015 Time: 17:18 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



30 0 7.5 15 30

SCALE IN FEET

LEGEND:

SITE BOUNDARY

EXCAVATION DEPTH CONTOUR (FEET)

+ 5.42 PRE-CONSTRUCTION SURVEYED ELEVATIONS (2/9/2011)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. ALL ELEVATIONS SHOWN HEREON REFER TO THE BROOKLYN HIGHWAY DATUM, WHICH IS 2.56 FEET ABOVE MEAN SEA LEVEL AT SANDY HOOK AS ESTABLISHED BY THE U.S. COAST & GEODETIC SURVEY, 1929.
3. DEPTHS BASED ON DIFFERENCE BETWEEN INITIAL ELEVATIONS (SURVEYED FEBRUARY 2011) AND POST-EXCAVATION ELEVATIONS (SURVEYED DECEMBER 2011)
4. AOC = AREA OF CONCERN
5. VCA = VOLUNTARY CLEANUP AGREEMENT

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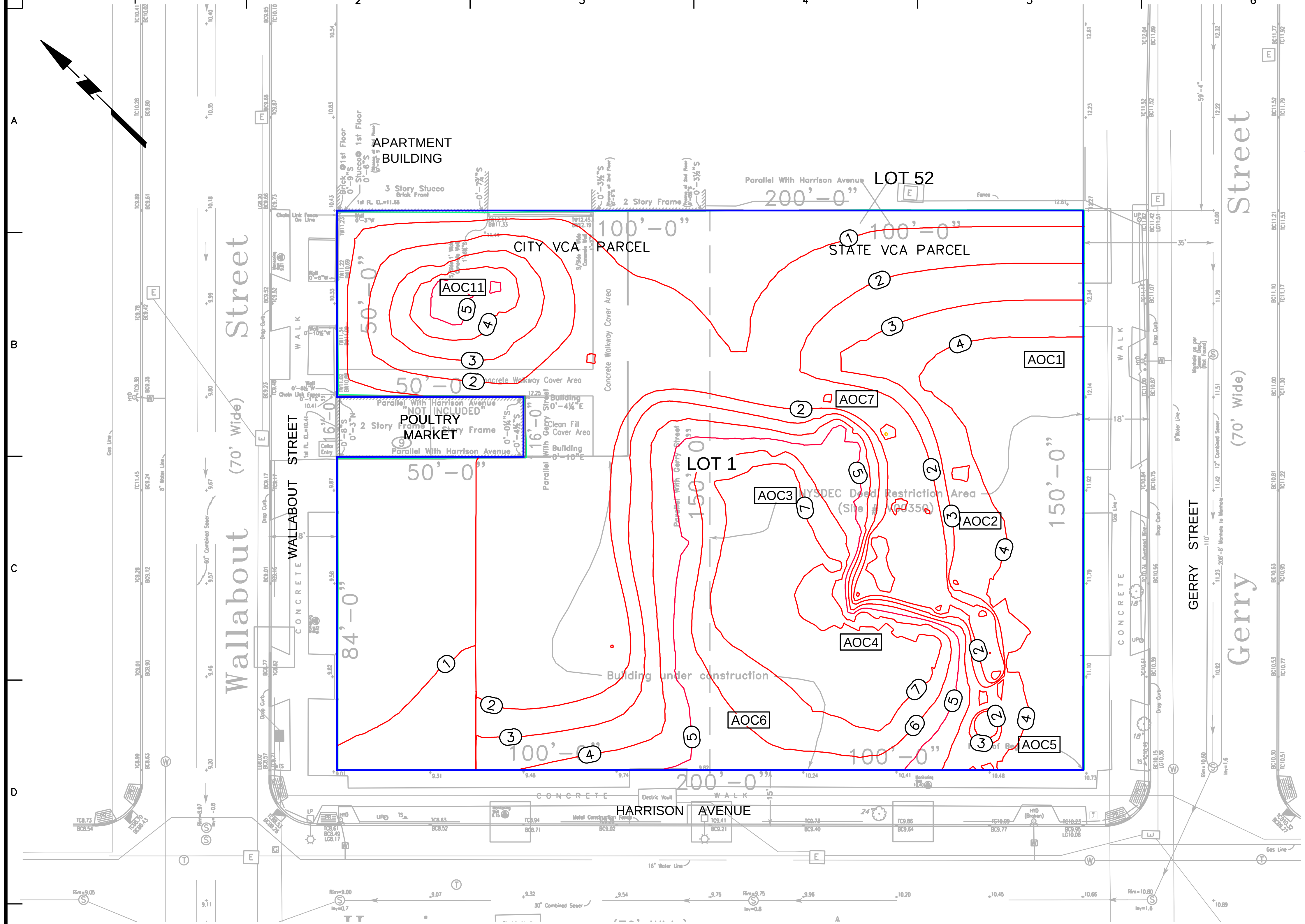
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	REMEDIAL EXCAVATION DEPTH PLAN	170091701	15
		Date 01/06/2015	
		Scale 1"=30'	
		Drawn By JPA / Checked By SK	
		Submission Date –	Sheet 15 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 9 - Remedial Excavation Depth Plan BCP.dwg Date: 1/6/2015 Time: 17:25 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

SITE BOUNDARY

BACKFILL THICKNESS CONTOUR (FEET)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. ALL ELEVATIONS SHOWN HEREON REFER TO THE BROOKLYN HIGHWAY DATUM, WHICH IS 2.56 FEET ABOVE MEAN SEA LEVEL AT SANDY HOOK AS ESTABLISHED BY THE U.S. COAST & GEODETIC SURVEY, 1929.
3. BACKFILL THICKNESS CALCULATED BY SUBTRACTING POST-EXCAVATION ELEVATIONS (SURVEYED DECEMBER 2011) FROM FINAL SUB-GRADE ELEVATION (EST. EL. 9.55 THROUGHOUT SITE WITH EXCEPTION OF EL. 7.05 IN NORTHWESTERN CORNER).
4. AOC = AREA OF CONCERN
5. VCA = VOLUNTARY CLEANUP AGREEMENT

30 0 7.5 15 30
SCALE IN FEET

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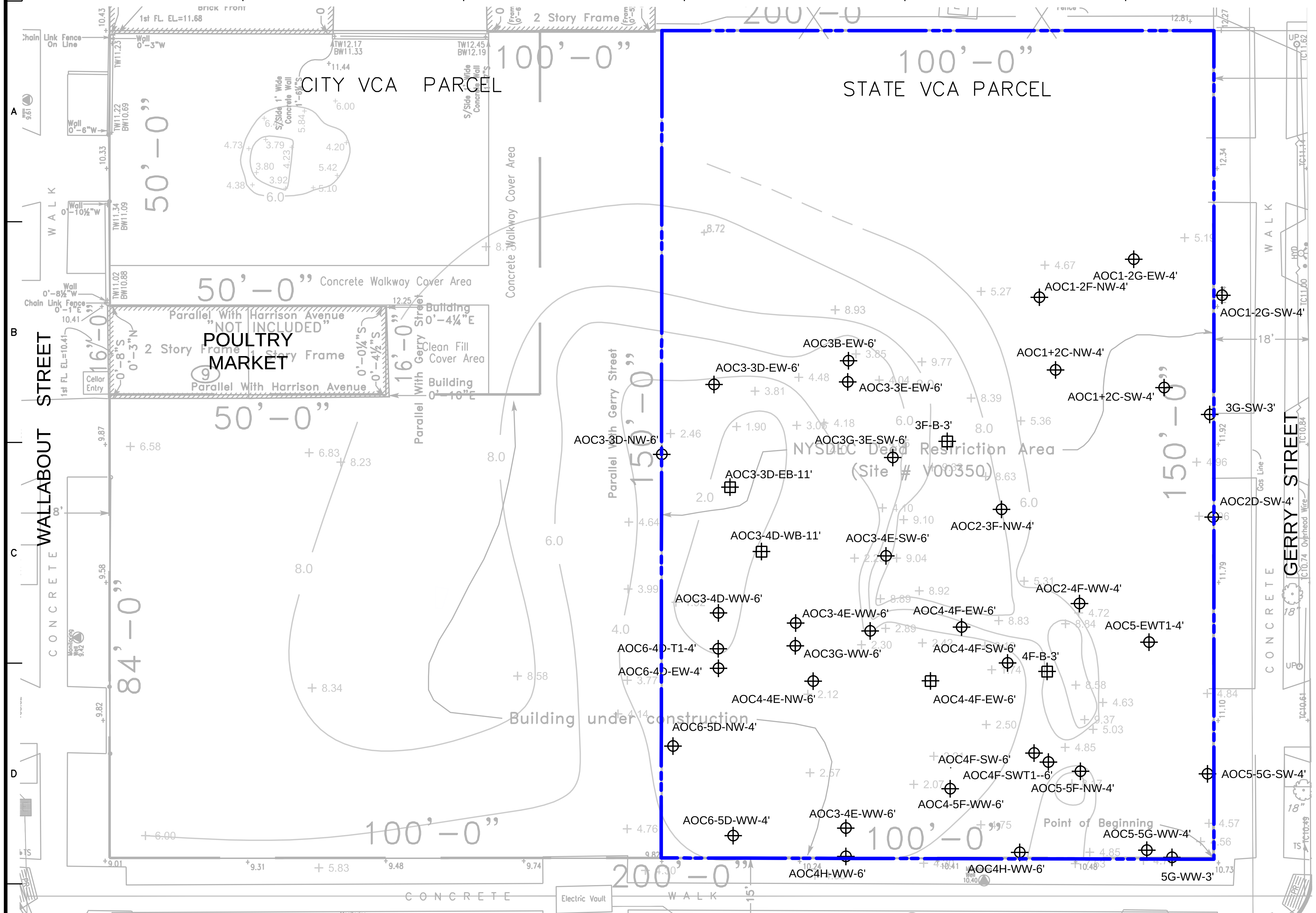
Project
177 HARRISON AVENUE
BLOCK No. 2266, LOT No. 1
BROOKLYN **NEW YORK**

Figure Title
BACKFILL LOCATION PLAN

Project No.	170091701
Date	01/06/2015
Scale	1"=30'
Drawn By	JPA
Checked By	SK
Submission Date	
Figure No.	16

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 10 - Backfill Location Plan BCP.dwg Date: 1/6/2015 Time: 17:29 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND:

- SITE BOUNDARY
- SIDEWALL ENDPOINT SAMPLE EXCEEDING TRACK 1 SCOs
- BOTTOM ENDPOINT SAMPLE EXCEEDING TRACK 1 SCOs
- SURVEYED POST-EXCAVATION AREAS AND ELEVATIONS (DECEMBER 2011)

NOTES:

1. BASE PLAN OBTAINED FROM SURVEY BY ERLANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.
2. SAMPLES WITH TRACK 1 EXCEEDANCES ARE SHOWN ON FIGURE.
3. AOC = AREA OF CONCERN
4. SCO = SOIL CLEANUP OBJECTIVES
5. VCA = VOLUNTARY CLEANUP AGREEMENT

20 0 5 10 20

SCALE IN FEET

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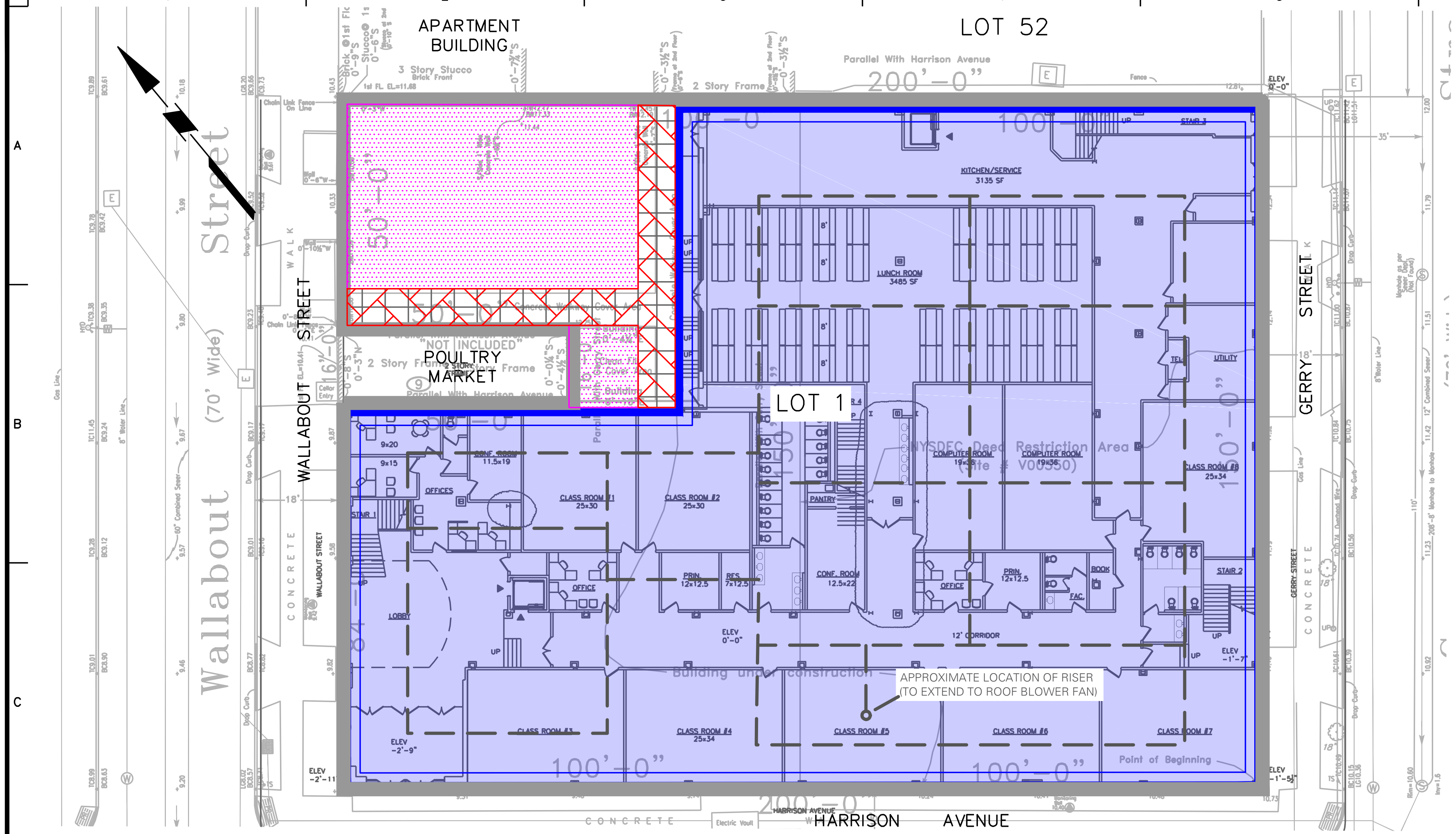
Project	Figure Title	Project No.	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	ENDPOINT SAMPLES EXCEEDING TRACK 1 SCOs	170091701 Date: 01/06/2015 Scale: 1"=20' Drawn By: JPA Checked By: SK Submission Date	17 Sheet 17 of 18

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 11 - End-Point Samples Exceeding Track 1 SCOs.dwg Date: 1/6/2015 Time: 17:32 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL

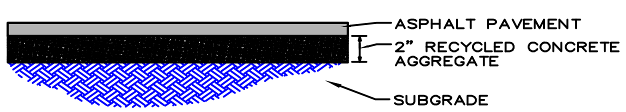


LEGEND

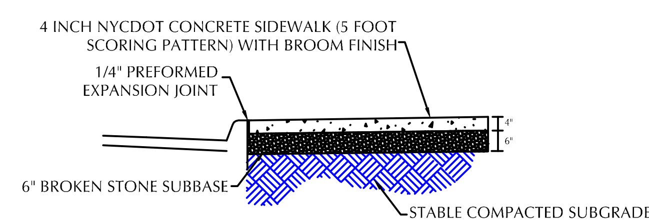
- LOT 1 BOUNDARY
- SUB-MEMBRANE DEPRESSURIZATION SYSTEM SUB-GRADE PIPING
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT (TYP. DETAIL 1)
- CONCRETE WALKWAY COVER (TYP. DETAIL 2)
- CONCRETE BUILDING SLAB COVER, SOIL VAPOR BARRIER AND 3/4-INCH STONE FOR SUB-MEMBRANE DEPRESSURIZATION SYSTEM (TYP. DETAIL 3)

BASE MAP NOTES

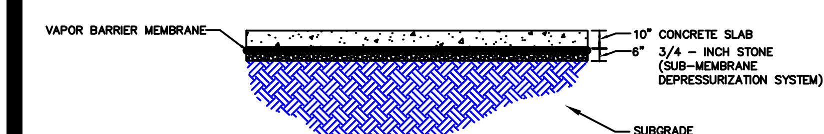
1. BASE PLAN WAS OBTAINED FROM SURVEY BY ELRANDSEN-CROWELL & SHAW, DATED MAY 1, 2014.



DETAIL 1: EXTERIOR AREA DETAIL
(NOT TO SCALE)



DETAIL 2: CONCRETE WALKWAY DETAIL
(NOT TO SCALE)



DETAIL 3: BUILDING FOUNDATION DETAIL
(NOT TO SCALE)

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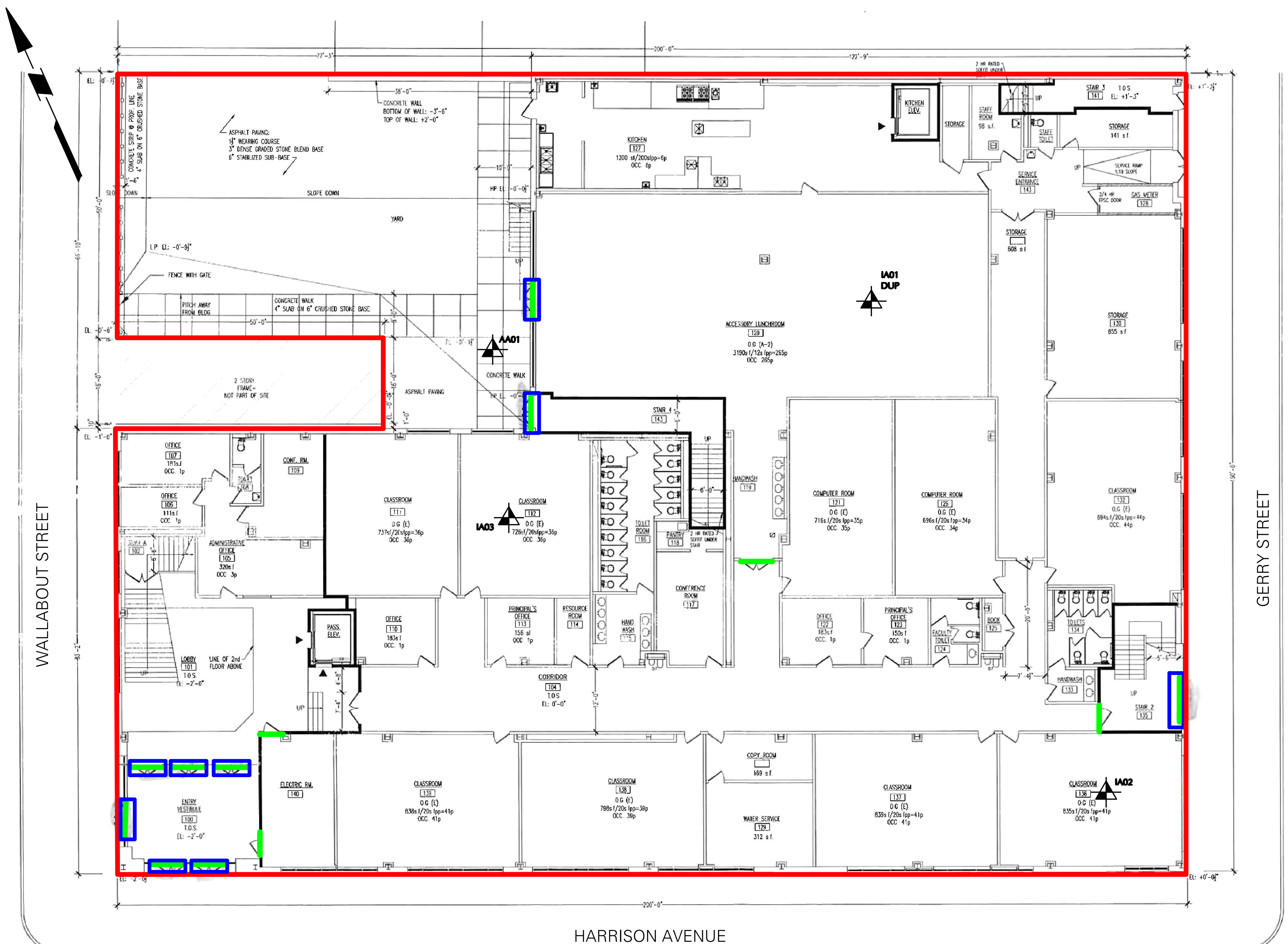
Project	Figure Title	Project No. 170091701	Figure No.
177 HARRISON AVENUE BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	SITE-WIDE COVER SYSTEM PLAN	Date 01/23/2015 Scale 1"=30' Drawn By JPA / Checked By SK Submission Date –	18 Sheet 18 of 19

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\NYCOER CCR\Figures\Figure 12- Site-Wide Cover System and Cross Sections.dwg Date: 1/23/2015 Time: 16:09 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL



LEGEND

IA01 — INDOOR AIR SAMPLE LOCATION

AA01 — AMBIENT AIR SAMPLE LOCATION

PROPERTY BOUNDARY

SEALED DOORWAYS

UNINSTALLED DOORS

NOTES

1. BASE MAP FROM DRAWING NUMBER A-101.00 BY MARK MARISCAL ARCHITECTS, DATED AUGUST 8, 2011.

2. DOORWAYS WERE SEALED WHERE NOTED BY COVERING OPENINGS WITH 6-MIL POLYETHYLENE SHEETING AND AFFIXING SHEETING TO DOOR FRAMES WITH LOW VOLATILE ORGANIC COMPOUND TAPE.

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Project	Figure Title	Project No.	Figure No.
177 HARRISON STREET BLOCK No. 2266, LOT No. 1 BROOKLYN NEW YORK	AIR SAMPLING PLAN	170091701	19
		Date: 1/23/2015	
		Scale: 1" = 30'	
		Drawn By: JPD / Checked By: SK	
		Submission Date: –	Sheet 19 of 19

Filename: \\langan.com\data\NY\data7\170091701\Cadd Data - 170091701\Dwg\Environmental\Air Sampling\177 Harrison St Air Sampling Map_CCR version.dwg Date: 1/23/2015 Time: 15:55 User: pdiggins Style Table: Langan.stb Layout: ANSIB-BL