AKRF Engineering, P.C.
440 Park Avenue South, 7th Floor New York, NY 10016
212-696-0670

Submitted to:

C.E. Flushing, LLC
118-35 Queens Boulevard
Forest Hills, New York 11375

2009 SITE MANAGEMENT REPORT

Flushing Industrial Park, Parcels 1-3

Flushing, New York

AKRF Project Number: 30141
NYSDEC BCP Site No. C241051 (Parcel 1), C241078 (Parcel 2) and C241079 (Parcel 3)

January 2010

Flushing Industrial Park, Parcels 1, 2 and 3

Tax Block 5066, Lots 1201 to 1205 (formerly Lots 1 and 100) and Lots 1001 to 1169, 9001 and 9100

QUEENS, NEW YORK

2009 Site Management Report

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1.0 INTRODUCTION

This Site Management Report (SMR) was prepared to document pertinent activities performed at Flushing Industrial Park (Eastern), Parcel 1 (BCP Site No. C241051), Flushing Industrial Park (Western), Parcel 2 (BCP Site No. C241078), and Flushing Industrial Park (Western Waterfront), Parcel 3 (BCP Site No. C241079), during 2009. These three Parcels comprise approximately 13.3 acres located on the northwestern corner of College Point Boulevard and 40th Road, in Flushing, Queens, New York (collectively, the Property). The Property location is shown on Figure 1.

Remedial activities were completed on Parcels 1, 2 and 3 between February 2006 and December 2007 under the New York State Department of Environmental Conservation's (NYSDEC) Brownfield Cleanup Program (BCP). Remediation Brownfield Cleanup Agreements (BCAs) were executed in December 2004 and amended BCAs were executed in June 2005, December 2006, April 2007 and November 2007. Remedial work was performed in accordance with NYSDEC-approved work plans. The remediation was documented in three Parcel-specific Final Engineering Reports (FERs) dated December 2007, and on-going site management requirements were specified in Site Management Plan (SMPs), submitted with the FERs. NYSDEC issued Certificates of Completion for Parcels 1, 2 and 3 in December 2007.

The purpose of this Site Management Report is to document on-going site management activities associated with Engineering and Institutional Controls for the Property, and to certify those controls in accordance with the Site Management Plans (SMPs). The SMPs provide detailed descriptions of all procedures required to manage known and potential residual contamination.

2.0 BACKGROUND

2.1 SITE DESCRIPTION

The Property is located in the County of Queens, New York and is identified as Block 5066, Lots 1201, 1202, 1203, 1204 and 1205 (formerly known as Lots 1 and 100) on the Queens Tax Map. In addition to these ground lots, air parcels Block 5066, Lots 1001 through 1169, 9001 and 9100 have been established for the residential condominiums constructed above the retail structures. The Property is bounded by Roosevelt Avenue to the north, College Point Boulevard to the east, 40th Road to the south, and the Flushing River to the west (see Figure 2).

The site is currently under construction. The proposed redevelopment plan for the Property consists of commercial and residential use for Parcels 1 and 2, and a waterfront esplanade consisting of both landscaped and paved areas with upland connections on Parcel 3. The retail and parking structures will occupy a majority of Parcels 1 and 2 on the lower floors of the development, with residential towers (potentially including office space and/or community facilities) above these structures starting at the fifth floor. The eastern two-thirds of the development will consist of open or actively-vented garage space on the ground floor (lowest) level.

2.2 REMEDIAL INVESTIGATION FINDINGS

2.2.1 Geology and Hydrogeology

Results from the remedial and geotechnical investigations indicated that the top 6 to 16 feet of soil generally consisted of miscellaneous fill. The fill was variable, ranging from silty clay to sand with anthropogenic materials including brick, ash and cinders. The fill was underlain at some locations by a layer of organic silt, clay and peat up to about 30

feet thick near the Flushing River, and thinning out towards the east, ending about 200 to 300 feet from College Point Boulevard. A stiff silty clay/clayey silt stratum was occasionally encountered beneath the soft clayey soils. Occasional layers of sand, gravel, cobbles and boulders were interspersed in these strata. Below the fill and organic deposits was a layer of sand 30 to 60 feet thick, consisting of fine to coarse sand with varying percentages of silt and gravel. A stiff clay or silty clay stratum was encountered beneath the sand at a depth of 35 to 70 feet below grade (elevations -30 to -60 feet Queens Borough Datum).

Groundwater studies performed at the site and in surrounding areas before remediation indicated a general groundwater flow direction towards the west and northwest which appeared to be tidally influenced. Groundwater in the southern portion of the Property was locally influenced by a New York City Department of Environmental Protection (NYCDEP) sewer pump house located in this area. As part of remediation, interlocking bulkhead sheeting was installed at the western boundary of Parcel 3 and along segments of the western and southern Property boundaries. This sheeting appears to be limiting the tidal influence on the Property, based on measurements in monitoring wells installed before and after remediation excavation. In addition, post-remediation water levels continue to fluctuate, likely due in part to the sheeting, continued construction excavation and dewatering, and the removal of on-site storm sewers.

2.2.2 Nature and Extent of Contamination Prior to Remediation

Historically the Property contained several transformers, gasoline fueling facilities, an equipment repair area and a paint storage house. Consolidated Edison (the previous Property owner), historical maps and NYSDEC records indicated underground storage tanks (USTs) and aboveground storage tanks (ASTs) storing gasoline, diesel, insulating oil, kerosene, spent motor oil and heating oil. Multiple investigations were performed on the Property between 1989 and 2005 to identify and further evaluate soil and groundwater contamination.

Soil Contamination

Subsurface investigations identified the main contaminant of concern in soil to be PCBs; however, elevated levels of volatile organic compounds (VOCs) (including benzene, sec-butylbenzene, chlorobenzene, ethylbenzene, naphthalene, and xylenes); semivolatile organic compounds (SVOCs); pesticides (including delta-BHC, dieldrin, 4,4-DDD, 4,4-DDE, 4,4-DDT, endosulfan sulfate, endrin); and metals (including arsenic, cadmium, lead and mercury) were also found. The laboratory analytical data revealed that elevated PCB concentrations were generally more prevalent in Parcels 2 and 3. In general, PCB concentrations were highest at or above the water table; however, one area on the south side of Parcels 2 and 3 was identified with hazardous waste concentrations of PCBs extending below the water table.

Groundwater Contamination

PCB-containing LNAPL was identified on the water table in three site monitoring wells. Elevated levels of VOCs, SVOCs, PCBs, pesticides, and metals (arsenic, barium, cadmium, iron, lead, magnesium, manganese, selenium and sodium) were found in the groundwater.

The NYSDEC Class GA Ambient Water Quality Standards were exceeded in groundwater samples for total and dissolved PCBs, pesticides (aldrin, alpha-chlordane, dieldrin, 4,4-DDD and endrin), VOCs (acetone, benzene, chlorobenzene, toluene and vinyl chloride), SVOCs (1,3-dichlorobenzene), and total and dissolved TAL metals (arsenic, barium, cadmium, iron, lead, magnesium, manganese, selenium and sodium). The elevated concentrations of PCBs, pesticides, VOCs and SVOCs were identified in isolated areas, but the Class GA standard exceedances for metals were identified across the Property.

2.3 SITE REMEDIATION

The remediation was conducted in accordance with the NYSDEC-approved Interim Remedial Measure Work Plan and Remedial Action Work Plans, including all addenda and modifications.

2.3.1 Contaminated Materials Removal

Based on the results of initial subsurface investigations, soil Site-Specific Action Levels (SSALs) were established for the protection of human health and the environment, considering the contemplated use and anticipated institutional and engineering controls. The SSALs were as follows:

Soil Site-Specific Action Levels

Parameter	Criterion
Individual Volatile Organic Compounds (VOCs)	TAGM 4046 RSCO
Total Semivolatile Organic Compounds (SVOCs)	100 ppm
Total Polychlorinated Biphenyls (PCBs)	10 ppm
Individual Pesticides	1 ppm or TAGM 4046 RSCO, if higher
Arsenic	24 ppm
Cadmium	10 ppm
Lead	500 ppm
Mercury	4 ppm
Silver	100 ppm
Cyanide	Hazardous Waste Reactivity Criterion

Notes: TAGM 4046 RSCO – Technical and Administrative Guidance Memorandum #4046 Recommended Soil Cleanup Objectives, January 24, 1994
ppm – parts per million

Contaminated materials removal included the excavation of soil with concentrations greater than the established SSALs above (and to the extent practicable below) the water table; removal of LNAPL to the extent practicable; removal of ASTs and USTs; investigation and removal of drainage structures; and investigation of geophysical anomalies. Excavation and off-site disposal of contaminated soil was performed from February 2006 to November 2007.

2.3.2 Engineering Controls

Engineering controls were installed as part of the remedial action to prevent exposure to residual subsurface contamination at the Property. The engineering controls, which consist of a site cover and a sub-slab vapor mitigation system, are described in more detail below.

Site Cover

Following soil removal activities, a composite cover system was installed over the Property to prevent direct exposure to underlying soil. At the time that the FERs were submitted, the site cover consisted of concrete or asphalt. In the future, the site cover may also include a minimum of two (2) feet of clean fill (meeting the Part 375 SCOs calculated as the lower of the SCOs for Residential Use and for Protection of Groundwater, or for which specific approval was given by NYSDEC).

Vapor Mitigation System

Exposure to potential residual vapors is minimized by a sub-slab vapor mitigation system installed beneath the building on Parcel 2 which will have retail use on the ground floor. The mitigation system design consists of a network of PVC sub-slab depressurization piping placed beneath a vapor barrier.

2.3.3 Institutional Controls

Institutional controls incorporated into the remedy include an environmental easement to prohibit certain on-site uses, and ensure implementation of the Parcel-specific SMPs during future site use. These institutional controls are described in more detail below.

Site Management Plan

Three SMPs were prepared to describe procedures and protocols for post-remediation management of the three remedial Parcels. The SMPs each include four plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of the remedial cover, sub-slab venting system (Parcel 2 only), and the groundwater monitoring system; and (4) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC. The Engineering and Institutional Control Plan portion of the SMP includes detailed procedures for handling residual on-site contamination during future soil disturbance activities.

Environmental Easement

An environmental easement has been recorded for each of the three Parcels comprising the Property. The property deed and all subsequent instruments of conveyance will contain language indicating that the Property is subject to the environmental easement. The environmental easement includes the following site use restrictions:

- Single family housing, vegetable gardens and farming are prohibited;
- A school or day care facility is prohibited;
- Use of the site groundwater is prohibited without treatment rendering it safe for its intended purpose;
- All future activities that will disturb Residual Management Zones (i.e., penetrate through the site cover into the underlying soil) are prohibited unless they are conducted in accordance with the SMPs;
- The Property may be used for Restricted Residential use, as defined in 6 NYCRR 375-1.8(g)(2)(ii), provided that the long-term Engineering and Institutional Controls included in the SMPs remain in use;

- The Property may not be used for a more restricted level of use, such as residential use, nor may the parking areas be converted to other enclosed purposes;
- The easement requires annual submission of a written certification that: (1) controls are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC and NYSDOH; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMPs.

3.0 CONSTRUCTION ACTIVITIES

The SMP established the following three Residual Management Zones (RMZs):

- RMZ A refers to previously placed backfill documented to meet SSALs (see Section 2.3.1). Excavated material from this zone that does not exhibit evidence of contamination was reused on-site as subsurface fill beneath the restored cover without additional sampling.
- RMZ B is material where previous endpoint sampling indicated the material met the SSALs. Whenever this material was excavated, additional analyses were performed to confirm the material met SSALs prior to its reuse on-site as backfill material. If the excavated material exhibited evidence of contamination (i.e., odor, staining, or elevated photoionization detector (PID) readings) or if analytical results indicated concentrations above the SSALs, then the material was disposed of off-site.
- RMZ C is the material where endpoint sampling indicated concentrations greater than the SSALs. Soil in the vicinity of this known contamination was disposed of off-site.

Construction of the new development on the Property was performed throughout 2009. A qualified environmental professional oversaw all invasive work that disturbed the RMZs. Photos documenting the subsurface disturbances are provided in Appendix A.

3.1 EXCAVATION

During excavation and stockpiling, the on-site field personnel continuously monitored the excavated material for evidence of contamination and conducted periodic screening for VOCs using a PID. No buried tanks, drums or other containers were encountered during excavation. Construction activities disturbed the three Residual Management Zones throughout 2009.

- Soil in RMZ A was excavated on Parcels 1, 2 and 3 from January 2009 to December 2009.
- Soil in RMZ B was excavated on Parcels 1 and 2 intermittently from March 2009 to December 2009.
- Soil in RMZ C was excavated on the southern and southwestern portions of Parcel 2 intermittently between May 2009 and October 2009.

The locations and elevations for the excavations that extended into RMZ B or RMZ C are shown on the survey attached as Appendix B.

3.2 STOCKPILING

Soil was stockpiled based on the known or anticipated type and/or level of contamination (based on previous data, PID readings, odor, staining, etc.). Soil exhibiting obvious contamination was stockpiled separately to prevent mixing with potentially uncontaminated excavated material.

Suspect contaminated soil was placed on a base consisting of rugged polyethylene tarp. Stockpiles were kept fully covered whenever excavation and/or loading operations were not occurring with appropriately anchored tarps and/or polyethylene sheeting. Stockpiles were then encircled with haybales.

Stockpiles of excavated material were inspected at a minimum once each week and after rain events - tarps and haybales were replaced as needed. Results of inspections were recorded in the field logbook. A stockpile tracking log (Table 1) was maintained to track source, sampling and final disposition of stockpiled material.

At the end of 2009, two soil stockpiles remained on the western side of the Property. These soils have been characterized and meet the SSALs and will be either placed as backfill or disposed of off-site in accordance with the SMP.

3.3 WASTE CHARACTERIZATION

Stockpiles of soil planned for off-site disposal were sampled to characterize the material for disposal. Waste characterization samples were analyzed for analytical parameters required by the destination disposal facilities, typically including: VOCs by EPA Method 8260; SVOCs; total metals by EPA Method 6010; PCBs by EPA Method 8082; and leachable VOCs, SVOCs, pesticides, and metals using the toxicity characteristic leaching procedure (TCLP) by EPA Methods 1311, 8260, 8270, 8081, 8151, 6010 and 7470; ignitability by EPA Method 1030; corrosivity by EPA Methods 9040/9045; and/or reactivity by EPA Methods 9014/9034. The waste characterization samples were analyzed by TestAmerica in Shelton, Connecticut, a NYSDOH Environmental Laboratory Accreditation Procedure (ELAP)-certified laboratory.

Laboratory analytical results for the waste characterization samples are provided in Tables 2a to 2h and Tables 3a to 3f, and the laboratory reports are included on the CD provided in Appendix C.

3.4 SOIL TRANSPORTATION AND DISPOSAL

All excavated material with evidence of contamination (based on previous laboratory analytical results, PID readings, odor and/or staining) was disposed of off-site. In addition, soil/fill material that met the SSALs, but that could not be used for backfill due to its mechanical properties or composition or because it was in excess of the volume required for backfilling, was also characterized for off-site disposal. Material disposed of off-site is summarized in the Stockpile Tracking Log provided in Table 1.

Prior to off-site disposal of soil, investigation and waste characterization data for the material was provided to each solid waste disposal facility. Waste characterization data is summarized in Tables 2a to 2h and Tables 3a to 3f. The receiving facilities provided confirmation that they reviewed the data and that the material was acceptable under the applicable permits. Acceptance letters from disposal facilities are attached in Appendix D.

The Property had the following general solid waste streams in 2009:

- From June 10, 2009 to December 30, 2009, a total of 176 trucks transported 5,401.39 tons of non-hazardous waste for disposal at the Clean Earth landfill in Philadelphia, Pennsylvania.
- From June 8, 2009 to December 23, 2009, a total of 366 trucks transported 11,690.9 tons of non-hazardous waste for disposal at the Clean Earth treatment facility in Carteret, New Jersey.

No hazardous waste was generated at the site in 2009. The total quantities of non-hazardous wastes removed from the Property and the respective disposal locations are shown on Table 4. Copies of waste manifests and bills of lading for material disposed of off-site are included in Appendix D.

Licensed haulers were used for material removed from this Property. Copies of the applicable disposal facility permit information are also provided in Appendix D.

3.5 ON-SITE SOIL REUSE AS BACKFILL

The SSAL criteria listed in Section 2.3.1 have been approved by NYSDEC for on-site reuse of material. Soil excavated from RMZ C and any excavated material that had chemical or petroleum odors; visual chemical or petroleum staining; or elevated PID readings above 5 ppm were not reused on-site but were characterized for off-site disposal as discussed in Section 3.3.

Soil excavated from RMZ B that was proposed for reuse on-site was analyzed at a minimum frequency of one composite sample per 500 cubic yards for TCL VOCs, TCL SVOCs, TAL metals, PCBs and pesticides. Soil from RMZ B that met the SSALs was generally reused on-site as backfill beneath the site cover.

Material excavated from RMZ A (previously placed backfill) was previously documented to meet SSALs; therefore it was reused on-site beneath the cover without additional sampling.

Material reused as backfill on the Property is summarized in the Stockpile Tracking Log provided as Table 1. Laboratory analytical results for soil reuse sampling is provided in Tables 2a to 2h and Tables 3a to 3f.

3.6 BACKFILL FROM OFF-SITE SOURCES

Backfill materials imported during 2009 originated from the Tilcon Mt. Hope Quarry in Wharton, New Jersey. The Tilcon Mt. Hope Quarry is a virgin quarry source and all imported backfill was native material; therefore, the sample collection and laboratory testing was not necessary.

Backfill materials were imported in 2009 from the following sites:

- Approximately 4,100 tons of gravel from the Tilcon Mt. Hope quarry in Wharton, NJ.

A summary of the material received from off-site sources is provided in Table 5. Tickets documenting imported material source, date, and weight or volume are provided in Appendix E.

3.7 FLUIDS MANAGEMENT

Dewatering fluids discharged into the New York City sewer system were addressed through approval by NYCDEP under Case No. C-3992.

3.8 DEMARCATION

After the completion of soil removal from RMZs B and C, the base of the excavation was surveyed by a New York State licensed surveyor. The survey is provided in Appendix B.

Some excavations into RMZ B and RMZ C were discrete areas that were later filled with concrete for foundation elements (e.g., pile caps or footings). A physical demarcation layer was not installed at the base of the excavations where concrete was placed. Conservatively, the RMZ locations are not being remapped to these shallower depths.

3.9 HEALTH AND SAFETY MONITORING

A Health and Safety Plan (HASP) for the entire Property was provided as an appendix to the SMPs. The HASP included requirements for personnel training, protocols for work zone air monitoring and community air monitoring, designated personal protection equipment, and decontamination procedures. The HASP also included a community air monitoring plan (CAMP) which established protocols for VOC and particulate air monitoring to be conducted at the Property perimeter if work zone perimeter concentrations approached the applicable community action levels.

The HASP, including the community air monitoring protocol, was complied for invasive remedial work performed on the Property. Initial soil disturbance of RMZ A soil was overseen by a qualified environmental professional. RMZ B soil disturbance included air monitoring for VOCs and dust in the work zone. In areas where evidence of contamination was noted, work zone requirements were upgraded to require OSHA HAZWOPER trained workers. RMZ C soil disturbance also included air monitoring and OSHA HAZWOPER trained workers.

VOC concentrations were monitored with a PID or equivalent, and respirable particulate matter was monitored using a Thermo PDR1000, DustTrak 8520 or equivalent. No remediation work zone or community air monitoring exceedances were noted above the 15-minute time-weighted average (TWA) action levels specified in the HASP through the full duration of activities performed under the SMP. Copies of the air monitoring logs are provided in Appendix F.

3.10 SEDIMENT AND EROSION CONTROL MEASURES

As required under 6 NYCRR Parts 700-705, a SWPPP was prepared to comply with the requirements and conditions of the State Pollutant Discharge Elimination System (SPDES) General Stormwater Permit for Construction Activity (Permit No. GP-02-01). A construction-phase SWPPP was provided as an appendix to the SMPs. The SWPPP included erosion and sediment controls in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Typical measures that were implemented to limit the potential for erosion and migration of soil included the use of hay bales, sewer inlet protection, a stabilized construction entrance, and dust control measures.

4.0 SITE COVER OPERATION AND MAINTENANCE

Exposure to residual contaminated soil/fill is prevented by an engineered composite cover system. This composite cover system is comprised of asphalt or concrete.

4.1 SITE COVER ALTERATIONS

The site cover in place at the time of the FER submission consisted of concrete building slabs and pile caps, and asphalt. During 2009, the site cover was modified with asphalt and additional concrete placed for foundations and floor slabs of the buildings. All disturbance of the composite cover system and underlying residual soil was performed in accordance with the SMPs, as discussed in Section 3.0. The locations and elevations of the asphalt and concrete site covers at the end of 2009 are shown on Figure 3.

4.2 SITE COVER INSPECTION

AKRF inspected the site cover on December 28, 2009. The inspection consisted of checking the asphalt/concrete paving for cracking and/or signs of wear. All observed paving was found to be

intact, with no signs of significant cracking or damage. In some areas, direct observation of the cover was obscured by soil stockpiles, equipment, and/or sediment buildup on top of the cover; however, based on information from the Property owner representatives and observation of excavation activities throughout the year, the cover was expected to be essentially intact in the areas not directly visible during the inspection. At the time of the inspection, twelve shallow excavations (approximately 4 to 5 feet deep) for installation of utilities were exposing RMZ A soil. As part of ongoing construction, these excavations will be backfilled and covered with asphalt or concrete. Restoration of the cover in these areas will be documented in the 2010 Site Management Report. Photographs of the site cover taken during the inspection and a copy of the site cover inspection log are provided in Appendix G.

5.0 VAPOR MITIGATION SYSTEM OPERATION AND MAINTENANCE

Installation of the vapor mitigation system was completed in late 2007. As permitted by the SMP, prior to initial building occupancy, operation of the sub-slab depressurization system may be temporarily suspended during construction. In December 2007, the vapor mitigation system was temporarily taken out of service while construction continued on the retail building.

At the time of the inspection, the sub-slab depressurization system remained off; the blowers will be reactivated prior to building occupancy. Routine operations, maintenance and monitoring will be performed as specified under the SMP. Restarting and testing of the system will be documented in subsequent Annual Site Management Reports.

6.0 MONITORING

6.1 ENGINEERING CONTROL SYSTEM MONITORING

Engineering control system monitoring included the site cover inspection discussed in Section 4.2. Sub-slab depressurization system monitoring was not performed in 2009 as the system was not operated during that period, as discussed in Section 5.0.

6.2 GROUNDWATER MONITORING

6.2.1 Monitoring Well Installation

Sixteen groundwater monitoring wells designated MW-28 to MW-43 were installed on the Property between September 11 and 14, 2006. Several monitoring wells were damaged during construction activities. A replacement monitoring well is identified by an “R” (e.g., MW-43R) and if the well has been replaced more than once it is identified by an R and the number of times the well has been reinstalled (e.g., MW-43R2). At the end of 2009, six monitoring wells remained damaged: MW-28R4, -29R4, -30R3, -31, -36R and -39.

Ongoing construction work restricted access to these areas; however, they will be replaced as construction is completed and access becomes available in 2010. Both original and replacement well locations are depicted on Figure 4. Monitoring well installation diagrams for the replacement wells installed in 2009 are provided in Appendix H.

6.2.2 Monitoring Well Sampling

Groundwater samples were collected from the site monitoring wells on February 26 to March 6; May 26 to 29; and August 24 to 26, 2009. The fourth quarterly sampling event was not conducted due to ongoing construction activities which damaged several monitoring wells and restricted access per AKRF's email notification to Ioana Ramnic of NYSDEC on November 9, 2009. The perimeter of the site remains disturbed due to grading and utility installation, and construction traffic and equipment staging continue in the area of the damaged site monitoring wells. The work is nearing completion with cover replacement expected in March 2010. Therefore, the replacement wells would be installed in April 2010, and the next sampling event will be postponed until the end of April 2010.

Results of the three sampling events were reported in quarterly groundwater reports submitted to NYSDEC. Copies of these quarterly reports are provided on a CD in Appendix I.

All groundwater samples were collected using low-flow sampling procedures in accordance with the SMP. The samples were submitted to TestAmerica in Shelton, Connecticut, an NYSDOH-certified laboratory for analysis of TCL VOCs using EPA Method 8260, TCL SVOCs using EPA Method 8270, PCBs (both total and filtered) using EPA Method 8081, pesticides using EPA Method 8082, TAL metals (both total and filtered) using EPA Methods 6000/7000 Series and total cyanide.

The depth to water was measured in all monitoring wells to determine groundwater elevation and flow patterns. Potential LNAPL was gauged at each well using an oil-water interface probe.

During monitoring well purging, water quality indicators, (e.g. turbidity, pH, temperature, dissolved oxygen, reduction-oxidation potential, and specific conductivity) were measured and recorded approximately every five minutes. Groundwater samples were collected when water quality indicators had stabilized and turbidity levels were less than 50 nephelometric turbidity units (NTU) or after two hours of continued purging. Groundwater analytical results are discussed in Section 6.3.2.

6.2.3 Waste Disposal

Soil cuttings generated during monitoring well drilling were added to site stockpiles and disposed of off-site with the material discussed in Section 3.4. All development water and purge water from the monitoring well installation and sampling were containerized in 55-gallon drums. The groundwater sampling analytical results were used for waste characterization of the drummed purge water. Water which met the effluent criteria was discharged along with site dewatering water under permit from NYCDEP. On June 26, 2009, Brookside Environmental of Hicksville, New York used a vacuum truck to remove 530 gallons of purge water for disposal at the Envirowaste Mahopac, New York facility. In addition, ongoing construction activities had generated several drums of waste oil that were disposed of with the purge water. Disposal of this waste oil was coordinated with the purge water as to reduce disposal costs. One drum of investigation derived waste water remains on-site and will be disposed of in 2010. Waste manifests are included in Appendix D.

6.3 DISCUSSION

6.3.1 Water Level Measurements

Water level measurements are summarized in Table 6. No LNAPL was detected in any of the wells. Post-remediation water levels continue to fluctuate, likely due in part to continued construction excavation, periodic dewatering, and rain events with limited on-site drainage. The removal of site storm sewers as part of remediation and installation of interlocking sheeting at the boundary of Parcels 3 and 4 and along the southwestern property boundary appear to have affected groundwater flow. The new site sewers are expected to be in service in 2010 and damaged monitoring wells will be replaced. Post-remediation groundwater flow will continue to be assessed in future quarterly groundwater monitoring reports.

6.3.2 Groundwater Monitoring Results

Groundwater sampling analytical results are provided in Appendix C and summarized in Tables 7a to 7f. Figure 5 illustrates the PCB concentrations detected in the monitoring wells in 2009.

In the three sampling events during 2009, concentrations greater than the NYSDEC Class GA Ambient Water Quality Standards were identified in one or more monitoring well locations for the following parameters:

- VOCs (chlorobenzene);
- SVOCs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno[1,2,3-cd]pyrene, 1,3-dichlorobenzene, 1,4-dichlorobenzene and/or napthalene);
- PCBs - Total PCBs only - dissolved PCBs were not detected;
- Pesticides (alpha-BHC, beta-BHC, dieldrin, and/or heptachlor epoxide);
- Total metals (antimony, cadmium, chromium, iron, lead, magnesium, manganese, mercury, nickel, selenium, sodium and/or thallium); and
- Dissolved metals (antimony, iron, magnesium, manganese, mercury, nickel, selenium, sodium and/or thallium).

The detected groundwater concentrations were not clustered as in a typical contaminant plume. The VOCs, SVOCs and pesticides were not detected consistently by parameter or by well location. With the exception of the SVOCs with very low standards and some common earth metals (i.e., iron, manganese, sodium), the concentrations were less than an order of magnitude greater than the Class GA (drinking water) standard.

The wells with PCBs detected were located in the northwestern corner, where LNAPL was present prior to remediation and in the vicinity of locations at which perimeter sidewall endpoint samples indicated contaminant concentrations greater than the SSALs likely extended off-site. As part of remediation, to curb future migration of contamination back on-site, a concrete groundwater cutoff wall was installed along a portion of the northern property boundary. No LNAPL has been observed in the post-remediation monitoring wells and PCB concentrations in site groundwater generally continue to decrease.

6.4 SITE-WIDE INSPECTION

A site-wide inspection was conducted on December 28, 2009, as specified in the SMP to ensure that all aspects of the remedy were in-place and effective. A copy of the Site-Wide Inspection Log is included in Appendix J. At the time of the inspection, there were open excavations through the cap into RMZ A soil at twelve areas. These excavations were being managed in accordance with the SMP and are planned to be backfilled and covered with concrete or asphalt as part of construction. The venting system was not operational, but will be restarted and tested in accordance with the SMP prior to occupancy of the western retail building.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the inspections and data evaluation summarized in this report, the following conclusions and recommendations were developed:

- The permanent site cover is present and in good condition throughout all portions of the Property, except in twelve discrete areas, where ongoing construction activities continue. The site cover will be restored as subgrade construction is completed.
- The sub-slab vapor mitigation system was not operational in 2009. System start-up and testing will be performed in accordance with the SMP. The active system will be operated on a continuous basis prior to the Parcel 2 building occupancy (western retail building) and appropriate O&M and inspections will be conducted.
- Post-remediation groundwater samples identified PCBs, VOCs, SVOCs, pesticides, and metals at concentrations greater than the NYSDEC Class GA standards. It is anticipated that the removal of the vast majority of the Property's contaminated soil will ultimately result in a decrease in groundwater contaminant levels. Groundwater contaminant distribution and concentrations continue to indicate that active groundwater remediation is not warranted. Groundwater monitoring for natural attenuation will continue to be performed in accordance with the SMP.

8.0 INSTITUTIONAL AND ENGINEERING CONTROL CERTIFICATION

The IC/EC Certification Form was completed for each of the three remediation Parcels based on results from the site monitoring and inspections described in this report. Copies of the forms are provided as Appendix K.

As indicated on the certification forms, local building permits were issued in 2008 and 2009. The site lots have an "E" designation for hazardous material, which requires NYCDEP approval prior to Department of Buildings issuance of many types of permits. NYCDEP acknowledged on August 4, 2008 that remediation and the accompanying institutional and engineering controls under the BCP adequately address the "E" designation requirements and allowed for all permits to be issued by City Department of Buildings up through a Temporary Certificate of Occupancy for a portion of the commercial space. The August 4, 2008 correspondence was amended by New York City Office of Environmental Remediation (NYCOER) on January 21, 2010 with a Notice of No Objection to the retail Temporary Certificates of Occupancy. Copies of these NYCDEP and NYCOER correspondences are provided in Appendix L.

Although the majority of the site cover is in-place and effective, the certification for the cover system on Parcels 1, 2, and 3 was not completed due to the presence of shallow excavations as part of utility construction for the new development. Once the construction is completed, the site cover will be restored

to concrete, asphalt or two feet of clean fill (meeting the Part 375 SCO calculated as the lower of the SCOs for Residential Use and for Protection of Groundwater, or for which specific approval was given by NYSDEC). The site cover repairs and alterations will continue to be documented in the 2010 Site Management Report.

The certification for the Parcel 2 vapor mitigation system was not completed as repairs were still in progress at the end of 2009. No subsurface barrier or vapor mitigation were required for Parcels 1 or 3. The Parcel 2 sub-slab depressurization system will be reactivated and tested in accordance with the SMP prior to occupancy of the building. Subsequent repairs, testing and maintenance will be documented in quarterly vapor monitoring reports (when testing begins in February 2010) and in the 2010 Site Management Report.

The Property ground lots, formerly known as Block 5066, Lots 1 and 100, were converted to condominium Lots 1201 to 1205. In addition, residential condominium lots were created for the residential towers located above the retail structures (Lots 1001 through 1169, 9001 and 9100). As the residential condominium lots are split, additional easements will be filed as necessary.

FIGURES

TABLES

APPENDIX A

PHOTOGRAPHS OF SITE ACTIVITIES

APPENDIX B

SURVEY OF EXCAVATION AREAS

APPENDIX C

LABORATORY ANALYTICAL REPORTS (CD)

APPENDIX D

SOLID WASTE DISPOSAL DOCUMENTATION

DISPOSAL FACILITY APPROVAL LETTERS, FACILITY PERMITS, WASTE MANIFESTS (CD)

APPENDIX E

IMPORTED BACKFILL BILLS OF LADING (CD)

APPENDIX F

AIR MONITORING LOGS (CD)

APPENDIX G

SITE COVER INSPECTION LOG AND PHOTOGRAPHS

APPENDIX H

MONITORING WELL INSTALLATION LOGS

APPENDIX I

QUARTERLY GROUNDWATER MONITORING REPORTS (CD)

APPENDIX J
SITE-WIDE INSPECTION LOG

APPENDIX K

INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS CERTIFICATION

APPENDIX L

CORRESPONDENCE FROM NYCDEP