Interim Remedial Measures Work Plan
For Soil Excavation

Proposed Whole Foods Market
220 3rd Street
Brooklyn, Kings County,
New York

BCP ID C224100

Prepared on Behalf of:

WFM Properties Brooklyn, LLC
Cambridge, Massachusetts

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Prepared on Behalf of:

WFM Properties Brooklyn, LLC
Cambridge, Massachusetts

Prepared by:

BL Companies
355 Research Parkway
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June 1, 2005
(Revised June 23, 2005 & July 22, 2005)

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1.0 INTRODUCTION, REGULATORY PROGRAM STATUS, PROJECT TEAM

1.1 Introduction

On behalf of WFM Properties Brooklyn, LLC, BL Companies has prepared this Supplemental Interim Remedial Measure Work Plan for Soil Excavation for the property located at 220 3rd Street, Brooklyn, Kings County, New York (the site). A Site Location Map is presented in Appendix A.

1.2 Program Regulatory Status

The Interim Remedial Measure Work Plan for Soil Excavation has been prepared under the Brownfield Cleanup Program Agreement between WFM Properties Brooklyn, LLC and the New York State Department of Environmental Conservation (NYSDEC). Under the Brownfield Cleanup Program (BCP) Agreement, the NYSDEC has identified the site as **Site No. C224100, Index # W2-1052-05-02**. WFM Brooklyn Properties, LLC, executed the BCP Agreement on March 31, 2005. The BCP agreement was executed on April 25, 2005 by the NYSDEC. The BCP Agreement represents the Oversight Document between NYSDEC and WFM Properties Brooklyn, LLC.

The site has a long history of industrial and commercial uses as described in Section 2.2. Under the BCP Agreement, the following definitions will likely apply to the site:

- "Contemplated Use": commercial/retail use with public access promenade along the 4th Street Basin, excluding residential uses, day care, childcare, and medical care uses.

- "Existing Contamination": volatile organic compounds (VOCs), polycyclic-aromatic hydrocarbons (PAHs), and metals have been detected beneath the site at concentrations above NYSDEC regulatory criteria for soil. Concentrations of VOCs, PAHs, and metals have been detected in the ground water beneath the site above New York State Ground Water Standards, as identified in a Comprehensive Phase II Site Investigation Report prepared by BL Companies on behalf of WFM Properties Brooklyn, LLC and dated February 13, 2004.

- "Site": that parcel of property located at 220 3rd Street, Brooklyn, Kings County, New York, and currently identified on the Kings County Tax Map as Block 978, lot 1, lot 16, and lot 19. The site purchased by WFM Properties Brooklyn, LLC does not include the existing two-story building located on the corner of 3rd Street and 3rd Avenue (360 3rd Avenue).

- "Applicant": WFM Properties Brooklyn, LLC, a Massachusetts Corporation, the future owner and developer of the site, with an address of 125 Cambridge Park Drive, Cambridge, MA 02140.

The Interim Remedial Measures Work Plan for Soil Excavation has been prepared in general accordance with the Brownfield Cleanup Program Guide and the Draft DER – 10, Technical Guidance for Site Investigation and Remediation. As defined in the guidance document, "Interim Remedial Measure" or "IRM" means a discrete set of activities to address both emergency and non-emergency site conditions, which can be undertaken without extensive investigation and evaluation, to prevent, mitigate, or remedy human exposure and/or environmental damage or the consequences of human exposure and/or environmental damage attributable to a site. The purpose of IRMs is to contain, stabilize, reduce, or eliminate exposure to contaminants or movement of contaminants through any pathway. IRMs may include, but are not limited to, removal of wastes and contaminated materials including environmental media; construction of diversion ditches, collection systems, or leachate collection systems; free product recovery systems; construction of fences or other barriers; posting of warning signs; and installation of water filters or provision of alternate water supplies. The IRM should also serve to reduce the scope and cost of the final remedy and may become the final remedy if it achieves the remedial goal established for the site.

IRMs have been further classified into emergency and non-emergency actions. As stated in the guidance document, an emergency IRM is an action taken in response to a situation which requires immediate containment and/or remedial actions to ensure that a release or potential release does not threaten public health and safety or sensitive environmental receptors. A non-emergency IRM is an action which may be taken at any time during the course of the remedial investigation/remedial selection process in response to environmental or public health threats identified at the site.

The need for a non-emergency IRM at the site initially was identified by BL Companies based on the detection of levels of VOCs, PAHs, PCBs, and metals in the soil at the site above NYSDEC TAGM 4046 clean-up criteria. The concentrations of individual regulated compounds are presented in Section 3.2.1 of this document.

This document describes the IRM for Soil Excavation proposed to address the areas where detected compounds exceeded the applicable NYSDEC clean-up criteria.

1.3 Project Team

The individuals directly involved with the site project and their specific responsibilities are outlined below.

- Mr. Mark Mobley, WFM Properties Brooklyn, LLC, Project Manager
- Mr. Tim White, WFM Properties Brooklyn, LLC, Director of Construction
- James A. Quinn, Environmental Engineer, Chief, Section B, NYSDEC Project Manager: Review and approve Quality Assurance Project Plans (QAPP) and subsequent revisions in terms of project scope and objectives. Ensure QAPP implementation. Conduct assessments of field activities, as necessary.
- Javier Perez, NYSDEC, Environmental Engineer, Project Supervisor: Provide programmatic oversight, review remedial investigation and alternative selection.
- Denise D'Ambrosio, Project Attorney, Division of Environmental Enforcement, NYSDEC: NYSDEC Legal Representative, Coordinate and execute BCP Agreement.
- Christopher M. Doroski, NYSDOH Public Health Specialist 2, Review Remedial Investigation Report (RIR) and Remedial Action Work Plan (RIWP).
- Samuel R. Haydock, BL Companies Project Manager: Senior project management. Review and approval of QAPP. Ensure QAPP implementation. Conduct in-house audits of field operations.
- Nicholas C. Tsacoyannis, BL Companies Field Team Leader: Coordination of all subcontractors. Direct the sampling operations according to the QAPP. Provide data analysis and reporting.
- Mark Koellner, BL Companies QA Manager: Overall quality of work product.
- Severn Trent Laboratories, Inc., Lab Director: Coordination and scheduling of lab analysis, data review, and coordination of all laboratory activities.
- Carole Tomlins, Data Quality Indicator & Associates, Inc.: Data validation and preparation of the Data Usability Summary Reports.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The irregular-shaped site is situated on approximately 2.155-acres of land located on the southern side of 3rd Street, approximately 30-feet west of the 3rd Street and 3rd Avenue intersection in the Borough of Brooklyn, City of New York, Kings County, New York. The City of New York Assessor's office lists the parcels as Block 978, Lots 1, 16, and 19. The property covers the following addresses, 210 to 220 3rd Street, and 370 and 376 to 384 3rd Avenue. A Site Location Map and Site Plan are presented in Appendix A.

The site formerly consisted of several interconnected buildings and an open, rear area at the northwest corner of 3rd Street and 3rd Avenue. These buildings consisted of a one-story warehouse building and a two story former auto repair shop located on the eastern portion of the site, and a one/two-story building formerly used for truck repairs located on the northwestern portion of the site. The site also contained a one/two-story building/loading dock (currently vacant) that was located on the northern portion of the site. The remaining area (rear) was an open area that borders the 4th Street Basin (Gowanus Canal) and was used for parking and/or storage. Access to the site is from 3rd Avenue via a paved driveway. Public water and natural gas used to service the buildings. Two septic systems provided on-site wastewater treatment.

When the warehouse was occupied, it contained radiators (mostly new) and heat exchangers for automobiles and trucks. At one time, radiators were manufactured in this building.

A loading dock/building was used as a storage area for metal scaffolding and structure supports.

The former truck repair building contained office space on the upper and lower levels, a repair area, a storage area and employee area.
All buildings have been demolished.

The site is located in a commercial area and is zoned as "Medium Manufacturing District". The site is bordered by 3rd Street and Verizon, followed by a Jewish Center and commercial properties to the north; by a two-story office building, 3rd Avenue, followed by MB Contracting, Novarts, Staples, and commercial properties to the east; by the 4th Street Basin followed by Hochburg Brothers, Schan Inc., Hollywood Signs and commercial properties to the south; and by All Boro Building Materials, followed by Red Hook Rock Crushers, Gowanus Canal and residential and commercial properties to the west. Residential properties are

not located immediately adjacent to the site. The closest residential property is believed to be located on 4th Avenue.

2.2 Site History

The usage history of the site has been reconstructed from information obtained during interviews with site representatives and review of topographic maps, street directories, and Sanborn™ Fire Insurance Maps. Aerial photographs were not reviewed for the area of the site.

Prior to 1890, the site was part of the Edwin Clarke and Grace Hill Litchfield Estate. The 1886 Sanborn™ Fire Insurance Map depicts the site as developed with a two-story building, the Hopkins and Ennis Coal Yard, A. Polhemus & Son Long Island Ice Company, and a portion of the J. E. Litchfield and Co.'s Lumber Yard. The Hopkins and Ennis Coal Yard consisted of a coal pile located in the southeastern portion of the site, a two-story office building located in the northern portion of the site, and an outbuilding located to the south of the office building. The A. Polhemus & Son Long Island Ice Company consisted of an office building located in the northwestern portion of the site and an outbuilding located in the central portion of the site.

The 1904 Sanborn™ Fire Insurance Map depicts the site as developed with the existing two-story garage listed as a Shoppe, the Schroeder and Horstman Coal Yard and the Powell and Titus Coal Yard. The coal yards consisted of office buildings located along Third Street, storage buildings located in the central portion of the site, and coal sheds located in the southeastern and southwestern portions of the site. The 1904 Sanborn™ Fire Insurance Map also indicates the presence of Pure Oil Company located on the western portion of the site which had a 200,000-gallon oil tank located in the northwestern portion of the site.

The 1915 Sanborn™ Fire Insurance Map depicts the site as developed with the Schroeder and Horstman Coal Yard and the Powell and Titus Coal Yard. The site was also developed with the John Morton Sons Co. Building Materials in the western portion. The Pure Oil Company and the 200,000-gallon bulk storage AST are no longer present.

The 1938 Sanborn™ Fire Insurance Map depicts the site as developed with the Horstman and Higley Co., Inc. Coal Yard, the Powell and Titus Coal Yard, and Carroll Trucking Corp. The layout of the coal yards had not significantly changed since the 1915 Sanborn™ Fire Insurance Map. The Carroll Trucking Corp. was depicted on the western portion of the site.

The 1950 Sanborn™ Fire Insurance Map depicts the site as developed with a lumberyard and a freight depot on the southern portion and an auto junkyard and auto repair on the northern portion.

The 1969 Sanborn™ Fire Insurance Map shows the site as developed with the all of the current buildings. Freight storage is depicted along most of 3rd Avenue and on the southeastern portion of the site. Auto repair is depicted at 370 3rd Avenue where the most recent former radiator repair shop was located. A loading dock/building is depicted on the central portion of the site, with the most recent former truck engine repair building depicted on the northwestern portion of the site. Storage areas for brick and tile are depicted on the western and southwestern portions of the site.

The 1977, 1979, and 1980 Sanborn™ Fire Insurance Maps show the site similar to the 1969 map. The 1981 Sanborn™ Fire Insurance Map depicts the building on the northwestern portion of the site as occupied by auto repair. The remaining portions of the site are depicted as they appear on the 1980 map. The 1982, 1986, 1987, 1988, 1991, 1992, 1993, 1995, and 1996 Sanborn™ Fire Insurance Maps depict the site similar to the 1981 map.

The site is first listed in the street directories in 1960 with the following tenants, AAA Aluminum Warehouse Co. (210), All Boros Bldg Material Corp (210), Aluminum Buying Corp. (210) Du Betta (210), Harvey & Co (210), Lembo Brick Sales Inc. (210), PLJ Realty Corp (220), and Port Equip Renting Corp (220).

The 1965 street directory lists the following tenants, Jos J. Lombardo (210), Acme Carriers Inc. (216), C & S Trucking Corp (216), Robert S Motor Express, Inc. (216), Loubil Const. Corp (220), Mara Trucking Inc. (220), PLJ Realty Corp (220), and Port Equip Renting Corp (220).

The 1970 street directory lists the following tenants, Statewide Fireproof Door Co. Inc. (210), Acme Carriers Inc. (216), Riveredge Transportation & Storage Co. Inc. (220), PLJ Realty Corp (220), and Port Equip Renting Corp (210).

The 1973 and 1976 street directories list the following tenants, Acme Carriers Inc. (216), Riveredge Transportation & Storage Co. Inc. (220), PLJ Realty Corp (220), and Port Equip Renting Corp (220).

The 1985 street directory lists the following tenants, Cooling System Specialties (210), Jo-Rich Service Center (210), Pippin Auto Radiator Inc. (210), Acme Carriers Inc. (216), Riveredge Transportation & Storage Co. Inc. (220), PLJ Realty Corp (220), and Port Equip Renting Corp (210).

The 1992 street directory lists the following tenants, Telcel (210), Brooklyn Truck & Equipment Corp. (212), Van San Construction Corp. (212), Linear Abatement

(216), Cooling System Specialties (220), Pippin Auto Radiator Inc. (220), and Radiator Express (220).

The 1997 street directory lists the following tenants, Empire State Bus Corp. (216), Cooling System Specialties (220), Mulveny Barr Corp. Auto Radiators (220), Pippin Auto Radiator Inc. (220), and Radiator Express (220).
The 2000 street directory lists the following tenants, Brooklyn Truck & Equipment Corp. (212), Cooling System Specialties (220), JCJ Trucking (220), Mulveny Barr Corp. Auto Radiators (220), Pippin Auto Radiator Inc. (220), and Radiator Express (220).

The most recent tenants were Pippin Auto Radiator, Inc. and Radiator Express who vacated the site in January 2005; Brooklyn Truck & Equipment Corp. vacated the site in July 2004.

2.3 Site Investigation and Reporting

A Phase I Environmental Site Assessment (ESA) was completed by BL Companies in December 2003. The Phase I ESA recommended additional investigation of the site based on the past use of the property by auto and truck repair businesses, as a coal yard, and as a bulk petroleum storage facility. In addition, two above ground storage tanks with associated staining, one confirmed and one suspected underground storage tank, on-site septic tanks/leach fields (still active), hydraulic lifts in the buildings, open vats of antifreeze and oil, and 55-gallon drums of unidentified material stored throughout the site, including outside on the gravel parking areas and inside the buildings, were identified as specific areas of concern requiring additional investigation. Copies of the Phase I and II reports were submitted to the NYSDEC with the BCP application and prior to the September 8, 2004 pre-application meeting.

A Phase II Site Investigation (SI) was completed by BL Companies in February 2004. During completion of the Phase II SI, VOCs, PAHs, and metals were identified in the soil and ground water beneath the site. Additional SI's were completed at the site between October and December 2004. The specific compounds detected at the site are summarized in the tables included in Appendix B. Specific sampling locations are illustrated on Figure SP-02 in Appendix A.

The Brownfield Cleanup Program (BCP) application was submitted by Robinson & Cole LLP on behalf of WFM Properties Brooklyn, LLC to the NYSDEC on October 27, 2004. As a BCP Volunteer, WFM Properties Brooklyn, LLC commits to both on-site investigation and remediation to achieve appropriate clean-up goals and objectives.

WFM Properties Brooklyn, LLC is a Volunteer under the BCP that never operated at or owned the site prior to January 2005. WFM Properties Brooklyn, LLC will conduct sufficient investigation to perform a qualitative on- and off-site exposure assessment. WFM Properties Brooklyn, LLC will develop a separate RIWP to evaluate potential impacts to the 4th Street Basin (Gowanus Canal), if necessary.

A Fish and Wildlife Impact Analysis (FWIA) of the 4th Street Basin (Gowanus Canal) for the site will be completed by the Volunteer. The FWIA will be completed in an abbreviated manner focusing on the site's actual, on-going (if any) and potential contributions of contaminants to the 4th Street Basin. Borings will be installed adjacent to the canal to a depth equal to the bottom of the canal (estimated to be 20 feet below ground surface). Split-spoon samples will be collected continuously from the water table to the bottom of the exploration and will be examined for the presence of NAPL and logged. Soil samples will be field screened for total organic vapors using a photoionization detector (PID). The soil sample that exhibits the highest field screening results will be submitted to a laboratory for appropriate analysis or, in absence of any PID response, the samples collected to the depth of the bottom of the canal. In addition, soil sediments from the bottom of the canal adjacent to the test borings will be collected for laboratory analysis. The FWIA report will be included in the pending Remedial Investigation Report for review and approval by the NYSDEC.

2.4 Conceptual Site Model

The initial Conceptual Site Model (CSM) developed as part of the Investigation Work Plan is described below. The CSM will evolve with the generation of additional data.

Development of the initial CSM was based on a review of the existing and historical uses of the site. The locations of specific activities/operations/storage areas were identified as preliminary AOCs to be investigated. At the present time, the CSM has identified fourteen (14) AOCs that include:

- AOC #1 – Brooklyn Truck & Equipment Corp. building (also former auto repair),
- AOC #2 – Former 200,000-gallon above ground storage tank (AST) area,
- AOC #3 – Potential underground storage tank (UST),
- AOC #4 – Former junk car storage, former ice and former coal companies,
- AOC #5 – Former coal company and auto parts warehouse,
- AOC #6 – Radiator repair business, former auto repair and coal businesses,
- AOC #7 – Former coal pile and radiator manufacturing area,
- AOC #8 – Possible UST area,
- AOC #9 – Former coal yard and possible septic tank and leach field area,

- AOC #10 – Septic tank area and former lumber company,
- AOC #11 – Former dumpster/truck storage areas and possible UST,
- AOC #12 – Junk car storage area and former coal yard business,
- AOC #13 – Scrap radiator storage area and former coal yard business, and
- AOC #14 – PCB in shallow soil area.

AOCs are illustrated in Figure SP-02 in Appendix A.

Past use of the site has included the operation of an ice business, a lumberyard, coal yards, a bulk petroleum storage facility, a radiator repair and associated products business, and auto and truck repair businesses since at least 1890 until 2004. In addition, the site was filled with material of unknown origin at some time in its past. No other significant industrial or high-risk commercial operations are known to have operated at the site.

Initial CSM for AOC #1
Area(s) of Concern/Potential Release Area(s): a hydraulic lift, a former degreasing area, and two ASTs.

Release Mechanisms: spills and/or leaks to the floor. Entry to the subsurface via

Migration Pathways: through cracks in the floor, or if floor drains are present, fluid migration through cracks in the floor drain piping.

No basement is present in this building.

Initial CSM for AOC #2
Area(s) of Concern/Potential Release Area(s): the former 200,000-gallon AST that was present in the early 1900's.

Release Mechanisms: spill and/or leaks from the AST.

Migration Pathways: depending on the location of the spill/release, either through cracks in the cement pad surrounding the AST or if no pad is present, direct seepage to the subsurface from an unpaved surface.

Initial CSM for AOC #3
Area(s) of Concern/Potential Release Areas(s): a potential UST.

Release Mechanisms: overfills or a release from the UST and/or the associated piping.

Migration Pathways: downward through backfill around the UST towards the water table.

Initial CSM for AOC #4
Area(s) of Concern/Potential Release Area(s): a former junk car storage area, and the occupancy of former ice and coal companies in the past.

Release Mechanisms: leaks from the former junk cars and leaching of compounds from coal piles.

Migration Pathways: if areas were paved, through cracks/voids in the surface or if unpaved, directly to the subsurface via infiltration.

Initial CSM for AOC #5
Area(s) of Concern/Potential Release Area(s): the operation of a former auto parts warehouse and the operation of a former coal business.

Release Mechanisms: spills/leaks from stored containers of regulated materials, direct dumping of parts and fluids to an unpaved surface and leaching of compounds from the coal piles.

Migration Pathways: through cracks/voids on the bottom floor of the warehouse or if none present, directly to the subsurface via infiltration.

Initial CSM for AOC #6
Area(s) of Concern/Potential Release Area(s): a former auto repair business.

Release Mechanisms: spills/leaks from stored containers of regulated materials, direct dumping of parts and fluids to an unpaved surface.

Migration Pathways: through cracks/voids on the bottom floor of the building or if none present, directly to the subsurface via infiltration.

Initial CSM for AOC #7
Area(s) of Concern/Potential Release Area(s): a radiator manufacturing business and a former coal business.

Release Mechanisms: spills/leaks from stored containers of regulated materials, direct dumping of parts and fluids to an unpaved surface and leaching of compounds from the coal piles.

Migration Pathways: through cracks/voids on the bottom floor of the building or if none present, directly to the subsurface via infiltration.

Initial CSM for AOC #8
Area(s) of Concern/Potential Release Area(s): a potential UST.

Release Mechanisms: overfills or a release from the UST and/or the associated piping.

Migration Pathways: downward through backfill around the UST towards the water table.

Initial CSM for AOC #9

Area(s) of Concern/Potential Release Area(s): coal and ice company operations in the past and the possible presence of a septic tank and discharge line.

Release Mechanisms: leaching of compounds from the coal piles, and leaks from the septic tank or discharge line.

Migration Pathways: through cracks/voids in the surface pavement for the coal piles and through backfill around the tank and associated piping towards the water table.

Initial CSM for AOC #10

Area(s) of Concern/Potential Release Area(s): a septic tank.

Release Mechanisms: leaks from the septic system.

Migration Pathways: through backfill around the tank and associated piping towards the water table.

Initial CSM for AOC #11

Area(s) of Concern/Potential Release Area(s): storage area for tiles, trucks, dumpsters and a potential UST.

Release Mechanisms: leaks from the stored trucks or dumpsters.

Migration Pathways: through cracks and voids in a paved surface, if present, or directly to the subsurface via infiltration.

Initial CSM for AOC #12

Area(s) of Concern/Potential Release Area(s): storage area for junk cars, and the operation of ice and coal companies in the past.

Release Mechanisms: leaching of compounds from the coal piles and leaks from the stored junk cars.

Migration Pathways: through cracks and voids in a paved surface, if present, or directly to the subsurface via infiltration.

Initial CSM for AOC #13

Area(s) of Concern/Potential Release Area(s): operation of a coal business and scrap radiator storage.

Release Mechanisms: leaching of compounds from the coal piles and dumping of radiator parts to an unpaved surface.

Migration Pathways: through cracks and voids in a paved surface, if present, or directly to the subsurface via infiltration for the coal.

Initial CSM for AOC #14

Area(s) of Concern/Potential Release Area(s): PCBs detected in the subsurface.

Release Mechanisms: unknown.

Migration Pathways: unknown.

3.0 INTERIM REMEDIAL MEASURES FOR SOIL EXCAVATION (IRM)

3.1 IRM Work Plan Objectives

As previously stated, the goal of this IRM Work Plan is to excavate areas that have concentrations of regulated compounds present at levels above the applicable NYSDEC clean-up criteria (TAGM 4046), or site specific clean-up goals for specific contaminants, as discussed below. In addition, the new building will serve cap any contaminants remaining in soil in the area of the building footprint.

3.2 Proposed IRM

BL Companies proposes to excavate soil in areas where regulated compounds (in particular, PAHs) have been identified to exist at concentrations that exceed the applicable NYSDEC clean-up criteria (TAGM), or alternative risk-based corrective action (RBCA) clean-up concentration goals for four PAHs and RCRA-8 Metals that have been developed for this site. The alternative RBCA goals are based on direct exposure criteria set forth in the Connecticut Remediation Standard Regulations, which are relatively conservative, risk-based criteria intended to prevent human exposure to unacceptable levels of contaminants. The alternate RBCA TAGM clean-up goals are presented in the table below and are protective of human health and the environment.

Compound	TAGM 4046 Clean-up Criteria (ppb)	Proposed Alternate RBCA Criteria (ppb)
Benzo(a)anthracene	224 or MDL	1,000
Benzo(a)pyrene	61 or MDL	1,000
Chrysene	400	1,000
Dibenzo(a,h)anthracene	14 or MDL	1,000
Arsenic	7.5 or SB	10
Barium	300 or SB	1,500
Cadmium	1 or BS	15
Chromium	10 or SB	50
Lead	SB	500
Selenium	2 or SB	50
Silver	SB	50
Mercury	0.1	10

3.2.1 AREAS WITH REGULATED COMPOUNDS ABOVE TAGM CRITERIA AND ALTERNATIVE VALUES

Impacted soil areas will be removed/excavated in advance of and during site construction activities, specifically foundation and utility excavation for the new building. The new building will cap any contaminants remaining in the area of the building footprint following soil removal. BL Companies will monitor/document the soil excavation activities. Soils excavated will be screened in the field with a photo-ionization detector for soil segregation. Upon completion of soil excavation activities, post-excavation/confirmation soil samples will be collected from the sides and bottom of the excavated areas for laboratory analysis.

METALS

Arsenic, chromium, lead, mercury, and selenium were detected in soil samples collected at the site during site characterization activities. Based on laboratory analytical results from the soil samples, the concentration of some of these metals detected exceeded the applicable NYSDEC clean-up criteria. Some of these metals also exceed the alternative site-specific RBCA goals developed for this site.

Arsenic was detected at concentrations that ranged from below laboratory method detection limits to 172 parts per million (ppm) (B-145, 4-8 feet below ground surface [ft bgs]). Total chromium was detected at concentrations that ranged from 2.4 ppm to 53.1 ppm (B-132, 0-4 ft bgs). Lead was detected at concentrations that ranged from 8.9 ppm to 2,320 ppm (B-147, 0-4 ft bgs). Mercury was detected at concentrations that ranged from below laboratory method detection limits to 2.2 ppm (B-147, 0-4 ft bgs). Selenium was detected at concentrations that ranged from below laboratory method detection limits to 24.2 ppm (B-145, 4-8 ft bgs).

The locations of the individual metal exceedance areas are presented on Figures SP-03A through SP-03E. Tables summarizing all soil analytical data for the site is presented in Tables 1 through 5 and are included in Appendix B.

The distribution of metals across the site does not suggest any possible locations of specific release or source areas.

VOCS

The following VOCs were detected at the site at the following ranges. The sample location with the highest concentration is noted in parenthesis:

- 1,2,4-Trimethylbenzene, ND – 58 ppm (GP-8, 4-8 ft bgs)
- 1,3,5-Trimethylbenzene, ND – 52 ppm (GP-8, 4-8 ft bgs)

- Benzene, ND – 750 ppm (GP-8, 4-8 ft bgs)
- Ethylbenzene, ND – 150 ppm (GP-8, 4-8 ft bgs)
- Isopropylbenzene, ND – 11 ppm (GP-8, 4-8 ft bgs)
- Napthalene, ND – 19,000 ppm (GP-8, 4-8 ft bgs)
- n-Butylbenzene, ND – 230 ppm (GP-8, 4-8 ft bgs)
- n-Propylbenezene, ND – 19 ppm (GP-8, 4-8 ft bgs)
- Total Xylenes, ND – 154 ppm (GP-8, 4-8 ft bgs)
- p-Isopropyltoluene, ND – 14 ppm (GP-8, 4-8 ft bgs)
- sec-Butylbenzene, ND – 8.5 ppm (B-111, 4-8 ft bgs)
- tert-Butylbenzene, ND – 77 ppm (GP-8, 4-8 ft bgs)
- Toluene, ND – 2.5 ppm (B-111, 4-8 ft bgs)

Some of the concentrations of these VOCs exceeded the applicable NYSDEC clean-up criteria and are presented on Figure SP-04.

The distribution of VOCs across the site does suggest that specific releases of petroleum products have occurred, but the source and date of such releases are unknown.

PAHs

The following PAHs were detected at the site at the following ranges. The sample location with the highest concentration is noted in parenthesis:

- 2-Methylnapthalene, ND – 170 ppm (B-148, 4-8 ft bgs)
- Acenapthene, ND – 1,800 ppm (GP-8, 4-8 ft bgs)
- Acenapthalene, ND – 49 ppm (B-148, 4-8 ft bgs)
- Anthracene, ND – 960 ppm (GP-8, 4-8 ft bgs)
- Benzo(a)anthracene, ND – 67 ppm (B-132, 0-4 ft bgs)
- Benzo(a)pyrene, ND – 80 ppm (B-148, 4-8 ft bgs)
- Benzo(b)fluoranthene, ND – 48 ppm (B-133, 0-4 ft bgs)
- Benzo(g,h,I)perylene, ND – 52 ppm (B-148, 4-8 ft bgs)
- Benzo(k)fluoranthene, ND – 53 ppm (B-132, 0-4 ft bgs)
- Chrysene, ND – 74 ppm (B-132, 0-4 ft bgs)
- Fluoranthene, ND – 1,300 ppm (GP-8, 4-8 ft bgs)
- Flourene, ND – 1,000 ppm (GP-8, 4-8 ft bgs)
- Indeno(1,2,3-cd)pyrene, ND – 29 ppm (B-132, 0-4 ft bgs)
- Napthalene, ND – 15,000 ppm (GP-8, 4-8 ft bgs)
- Pheneanthrene, ND – 3,400 ppm (GP-8, 4-8 ft bgs)
- Pyrene, ND – 2,100 ppm (GP-8, 4-8 ft bgs)

Some of the concentrations of these PAHs exceeded the applicable NYSDEC clean-up criteria (TAGM 4046) and are presented on Figure SP-05. The

concentrations of some of these PAHs also exceed the alternative site-specific RBCA goals developed for this site.

The distribution of PAHs across the site does suggest that specific releases of petroleum products have occurred, but the source and date of such releases are unknown.

PCBs

PCBs were detected at the site in one location (B-13/MW-1) during the initial site investigation. Additional borings were advanced in the area of B-13/MW-1 to delineate the extent and concentration of PCBs. Some of the concentrations of the PCBs exceeded the applicable NYSDEC clean-up criteria. The location of the PCB occurrence is presented on Figures SP06A and SP06B.

PCBs were detected from 0 to 4 ft bgs at sampling locations B-13 (50 ppb), B-101 (8.8 ppb), B-102 (37 ppb), B-104 (17 ppb), and B-105 (8.1 ppb). PCBs were also detected from 4 to 8 ft bgs at sampling locations B-101 (16 ppb) and B-105 (55 ppb). The concentration of PCBs appears to be increasing with depth and has not been completely delineated.

Based on the historic use of the site and surrounding area, it is unclear how PCBs were released to the environment.

3.3 SOIL MANAGEMENT PLAN

Excavated soils will be managed according to the Soil Management Plan included in Appendix C. In general, excavated soil will be stockpiled and tested, as required by the disposal facility and/or NYSDEC guidelines, and then transported to the disposal facility. A secured stockpile location will be constructed to ensure proper isolation of the stockpiled material. If possible, based on approval from the selected disposal facility, excavated soil will be loaded directly to trucks and removed from the site. All soil will be handled in accordance with local, State and Federal regulations, and in a manner protective of public health and the environment. Proper protocols will be implemented to prevent the migration of soil beyond the boundaries of the site, except in covered trucks.

3.4 WATER POLLUTION / EROSION CONTROL

Water pollution / erosion control will be managed in general accordance with the Water Pollution / Erosion Control Plan included in Appendix D.

3.5 DUST CONTROL

The following are minimum requirements and shall govern except that all Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof. A Community Air Monitoring Program (CAMP) that follows the recommendations in TAGM #4031 has been established for the site and is included in the site specific Health and Safety Plan.

SUMMARY

The Contractor shall furnish a pickup sweeper, water application equipment, and accessory equipment and utilize it for the removal of earth and/or other dust producing materials from paved surfaces and from exposed earth surfaces for the purpose of allaying dust conditions during construction.

PRODUCTS

Water used shall be non-polluted water obtained from sources approved by the Engineer.

EXECUTION

The contractor shall have available and maintain in an operable condition equipment capable of efficiently sweeping up earth and/or other materials from paved surfaces. This equipment shall include suitable provisions for the application of water ahead of the sweeping brooms to prevent dusting, for the pickup, internal storage and removal of sweepings, and for the cleaning of areas of heavy accumulation beyond the capacity of the sweeper.

The sweeping operations and application of water shall be under the control of the Engineer at all times. Sweeping shall take place at locations and times directed by the Engineer. Water shall be applied only at the locations and at such times and in the amount as may be directed by the Engineer. The disposal of all sweepings shall meet with the approval of the Engineer.

The Contractor shall have available and maintain in an operable condition at all times, sufficient equipment for the purpose of applying water for dust control.

Watering equipment shall consist of pipelines, tanks, tank trucks, distributors, pumps, meters, hose or other devices, approved by the Engineer which are capable of applying a uniform spread of water over the surface. A suitable device for a positive shut-off and for regulating the flow of water shall be located so as to permit positive operator control.

3.6 Construction Dewatering

Construction dewatering is anticipated for both remedial excavation under this IRM as well as construction excavation for the new building. A dewatering contractor will be engaged to perform this work. Dewatering discharge is expected to go to the sanitary/combined sewers under a permit from the New York City Department of Environmental Protection (NYCDEP). Regulated compounds have been measured in ground water at levels that exceed NYCDEP effluent limits (as summarized on Tables 6 and 7), and therefore, the discharge will be treated if required by the NYCDEP. The compounds present at levels above the discharge limits are petroleum related compounds, and it is anticipated that treatment will include a settling tank and carbon filtration. Discharge sampling will be performed at the required frequency to ensure the limits are met.

3.7 Health and Safety Plan

A site specific Health and Safety Plan was developed for the site and is included in Appendix E.

3.8 Quality Assurance / Quality Control

A Quality Assurance / Quality Control Plan is included in Appendix F.

4.0 SCHEDULE AND REPORT PREPARATION

4.1 Schedule

The following schedule reflects the commitment by WFM Properties Brooklyn, LLC to investigate and address potential sources present at the site and to address levels of regulated compounds present above applicable NYSDEC clean-up criteria or the site-specific RBCA goals, as discussed above .

July 2005

Re-submit IRM Work Plan for USTs (IRM #1) and IRM Work Plan for Soil Excavation (IRM #2) to NYSDEC/NYSDOH.

August 2005
Conduct Fish and Wildlife Impact Analysis as requested by NYSDEC and DOH. Removal of potential sources (USTs and septic systems) and soil hotspots. (exceedances of TAGM or site-specific goals) under IRMs with NYSDEC approval.

September 2005

Preparation and submittal of RI Report to NYSDEC/NYSDOH.

Preparation and submittal of the IRM Reports for USTs and Soil Excavation to NYSDEC/NYSDOH.

4.2 Report Preparation

The IRM Report will include the following information:

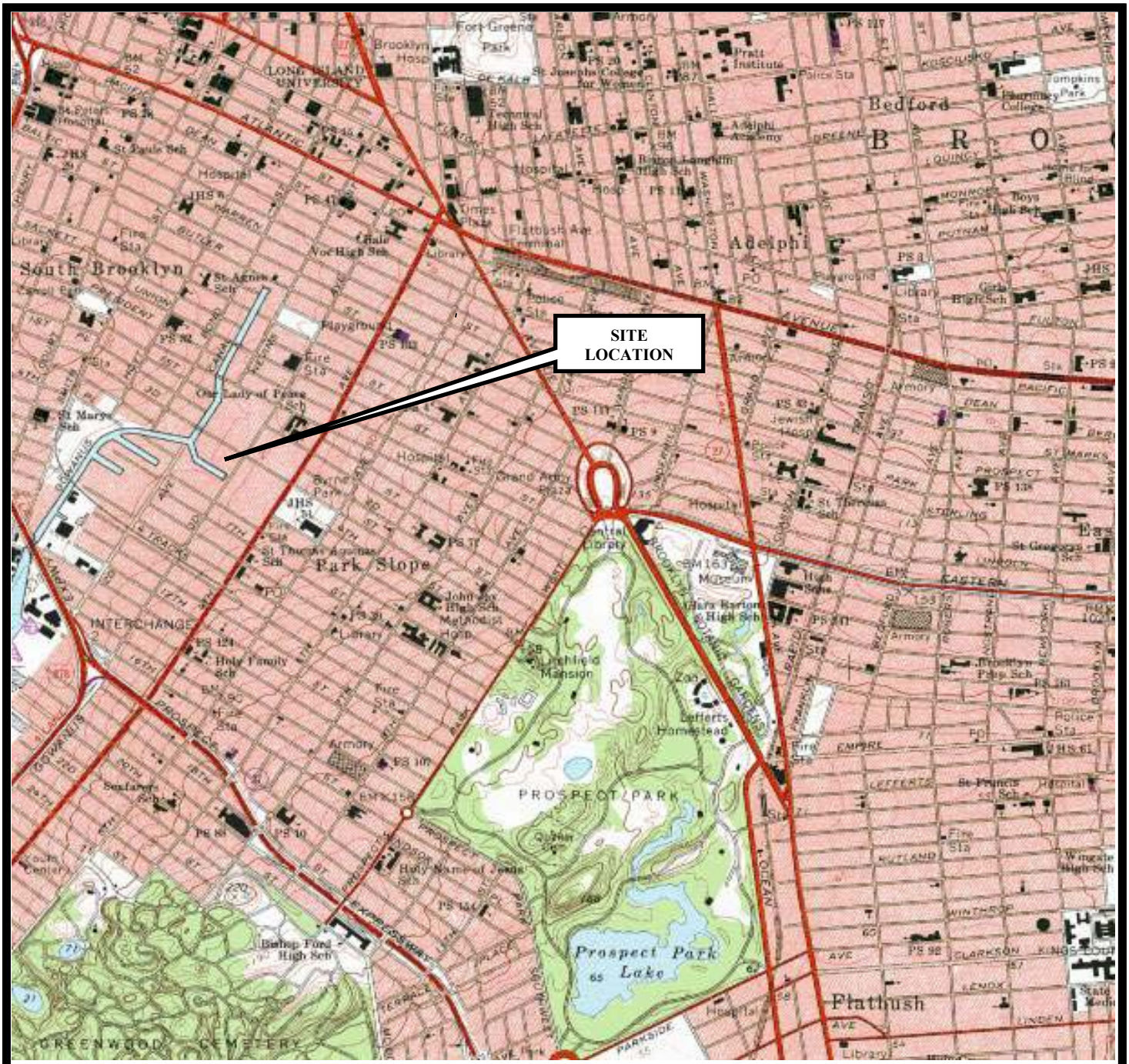
- Site description.
- Geologic, hydrogeologic, and topographic setting.
- Laboratory results from analysis of soil and ground water samples collected beneath the site.
- Significance of results.
- Conclusions and recommendations regarding work completed.

APPENDICES

Appendix A	Figures
Appendix B	Tables
Appendix C	Soil Management Plan
Appendix D	Water Pollution / Erosion Control Plan
Appendix E	Health and Safety Plan
Appendix F	Quality Assurance/Quality Control Plan

APPENDIX A

Figures



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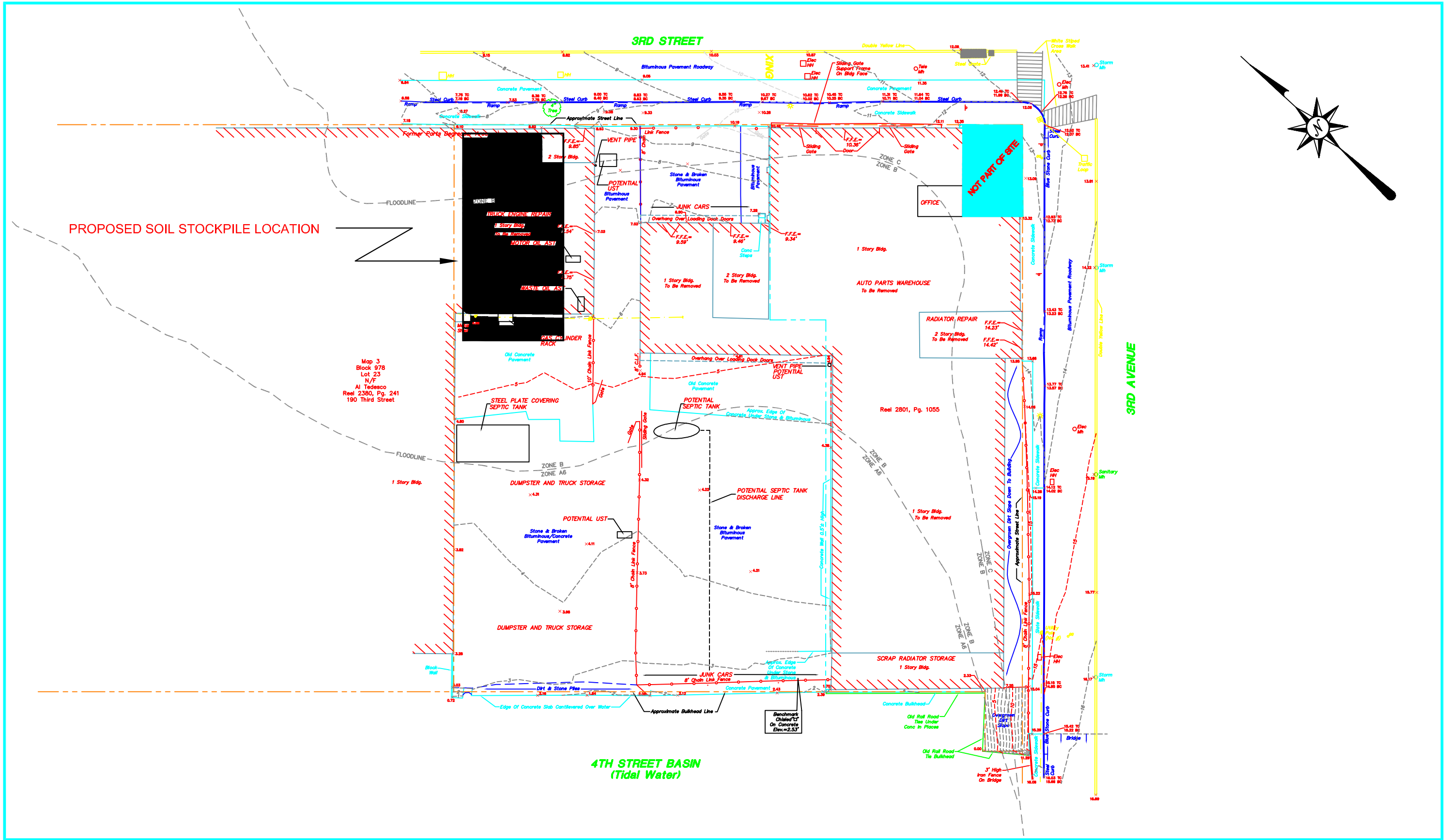
SITE LOCATION MAP

PROPOSED WHOLE FOODS MARKET
NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Project No. 03C497



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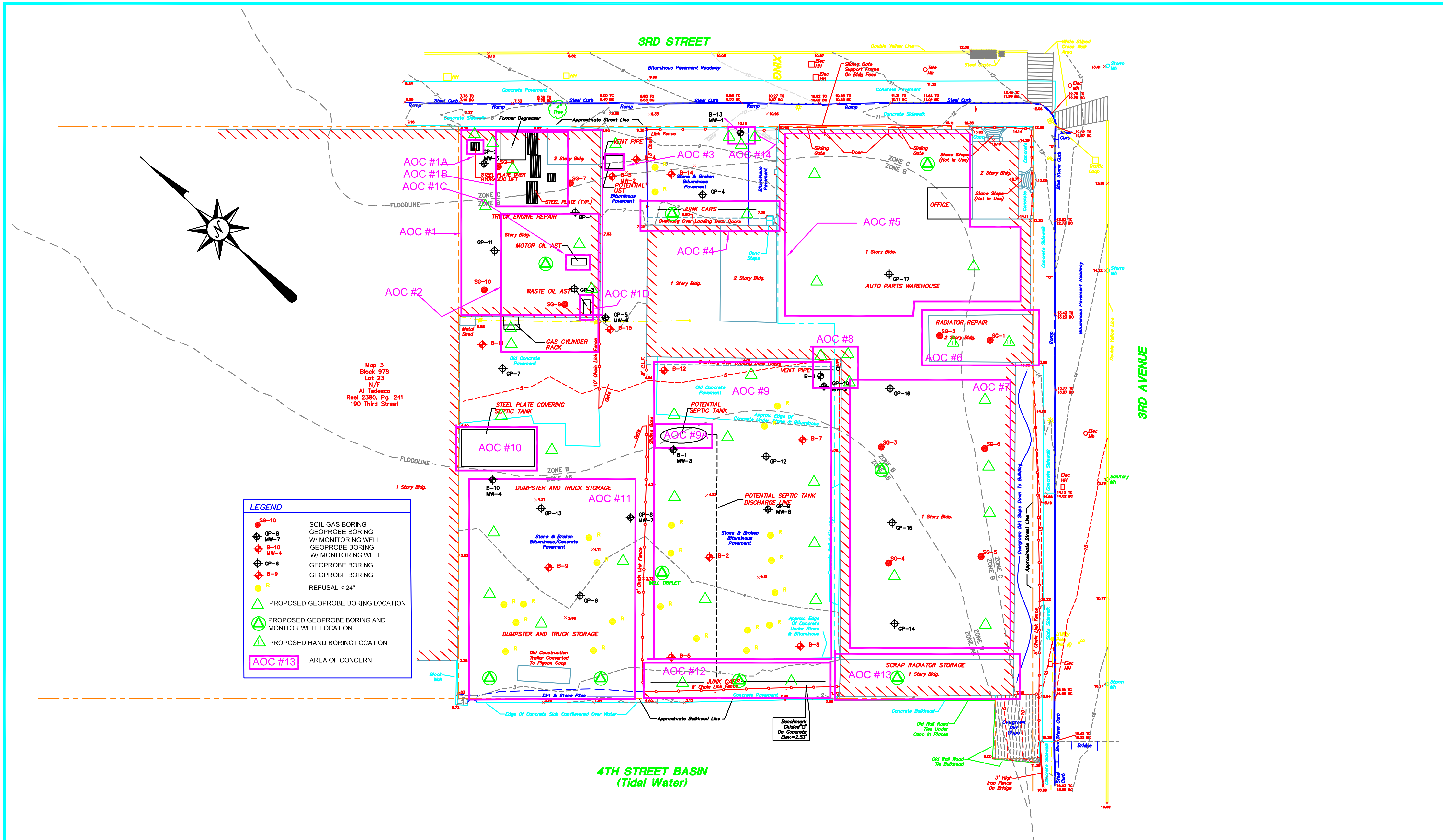
SITE PLAN

WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-DWG-NYSDEC-03C497B-SP01-041102

SP-01

XREF(s): NONE



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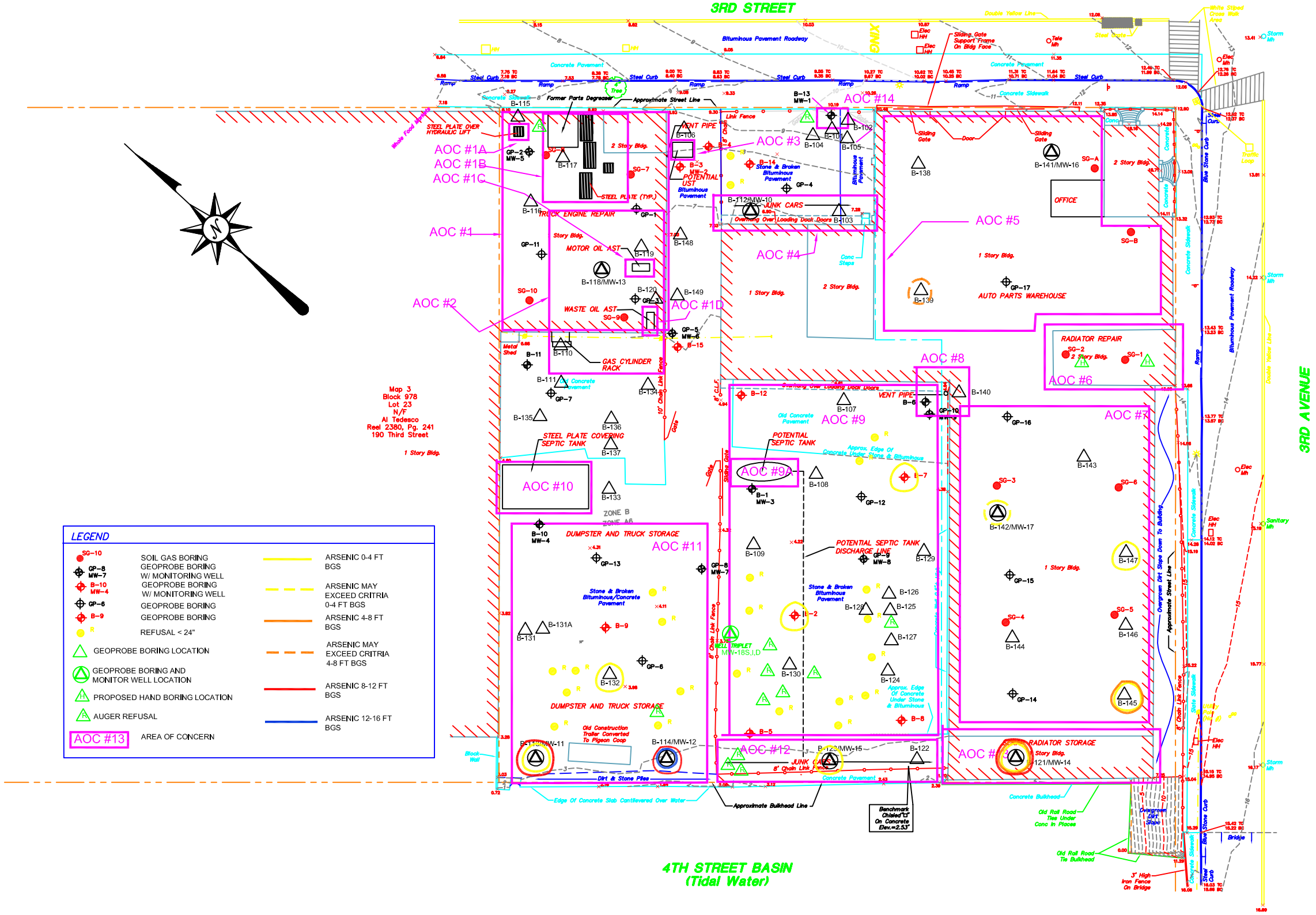
SITE PLAN - AREAS OF CONCERN

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP02-AOCs-03C497B

XREF(s): NONE

SP-02



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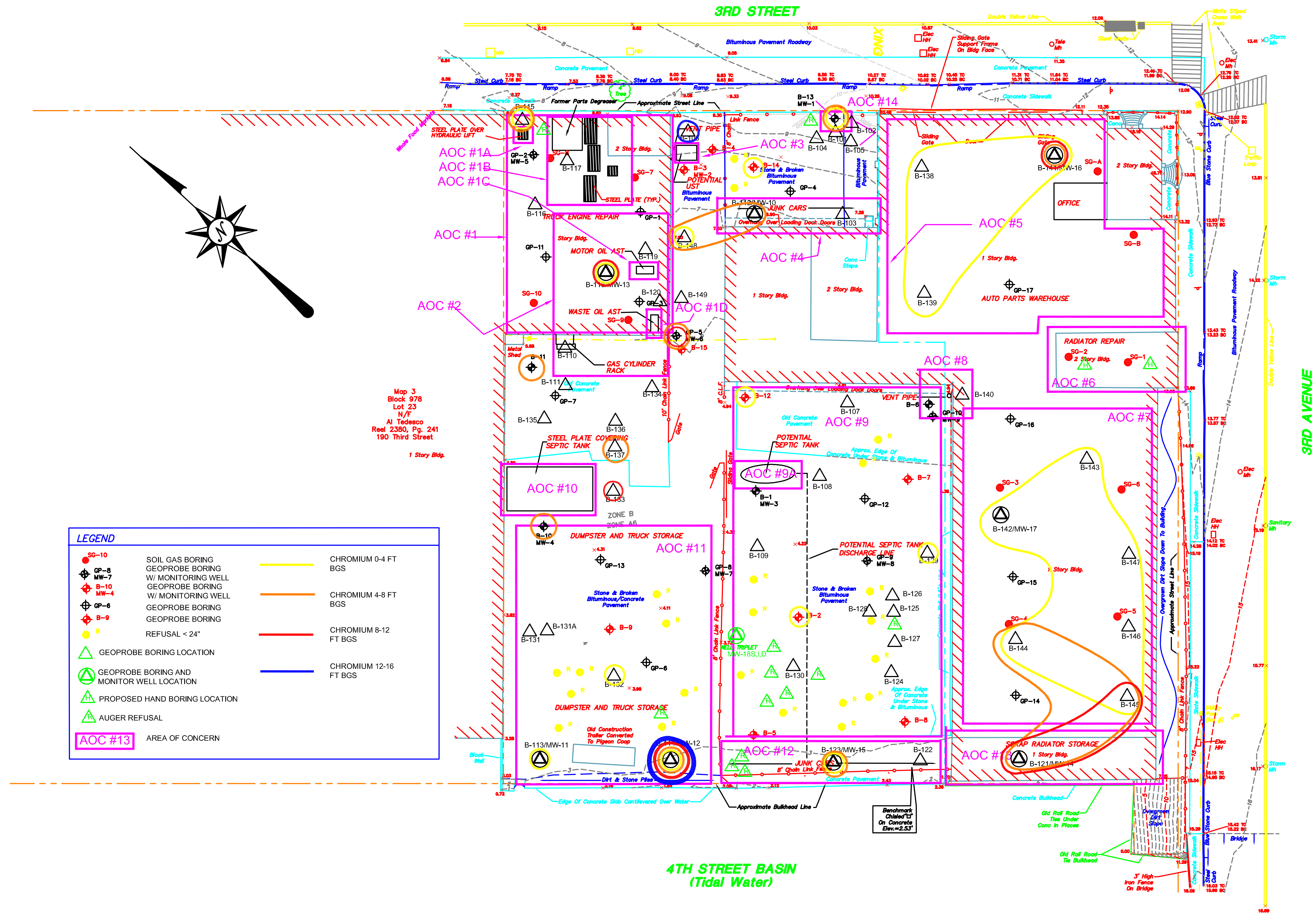
ARSENIC EXCEEDANCES ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP03A-ARSENIC-03C497B-

XREF(s): NONE

SP-03A



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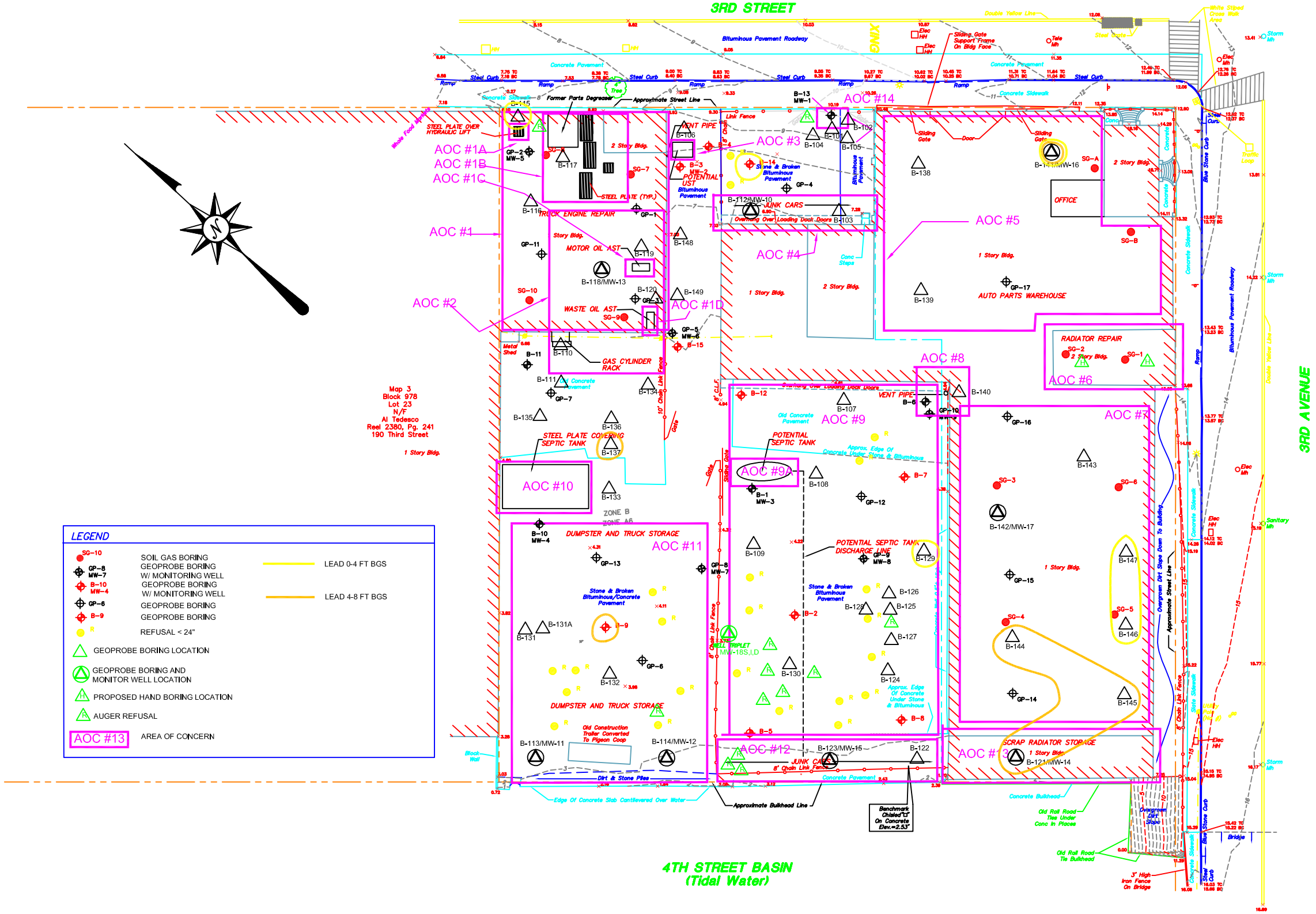
CHROMIUM EXCEEDANCES ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP03B-CHROMIUM-03C497B-

XREF(s): NONE

SP-03B



LEGEND

- SOIL GAS BORING
- GEOPROBE BORING W/ MONITORING WELL
- GEOPROBE BORING W/ MONITORING WELL
- GEOPROBE BORING
- GEOPROBE BORING
- REFUSAL < 24"
- GEOPROBE BORING LOCATION
- GEOPROBE BORING AND MONITOR WELL LOCATION
- PROPOSED HAND BORING LOCATION
- AUGER REFUSAL
- AOC #13 AREA OF CONCERN
- LEAD 0-4 FT BGS
- LEAD 4-8 FT BGS

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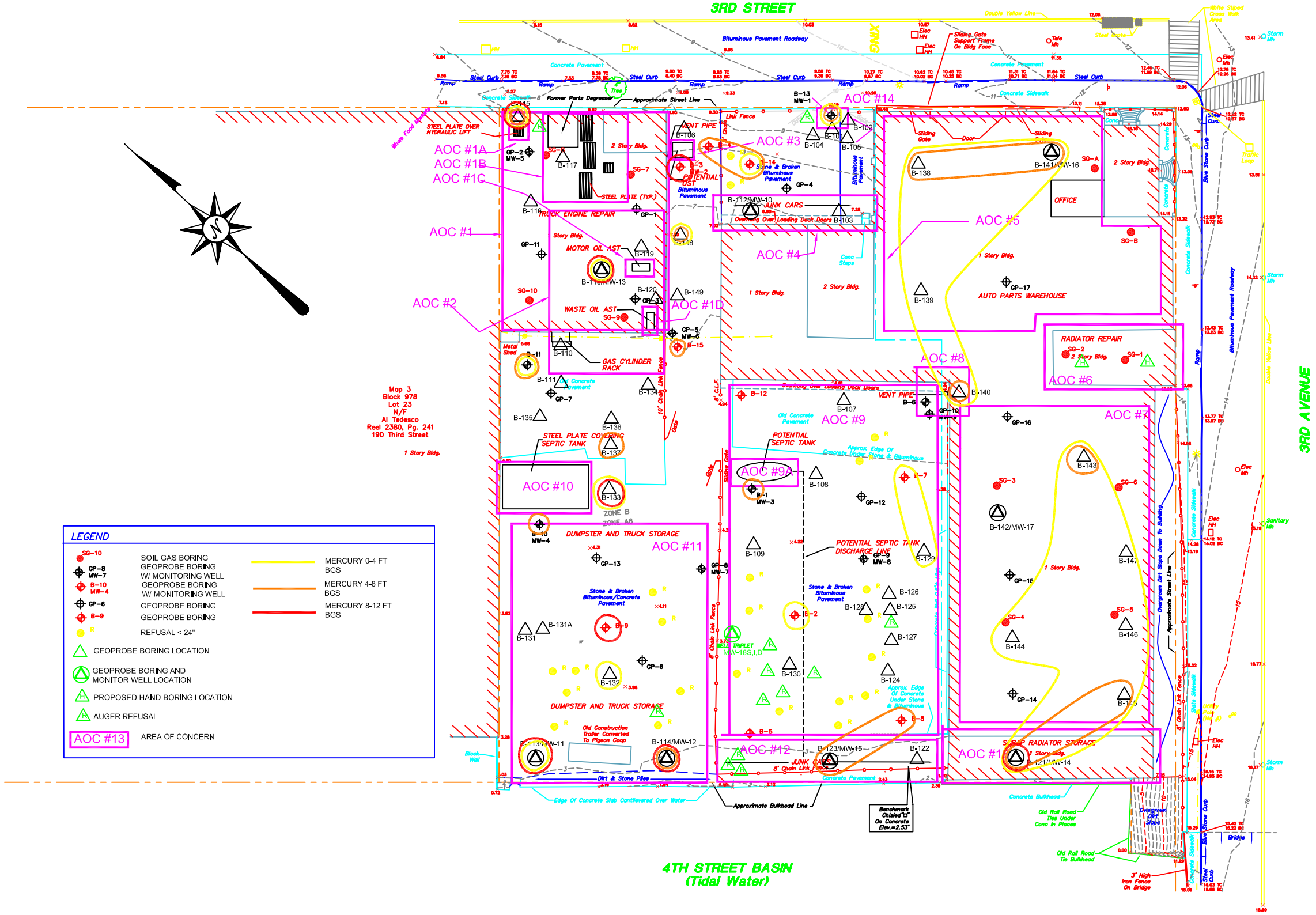
LEAD >400 PPM DISTRIBUTION ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP03C-LEAD-03C497B-

SP-03C

XREF(s): NONE



LEGEND

SG-10	SOIL GAS BORING
GP-8 MW-7	GEOPROBE BORING W/ MONITORING WELL
B-10 MW-4	GEOPROBE BORING W/ MONITORING WELL
GP-6	GEOPROBE BORING
B-9	GEOPROBE BORING
R	REFUSAL < 24"
	GEOPROBE BORING LOCATION
	GEOPROBE BORING AND MONITOR WELL LOCATION
A	PROPOSED HAND BORING LOCATION
A	AUGER REFUSAL
AOC #13	AREA OF CONCERN
	MERCURY 0-4 FT BGS
	MERCURY 4-8 FT BGS
	MERCURY 8-12 FT BGS

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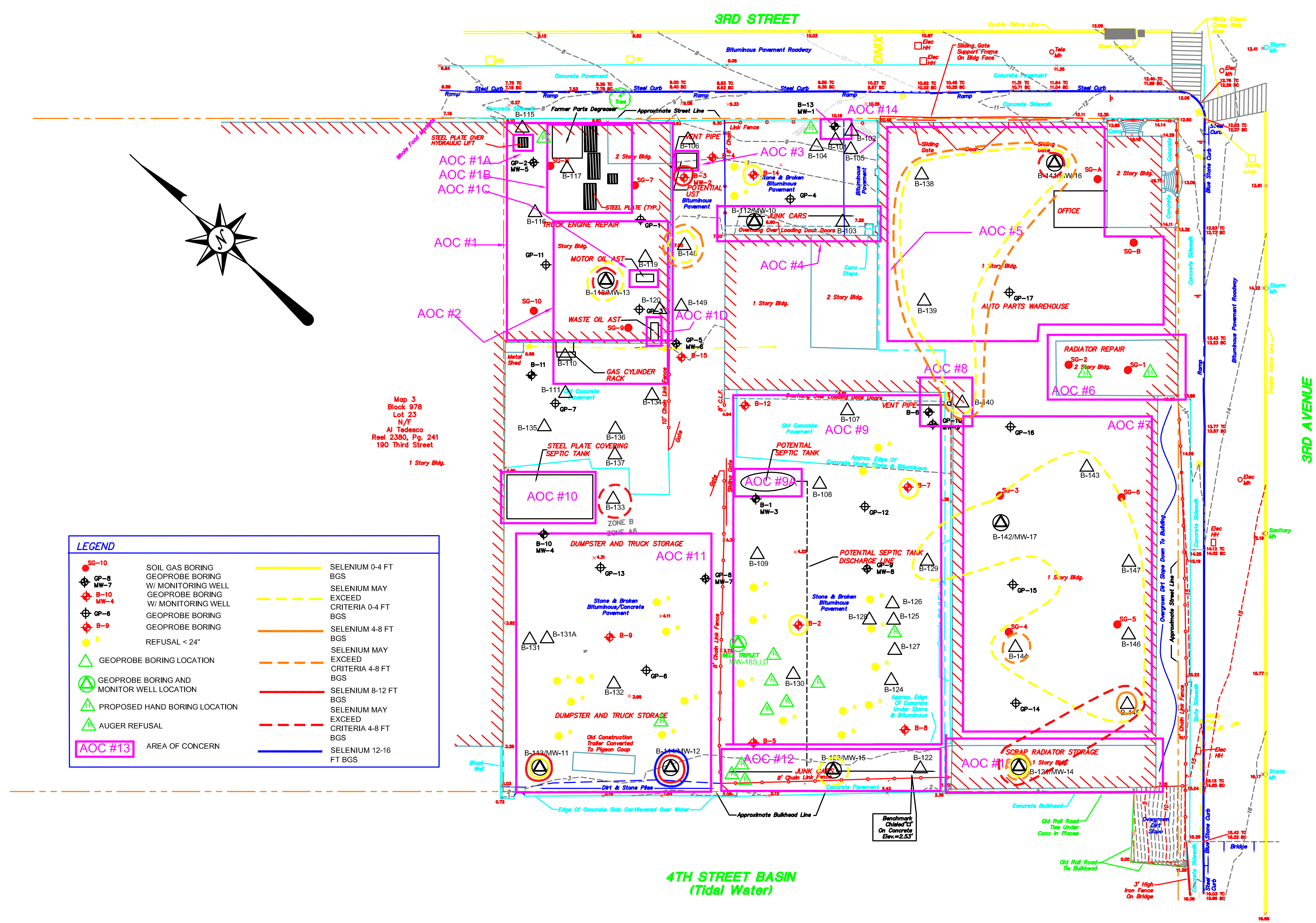
MERCURY EXCEEDANCES ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP03D-MERCURY-03C497B-

XREF(s): NONE

SP-03D



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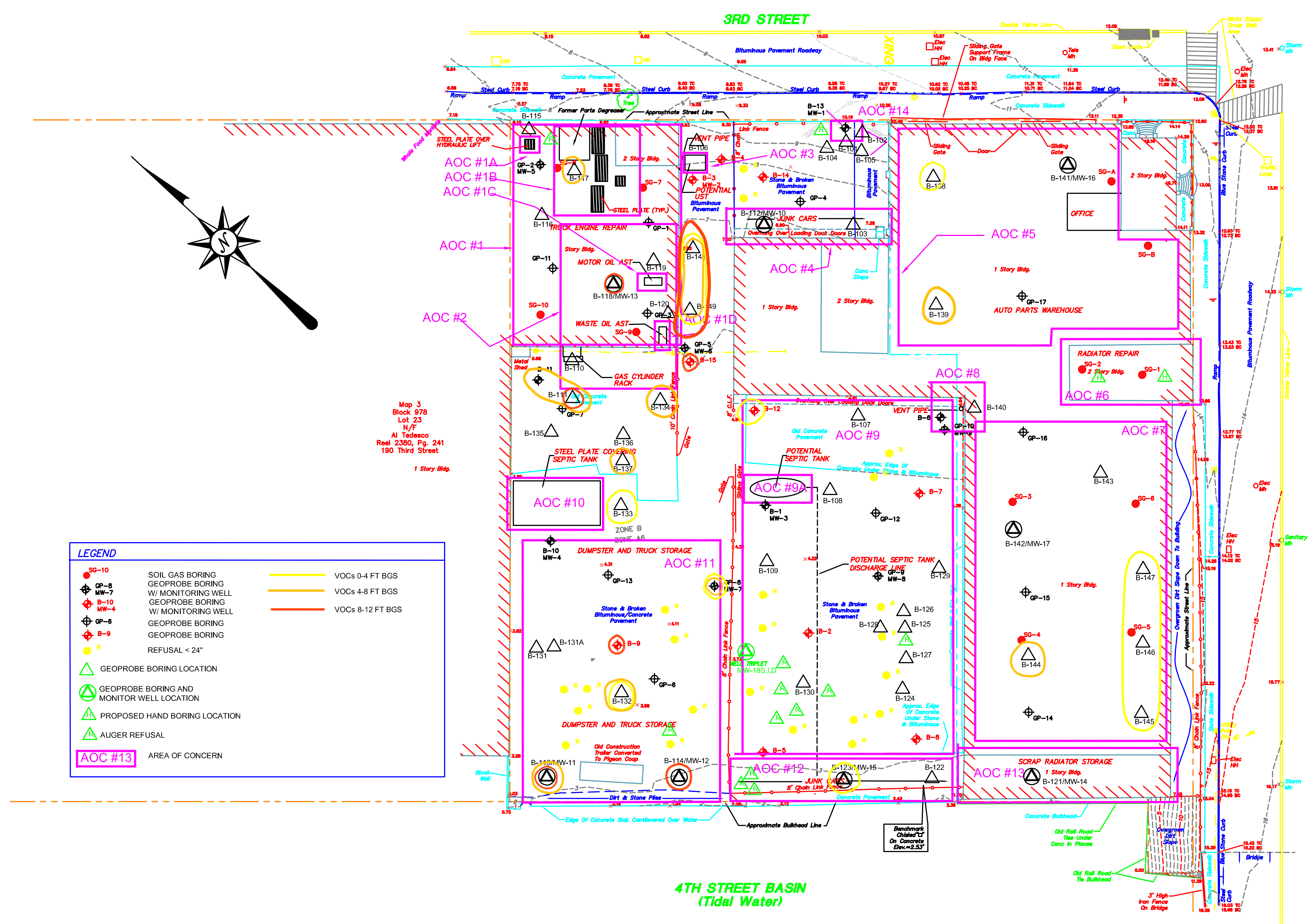
SELENIUM EXCEEDANCES ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP03E-SELENIUM-03C497B-

XREF(s): NONE

SP-03E



VOC EXCEEDANCES ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

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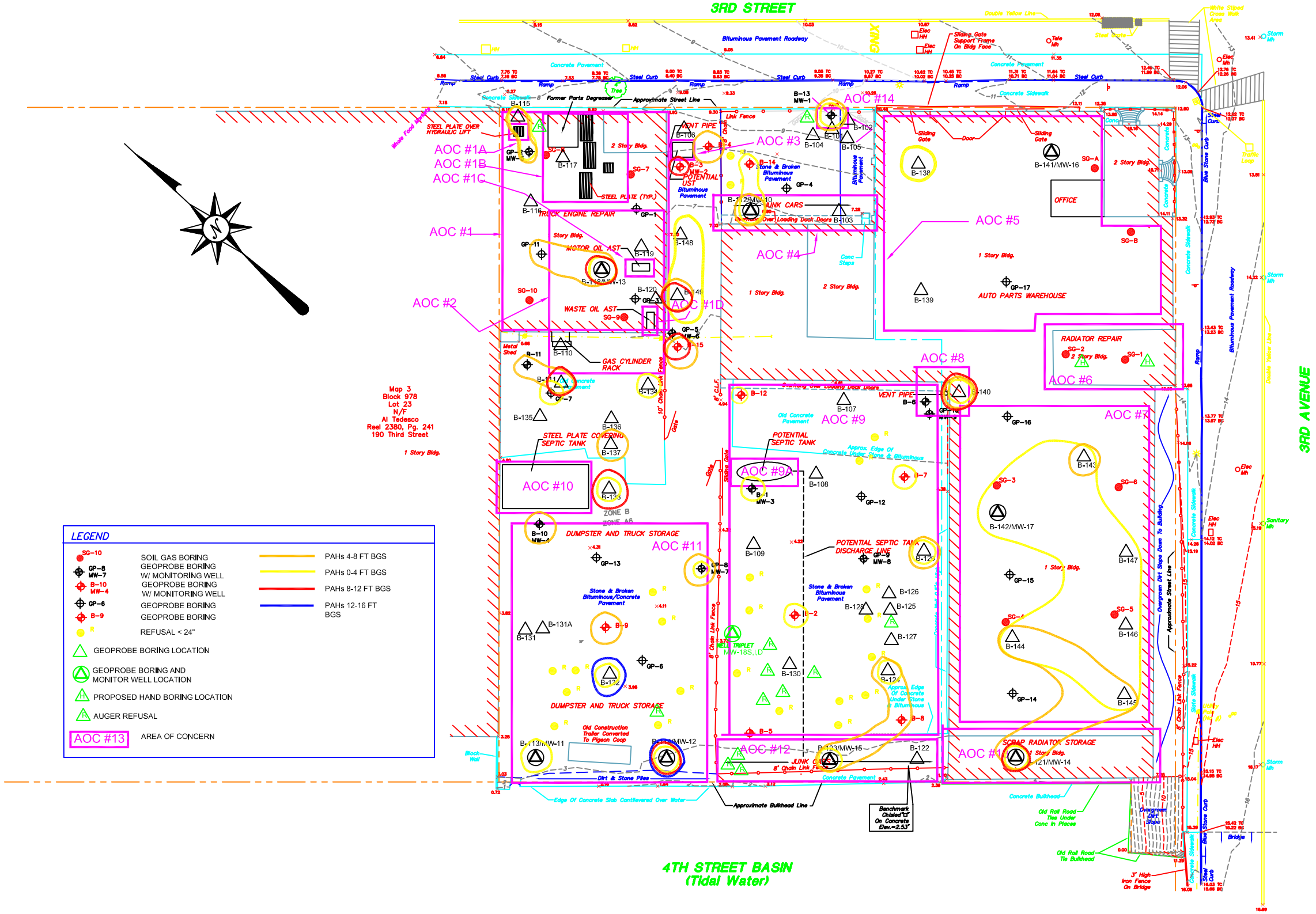
Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP04-VOCs-03C497B-

XREF(s): NONE

SP-04



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PAH EXCEEDANCES ACROSS SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP05-PAHs-03C497B-

XREF(s): NONE

SP-05

AOC #14

B-13
MW-1
50PPB

10.26

10.48

R

B-102
37PPB

B-101
8.8PPB

B-104
17PPB

B-105
8.1PPB

Gate

Gate

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PCBs / 0 - 4 Feet Below Grade

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP06A-PCBs0to4-03C497B

SP-06A

XREF(s): NONE

AOC #14

B-13
MW-1
ND

R

B-102
NS

B-101
16PPB

B-104
NS

B-105
55PPB

≠3

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PCBs / 4 - 8 Feet Below Grade

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP06B-PCBs4to8-03C497B

SP-06B

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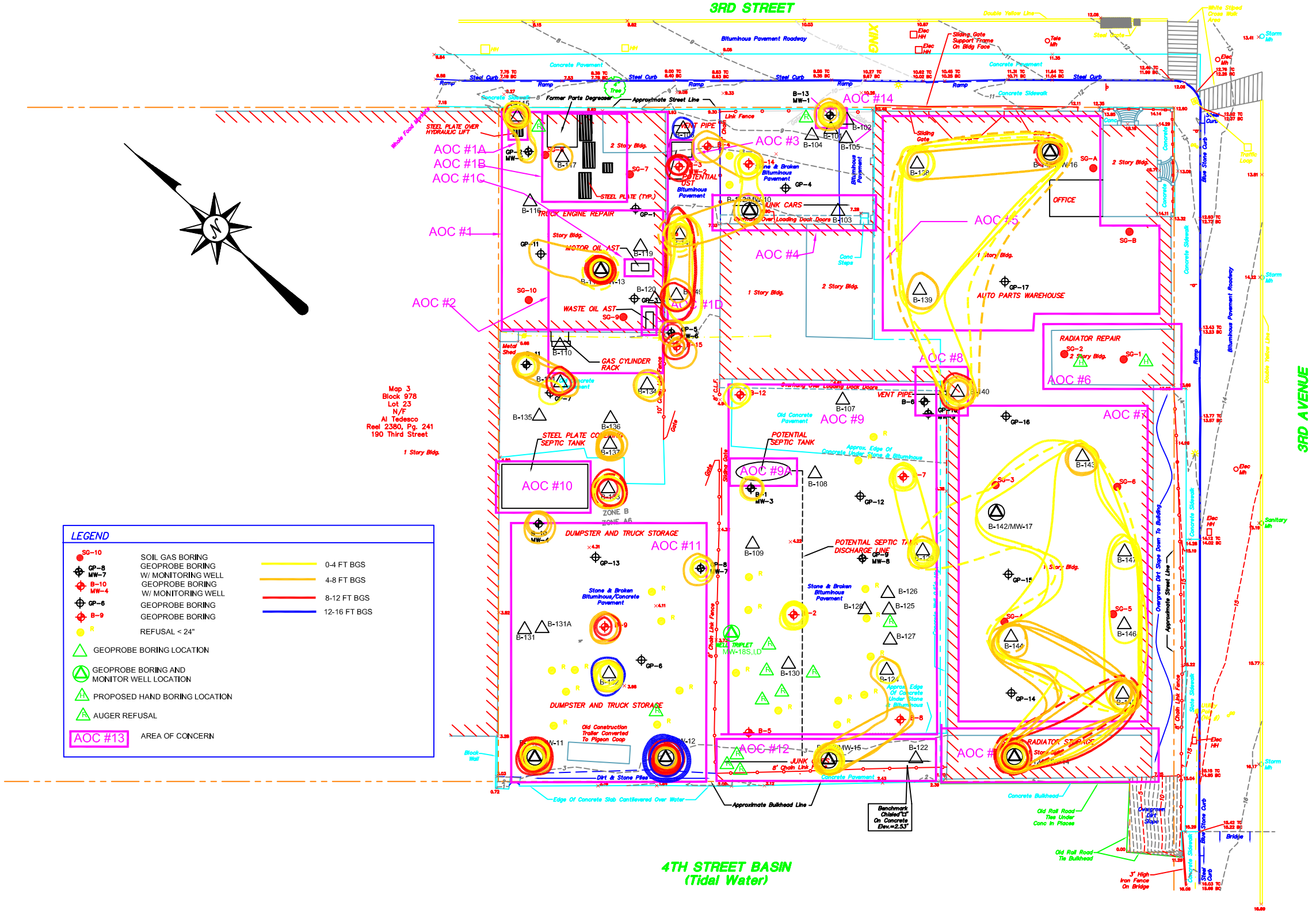

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CONTAMINATION DISTRIBUTION AT SITE

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP07-ALLCONTAMINANTS-03C497B-

SP-07

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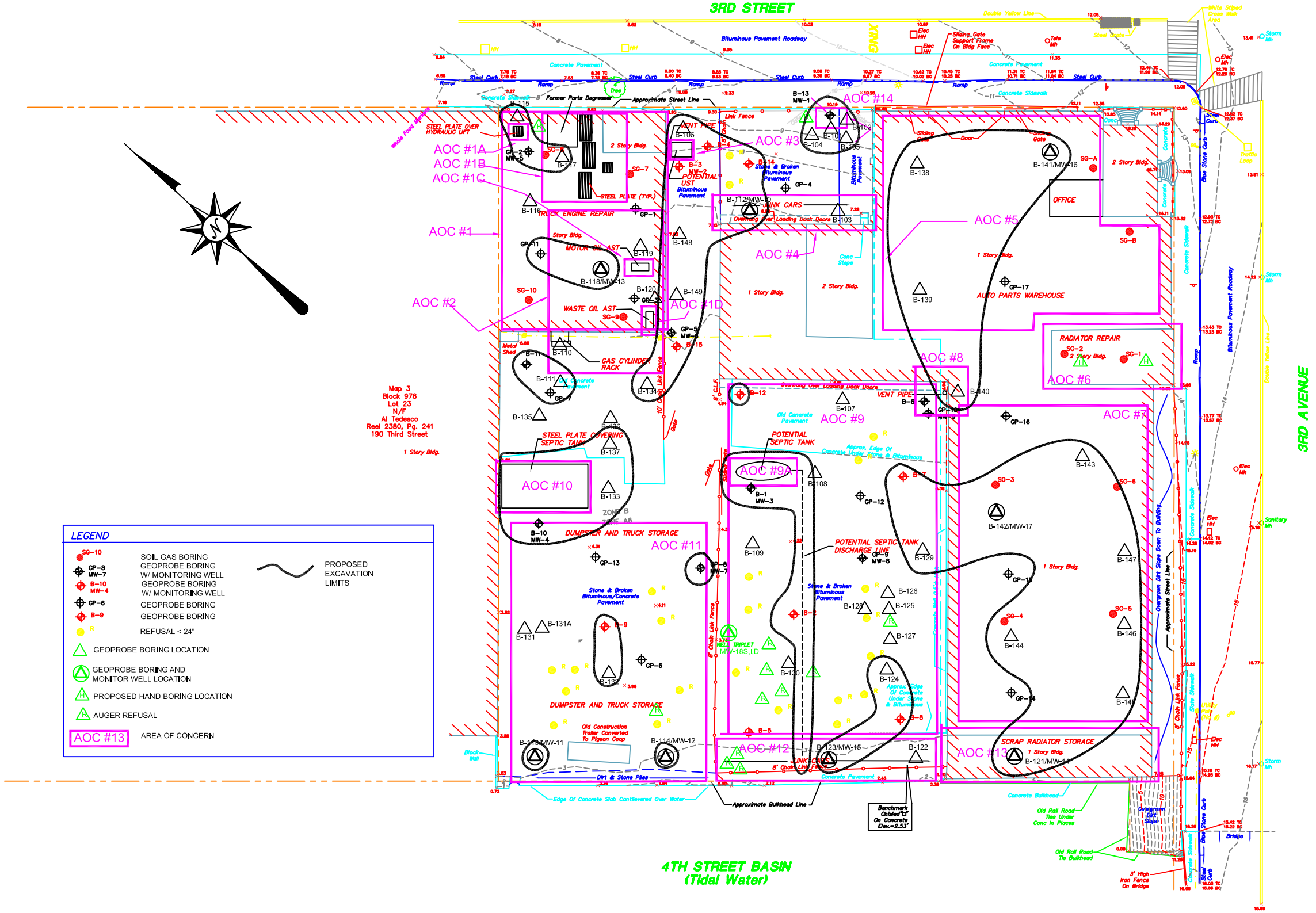

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PROPOSED EXCAVATION AREAS

PROPOSED WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-SP08-Excavation Areas-03C497B-

XREF(s): NONE

SP-08

APPENDIX B

Tables

Table 1

Soil Analytical Results
Samples Collected December 5 and 9, 2003
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street
City of New York, Borough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample																	
	STARS Memo #1	TAGM	B-1/S-2(4-8)	B-2/S-1(0-4)	B-3/S-3 (8-12)	B-4/S-2 (4-8)	B-6/S-2 (4-8)	B-7, S-1 (0-4)	B-8/S-2 (4-8)	B-9/S-2 (4-8)	B-9/S-3 (8-12)	B-10/S-2 (4-8)	B-11/S-1 (0-4)	B-11/S-2 (4-8)	B-12/S-1 (0-4)	B-13/S-1(0-4)	B-13/S-2(4-8)	B-14/S-1(0-4)	B-14/S-2 (4-8)	B-15/S-3 (8-12)	B-15/S-4 (12-16)
VOCs (ppb)																					
1,2,4-Trimethylbenzene	100	NE	ND	ND	65	ND	ND	ND	4	10	1,000	16	12	31	ND	ND	ND	15	ND	18	23,000
1,3,5-Trimethylbenzene	100	NE	ND	ND	11	ND	ND	ND	ND	ND	500	6	ND	10	33	ND	ND	6	ND	5	4,600
Ethylbenzene	100	5,500	ND	ND	6	ND	ND	ND	ND	15	830	11	8	23	57	ND	ND	21	5	13	**20,000**
Isopropylbenzene	100	NE	ND	ND	9	ND	ND	ND	ND	ND	430	23	ND	6	ND	ND	ND	ND	ND	16	2,100
Napthalene	200	13,000	ND	ND	8	ND	ND	ND	ND	85	**75,000**	16	110	600	760	26	180	36	ND	15	**2,200,000**
n-Butylbenzene	100	NE	ND	ND	35	ND	ND	ND	ND	ND	340	23	ND	42	ND	ND	ND	ND	ND	18	4,400
n-Propylbenzene	100	NE	ND	ND	11	ND	ND	ND	ND	ND	330	31	ND	5	ND	ND	ND	ND	ND	18	2,000
o-Xylene	100	NE	ND	ND	9	ND	ND	ND	7	27	180	20	15	28	33	6	ND	25	7	21	3,000
p-&m-Xylene	NE	NE	ND	ND	13	ND	ND	6	9	50	280	39	25	43	62	11	ND	45	14	38	1,900
p-Isopropyltoluene	100	NE	ND	ND	9	ND	ND	ND	ND	ND	290	24	ND	ND	ND	ND	ND	ND	ND	23	3,000
sec-Butylbenzene	100	NE	ND	ND	6	ND	ND	ND	ND	ND	100	49	ND	39	ND	ND	ND	ND	ND	32	350
tert-Butylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	6	ND	10	ND	5	ND	ND	ND	ND	ND	ND	1,800
Toluene	100	1,500	ND	ND	6	ND	ND	7	7	40	170	14	11	12	61	10	ND	43	13	15	220
SVOCs (ppb)																					
2-Methylnapthalene	NE	36,400	ND	ND	5,600	ND	ND	ND	ND	ND	4,200	ND	ND	ND	ND	ND	ND	ND	ND	3,400	**62,000**
Acenapthene	400	50,000	ND	ND	40,000	ND	ND	ND	ND	ND	13,000	ND	ND	ND	ND	ND	ND	ND	ND	8,500	**73,000**
Acenapthalene	NE	41,000	ND	ND	6,300	3,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11,000
Anthracene	1,000	50,000	ND	ND	21,000	ND	ND	ND	ND	ND	5,000	ND	ND	ND	ND	ND	ND	2,100	ND	6,800	42,000
Benzo(a)anthracene	0.04*	224 or MDL	**350**	**730**	**17,000**	**1,800**	ND	**350**	**360**	**950**	**3,600**	ND	ND	ND	ND	**1,400**	ND	**5,500**	ND	**3,200**	**27,000**
Benzo(a)pyrene	0.04*	61 or MDL	ND	ND	**12,000**	**3,700**	ND	ND	ND	ND	**4,100**	ND	ND	ND	ND	**1,300**	ND	**4,700**	ND	ND	**27,000**
Benzo(b)fluoranthene	0.04*	1,100	ND	ND	**12,000**	**1,700**	ND	ND	ND	ND	**1,800**	ND	ND	ND	ND	1,100	ND	**4,300**	ND	**2,200**	**29,000**
Benzo(g,h,i)perylene	0.04*	50,000	ND	ND	6,900	3,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.04*	1,100	ND	ND	**11,000**	**2,000**	ND	340	340	ND	**2,500**	ND	ND	ND	ND	**1,400**	ND	**4,600**	ND	**3,200**	**32,000**
Chrysene	0.04*	400	380	**870**	**17,000**	**2,500**	ND	**470**	**470**	**970**	**3,800**	340	ND	ND	**790**	**1,600**	**690**	**6,200**	ND	**4,000**	**30,000**
Fluoranthene	1,000	50,000	690	1,600	32,000	3,800	ND	1,100	1,000	1,200	7,900	1,300	ND	ND	1,200	3,000	1,100	11,000	ND	7,300	**61,000**
Flourene	1,000	50,000	ND	ND	35,000	ND	ND	ND	ND	ND	7,400	ND	ND	ND	ND	ND	ND	ND	ND	6,000	**54,000**
Indeno(1,2,3-cd)pyrene	0.04*	3,200	ND	ND	**4,800**	1,700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	200	13,000	ND	ND	3,600	ND	ND	ND	ND	ND	7,600	ND	ND	ND	ND	ND	ND	ND	ND	7,200	**140,000**
Pheneanthrene	1,000	50,000	640	1,300	**51,000**	ND	ND	1,100	860	1,900	14,000	870	ND	ND	1,300	2,300	700	8,200	ND	13,000	**110,000**
Pyrene	1,000	50,000	650	1,700	45,000	7,400	ND	950	910	1,400	12,000	1,000	ND	ND	1,500	2,900	1,100	9,300	ND	11,000	**85,000**
PCBs (ppm)																					
PCB 1260	NA	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	ND
PCB, Total	NA	1.0 (surface)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05	ND	ND	ND	ND	ND
	NA																				
RCRA Metals																					
Total, (ppm)																					
Arsenic	NA	7.5 or SB	4.14	**7.54**	2.89	2.79	2.79	**12.64**	2.1	3.49	3.54	2.73	3.16	4.89	4.21	5.09	3	7.38	5.4	4.28	3.26
Barium	NA	300 or SB	27.8	111	23.9	42.6	16.9	56.5	14.4	23.7	106	53.8	21.5	57.3	49.4	65.2	56.9	254	67.9	39.9	50.2
Cadmium	NA	1 or SB	ND	ND	ND	ND	ND	ND	ND	**9.53**	0.52	ND	ND	ND	ND	ND	ND	0.84	ND	ND	ND
Chromium	NA	10 or SB	7.96	**13.3**	8.56	10	6.58	8.03	3.2	8.42	9.7	**12.2**	7.84	**18.1**	**15.2**	**12.9**	**10.8**	**13.8**	**17**	**16.7**	**18.1**
Lead	NA	SB	37.9	297	28.7	66.9	15.5	182	25.5	632	21.4	14.2	26.9	380	58.3	137	161	837	125	56.4	86.6
Selenium	NA	2 or SB	1.88	**2.36**	**2.03**	1.62	ND	**3.24**	ND	1.69	1.62	1.41	1.54	1.74	1.82	1.67	1.4	**2.2**	1.84	1.73	1.48
Mercury	NA	0.1	**0.12**	**0.15**	**0.63**	**0.29**	ND	**0.27**	**0.15**	ND	**0.29**	**0.24**	**0.39**	**0.21**	ND	**0.21**	**0.24**	**0.5**	**0.45**	**0.57**	ND

NOTES
Only compounds detected are listed
STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy
TAGM = Technical and Administrative Guidance Memorandum Soil Cleanup objectives
Shading indicates exceedence of Stars Memo #1Criteria
Bold indicates exceedence of TAGM Criteria
0.04* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 2

Soil Analytical Results
Samples Collected January 19 and 20, 2004
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample																
	STARS Memo #1	**TAGM**	GP-1/S-1	GP-1/S2	GP-2/S1	GP-2/S-2	GP-3/S-1	GP-3/S-2	GP-4/S-1	GP-4/S-2	GP-5/S-1	GP-5/S-2	GP-6/S-1	GP-7/S-1	GP-8/S-1	GP-8/S-2	GP-8/S-2A	GP-9/S-1	GP-9/S-2
VOCs (ppb)																			
1,2,4-Trimethylbenzene	100	NE	ND	ND	ND	10	ND	ND	ND	ND	6	7	ND	ND	ND	ND	58,000	ND	ND
1,3,5-Trimethylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	52,000	ND	ND
Benzene	14	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**750**	ND	ND
Ethylbenzene	100	5,500	ND	ND	ND	25	ND	ND	11	ND	10	15	ND	36	ND	ND	**150,000**	6	ND
Isopropylbenzene	100	NE	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11,000	ND	ND
Napthalene	200	13,000	ND	ND	ND	27	ND	ND	ND	ND	ND	ND	ND	18	2,000	ND	**19,000,000**	ND	ND
n-Butylbenzene	100	NE	ND	ND	ND	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	230,000	ND	ND
n-Propylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19,000	ND	ND
o-Xylene	100	NE	ND	ND	ND	12	ND	ND	ND	ND	8	9	ND	17	ND	ND	68,000	ND	ND
p-&m-Xylene	NE	NE	ND	ND	20	24	ND	ND	ND	ND	9	18	ND	48	ND	ND	140,000	ND	5
p-Isopropyltoluene	100	NE	ND	ND	ND	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14,000	ND	ND
sec-Butylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	10	ND	ND	ND	ND	ND
tert-Butylbenzene	100	NE	ND	ND	ND	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77,000	ND	ND
Toluene	100	1,500	ND	ND	8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1,600**	ND	ND
Tetrachloroethylene	NE	1,400	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOCs (ppb)																			
2-Methylnapthalene	NE	36,400	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA
Acenapthene	400	50,000	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	**1,800,000**	NA	NA
Acenapthalene	NE	41,000	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA
Anthracene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	**960,000**	NA	NA
Benzo(a)anthracene	0.04*	224 or MDL	NA	NA	**4,700**	ND	NA	NA	NA	NA	NA	ND	NA	**2,600**	NA	NA	ND	NA	NA
Benzo(a)pyrene	0.04*	61 or MDL	NA	NA	**4,500**	ND	NA	NA	NA	NA	NA	ND	NA	**2,100**	NA	NA	ND	NA	NA
Benzo(b)fluoranthene	0.04*	1,100	NA	NA	**4,500**	ND	NA	NA	NA	NA	NA	ND	NA	**2,300**	NA	NA	ND	NA	NA
Benzo(g,h,i)perylene	0.04*	50,000	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA
Benzo(k)fluoranthene	0.04*	1,100	NA	NA	**5,000**	ND	NA	NA	NA	NA	NA	ND	NA	**2,300**	NA	NA	ND	NA	NA
Chrysene	0.04*	400	NA	NA	**5,000**	ND	NA	NA	NA	NA	NA	ND	NA	**2,800**	NA	NA	ND	NA	NA
Fluoranthene	1,000	50,000	NA	NA	11,000	580	NA	NA	NA	NA	NA	ND	NA	6,700	NA	NA	**1,300,000**	NA	NA
Flourene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	**1,000,000**	NA	NA
Indeno(1,2,3-cd)pyrene	0.04*	3,200	NA	NA	ND	ND	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	ND	NA	NA
Napthalene	200	13,000	NA	NA	ND	640	NA	NA	NA	NA	NA	ND	NA	ND	NA	NA	**15,000,000**	NA	NA
Pheneanthrene	1,000	50,000	NA	NA	5,300	590	NA	NA	NA	NA	NA	ND	NA	4,700	NA	NA	**3,400,000**	NA	NA
Pyrene	1,000	50,000	NA	NA	9,300	510	NA	NA	NA	NA	NA	ND	NA	6,000	NA	NA	**2,100,000**	NA	NA

NOTES
* = Due to the high detection limit for a soil matrix, the TCLP Extraction Method nust be used to demonstrate groujdwater quality protection for theses compounds.
Only compounds detected are listed
STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy
TAGM = Technical and Administrative Guidance Memorandum Soil Cleanup objectives
Shading indicates exceedence of Stars Memo #1Criteria
Bold indicates exceedence of TAGM Criteria
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 2 (continued Page 2 of 2)

Soil Analytical Results
Samples Collected January 19 and 20, 2004
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria																
	STARS Memo #1	**TAGM**	GP-10/S-1	GP-10/S-2	GP-11/S-1	GP-11/S-2	GP-12/S-1	GP-12/S-2	GP-13/S-1	GP-13/S-2	GP-14/S-1	GP-14/S-2	GP-15/S-1	GP-16/S-1	GP-16/S-2	GP-17/S-1	GP-17/S-2
VOCs (ppb)																	
1,2,4-Trimethylbenzene	100	NE	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	100	NE	ND	ND	ND	57	ND	ND	ND	ND	ND	ND	ND	9	ND	ND	ND
Benzene	14	60	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	100	5,500	ND	15	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	200	13,000	ND	ND	12	100	ND	ND	16	10	ND	ND	ND	150	ND	ND	ND
n-Butylbenzene	100	NE	ND	ND	ND	49	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	100	NE	6	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-&m-Xylene	NE	NE	13	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND
p-Isopropyltoluene	100	NE	ND	ND	ND	55	ND	ND	ND	18	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tert-Butylbenzene	100	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	100	1,500	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	NE	1,400	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOCs (ppb)																	
2-Methylnapthalene	NE	36,400	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Acenapthene	400	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Acenapthalene	NE	41,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.04*	224 or MDL	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	0.04*	61 or MDL	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	0.04*	1,100	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	0.04*	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	0.04*	1,100	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.04*	400	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Flourene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.04*	3,200	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Napthalene	200	13,000	NA	NA	ND	430	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Pheneanthrene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Pyrene	1,000	50,000	NA	NA	ND	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA

NOTES
* = Due to the high detection limit for a soil matrix, the TCLP Extraction Method nust be used to demonstrate groujdwater quality protection for theses compounds.
Only compounds detected are listed
STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy
TAGM = Technical and Administrative Guidance Memorandum Soil Cleanup objectives
Shading indicates exceedence of Stars Memo #1Criteria
Bold indicates exceedence of TAGM Criteria
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 3

Soil Analytical Results
Samples Collected October 28 and 29, 2004
NYSDEC BCP SITE No. C224100
Soil Analytical Results
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample										
	STARS Memo #1	TAGM	B-106/S-4(12-16)	B-111/S-2(4-8)	B-111/S-3 (8-12)	B-112/S-1 (0-4)	B-112/S-2 (4-8)	B-113, S-1 (0-4)	B-113/S-3 (8-12)	B-114/S-1 (0-4)	B-114/S-2 (4-8)	B-114/S-3 (8-12)	B-114/S-4 (12-16)
VOCs (ppb)													
1,2,4-Trimethylbenzene	100	NE	< 52	13,000	130	--	< 39	1,100	9,800	< 43	< 57	230	< 45
1,3,5-Trimethylbenzene	100	NE	< 52	< 560	< 49	--	< 39	65	< 2700	< 43	< 57	< 66	< 45
Benzene	14	60	< 52	< 560	< 49	--	< 39	< 51	< 2700	< 43	< 57	< 66	< 45
Ethylbenzene	100	5,500	< 52	5,000	< 49	--	< 39	< 51	< 2700	< 43	59	< 66	< 45
Isopropylbenzene	100	NE	< 52	< 560	66	--	< 39	< 51	< 2700	< 43	< 57	230	< 45
Napthalene	200	NE	< 52	< 560	110	--	< 39	< 51	61,000	64	330	1,200	340
n-Butylbenzene	100	NE	< 52	< 560	88	--	< 39	1,700	6,500	< 43	< 57	430	160
n-Propylbenzene	100	NE	< 52	< 560	150	--	< 39	< 51	< 2700	< 43	< 57	200	< 45
o-Xylene	100	NE	< 52	16,000	160	--	< 39	< 51	< 2700	< 43	< 57	180	< 45
p-&m-Xylene	NE	NE	< 100	< 1100	120	--	< 78	< 100	< 5300	< 87	< 110	< 130	< 89
p-Isopropyltoluene	100	NE	< 52	< 560	< 49	--	< 39	< 51	< 2700	< 43	< 57	160	< 45
sec-Butylbenzene	100	NE	< 52	8,500	120	--	< 39	< 51	4,600	< 43	< 57	150	< 45
tert-Butylbenzene	100	NE	< 52	< 560	56	--	< 39	< 51	< 2700	< 43	< 57	160	< 45
Toluene	100	1,500	< 52	**2,500**	< 49	--	< 39	< 51	< 2700	< 43	< 57	< 66	< 45
SVOCs (ppb)													
2-Methylnapthalene	NE	36,400	< 62	400	500	130	< 57	480	6,800	< 58	< 65	< 5300	< 680
Acenapthene	400	50,000	< 60	< 63	210	220	< 59	240	**77,000**	< 60	< 67	**53,000**	5,300
Acenapthalene	NE	41,000	< 45	< 47	130	< 87	< 44	270	9,900	64	< 50	14,000	1,400
Anthracene	1,000	50,000	< 60	110	510	340	< 59	390	33,000	120	< 67	20,000	6,900
Benzo(a)anthracene	0.04*	224 or MDL	< 49	160	**990**	**720**	240	**1,000**	**13,000**	**290**	< 55	**27,000**	**3,800**
Benzo(a)pyrene	0.04*	61 or MDL	< 45	**160**	**850**	**690**	220	**1,200**	**14,000**	**280**	< 50	**40,000**	**4,200**
Benzo(b)fluoranthene	0.04*	1,100	< 100	130	660	680	180	**1,600**	**5,800**	450	< 110	**14,000**	**3,000**
Benzo(g,h,i)perylene	0.04*	50,000	< 41	100	570	260	110	850	8,400	210	< 45	25,000	2,500
Benzo(k)fluoranthene	0.04*	1,100	< 41	130	810	460	200	< 92	**7,000**	< 41	< 45	**18,000**	< 470
Chrysene	0.04*	400	< 46	180	**1,100**	**740**	240	**1,300**	**13,000**	350	< 51	**29,000**	**3,500**
Fluoranthene	1,000	50,000	< 46	430	2,400	1,900	440	2,300	40,000	710	71	**78,000**	14,000
Flourene	1,000	50,000	< 47	110	300	170	< 46	340	29,000	55	< 53	< 4300	2,200
Indeno(1,2,3-cd)pyrene	0.04*	3,200	< 37	86	500	260	100	690	**4,800**	160	< 42	**14,000**	1,400
Napthalene	200	13,000	< 62	< 66	< 67	< 120	< 61	810	**44,000**	< 63	< 70	< 5700	2,800
Pheneanthrene	1,000	50,000	< 43	390	2,200	1,300	230	1,600	**98,000**	520	< 48	8,600	22,000
Pyrene	1,000	50,000	< 50	370	2,000	1,400	380	2,000	**58,000**	590	67	**120,000**	25,000
RCRA Metals Total, (ppm)													
Arsenic	NA	7.5 or SB	4.1	--	--	--	2.7	**14.7**	**20.2**	7.2	5.1	**13.0**	**8.2**
Barium	NA	300 or SB	35.6	--	--	--	267	113	38.0	43.1	49.0	36.0	89.9
Cadmium	NA	1 or SB	< 1.3	--	--	--	< 0.94	< 1.3	< 1.1	< 1.3	< 1.1	< 1.1	< 1.1
Chromium	NA	10 or SB	**11.7**	--	--	--	**15.6**	**10.9**	7.0	**13.9**	**17.7**	**11.5**	**17.9**
Lead	NA	SB	13.0	--	--	--	1390	263	117	65.6	152	80.2	108
Selenium	NA	2 or SB	< 2.0	--	--	--	< 1.5	**2.3**	**2.9**	< 2.0	< 1.8	**5.0**	**2.6**
Mercury	NA	0.1	< 0.014	--	--	--	0.048	**0.29**	**0.30**	0.068	**0.5**	**0.52**	0.049

NOTES
Only compounds detected are listed
STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy
TAGM = Technical and Administrative Guidance Memorandum Soil Cleanup objectives
Shading indicates exceedence of Stars Memo #1Criteria
Underlined = May exceed Stars Memo #1 Criteria due to Laboratory Minimum Detection Limi
Bold indicates exceedence of TAGM Criteria
0.04* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 4

Soil Analytical Results
Samples Collected November 1, 2, and 3, 2004
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample																
	STARS Memo #1	TAGM	B-115(0-4)	B-115(4-8)	B-117(0-4)	B-117(4-8)	B-117(8-12)	B-118(0-4)	B-118(4-8)	B-118(8-12)	B-121(0-4)	B-121(4-8)	B-121(8-12)	B-122(0-4)	B-122(4-8)	B-123(0-4)	B-123(4-8)	B-124(0-4)	B-129(0-4)	B-129(4-8)
VOCs (ppb)																				
1,2,4-Trimethylbenzene	100	NE	-	-	< 55	2,000	< 55	-	-	< 96	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
1,3,5-Trimethylbenzene	100	NE	-	-	< 55	800	< 55	-	-	1,300	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
Benzene	14	60	-	-	< 55	< 59	< 55	-	-	< 96	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
Ethylbenzene	100	5,500	-	-	< 55	2,900	< 55	-	-	**8,500**	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
Isopropylbenzene	100	NE	-	-	< 55	330	< 55	-	-	430	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
Napthalene	200	NE	-	-	< 55	680	< 55	-	-	430	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
n-Butylbenzene	100	NE	-	-	< 55	< 59	< 55	-	-	< 96	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
n-Propylbenzene	100	NE	-	-	< 55	2,800	< 55	-	-	4,300	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
o-Xylene	100	NE	-	-	< 55	2,000	< 55	-	-	6,400	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
p-&m-Xylene	NE	NE	-	-	< 110	630	< 110	-	-	1,700	< 140	< 160	-	< 110	< 110	< 100	< 130	-	-	-
p-Isopropyltoluene	100	NE	-	-	< 55	< 59	< 55	-	-	< 96	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
sec-Butylbenzene	100	NE	-	-	< 55	1,300	< 55	-	-	1,900	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
tert-Butylbenzene	100	NE	-	-	< 55	430	< 55	-	-	680	< 68	< 82	-	< 57	< 57	< 51	< 63	-	-	-
Toluene	100	1,500	-	-	< 55	280	< 55	-	-	**2,200**	73	< 82	-	78	< 57	310	< 63	-	-	-
SVOCs (ppb)																				
2-Methylnapthalene	NE	36,400	1,600	< 60	-	-	-	530	< 59	110	190	< 78	< 68	-	-	< 500	100	150	< 130	< 64
Acenapthene	400	50,000	**2,200**	< 63	-	-	-	880	68	99	< 67	< 81	< 70	-	-	< 520	620	130	< 130	< 67
Acenapthalene	NE	41,000	1,700	< 47	-	-	-	600	< 46	56	1,000	< 60	< 52	-	-	< 390	< 49	230	110	< 50
Anthracene	1,000	50,000	5,800	< 63	-	-	-	2,400	77	200	500	< 81	86	-	-	< 520	68	400	180	< 67
Benzo(a)anthracene	0.04*	224 or MDL	**14,000**	< 51	-	-	-	**6,400**	180	**460**	**520**	120	**280**	-	-	< 420	160	**1,100**	510	< 55
Benzo(a)pyrene	0.04*	61 or MDL	**13,000**	54	-	-	-	**7,000**	**210**	**400**	**830**	**130**	**280**	-	-	< 390	**140**	**1,500**	710	54
Benzo(b)fluoranthene	0.04*	1,100	**12,000**	< 110	-	-	-	**6,400**	150	350	930	< 140	220	-	-	< 880	130	**1,200**	490	< 110
Benzo(g,h,i)perylene	0.04*	50,000	7,400	< 42	-	-	-	4,200	110	230	1,400	87	210	-	-	< 350	75	960	510	< 45
Benzo(k)fluoranthene	0.04*	1,100	**11,000**	43	-	-	-	**4,300**	180	310	810	120	280	-	-	< 350	120	1,000	560	< 45
Chrysene	0.04*	400	**14,000**	51	-	-	-	**6,900**	200	590	950	130	330	-	-	**460**	170	**1,300**	**610**	58
Fluoranthene	1,000	50,000	41,000	54	-	-	-	18,000	530	1,300	780	160	460	-	-	670	290	3,300	1,300	80
Flourene	1,000	50,000	2,000	< 49	-	-	-	960	60	120	< 52	< 63	< 55	-	-	< 410	77	170	110	< 52
Indeno(1,2,3-cd)pyrene	0.04*	3,200	**6,300**	< 39	-	-	-	**3,300**	76	170	920	73	180	-	-	< 320	72	820	360	< 41
Napthalene	200	13,000	2,200	< 65	-	-	-	690	130	240	230	<84	95	-	-	< 540	400	190	< 130	< 69
Pheneanthrene	1,000	50,000	36,000	< 44	-	-	-	11,000	390	870	950	100	280	-	-	510	190	1,500	710	63
Pyrene	1,000	50,000	28,000	66	-	-	-	9,500	400	780	960	180	410	-	-	530	220	1,900	950	67
Dibenzo(a,h)anthracene	1,000	14 or MDL	**2,600**	< 42	-	-	-	**1,200**	< 41	**61**	**340**	< 54	**74**	-	-	< 350	< 44	**960**	**510**	< 45
RCRA Metals																				
Total, (ppm)																				
Arsenic	NA	7.5 or SB	3.1	4.3	-	-	-	5.8	-	5.2	**40.3**	**26.2**	**15.8**	-	-	**53.5**	6.5	-	6	< 1.4
Barium	NA	300 or SB	210	91.2	-	-	-	**376**	-	102	175	155	100	-	-	232	78	-	167	19.3
Cadmium	NA	1 or SB	< 1.1	< 1.2	-	-	-	< 1.5	-	<1.4	< 1.2	< 1.4	< 1.6	-	-	< 1.4	< 1.2	-	**1.7**	< 1.1
Chromium	NA	10 or SB	**14.2**	**19.5**	-	-	-	**12.4**	-	**17.5**	8.4	**23.4**	**16**	-	-	**36.5**	**14.7**	-	**28.3**	2.4
Lead	NA	SB	865	247	-	-	-	357	-	171	227	1270	275	-	-	169	178	-	539	40.2
Selenium	NA	2 or SB	< 1.8	< 1.9	-	-	-	< 2.3	-	< 2.3	**4.5**	< 2.2	< 2.5	-	-	< 2.2	< 2.0	-	< 2.2	< 1.8
Silver	NA	SB	< 0.35	< 3.9				< 0.47	-	< 0.46	< 0.4	< 0.44	< 0.5	-	-	< 0.44	< .40	-	0.46	< 0.36
Mercury	NA	0.1	**0.42**	**0.48**	-	-	-	**0.23**	-	**0.7**	**0.33**	**0.26**	**1.1**	-	-	0.058	**0.53**	-	**0.41**	0.079

NOTES
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STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy
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Underlined = May exceed NYSDEC Regulatory Criteria due to Laboratory Minimum Detection Limits or Reporting Limits
Bold indicates exceedence of TAGM Criteria
0.04* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 4 (continued Page 2 of 2)

Soil Analytical Results
Samples Collected November 1, 2, and 3, 2004
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street and 360 3rd Avenue
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample								
	STARS Memo #1	TAGM	B-132(0-4)	B-132(4-8)	B-132(12-16)	B-133(0-4)	B-133(8-12)	B-134(0-4)	B-134(4-8)	B-134(8-12)	B-137(4-8)
VOCs (ppb)											
1,2,4-Trimethylbenzene	100	NE	< 58	< 58	-	< 56	89	< 67	400	< 57	320
1,3,5-Trimethylbenzene	100	NE	< 58	160	-	59	< 51	< 67	< 53	< 57	< 57
Benzene	14	60	< 58	< 58	-	< 56	< 51	< 67	< 53	< 57	< 57
Ethylbenzene	100	5,500	< 58	93	-	< 56	54	< 67	84	< 57	170
Isopropylbenzene	100	NE	< 58	< 58	-	< 56	< 51	< 67	< 53	< 57	< 57
Napthalene	200	NE	3,200	< 58	-	460	< 51	< 67	< 53	< 57	< 57
n-Butylbenzene	100	NE	< 58	650	-	< 56	57	< 67	< 53	< 57	< 57
n-Propylbenzene	100	NE	< 58	< 58	-	< 56	< 51	< 67	320	< 57	230
o-Xylene	100	NE	< 58	< 58	-	< 56	70	< 67	170	< 57	190
p-&m-Xylene	NE	NE	< 120	180	-	< 110	< 100	< 130	< 110	< 110	< 110
p-Isopropyltoluene	100	NE	< 58	260	-	92	< 51	< 67	63	< 57	66
sec-Butylbenzene	100	NE	< 58	880	-	250	< 51	< 67	250	< 57	330
tert-Butylbenzene	100	NE	< 58	560	-	< 56	< 51	< 67	160	< 57	< 57
Toluene	100	1,500	< 58	190	-	< 56	< 51	< 67	< 53	< 57	< 57
SVOCs (ppb)											
2-Methylnapthalene	NE	36,400	9,200	-	17,000	7,000	79	< 58	< 59	< 59	< 61
Acenapthene	400	50,000	19,000	-	35,000	16,000	160	71	< 62	< 62	69
Acenapthalene	NE	41,000	< 4600	-	< 3500	< 4600	< 50	< 45	< 46	< 46	< 47
Anthracene	1,000	50,000	38,000	-	< 4700	35,000	350	77	< 62	< 62	85
Benzo(a)anthracene	0.04*	224 or MDL	**67,000**	-	< 3900	**65,000**	**560**	**250**	<50	<50	190
Benzo(a)pyrene	0.04*	61 or MDL	**52,000**	-	< 3500	**61,000**	**560**	**310**	< 46	< 46	**190**
Benzo(b)fluoranthene	0.04*	1,100	**28,000**	-	< 8000	**48,000**	430	270	< 100	< 100	130
Benzo(g,h,i)perylene	0.04*	50,000	9,500	-	< 3200	34,000	360	230	< 41	< 41	120
Benzo(k)fluoranthene	0.04*	1,100	**53,000**	-	< 3200	**45,000**	400	280	< 41	< 41	220
Chrysene	0.04*	400	**74,000**	-	< 3600	**70,000**	**590**	320	< 47	< 47	240
Fluoranthene	1,000	50,000	**120,000**	-	4,800	**230,000**	1,900	710	< 47	< 47	470
Flourene	1,000	50,000	25,000	-	8,100	17,000	180	< 47	< 48	< 48	97
Indeno(1,2,3-cd)pyrene	0.04*	3,200	**29,000**	-	< 2900	**28,000**	250	160	< 38	< 38	110
Napthalene	200	13,000	**18,000**	-	**120,000**	9,400	130	89	< 64	150	< 66
Pheneanthrene	1,000	50,000	17,000	-	20,000	**210,000**	1,700	460	< 44	< 44	300
Pyrene	1,000	50,000	**190,000**	-	6,300	**160,000**	1,300	500	< 51	< 51	400
Dibenzo(a,h)anthracene	1,000	14 or MDL	**33,000**	-	< 3200	**11,000**	**84**	< 41	< 41	< 41	**54**
RCRA Metals											
Total, (ppm)											
Arsenic	NA	7.5 or SB	**9.8**	-	-	7.2	4.4	-	-	-	4
Barium	NA	300 or SB	79.5	-	-	63.5	150	-	-	-	109
Cadmium	NA	1 or SB	< 1.3	-	-	< 1.0	< 1.4	-	-	-	< 1.2
Chromium	NA	10 or SB	**53.1**	-	-	9.3	**14.6**	-	-	-	**13.2**
Lead	NA	SB	117	-	-	168	111	-	-	-	667
Selenium	NA	2 or SB	< 2.0	-	-	< 1.6	< 2.2	-	-	-	< 2.0
Silver	NA	SB	< 0.41	-	-	< 0.33	< 0.46	-	-	-	< 0.4
Mercury	NA	0.1	**0.18**	-	-	**0.34**	**0.24**	-	-	-	**5**

NOTES
Only compounds detected are listed
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Bold indicates exceedence of TAGM Criteria
0.04* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 5

Soil Analytical Results
Samples Collected December 6, 7, and 8, 2004
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample																	
	STARS Memo #1	TAGM	B-138,S-1(0-4)	B-138,S-2(4-8)	B-139,S-1(0-4)	B-139,S-2(4-8)	B-140,S-1(0-4)	B-140,S-2(4-8)	B-140,S-3(8-12)	B-141,S-1(0-4)	B-141,S-2(4-8)	B-141,S-3(8-12)	B-142,S-1(0-4)	B-143,S-1(0-4)	B-143,S-2(4-8)	B-144,S-1(0-4)	B-144,S-2(4-8)	B-145,S-1(0-4)	B-145,S-2(4-8)	B-145,S-3(8-12)
VOCs (ppb)																				
1,2,4-Trimethylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
1,3,5-Trimethylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
Benzene	14	60	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	**62**
Ethylbenzene	100	5,500	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
Isopropylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
Napthalene	200	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	73	95	< 57	< 59	< 59	< 59	130	870	260	160	250
n-Butylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
n-Propylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
o-Xylene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	74	< 59	< 60
p-&m-Xylene	NE	NE	< 120	< 130	< 120	< 130	< 110	< 120	-	< 110	< 120	< 110	< 120	< 120	< 120	< 110	< 120	240	< 120	< 60
p-Isopropyltoluene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
sec-Butylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
tert-Butylbenzene	100	NE	< 59	< 65	< 62	< 66	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	< 54	< 59	< 60
Toluene	100	1,500	130	< 65	< 62	610	< 53	< 61	-	< 55	< 58	< 57	< 59	< 59	< 59	< 56	< 58	62	< 59	< 60
SVOCs (ppb)																				
2-Methylnapthalene	NE	36,400	-	-	-	-	220	< 360	< 430	-	-	-	< 360	< 380	< 420	110	< 4000	290	< 1900	< 410
Acenapthene	400	50,000	-	-	-	-	71	< 360	84	-	-	-	65	< 380	75	93	1,500	1,000	370	< 410
Acenapthalene	NE	41,000	-	-	-	-	100	< 360	68	-	-	-	< 360	< 380	< 420	77	< 4000	< 1800	400	< 410
Anthracene	1,000	50,000	-	-	-	-	210	110	200	-	-	-	86	120	210	220	3,800	1,900	1,200	< 410
Benzo(a)anthracene	0.04*	224 or MDL	-	-	-	-	**450**	**240**	**450**	-	-	-	**260**	**460**	**530**	**630**	**5,700**	**3,200**	**3,600**	< 410
Benzo(a)pyrene	0.04*	61 or MDL	-	-	-	-	**360**	**210**	**450**	-	-	-	**250**	**630**	**580**	**660**	**5,200**	**2,900**	**3,700**	< 410
Benzo(b)fluoranthene	0.04*	1,100	-	-	-	-	430	170	290	-	-	-	210	450	370	620	**3,500**	**2,200**	**3,800**	< 410
Benzo(g,h,i)perylene	0.04*	50,000	-	-	-	-	210	110	230	-	-	-	150	420	310	510	2,700	1,700	2,600	< 410
Benzo(k)fluoranthene	0.04*	1,100	-	-	-	-	310	170	430	-	-	-	190	490	500	530	**4,300**	**2,800**	**3,100**	< 410
Chrysene	0.04*	400	-	-	-	-	**590**	250	490	-	-	-	320	**490**	**550**	**720**	**6,000**	**3,300**	**4,200**	< 410
Fluoranthene	1,000	50,000	-	-	-	-	1,200	550	1,100	-	-	-	590	720	1,000	1,400	15,000	8,800	9,500	< 410
Flourene	1,000	50,000	-	-	-	-	76	47	100	-	-	-	57	< 380	71	95	1,600	850	370	< 410
Indeno(1,2,3-cd)pyrene	0.04*	3,200	-	-	-	-	170	97	210	-	-	-	160	470	300	390	2,200	1,500	2,300	< 410
Napthalene	200	13,000	-	-	-	-	340	< 360	< 430	-	-	-	< 360	< 380	< 420	150	900	660	< 1900	< 410
Pheneanthrene	1,000	50,000	-	-	-	-	1,100	480	700	-	-	-	600	390	670	990	15,000	8,100	6,100	< 410
Pyrene	1,000	50,000	-	-	-	-	1,100	490	1,000	-	-	-	630	720	1,000	1,400	13,000	7,300	8,300	< 410
Dibenzo(a,h)anthracene	1,000	14 or MDL	-	-	-	-	**64**	< 360	**77**	-	-	-	< 360	**180**	**150**	**130**	**950**	**610**	**1,100**	< 410
RCRA Metals																				
Total, (ppm)																				
Arsenic	NA	7.5 or SB	7.5	4.4	3.8	< 10.4	4.6	4.3	-	5.3	**8.7**	3.6	< 10.2	5.6	4.3	4.2	6.1	**12.8**	**172**	3.2
Barium	NA	300 or SB	117	114	99	13.8	68.5	72.2	-	253	273	40.9	44.8	60.3	78	80.4	79.5	76.9	213	36.8
Cadmium	NA	1 or SB	**1.4**	< 4.4	< 4.7	< 3.9	< 3.9	< 3.9	-	< 3.0	< 3.9	< 3.7	< 3.8	< 4.0	< 4	< 3.2	< 3.2	< 3.9	< 3.3	< 3.6
Chromium	NA	10 or SB	**10.1**	9.8	**11.4**	5.9	9.7	5.3	-	**12.4**	**14.9**	**11.8**	**12.5**	**12.8**	9.7	**13.7**	**13.8**	**10.9**	**11.5**	**11.2**
Lead	NA	SB	224	152	161	36	408	146	-	486	492	24.4	59.6	192	126	96.5	506	142	444	8.9
Selenium	NA	2 or SB	< 19.7	< 23.3	< 24.9	<20.8	< 20.7	< 20.6	-	< 15.9	< 20.7	< 20	< 20.3	< 21.4	< 21.3	< 16.9	< 17.2	< 21	**24.2**	< 19.4
Silver	NA	SB	< 3.7	< 4.4	< 4.7	<3.9	0.52	< 3.9	-	< 3.0	< 3.9	< 3.7	< 3.8	< 4.0	< 4	< 3.2	< 3.2	< 3.9	0.35	< 3.6
Mercury	NA	0.1	**0.33**	**0.74**	**0.51**	0.037	**0.26**	**4.20**	-	**0.69**	**0.89**	0.044	0.095	**0.34**	**0.32**	**0.23**	**0.9**	**0.26**	**0.5**	0.036

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Table 5 (continued Page 2 of 2)

Soil Analytical Results
Samples Collected December 6, 7, and 8, 2004
BL Companies Project No. 03C497 / NYSDEC BCP SITE No. C224100
220 3rd Street
City of New York, Bourough of Brooklyn, Kings County, New York

Compound	NYSDEC Regulatory Criteria		Concentration of Compound in Sample								
	STARS Memo #1	TAGM	B-146,S-1(0-4)	B-147,S-1(0-4)	B-148,S-1(0-4)	B-148,S-2(4-8)	B-148,S-3(8-12)	B-149,S-1(0-4)	B-149,S-2(4-8)	B-149,S-3(8-12)	B-149,S-3(8-12)DUP
VOCs (ppb)											
1,2,4-Trimethylbenzene	100	NE	< 53	< 59	260	< 31000	< 62	1400	210	25,000	18,000
1,3,5-Trimethylbenzene	100	NE	< 53	< 59	< 55	< 31000	< 62	330	110	16,000	8,800
Benzene	14	60	< 53	< 59	< 55	< 31000	< 62	< 58	< 57	< 640	< 580
Ethylbenzene	100	5,500	< 53	< 59	120	< 31000	< 62	340	140	**34,000**	**24,000**
Isopropylbenzene	100	NE	< 53	< 59	59	< 31000	< 62	< 58	< 57	5,600	3,300
Napthalene	200	NE	430	1,100	580	2,100,000	8,000	440	5,100	750,000	910,000
n-Butylbenzene	100	NE	< 53	< 59	420	< 31000	< 62	650	< 57	39,000	29,000
n-Propylbenzene	100	NE	< 53	< 59	< 55	< 31000	< 62	210	< 57	1,300	860
o-Xylene	100	NE	< 53	< 59	150	< 31000	< 62	190	120	9,700	7,800
p-&m-Xylene	NE	NE	< 110	< 120	96	< 61000	< 120	720	< 110	14,000	13,000
p-Isopropyltoluene	100	NE	< 53	< 59	61	< 31000	< 62	< 58	< 57	5,800	4,600
sec-Butylbenzene	100	NE	< 53	< 59	190	< 31000	< 62	130	< 57	3,200	2,400
tert-Butylbenzene	100	NE	< 53	< 59	65	< 31000	< 62	< 58	< 57	< 640	< 580
Toluene	100	1,500	< 53	< 59	85	< 31000	< 62	82	< 57	< 640	< 580
SVOCs (ppb)											
2-Methylnapthalene	NE	36,400	< 14000	< 3700	790	**170,000**	100	700	7,200	**56,000**	**78,000**
Acenapthene	400	50,000	6,500	980	480	**470,000**	320	150	37,000	11,000	**150,000**
Acenapthalene	NE	41,000	2,100	880	440	**49,000**	< 380	120	1,400	< 77000	< 75000
Anthracene	1,000	50,000	12,000	2,800	1,100	**160,000**	92	180	5,200	20,000	28,000
Benzo(a)anthracene	0.04*	224 or MDL	**24,000**	**8,600**	**2,800**	**62,000**	63	**750**	**2,700**	< 77000	**13,000**
Benzo(a)pyrene	0.04*	61 or MDL	**23,000**	**9,600**	**3,600**	**80,000**	**67**	**1,400**	**3,300**	**11,000**	**16,000**
Benzo(b)fluoranthene	0.04*	1,100	**14,000**	**8,800**	**2,900**	< 310000	< 380	**1,500**	< 7200	< 77000	< 75000
Benzo(g,h,i)perylene	0.04*	50,000	13,000	6,800	3,300	**52,000**	< 380	1,300	2,200	< 77000	12,000
Benzo(k)fluoranthene	0.04*	1,100	**21,000**	**7,300**	**2,400**	**37,000**	< 380	860	**1,800**	< 77000	**9,000**
Chrysene	0.04*	400	**2,800**	**9,400**	**3,200**	**68,000**	61	**990**	**3,000**	**10,000**	**14,000**
Fluoranthene	1,000	50,000	**63,000**	21,000	7,400	**220,000**	160	1,400	8,900	35,000	46,000
Flourene	1,000	50,000	5,900	1,000	530	**180,000**	110	92	11,000	28,000	32,000
Indeno(1,2,3-cd)pyrene	0.04*	3,200	**11,000**	**5,600**	2,100	< 310000	< 380	980	1,200	< 77000	< 75000
Napthalene	200	13,000	< 14000	< 3700	430	**1,600,000**	590	610	**14,000**	**350,000**	**510,000**
Pheneanthrene	1,000	50,000	**80,000**	14,000	5,300	**520,000**	300	630	20,000	**74,000**	**110,000**
Pyrene	1,000	50,000	**77,000**	18,000	7,300	**370,000**	210	1,800	14,000	**58,000**	**78,000**
Dibenzo(a,h)anthracene	1,000	14 or MDL	**4,200**	**1,900**	**760**	< 310000	< 380	**350**	< 7200	< 77000	< 75000
RCRA Metals Total, (ppm)											
Arsenic	NA	7.5 or SB	7.5	**13.9**	3.5	4.5	-	-	-	-	-
Barium	NA	300 or SB	**916**	**1150**	43.5	80.2	-	-	-	-	-
Cadmium	NA	1 or SB	< 2.8	**1.1**	< 3.3	< 3.8	-	-	-	-	-
Chromium	NA	10 or SB	**16.1**	**19.7**	10	**12.4**	-	-	-	-	-
Lead	NA	SB	1280	2320	71.2	153	-	-	-	-	-
Selenium	NA	2 or SB	< 15.1	< 17.5	< 17.4	< 20.2	-	-	-	-	-
Silver	NA	SB	< 2.8	0.6	< 3.3	< 3.8	-	-	-	-	-
Mercury	NA	0.1	**1**	**2.2**	**0.11**	**0.35**	-	-	-	-	-

NOTES
Only compounds detected are listed
STARS Memo #1 Petroleum-Contaminated Soil Guidance Policy
TAGM = Technical and Administrative Guidance Memorandum Soil Cleanup objectives
Shading indicates exceedence of Stars Memo #1Criteria
Underlined = May exceed Stars Memo #1 Criteria due to Laboratory Minimum Detection Limit
Bold indicates exceedence of TAGM Criteria
0.04* = TCLP Extraction Method must be used to demonstrate Ground Water Protection for these compounds
ND = Not Detected
NE = None Established by DEC
NA = Not Applicable
SB = Site Background
ppm = parts per million
ppb = parts per billion

Table 6

220 3rd St./360 3rd Ave.
Brooklyn, New York

BL Companies Project No. 03C497

Summary of Ground Water Analytical Data

		VOCs (micrograms per liter [ug/l] or parts per billion [ppb])																SVOCs (micrograms per liter [ug/l] or parts per billion [ppb])															Metals (ppb)						ppb
Location	Date	Benzene	Toluene	Chloroform	Ethylbenzene	Total Xylenes	Isopropylbenzene	1,2-Dichlorobenzene	Naphthalene	n-Butylbenzene	n-Propylbenzene	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Methyl Tertiary Butyl Ether	Acenaphthylene	Acenaphthene	Anthracene	Fluoranthene	Flourene	Phenanthrene	Chrysene	Naphthalene	Pyrene	Benzo[a]anthracene	Benzo[a]pyrene	Benzo[b]fluoranthene	Benzo[k]fluoranthene	Indeno(1,2,3-cd)pyrene	Dibenzo[a ,h]anthracene	Benzo[ghi]perylene	Mercury	Arsenic	Barium	Cadmium	Chromium	Lead	PCBs
MW-1	12/15/2003	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 1	< 1	-		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	--	--	--	--	--	--	--
	6/29/2004	< 1	< 1	--	< 1	< 2	< 1	--	< 1	< 1	< 1	< 1	< 1		< 1	< 1	11		< 1.4	< 1.0	1.6	< 1.2	1.8	< 1.4	< 1.2	3.0	< 1.4	< 1.5	< 1.2	< 2.8	< 1.6	< 1.4	< 1.7			--		--	--	--
	10/22/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.16	--	--	< 0.19	< 0.15	< 0.16	< 0.18		< 0.12	< 0.18	7.7		< 0.7	< 0.8	< 0.6	< 0.7	< 0.5	< 0.5	< 0.7	0.5	< 0.4	< 0.5	< 1	< 2	< 0.7	< 0.8	< 0.6							< 0.15
	1/19/2005	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	--	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	8.4	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 0.20	< 40.0	270	< 10.0	< 10.0	< 10.0	< 1.1
MW-2	12/15/2003	< 1	< 1	< 1	< 1	< 1	< 1	< 1	160	< 1	1	< 1	< 1		12	3	< 1		100	17	13	46	57	< 10	< 10	19	< 10	< 10	< 10	< 10	< 10	< 10	< 10			199		10	16	< 0.2
	6/29/2004	< 5.0	< 5.0	--	< 5.0	< 10	< 5.0	--	160	< 5.0	< 5.0	< 5.0	< 5.0		28	8	140		12	2.8	11	2.0	3.9	4.8	< 1.2	30	4.3	4.0	< 1.2	< 2.8	< 1.6	< 1.4	< 1.7			--		--	--	--
	10/22/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	0.21	--	--	< 0.19	0.2	< 0.16	< 0.18		1.4	0.44	15		21	9	17	8	14	5	< 0.7	27	5	7	2	3	3	< 0.8	4							< 0.15
	1/19/2005	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	0.23	--	--	< 0.50	0.22	< 0.50	< 0.50	< 0.50	1.4	1.0	20	< 10	19	3	3	6	12	< 10	10	5	0.5	< 10	< 10	< 10	< 10	< 10	< 10	0.12	7	308	< 10.0	7.2	21.9	< 1.1
MW-3	12/15/2003	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1		< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10			109		8	34	< 0.2
	6/29/2004	< 1	< 1	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 1	< 1	4		< 1.4	< 1.0	< 1.2	< 1.2	< 1.4	< 1.4	< 1.2	< 1.7	< 1.4	< 1.5	< 1.2	< 2.8	< 1.6	< 1.4	< 1.7			--		--	--	--
	10/22/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.21	--	--	< 0.19	< 0.15	< 0.16	< 0.18		< 0.12	< 0.18	4.2		< 0.7	< 0.8	< 0.6	< 0.7	< 0.5	< 0.5	< 0.7	< 0.4	< 0.4	< 0.5	< 1	< 2	< 0.7	< 0.8	< 0.6							< 0.13
	1/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	12/15/2003	< 1	< 1	7	< 1	< 1	3	< 1	4	< 1	4	< 1	2		< 1	< 1	< 1		< 10	< 10	11	< 10	14	< 10	< 10	11	< 10	< 10	< 10	< 10	< 10	< 10	< 10			73		< 5	19	< 0.2
	6/29/2004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS			NS		NS	NS	NS
	10/22/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.21	--	--	< 0.19	< 0.15	0.28	0.22		< 0.12	< 0.18	0.82		2	< 0.8	13	< 0.7	6	6	> 0.7	16	6	5	5	5	2	< 0.8	3							< 0.13
	1/19/2005	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.17	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 0.20	< 40.0	111	< 10.0	< 10.0	5.7	< 1.1
MW-5	1/21/2004	< 10	< 10	< 10	< 10	< 10	12	< 10	280	14	< 10	< 10	< 10		13	< 10	< 10		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			--		--	--	--
	6/29/2004	9	< 5.0	--	< 5.0	< 10	91	--	< 5.0	< 5.0	40	17	31		< 5.0	< 5.0	67		< 1.4	< 1.0	< 1.2	< 1.2	< 1.4	< 1.4	< 1.2	< 1.7	< 1.4	< 1.5	< 1.2	< 2.8	< 1.6	< 1.4	< 1.7			--		--	--	--
	11/3/2004	2.7	< 0.11	--	< 0.13	< 0.15	8.4	--	--	< 0.19	2.6	< 0.16	3.5	2.0	< 0.12	< 0.18	17		< 0.8	< 0.9	< 0.7	< 0.8	< 0.6	< 0.6	< 0.8	< 0.4	< 0.4	< 0.6	< 1	< 2	< 0.8	< 0.9	< 0.7	< 0.070	10.2	499		9.3	141	--
	1/19/2005	2.1	< 0.50	< 0.50	0.14	0.82	12	--	--	0.32	3.8	< 0.50	4.7	2.7	0.20	0.21	20	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 11	< 0.20	4.3	323	< 10.0	< 10.0	8.2	< 1.1
MW-6	1/21/2004	< 10	< 10	< 10	61	12	13	10	3000	< 10	11	< 10	< 10		58	< 10	< 10		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			--		--	--	--
	10/22/2004	4.1	1.1	--	30	6.2	9.6	--	--	6.7	8.1	4.4	1.5		38	13	27		290	20	24	53	75	5	570	32	5	< 5	< 10	< 16	< 7	< 8	< 6							< 0.12
	1/19/2005	5.7	0.79	< 0.50	29	12.1	9.1	--	--	< 0.50	7.0	2.6	1.1	0.25	30	11	39	< 220	230	< 220	< 220	44	50	< 220	730	< 220	< 220	< 220	< 220	< 220	< 220	< 220	< 220	< 0.20	< 40.0	338	< 10.0	< 10.0	4.3	< 1.0
MW-7	1/21/2004	110	< 100	< 100	540	130	< 100	< 100	12000	530	< 100	< 100	< 100		< 100	< 100	< 100		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			--		--	--	--
	6/29/2004	73	< 25	--	400	88	< 25	--	5800	< 25	< 25	< 25	< 25		110	25	< 25		480	120	67	100	230	< 70	5200	140	< 70	< 75	< 60	< 140	< 80	< 70	< 85			--		--	--	--
	10/22/2004	72	19	--	450	100	39	--	--	< 3.8	26	5.0	< 3.6		130	46	16		730	160	< 120	< 140	370	< 100	13000	< 80	< 80	< 100	< 200	< 320	< 140	< 160	< 120							< 0.12
	1/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	1/21/2004	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			--		--	--	--
	6/29/2004	< 1	< 1	--	< 1	< 2	< 1	--	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1		< 1.4	2.7	27	< 1.2	8.1	14	4.1	27	11	9.3	7.4	12	< 1.6	< 1.4	< 1.7			--		--	--	--
	10/22/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.21	--	--	< 0.19	< 0.15	< 0.16	< 0.18		< 0.12	< 0.18	0.69		1	< 0.7	10	< 0.7	3	5	0.7	9	5	5	4	5	3	1	3							< 0.11
	1/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-9	1/21/2004	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			--		--	--	--
	6/29/2004	< 1	< 1	--	< 1	< 2	< 1	--	< 1	< 1	< 1	< 1	< 1		< 1	< 1	< 1		< 1.4	< 1.0	1.3	< 1.2	< 1.4	< 1.4	1.3	< 1.7	< 1.4	< 1.5	< 1.2	< 2.8	< 1.6	< 1.4	< 1.7			--		--	--	--
	10/22/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.21	--	--	< 0.19	< 0.15	< 0.16	< 0.18		< 0.12	< 0.18	2.9		< 0.7	< 0.8	2	< 0.7	0.8	1	< 0.7	2	0.9	1	< 1	< 2	< 0.7	< 0.8	0.7							< 0.11
	1/19/2005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-10	11/3/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.16	--	--	< 0.19	< 0.15	< 0.16	< 0.18	< 0.16	< 0.12	< 0.18	19		< 0.8	< 0.9	< 0.7	< 0.8	< 0.6	< 0.6	< 0.8	< 0.4	< 0.4	< 0.6	< 1	< 2	< 0.8	< 0.9	< 0.7	< 0.070	26.7	217		< 1.3	12.1	--
	1/19/2005	< 0.50	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	12	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	2.1	82.5	888	7.4	172	877	< 1.2
MW-11	11/3/2004	< 0.060	0.36	--	9.1	3.2	1.9	--	--	< 0.19	1.3	0.72	< 0.18	0.98	6.8	0.29	0.88		32	3	3	8	12	< 0.6	< 0.8	4	< 0.4	< 0.6	< 1	< 2	< 0.8	< 0.9	< 0.7	< 0.070	8.9	102		6.6	67.1	--
MW-12	11/3/2004	47	1.1	--	28	12	21	--	--	< 0.19	9.1	1.3	< 0.18	< 0.16	17	1.3	53	6	260	13	33	20	34	7	< 4	43	6	8	< 6	< 9	< 4	< 5	< 3	< 0.070	< 3.9	310		3.5	54.8	--
	1/19/2005	13	0.53	< 0.50	13	4.4	3.8	--	--	< 0.50	1.3	< 0.50	< 0.50	< 0.50	4.1	0.44	32	4	31	3	20	3	1	6	45	29	7	8	3	5	3	< 12	5	< 0.20	8.1	88.6	< 10.0	< 10.0	5.6	< 1.1
MW-13	11/3/2004	0.23	< 0.11	--	0.26	0.57	18	--	--	< 0.19	6.3	< 0.16	4.3	3.7	0.31	< 0.18	14	< 1	2	< 1	3	1	4	1	< 1	2	< 1	1	< 1	< 2	< 1	< 1	< 0.9	0.81	49.5	644	4.7	77.0	733	--
	1/19/2005	0.13	< 0.50	< 0.50	0.15	1.83	32	--	--	0.53	12	< 0.50	7.2	5.8	0.23	< 0.50	14	< 10	1	< 10	< 10	0.9	2	< 10	2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	2.9	31.9	497	3.2	63.2	525	< 1.0
MW-14	11/3/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.16	--	--	< 0.19	< 0.15	< 0.16	< 0.18	< 0.16	< 0.12	< 0.18	1.6	< 0.8	< 0.8	< 0.9	< 0.7	< 0.8	< 0.6	< 0.6	< 0.8	< 0.4	< 0.4	< 0.6	< 1	< 2	< 0.8	< 0.9	< 0.7	0.23	< 3.9	53.7	< 1.1	< 1.3	21.6	--
	1/19/2005	0.41	< 0.50	0.10	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 0.20	< 40.0	94.4	< 10.0	< 10.0	< 10.0	< 1.0
MW-15	11/3/2004	< 0.060	< 0.11	--	< 0.13	< 0.15	< 0.16	--	--	< 0.19	< 0.15	< 0.16	< 0.18	< 0.16	< 0.12	< 0.18	3.4	< 0.8	< 0.8	< 0.9	< 0.7	< 0.8	< 0.6	< 0.6	< 0.8	< 0.4	< 0.4	< 0.6	< 1	< 2	< 0.8	< 0.9	< 0.7	< 0.070	< 3.9	301	< 1.1	< 1.3	8.3	--
MW-16	1/19/2005	150	1.2	0.21	0.35	3.3	2.3	--	--	< 1.0	0.43	< 1.0	< 1.0	< 1.0	1.0	< 1.0	19	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	< 16	0.21	19.6	392	< 10.0	4.6	107	< 1.1
MW-17	1/19/2005	0.10	< 0.50	< 0.50	< 0.50	< 1.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	3.3	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	0.32	< 40.0	173	< 10.0	< 10.0	149	< 1.1
MW-18S	1/19/2005	32	1.2	< 0.50	44	14.6	18	--	--	< 0.50	13	0.29	1.1	< 0.50	11	9.5	18	< 50	270	5	< 50	46	46	< 50	260	2	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 0.20	< 40.0	242	< 10.0	< 10.0	< 10.0	< 1.0
TOGS Standards and Guidance Values		1		7	5	5	5	3	10	5	5		5		5	5	10		20	50	50	50	50		10	50										1,000		50	25	0.09

Table 7

NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTEWATER TREATMENT

LIMITATIONS FOR EFFLUENT TO ***SANITARY OR COMBINED*** SEWERS

Parameter[1]	Daily Limit	Units	Sample Type	Monthly Limit
Non-polar material[2]	50	mg/l	Instantaneous	---
pH	5-11	SU's	Instantaneous	---
Temperature	< 150	Degree F	Instantaneous	---
Flash Point	> 140	Degree F	Instantaneous	---
Cadmium	2 0.69	mg/l mg/l	Instantaneous Composite	--- ---
Chromium (VI)	5	mg/l	Instantaneous	---
Copper	5	mg/l	Instantaneous	---
Lead	2	mg/l	Instantaneous	---
Mercury	0.05	mg/l	Instantaneous	---
Nickel	3	mg/l	Instantaneous	---
Zinc	5	mg/l	Instantaneous	---
Benzene	134	ppb	Instantaneous	57
Carbontetrachloride	---	---	Composite	---
Chloroform	---	---	Composite	---
1,4 Dichlorobenzene	---	---	Composite	---
Ethylbenzene	380	ppb	Instantaneous	142
MTBE (Methyl-Tert-Butyl-Ether)	50	ppb	Instantaneous	---
Naphthalene	47	ppb	Composite	19
Phenol	---	---	Composite	---
Tetrachloroethylene (Perc)	20	ppb	Instantaneous	---
Toluene	74	ppb	Instantaneous	28
1,2,4 Trichlorobenzene	---	---	Composite	---
1,1,1 Trichloroethane	---	---	Composite	---
Xylenes (Total)	74	ppb	Instantaneous	28
PCB's (Total)[3]	1	ppb	Composite	---
Total Suspended Solids (TSS)	350[4]	mg/l	Instantaneous	---
CBOD[5]	---	---	Composite	---
Chloride[5]	---	---	Instantaneous	---
Total Nitrogen[5]	---	---	Composite	---
Total Solids[5]	---	---	Instantaneous	---
Other				

1 All handling and preservation of collected samples and laboratory analyses of samples shall be performed in accordance with 40 C.F.R. pt. 136. If 40 C.F.R. pt. 136 does not cover the pollutant in question, the handling, preservation, and analysis must be performed in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater." All analyses shall be performed using a detection level less than the lowest applicable regulatory discharge limit. If a parameter does not have a limit, then the detection level is defined as the least of the Practical Quantitation Limits identified in NYSDEC's Analytical Detectability and Quantitation Guidelines for Selected Environmental Parameters, December 1988

2 Analysis for ***non-polar materials*** must be done by EPA method 1664 Rev. A. Non-Polar Material shall mean that portion of the oil and grease that is not eliminated from a solution containing N–Hexane, or any other extraction solvent the EPA shall prescribe, by silica gel absorption.

3 Analysis for PCB=s is required if ***both*** conditions listed below are met:
1) if proposed discharge ≥ 10,000 gpd;
2) if duration of a discharge > 10 days.
Analysis for PCB=s must be done by EPA method 608 with MDL=<65 ppt. PCB's (total) is the sum of PCB-1242 (Arochlor 1242), PCB-1254 (Arochlor 1254), PCB-1221 (Arochlor 1221), PCB-1232 (Arochlor 1232), PCB-1248 (Arochlor 1248), PCB-1260 (Arochlor 1260) and PCB-1016 (Arochlor 1016).

4 For discharge ≥ 10,000 gpd, the TSS limit is 350 mg/l. For discharge < 10,000gpd, the limit is determined on a case by case basis.

5 Analysis for Carbonaceous Biochemical Oxygen Demand (CBOD), Chloride, Total Solids and Total Nitrogen are required if proposed discharge ≥ 10,000 gpd.

Effective from May 1, 2005

APPENDIX C

Soil Management Plan

SOIL MANAGEMENT PLAN

220 3rd Street

City of Brooklyn, Kings County
New York

NYSDEC BCP SITE No. C224100

Prepared For:

WFM Properties Brooklyn, LLC

Cambridge, Massachusetts

Project No. 03C497-B

May 27, 2005
(Revised June 23, 2005 & July 18, 2005)

CONTENTS

1.0 INTRODUCTION

The purpose of this Soil Management Plan (SMP) is to define a program for handling, testing, reusing, and/or disposing of certain soils encountered during the construction of this project (proposed Whole Foods Market). Specifically, the SMP outlines the handling requirements for soils excavated during site redevelopment that will be displaced by construction activities, that are unsuitable for reuse on-site due to failure to meet geotechnical and compaction criteria, and soils that exceed either the New York State Department of Environmental Conservation (NYSDEC) TAGM 4046 clean-up criteria or alternative risk-based corrective action (RBCA) clean-up criteria proposed for four polycyclic aromatic hydrocarbons (PAHs) and RCRA-8 metals. The proposed RBCA alternate criteria are protective of both human health and the environment and are discussed in more detail in Part 4 of this document. Soils that exceed TAGM 4046 clean-up criteria (or, if applicable, the alternative criteria) will be removed from the site for offsite disposal. Soils containing contaminants at levels below TAGM 4046 criteria or the applicable site-specific alternative criteria that are re-used onsite will not be placed in areas subject to erosion, as backfill material, as cover material in landscaped areas, below the water table or in other areas that are not permitted by local, state of federal laws. In addition, the SMP will follow any recommendations in the NYSDEC draft Generic List of Agreements (Remedial Action Work Plans, Interim Remedial Measures Work Plans, and Final Remedial Reports) that may apply to any specific action. This SMP will also minimize impacts to the environment during construction activities, minimize the potential for human exposure during construction activities, and minimize future liability.

The site consists of approximately 2.155-acres of land located on the southern side of 3rd Street, approximately 30-feet west of the 3rd Street and 3rd Avenue intersection in the Borough of Brooklyn, City of New York, Kings County, New York. The site is identified as Block 978, Lots 1, 16, and 19 by the City of New York Assessor's office. The site address is 220 3rd Street.

The site formerly consisted of several interconnected buildings and an open, rear area at the northwest corner of 3rd Street and 3rd Avenue. These buildings consisted of a one-story warehouse building and a two story former auto repair shop located on the eastern portion of the site, and a one/two-story building formerly used for truck repairs located on the northwestern portion of the site. The site also contained a one/two-story building/loading dock (currently vacant) that was located on the northern portion of the site. The remaining area (rear) was an open area that borders the 4th Street Basin (Gowanus Canal) and was used for parking and/or storage. Access to the site is from 3rd Avenue via a paved driveway. Public water and natural gas used to service the buildings. Two septic systems provided on-site wastewater treatment.

Based on information obtained from geotechnical and environmental exploration borings, the site is underlain by approximately ten feet of urban fill placed at the site during its historic development. A twenty-foot organic layer composed of varying

proportions of silt and clay underlies the fill. The organic layer is underlain by a ten-foot layer of sandy silt and silty clay, underlain by an eighteen-foot section comprised of fine to medium sands. Coarser sands were identified below this layer to a depth of approximately 77 feet below grade (ft bg). The urban fill and native soils extending to a depth of approximately 16 ft bg contain regulated compounds at concentrations both above and below the applicable NYSDEC TAGM clean-up criteria or the proposed RBCA alternative criteria.

The information presented in this SMP provides guidelines for management, handling, and disposal of unsuitable materials and impacted soil during the project based upon BL Companies current understanding of the site and project parameters. The specific details and logistics of implementing this SMP shall be developed by the Contractor and approved by the Engineer or the Owners representative.

This SMP is not intended to provide detail with regard to site-specific health and safety procedures. For the purposes of this SMP, at all times, work shall be conducted in a manner that safeguards the health, safety and welfare of site workers, the general public, and the environment. A Health and Safety Plan (HASP) will be prepared by BL Companies for the excavation and movement of impacted soil and will only apply to personnel involved in activities related to IRM #1 and IRM #2. All contractors will be required to provide their own HASPs prior to working on the site. At this time, based on the available data, it is anticipated that all work can be performed with Level D personal protective equipment and that the primary Health and Safety measure will be dust control.

The scope of the guidance contained in the SMP relates to handling and management of at grade and below grade-impacted soils and below grade unsuitable soils. This plan is not intended to be used for guidance relating to demolition, handling, removal, management, and/or disposal of buildings or other above grade structures or materials. These topics are addressed in other documents relating to existing building surveys, hazardous materials removal, and building demolition.

2.0 BACKGROUND

2.1 Proposed Development

Under the proposed use, the site will be occupied by a supermarket in a building with 9,900 sq. ft. of office and accessory uses at grade, and 46,000 sq. ft. of retail and storage/food preparation space located below grade. The site will also include approximately 70,000 sq. ft. of paved surface parking. A forty-foot wide area of open space/parkland is planned along the 4th Street Basin (Gowanus Canal), which borders the site. The existing two-story structure at the corner of 3rd Avenue and 3rd Street will remain.

2.2 Environmental Investigation

A Phase I Environmental Site Assessment (ESA) was completed by BL Companies in December 2003. A Phase II Site Investigation (SI) was completed by BL Companies in February 2004. During completion of the Phase II SI, VOCs, PAHs, PCBs and metals were identified in the soil and/or ground water beneath the site. Copies of the Phase I and II reports were submitted with the BCP application and prior to the September 8, 2004 pre-application meeting. Additional subsurface investigations were completed at the site at the end of 2004 to further delineate the presence of regulated compounds encountered during the Phase II work.

3.0 REGULATORY FRAMEWORK

The SMP has been designed to comply with the requirements of the New York State and Federal guidelines.

The Site Engineer and Owner's Representative will oversee compliance with the SMP and/or modify the SMP to ensure these regulations are met at the completion of the project.

The developer of the site, WFM Brooklyn Properties, LLC, entered the Brownfields Clean-up Program (BCP) as a volunteer when the Brownfields Clean-up Agreement (BCA) was executed by the NYSDEC on April 25, 2005 making it effective as of that date. The volunteer will abide by guidelines in the BCA.

4.0 MATERIAL HANDLING AND MANAGEMENT

Based on the proposed development of the site, there will be a significant cut required to achieve the final grades and elevations. It is estimated that between 8,000 and 11,000 cubic yards of excess soil will be generated as a result of the site development. The goal is to re-use as much of the urban fill as possible after the removal of certain 'hotspots' identified during the precious site investigation activities (Remedial Investigation).

During previous investigations, the upper fill layer and native soil extending to a depth of 16 ft bg in certain spots was determined to contain regulated compounds at concentrations both above and below the NYSDEC TAGM clean-up criteria and will have to be managed accordingly. Alternate RBCA TAGM clean-up goals for several PAHs and RCRA-8 metals have been proposed and are presented in the table below. These values are protective of human health and the environment.

Compound	TAGM 4046 Clean-up Criteria (ppb)	Proposed RBCA Alternate Criteria (ppb)
Benzo(a)anthracene	224 or MDL	1,000
Benzo(a)pyrene	61 or MDL	1,000
Chrysene	400	1,000
Dibenzo(a,h)anthracene	14 or MDL	1,000
Arsenic	7.5 or SB	10
Barium	300 or SB	1,500
Cadmium	1 or BS	15
Chromium	10 or SB	50
Lead	SB	1,000
Selenium	2 or SB	50
Silver	SB	50
Mercury	0.1	10

4.1 Unsuitable Alluvial Soils

During the installation of below grade improvements, unsuitable alluvial soils containing peat and organics may be encountered at various depths below the existing fill material. Where the peat and organics are found to have a direct potential impact on the stability of the proposed improvement and where directed by the Engineer's Testing Agency, the peat and organics will be removed from the excavation and segregated for off-site disposal. This soil may be impacted with regulated compounds and will be handled accordingly. It is important that this material not be mixed with the overlying fill material, thereby changing its classification from unsuitable to impacted soil if it is clean.

4.2 Impacted Soils

The soil located above the peat material consists of historic urban fill from unknown location(s) and native soil. Most of these soils will be disturbed during the installation of foundations, utilities, and overall site grading activities. Subsurface investigations have determined that regulated compounds exist in the fill material and native soil at various concentrations. Therefore, the fill and native soil are considered impacted soil and will be classified into two categories:

- Impacted fill/soils that contain regulated compounds at concentrations below TAGM 4046 or applicable site-specific RBCA alternative criteria.

- Impacted fill/soils that contain regulated compounds at concentrations above TAGM 4046 or applicable site-specific RBCA alternative criteria.

4.2.1 *Impacted Soils with concentrations of regulated compounds below applicable criteria*

Excavated fill material containing regulated compounds at concentrations below TAGM 4046 criteria or the site-specific alternative criteria will be handled and managed as reusable impacted soil. This soil may be reused on-site for grading under parking lots, sidewalks etc, or for use as general fill throughout the site (except that if there is any soil that exceeds the site-specific alternative criteria still remaining on-site after hotspot removal, it will only be used under the new building). Impacted soil that meets applicable criteria may be reused on-site if it is not placed below the water table, not placed in an area subject to erosion or not placed anywhere that the draft Generic List of Agreements prohibits. Fill under the promenade will need a 2-foot separation from lawn/garden areas/etc.

If these soils cannot be reused on the site due to grading or other considerations, then the impacted soils will be disposed of at an off-site facility as a regulated waste. Prior to removal from the site, the impacted soils will require on-site stockpiling for additional testing and disposal authorization by the Engineer or the Owners Representative.

4.2.2 Impacted Soils with concentrations of regulated compounds above TAGM 4046 Criteria

Impacted soils determined to contain regulated compounds at concentrations that exceed TAGM 4046 or the site-specific alternative criteria will be segregated and temporarily stockpiled for immediate off-site disposal or recycling as a regulated waste at the direction of the Engineer or his representative.

4.3 Handling and Stockpile Management

Impacted soils disturbed during site construction activities will be managed in a way to minimize dust and fugitive emissions. The Contractor is required to provide a dust management plan for review and approval by the Engineer. The primary dust control measure is anticipated to be keeping soils moist.

A Community Air Monitoring Program has been developed for the site and will be followed as required by the NYSDEC and DOH.

The primary mechanism to determine whether or not soils will remain on-site or be transported off-site for disposal will be the existing laboratory data for numerous soil borings advanced across the site. Soils will be screened in the field with a photoionization detector (PID), but due to the fact that most of the impact will not be able to be detected by the PID, visual and olfactory observations made in the field at the time of removal will also be used to determine the level of impact. I

Impacted soil below applicable criteria that will be reused on-site will be temporarily stockpiled on-site for further characterization as requested by the NYSDEC.

Impacted soil designated for off-site disposal, whether above or below NYSDEC criteria, shall be stockpiled for additional testing and disposal authorization. The additional testing and disposal authorizations will be the responsibility of the Engineer or the Owners Representative.

Stockpiles shall be lined, covered with plastic and bermed to prevent impacts to stormwater. Piles should be shaped and graded to facilitate surface drainage and surrounded with silt fence/hay bales. A site-wide erosion and sedimentation control plan has been prepared in accordance with Federal and State regulations. All measures defined in this plan must be incorporated into this SMP, when appropriate. The location of the proposed soil stockpile(s) is presented on the attached figure. Soil stockpile size restrictions will adhere to NYSDEC requirements (50-100 cubic yard piles maximum). Soil with significantly high concentrations (as defined in IRM #2/Hotspot Soil Removal Plan) of regulated compounds (hotspot locations) will be directly loaded for transportation and offsite disposal and will not be stockpiled onsite. Soil stockpile access control restrictions will be developed by the subcontractor, approved by the engineer and implemented at the site for the contaminated soil/fill.

Stockpiles should be labeled in accordance with their classification and/or source location. Caution tape barriers should be placed around the piles. Piles should be inspected daily during construction activities.

Soil shall be stockpiled on 10-mil (minimum) thick polyethylene plastic and securely covered with 6-mil polyethylene plastic at the end of each workday or prior to any storm events.

Impacted soil must be handled on-site by properly trained workers in accordance with the site-specific HASP. The HASP will be prepared by BL Companies and submitted to the NYSDEC for review and approval prior to initiation of earthwork. Contractors will also be required to prepare their own HASPs for this work. At this time, based on the available data, it is anticipated that all work can be performed with Level D personal protective equipment and that the primary Health and Safety measure will be dust control.

Uncontrolled off-site reuse of impacted soil is prohibited. The Contractor shall maintain project documentation including material shipping records, bills of laden, manifests and/or waste disposal receipts, and final destination certifications for the Engineer.

4.4 Confirmation Sampling and Disposal Authorization

Engineer or Owner's Representative will conduct sampling and laboratory analysis of all impacted soil stockpiled for off-site disposal. After soil with concentrations above applicable criteria has been removed, the remaining soil stockpiles will be characterized for re-use, treatment or disposal as requested by the NYSDEC by collecting one composite sample and a duplicate sample for each 100 cubic yards of stockpiled soil/fill with a minimum of one sample collected for volumes less than 100 cubic yards. Composite samples consist of grab samples collected from five locations within each stockpile. PID measurements will be collected from the individual locations with duplicate samples collected in accordance with the QA/QC plan. One grab sample will be collected from the five individual locations (either the sample with the highest PID reading or if no PID readings are obtained, a randomly selected sample). Engineer or Owner's Representative will seek approval for off-site disposal at a licensed and approved disposal facility. The sampling frequency and required laboratory analyses will be established by the receiving facility that has not yet been determined.

4.5 Material Loading and Transportation

All impacted soil or unsuitable soil that is to be disposed of off-site must be loaded within the site limits. Trucks must be covered before leaving the site to prevent debris from spilling from the trucks or being tracked off-site and additional measures will be taken to assure that soils are not removed from the site on truck tires. Soils should be kept moist in order to keep dust under control and limit exposure to the workers on the site.

Uncontrolled off-site reuse of impacted soil is prohibited. The Contractor shall maintain project documentation including material shipping records, bills of laden, manifests and/or waste disposal receipts, and final destination certifications for the Engineer.

4.6 Construction Dewatering

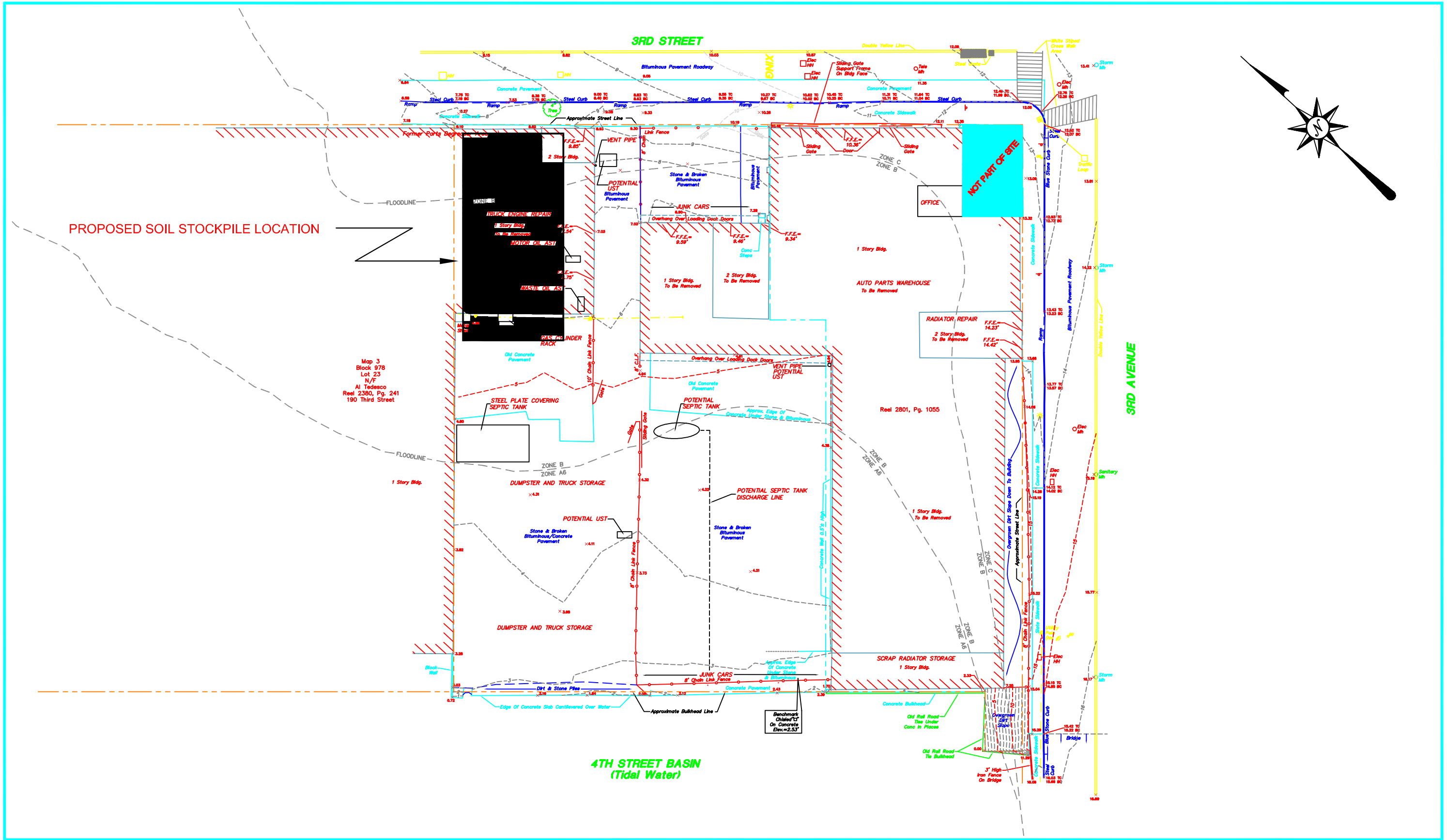
Dewatering during site excavation and construction activities may be necessary. It is anticipated that the discharge of dewatering waste wasters will be to the sanitary sewer that discharges to the Owls Head Water Pollution Control Plants via an on-site connection. The contractor will obtain all applicable permits for the dewatering activities.

Any impacted soil or unsuitable soil removed from the site must be free of any free-draining liquids prior to leaving the site. Engineering controls will be utilized to drain and collect free draining liquids from the soil stockpile.

5.0 SUMMARY

This Soil Management Plan has been prepared due to the presence of both unsuitable soils and impacted soils at the site. The purpose of this SMP is to define a program for handling, testing, reusing, and disposing of material encountered during the construction of this project. This SMP will also help minimize impacts to the environment during construction activities, to minimize the potential for human exposure, and to minimize future liability. The goal of the SMP is to reuse as much impacted soils on-site.

Soil management activities will include removing the unsuitable soils consisting of organics for disposal offsite, excavating, stockpiling, and reusing impacted soils containing regulated compounds at concentrations below the NYSDEC TAGM 4046 or the site-specific alternative criteria, and excavating, stockpiling, and disposal of impacted soils containing regulated compounds at concentrations that are above applicable criteria, including excess impacted soil containing regulated compounds at concentrations below applicable NYSDEC criteria that cannot be reused on site.



BL Companies

ARCHITECTURE
ENGINEERING
PLANNING
LANDSCAPE ARCHITECTURE
LAND SURVEYING
ENVIRONMENTAL SCIENCES

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SITE PLAN

WHOLE FOODS MARKET / NYSDEC BCP SITE No. C224100
220 3RD STREET
CITY OF NEW YORK, KINGS COUNTY, BROOKLYN, NEW YORK

Designed	X.X.X.
Drawn	K.H./P.R.L.
Checked	
Approved	
Scale	1"=50'
Project No.	03C497
Date	02/06/04
CAD File	N-DWG-NYSDEC-03C497B-SP01-041102

SP-01

XREF(s): NONE

APPENDIX D

Water Pollution/Erosion Control Plan

WATER POLLUTION / EROSION CONTROL

The following are minimum requirements and shall govern except that all Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof.

PURPOSE

The purpose of implementing Water Pollution Control (Soil Erosion) plan is to facilitate the construction of the proposed facilities with a minimum amount of environmental nuisance from the standpoint of erosion, sedimentation and dust pollution. To this end, satisfactory preventive measures shall be employed. This work shall be performed as required by New York Department of Environmental Conservation and shall consist of temporary control measures during the life of this IRM as well as permanent control measures which will remain beyond the length of construction contract to effectively control land erosion and water pollution.

SECTION INCLUDES

The work under this section shall consist of any and all temporary and/or permanent measures to control water pollution and soil erosion as may be required, specified herein, shown on any Contract Drawings, or directed by the Engineer, during the construction of the work embraced under this contract and for such a length of time after the completion of the work embraced under this contract as determined by the Engineer.

This work applies to, but is not limited to, any construction work with the potential to result in water pollution or soil erosion.

The work shall consist of temporary erosion control protection measures to control water pollution and soil erosion through the use of berms, dikes, dams, sediment basins, sediment traps, silt sacks, temporary seeding, erosion control mats, gravel, mulches, grasses, slope drains, ditches, channels, riprap, fabric fences, geo-fabrics, hay bales, grading to control surface runoff, or other erosion control devices or methods.

The work shall also include the construction and maintenance and cleaning of temporary sediment basins and sediment traps to the dimensions and details and at the locations shown on the contract drawings and as directed by the Engineer.

Site Work Improvement construction shall not proceed until the erosion and sedimentation controls have been placed and have been approved by the Engineer.

ENVIRONMENTAL REQUIREMENTS

Protect adjacent properties and water resources from erosion and sediment damage throughout life of contract.

MATERIALS

The materials shall be satisfactory to the Engineer and may consist of the following:

A. Mulches may be hay, straw, wood cellulose, wood chips, stone, netting, burlap, plastic sheets or other suitable mulch material acceptable to the Engineer. Mulches shall be reasonably clean and free of noxious weeds and deleterious materials. Asphalt sprays will not be allowed. The Contractor shall prevent straw, wood chips, etc. from entering any reservoirs or watercourses.

B. Slope drains or ditches may be constructed of pipe, rubble, riprap, sod, burlap, jute and excelsior matting, plastic sheets, Portland cement concrete, bituminous concrete or other material satisfactory to the Engineer.

C. Temporary Grass shall conform to the following except that the seeding may be altered by the Engineer if requested by the Contractor to suit special areas or conditions.

TEMPORARY SEEDING MIXTURE

Species	Proportion by Weight (Pounds)	Minimum Purity (Percent)	Minimum Germination (Percent)
Perennial Ryegrass (Lolium perenne)	50	50	85
Annual Ryegrass (Lolium mult. perenne)	50	50	85

D. Fabrics shall consist of durable polypropylene, polyethylene or other material approved by the Engineer or as shown on the Contract Drawings.

E. Hay bales shall be made of hay with 40 pounds minimum weight and 120 pounds maximum weight. Wood stakes shall be a minimum of 1 inch by 1 inch nominal size by a minimum of 3 feet long.

F. Silt Barrier Fence shall consist of Class 3 geotextile material, woven from isotatic polypropylene monofilaments, non-biodegradable, and

resistant to chemical degradation. Material shall meet or exceed the following standards:

1. Resistance to Installation Stresses	**Specifications**
a. Grab tensile strength (lbs.)	ASTM-D-1682 90
b. Grab tensile elongation (%)	ASTM-D-1682 15-25
c. Burst strength (psi)	ASTM-D-751 200
d. Trapezoidal tear strength (lbs.)	ASTM- D-2263 50
1. Performance Criteria During Service Life	**Specifications**
a. Slurry flow rate (gals/min/ft)	VTM-51 0.3
b. Retention efficiency	VTM-51 75
3. Environmental Factors	**Specifications**
a. Ultraviolet resistance, strength retention	ASTM-D-1982 80 500 hrs of Xenon Atlas Twin Arc Weather-O-meter

G. Sediment basins (If required) shall be constructed of materials conforming to applicable items as shown on the contract drawings.

H. Geotextile Fabrics shall consist of durable polypropylene, polyethylene or other material approved by the Engineer or as shown on the Contract Drawings conforming to the following:

Grab Elongation (%)	20
Grab Tensile Strength	200
Mullen Burst Strength	375
Trapezoidal Tear Strength	100
Modules (Load & 10% elong.)	125
Water Perm. Coeff. (cm./sec.)	0.005
Thickness (mils)	24
Weight (oz/sq.yd)	4.0
Ultraviolet Stability	Maximum

I. Riprap provided shall be in accordance with Section 02200 - General Earthwork of these specifications.

J. Silt Sacks shall be constructed of a woven polypropylene fabric and shown by a double needle machine using a high strength nylon thread. The Silt Sack seams shall have a certified average wide width strength per ASTM D-4884 standards of at least 165.0 lbs./in. Silt Sacks shall be as manufactured by "ACF Environmental", Richmond, VA or approved equal.

EXECUTION

A. Erosion and Sedimentation Control Plan: After the award of the Contract and seven (7) days prior to beginning any construction, the Contractor shall submit to the Engineer a final Erosion and Sedimentation Control Plan and Construction Schedule based on these specifications and the Contract Drawings. Said final plan shall be reviewed by the Engineer and a meeting shall be conducted to coordinate the contractor's activities and to satisfy any comments. Said final plan shall be accepted by the Engineer prior to the commencement of any construction.

B. The Engineer has the authority to control the surface area of earth materials exposed by construction operations and to direct the Contractor to immediately provide permanent or temporary pollution control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds, or other areas of water impoundment. Every effort shall be made by the Contractor to immediately provide permanent or temporary pollution control measures to prevent contamination of adjacent streams, watercourses, lakes, ponds, or other areas of water impoundment. Every effort shall be made by the Contractor to prevent erosion on the site and abutting property.

C. The Engineer has the authority to direct the Contractor to divert surface water runoff away from exposed raw earth surfaces through the use of temporary berms, dikes, and diversion channels.

I. D. The erosion control features shall be installed and maintained by the Contractor, and shall be checked daily and after each severe rainstorm for damage, until such features are no longer needed. All sediment traps and sediment basins shall have the accumulated sediment and/or clean water removed before it significantly reduces their storage volume or function, prior to the next rain storm forecast for the region. All grounds disturbed by any of the operations necessary to complete the work for this project are to be permanently seeded. This is to be accomplished as soon as possible, but no later than ten (10) days after construction. If seeding cannot be completed within the ten (10) day period due to weather conditions, the disturbed area shall be mulched with straw at the rate of two (2) bales per 1,000 square feet. This straw shall be anchored with mulch netting according to the manufacturer's recommendations or other appropriate means.

II. E. Temporary seeding will be used to protect exposed land surfaces that will not be permanently protected for a period more than two months, but less than twelve (12) months. Temporary vegetation

will provide short-term rapid cover until permanent vegetation or other protection can be established.

F. Sedimentation Basins (where indicated on the drawings or ordered by Engineer) shall be constructed to the dimensions and details as shown on the contract drawings and as directed by local governing authorities and the Engineer. Except as may be required to provide access to the work and to secure on-job materials required, the sedimentation basins shall be constructed prior to the start of any other work upstream from the basins in the runoff area controlled by the bowl. The Contractor shall install additional basins dependent on the Contractors sequence of operations and location of construction.

The Contractor shall provide and maintain adequate access to the basin, and shall be responsible for the maintenance, cleaning, protection and repair of all sediment basins for the life of the contract.

When the sedimentation basin is no longer required, or when otherwise directed, satisfactorily recondition the site by filling in excavated areas, removing dams, and by removing embankments, riser pipe assemblies, corrugated metal pipe, and anti-seep collars. Restore the areas to equal to or better than the conditions which existed prior to disturbance. Satisfactorily dispose of all surplus soils or materials.

G. All slopes of stockpile material and other disturbed areas shall be stabilized and protected by surrounding with silt fencing, mulching, seeding, or otherwise protected as the work progresses to comply with the intent of this specification. All damaged areas shall be repaired as soon as possible. The Engineer shall limit the surface area of each material exposed if the Contractor fails to sufficiently protect the slopes to prevent pollution.

H. The Contractor shall at all times have on hand the necessary materials and equipment to provide for early slope stabilization and corrective measurements to damaged slopes.

I. Temporary channels, ditches and out-falls shall be protected prior to directing water into them to prevent erosion.

J. The erosion control features installed by the Contractor shall be maintained by the Contractor and he shall remove such installations if ordered by the Engineer.

K. The Contractor shall operate all equipment and perform all construction operations so as to minimize pollution. The Contractor

shall cease any of his operations which will increase pollution during rain storms.

L. Hay bales shall be placed as shown on the plans or as directed by the Engineer. They shall be held in place by two wooden stakes in each bale. Bales shall be maintained or replaced as ordered by the Engineer until they are no longer necessary for the purpose intended or are ordered removed by the Engineer.

M. When filter fabric is used it shall be mounted on posts with or without fence backing as recommended by the fabric manufacturer. The bottom six inches of fabric shall be buried by either trenching, laying the six inch section horizontally across the trench and burying or by laying the six-inch section horizontally on the ground and burying by ramping the topsoil up to the control fence.

N. The installations shall be maintained or replaced until they are no longer necessary for the purpose intended or are ordered removed by the Engineer.

O. The filter fabric fence systems will be completely removed from the project at the completion of the project, unless specifically authorized by the Engineer to be left in place.

P. Hay bale systems will be allowed to remain in toe of slope areas unless ordered removed by the Engineer.

Q. Filter fabric shall be non-rotting, acid and alkali resistant and have sufficient strength and permeability for the purpose intended, including handling and backfilling operations. Fibers shall be low water absorbent. The fiber network must be dimensionally stable and resistant to delamination. The fabric shall be free of any chemical treatment or coating that will reduce its permeability. The fabric shall also be free of any flaws or defects which will alter its physical properties. Torn or punctured fabrics shall not be used. For each specific use, only commercially available fabric which is certified in writing by the manufacturer for the purpose intended shall be used. The Contractor shall submit a two foot square sample of each type of fabric to be used along with, technical data sheets, certified test reports, materials, certificates and certificates of compliance. The Engineer reserves the right to reject any fabric which he deems unsatisfactory for a specific use. The brand name shall be labeled on the fabric or the fabric container. Fabrics which are susceptible to damage from sunlight or heat shall be so identified by suitable warning information on the packaging material.

Fabric susceptible to sunlight damage shall not be used in any installations where exposure to light will exceed 30 days, unless specifically authorized in writing by the Engineer.

R. Temporary Seeding and Mulching shall be applied by procedures as per the New York State Department of Transportation "Standard Specifications Construction and Materials", January 2, 2002 or by referring to the applicable Borough conservation district's agronomically acceptable procedure. All soil areas to be exposed to the elements for more than twenty (20) days but less than twelve (12) months are to be stabilized by temporary seeding and mulching. The rates of application shall be as follows:

TEMPORARY SEEDING MIXTURE

APPLICATION RATE	4 LBS./MSF
FERTILIZER TYPE	5-5-5
FERT. APPLICATION RATE	1000 LBS./ACRE
LIMING RATE	1 TON/ACRE
MULCH TYPE	STRAW
MULCHING RATE	3 TONS/ACRE

S. Silt Sacks shall be installed in existing or proposed catch basins. Remove the grate and place the sack in the opening. Hold out approximately 6 inches of the sack outside the frame. Replace the grate to hold the sack in place.

The Silt Sacks are considered full and should be emptied when the restraint cord is no longer visible. To remove the Silt Sack, take two pieces of 1" diameter rebar and place through the lifting loops on each side of the sack to facilitate the lifting of the Silt Sack.

To empty the Silt Sack, place it where the contents will be collected. Place rebar through the lifting straps (connected to the bottom of the sack) and lift. This will turn the Silt Sack inside out and empty the contents. Clean out with a shovel and rinse. Return the Silt Sack to its original shape and place back in the basin.

T. Restoration: All areas disturbed by construction shall be restored to a condition equal to or better than that, which previously existed. All excess excavation material not used in backfill or final grading operations shall be removed from the site and disposed of elsewhere. The arrangements for such disposals are to be made by the Contractor and the Engineer shall be provided with certifications for such disposals.

APPENDIX E

HASP

IMPACTED SOIL EXCAVATION
HEALTH AND SAFETY PLAN

FOR

PROPOSED WHOLE FOODS MARKET
BROOKLYN, NEW YORK

NYSDEC BCP SITE No. C224100

Prepared For

WFM PROPERTIES BROOKLYN LLC
CAMBRIDGE, MASSACHUSETTS

Prepared by:

BL COMPANIES, INC.
355 RESEARCH PARKWAY
MERIDEN, CONNECTICUT 06450

To the best of my knowledge this Health and Safety Plan (HASP) meets the applicable OSHA standards, project specifications, and industry standards for good health and safety practices. Furthermore, this HASP provides both organizational responsibility and employee procedure to ensure that work can be conducted safely and effectively.

Nicholas C. Tsacoyannis, CPG, LEP

EMERGENCY TELEPHONE NUMBERS

A. Local Emergency Numbers

Police Department	911
Fire Department	911
Ambulance	911

B. Project Emergency Numbers

BL Companies, Inc.	(203) 630-1406
Whole Foods Market	(617) 492-5500
Subcontractor (To be determined)	

C. Hospital Location and Directions

Nearest Hospital: Interfaith Medical Center (718) 604-6000
1545 Atlantic Avenue
Brooklyn, NY

Leave site going north on 3rd Street. Turn left onto 3rd Avenue. Turn right onto Atlantic Avenue. Go approximately 2.4 miles and arrive at hospital.

D. Additional Phone Numbers

NYSDEC Spill Hotline	(518) 457-7362
NYSDEC, Environmental Conservation Police	(718) 482-4885
U.S. EPA Emergency Response	(800) 424-8802
Poison Control Center	(800) 343-2722
Con Edison Emergency	(800) 752-6633
Keyspan Energy	(718) 643-4050
AT&T Emergency Phone	(800) 222-3000
SNET Repair Service	(800) 922-4646

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I. INTRODUCTION

The following Site Health & Safety Plan (HASP) describes standard operating procedures for worker protection during the excavation and movement of impacted soil at the proposed Whole Foods Market, 220 3rd Street, Brooklyn, NY. This HASP was prepared for WFM Properties Brooklyn LLC by BL Companies, Inc. (BL), Meriden, CT and is not for construction activities; the site GC will develop their own HASP. The protocols and procedures described below apply directly to the BL Companies' employees and subcontractors while conducting excavating activities in areas identified as Areas of [Environmental] Concern (AOCs).

Employees of BL Companies and all subcontractors involved with the excavation and movement of impacted soil will be familiar with the contents of the HASP prior to entry into restricted zones on-site. A copy of this plan will be posted on-site at all times during site operations. Should new information regarding conditions at the site become available, the HASP will be updated. Employees' and subcontractors involved in site operations will be apprised of the changes and provided with a copy of the revised HASP.

During subsurface investigations at the site, impacted soil and ground water were encountered. BL Companies collected samples of the soil and ground water and submitted them to a state-certified laboratory for analysis. The results of the investigations identified concentrations of semi-volatile organic compounds/polynuclear aromatic hydrocarbons (SVOCs/PAHs), VOCs, metals, and PCBs. Construction will result in disturbing the contaminated material thereby classifying certain areas as AOCs.

The purpose of this Health & Safety Plan is to communicate potential and known health and safety hazards that may be encountered in the AOCs. If additional AOCs are identified during the construction phase of this project, the HASP will be revised addressing those concerns. Health and safety measures, including engineering controls, personal protective equipment and decontamination, decontamination of equipment, and personnel training are outlined in this HASP and must be adhered to in order to reduce health and safety risks to personnel working in an AOC. All personnel assigned to work in an AOC will be required to read and sign the HASP, thereby certifying that they have read and understand its requirements.

II. STATEMENT OF SAFETY AND HEALTH POLICY

This HASP has been developed to provide guidance for compliance to the standards set forth in the Occupational Safety and Health Administration (OSHA), 29 Code of Federal Regulations (CFR) 1926 (29CFR 1926), *Safety and Health Regulations for Construction*. This HASP was also developed in accordance with OSHA 29 CFR 1910.120 *Hazardous Waste Site Operations and Emergency Response*, which has been formerly incorporated into 29 CFR 1926.65. The policies and procedures described within the HASP are based upon existing information pertinent to the project and made available to BL Companies at the time the HASP was prepared, as well as BL Companies' past experience with similar projects.

BL Companies does not guarantee the Health and Safety of any person(s) entering the site. Due to the potential for the presence of hazards at the site and the proposed activities scheduled to

occur within the boundaries of the site, it is not possible to discover, evaluate, and provide protection from all potential hazards that may be encountered. Strict adherence to the specific items and procedures outlined in the HASP are intended to reduce, but not eliminate, the potential for injury to persons at the site. Therefore, the guidelines outlined in this HASP are intended for this site and should not be applied to other sites.

III. SITE INFORMATION AND CONTAMINATION CHARACTERIZATION

This project consists of the excavation of material for the installation of a building foundation, including the installation of several underground structures (storm water detention system, etc.), and the general redevelopment of the site at 220 3rd Street, Brooklyn, New York as a Whole Foods Market store. Contaminated soil and ground water have been identified within the construction area. This material is to be handled, removed and/or disposed of in accordance with all local, state and federal laws. The site has several AOCs.

BL Companies collected numerous soil and ground water samples from the site. The analytical results of the sample analyzed indicated the presence of volatile organic compounds (VOCs) polynuclear aromatic hydrocarbon (PAHs), metals, and PCBs. Some of the concentrations of those compounds exceeded the NYSDEC STARS and/or TAGM 4046 maximum contaminant levels. Therefore, contaminated material excavated from the Site will require special handling, disposal, and/or documentation.

IV. SAFETY AND HEALTH RISK ANALYSIS

The overall health and safety risks from construction activities performed within the AOCs for this project are considered low due to the concentration of contaminants detected in the proposed construction areas.

Note: NIOSH develops and periodically revises Recommended Exposure Limits (REL) for hazardous substances or conditions in the workplace. OSHA promulgates and enforces Permissible Exposure Limits (PELs) for hazardous substances in the workplace; Threshold Limit Values (TLVs) and Short Term Exposure Limits (STELs) are recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH); PELs and TLVs are normally compared to 8-hour TWA exposures. IDLH - immediately dangerous to life and health. ST = short-term exposure; C15 = ceiling 15-min (e.g.); 5 min (2) = 5 minute max peak in any 2 hours (e.g.); 10 min = 10 minute max peak; A3 = animal carcinogen (ACGIH); Ca = potential occupational carcinogen (NIOSH), A4 = not classifiable as a carcinogen (ACGIH); A1 = confirmed human carcinogen (ACGIH); A2 = suspected human carcinogen.

Exposure media includes vapors, dust, soil particulates, and groundwater. Exposure routes include inhalation, absorption, ingestion and contact.

The following contaminants were detected in the material analyzed between December 2003 and December 2004:

1. Semi-Volatile Organic Compounds (SVOCs)/Polynuclear Aromatic Hydrocarbons (PAHs)

The following SVOCs/PAHs were detected at the Site:

- 2-Methylnapthalene, ND – 170 ppm (B-148, 4-8 ft bgs)
- Acenapthene, ND – 1,800 ppm (GP-8, 4-8 ft bgs)
- Acenapthalene, ND – 49 ppm (B-148, 4-8 ft bgs)
- Anthracene, ND – 960 ppm (GP-8, 4-8 ft bgs)
- Benzo(a)anthracene, ND – 67 ppm (B-132, 0-4 ft bgs)
- Benzo(a)pyrene, ND – 80 ppm (B-148, 4-8 ft bgs)
- Benzo(b)fluoranthene, ND – 48 ppm (B-133, 0-4 ft bgs)
- Benzo(g,h,i)perylene, ND – 52 ppm (B-148, 4-8 ft bgs)
- Benzo(k)fluoranthene, ND – 53 ppm (B-132, 0-4 ft bgs)
- Chrysene, ND – 74 ppm (B-132, 0-4 ft bgs)
- Fluoranthene, ND – 1,300 ppm (GP-8, 4-8 ft bgs)
- Flourene, ND – 1,000 ppm (GP-8, 4-8 ft bgs)
- Indeno(1,2,3-cd)pyrene, ND – 29 ppm (B-132, 0-4 ft bgs)
- Napthalene, ND – 15,000 ppm (GP-8, 4-8 ft bgs)
- Pheneanthrene, ND – 3,400 ppm (GP-8, 4-8 ft bgs)
- Pyrene, ND – 2,100 ppm (GP-8, 4-8 ft bgs)

The following are available exposure limits for releases into the air:

TLV as coal tar pitch volatiles: 0.2 mg/m^3 A1 PEL: 0.2 mg/m^3 REL:0.1 mg/m^3 Ca

2. Volatile Organic Compounds (VOCs)

The following VOCs were detected at the Site:

- 1,2,4-Trimethylbenzene, ND – 58 ppm (GP-8, 4-8 ft bgs)
- 1,3,5-Trimethylbenzene, ND – 52 ppm (GP-8, 4-8 ft bgs)
- Benzene, ND – 750 ppm (GP-8, 4-8 ft bgs)
- Ethylbenzene, ND – 150 ppm (GP-8, 4-8 ft bgs)
- Isopropylbenzene, ND – 11 ppm (GP-8, 4-8 ft bgs)
- Napthalene, ND – 19,000 ppm (GP-8, 4-8 ft bgs)
- n-Butylbenzene, ND – 230 ppm (GP-8, 4-8 ft bgs)
- n-Propylbenezene, ND – 19 ppm (GP-8, 4-8 ft bgs)
- Total Xylenes, ND – 154 ppm (GP-8, 4-8 ft bgs)
- p-Isopropyltoluene, ND – 14 ppm (GP-8, 4-8 ft bgs)
- sec-Butylbenzene, ND – 8.5 ppm (B-111, 4-8 ft bgs)
- tert-Butylbenzene, ND – 77 ppm (GP-8, 4-8 ft bgs)
- Toluene, ND – 2.5 ppm (B-111, 4-8 ft bgs)
- Pheneanthrene, ND – 3,400 ppm (GP-8, 4-8 ft bgs)

The following are available exposure limits for releases into the air using benzene as the primary compound of concern:

TLV as benzene: 0.2 mg/m^3 A1 PEL: 1 mg/m^3 REL:0.1 mg/m^3 Ca

3. <u>Inorganic Metals</u>

RCRA metals were detected at the site. The concentration of some of the detected metals exceeded the applicable standards and is discussed below.

Lead: The highest concentration of lead detected in the soil sampled was 2,320 mg/kg. According to the Federal EPA, Residential Direct Exposure Criteria, soil is considered contaminated with lead at a total concentration greater than 400 mg/kg. NYSDEC TAGM limits are based on site background levels.

The following are exposure limits for elemental lead released into the air:
REL: 0.100 mg/m^3 PEL: 0.050 mg/m^3 IDLH: 100 mg/m^3 (Pb)

Physical Description: Metal: A heavy ductile, soft gray solid. Exposure media includes dust, soil particulates, and as dissolved in water.

Chromium: the highest total concentration detected in the soil sampled was 53.1 mg/kg. According to the NYSDEC TAGM 4046 criteria, soil is considered contaminated with chromium at a concentration of 10 mg/kg.

The following are exposure limits for chromium compounds:
REL: 0.5 mg/m^3 PEL: 1 mg/m^3 IDLH: 250 mg/m^3 (Cr)

Physical Description: Appearance and odor vary depending upon the specific chromium compound.

Arsenic: the highest total concentration detected in the soil sampled was 47.3 mg/kg. According to the NYSDEC TAGM 4046 criteria, soil is considered contaminated with arsenic at a total concentration of 7.5 mg/kg. ACGIH notes that arsenic is a confirmed human carcinogen.

The following are exposure limits for inorganic arsenic released into the air:
REL Ceiling: 0.002 mg/m^3 15 min (Ca) PEL: 0.010 mg/m^3 IDLH: 5 mg/m^3 (Ca)

Physical Description: Metal: Silver-gray or tin-white brittle, odorless solid. Exposure media includes dust, soil particulates, and as dissolved in water.

Mercury: the highest total concentration detected in the soil sampled was 2.2 mg/kg. According to the NYSDEC TAGM 4046 criteria, soil is considered contaminated with arsenic at a total concentration of 0.1 mg/kg. ACGIH notes that arsenic is a confirmed human carcinogen.

The following are exposure limits for inorganic arsenic released into the air:
REL Ceiling: 0.05 mg/m^3 PEL: 0.10 mg/m^3 IDLH: 5 mg/m^3 (Hg)

Physical Description: Metal: Silver-gray or tin-white brittle, odorless solid. Exposure media includes dust, soil particulates, and as dissolved in water.

Selenium: the highest total concentration detected in the soil sampled was 24.2 mg/kg (ppm). According to the NYSDEC TAGM 4046 criteria, soil is considered contaminated with selenium at a concentration of 24.2 ppm.

The following are exposure limits for selenium:
REL: 0.2 mg/m^3 PEL: 0.2 mg/m^3 IDLH: 1 mg/m^3 (Se)

Physical Description: Amorphous or crystalline, red to gray solid. Exposure media includes dust and/or soil particulates.

4. PCBs

PCBs were detected solely in soil at one location at the site. The highest concentration of PCBs detected at the site was 55 parts per billion (ppb). According to NYSDEC TAGM 4046, soil is considered contaminated with a total PCB concentration of 1 mg/kg.

The following are exposure limits for PCBs released into the air:
REL: 0.2 mg/m^3 PEL: 0.5 mg/m^3 IDLH: 5 mg/m^3

Physical Description: Colorless to pale-yellow solid with mild hydrocarbon odor. Exposure media includes dust and/or soil particulates.

V. HAZARD ANALYSIS

The hazard analysis for this project is based upon the anticipated risk posed by the proposed activities. The following is a summary of each anticipated activity, associated hazard(s), and methods to minimize and/or prevent these hazards:

Typical hazards associated with movement within the site include: tripping hazards from uneven surfaces and vegetation; exposure to plants such as poison ivy and pricker bushes (which may cause allergic reactions); wildlife hazards such as ticks (Lyme Disease), mosquitoes, bees, snakes, and rodents; exposure to on-site chemicals and contaminants; accidents with on site equipment and/or vehicles; heat stress; and back strain due to improper lifting of heavy loads.

The following techniques will help prevent/minimize these hazards: "be alert while walking across the site, wear steel toed/shank construction boots, wear long pants and sleeved garments to protect against plants and wildlife; avoid wildlife such as snakes, bees and rodents; inspect driving route before moving equipment and/or vehicles, notify persons working in the area when moving equipment; wear seat belts whenever moving a vehicle; implement a heat stress reduction/monitoring program; and use proper lifting techniques to avoid back strain."

Site specific hazards that may be encountered during monitoring, sampling, and excavation activities include: exposure to harmful chemicals, and/or contaminants; electrical hazards from power sources, handling glass containers, exposure to loud noises, and overhead hazards from heavy equipment.

These hazards can be prevented by using trained personnel for air monitoring and sample collection, using ground fault interrupters, using well maintained equipment, not using electrical equipment in wet or flammable areas, being aware of the action levels for the chemical contaminants on site, wearing personal protective equipment, and reading and understanding the HASP.

VI. RESPONSIBILITIES

The following personnel are designated to perform the stated site activities and provide proper communications in the event of an emergency or need for medical attention.

Project Manager
Samuel R. Haydock, PG, LEP, BL Companies, Inc.

Health and Safety Manager
Nicholas C. Tsacoyannis, CPG, LEP, BL Companies, Inc.
Qualifications: Completed 40-hour and Annual 8-hour Refresher "HAZWOPER" Training
Completed 8-hour Site Supervisor Training
Completed 4-hour lockout/tag out
Completed 4-hour Confined Space Entry
Certified Professional Geologist, Registered Geologist, Licensed Environmental Professional
Experience in performing air-monitoring activities on various construction sites utilizing PIDs, FIDs, Dust Meters, Personal Sampling Pumps, and Oxygen & Combustible Gas Meters

Guy F. LaBella, PhD, PE, CHMM, LEP, BL Companies, Inc.
Qualifications: Completed 40-hour and Annual 8-hour Refresher "HAZWOPER" Training
Completed 8-hour Site Supervisor Training
National Association of Safety and Health Professionals- Certified Hazardous Materials Manager (CHMM)
Professional Engineer, Licensed Environmental Professional

Experience in performing air-monitoring activities on various ConnDOT construction sites utilizing PIDs, FIDs, Dust Meters, Personal Sampling Pumps, Oxygen & Combustible Gas Meters, and Portable Gas Chromatograph
Certified First Aid and CPR

Health and Safety Officer/ Site Safety Officers
BL Companies (TBA)
Qualifications: Completed 40-hour and Annual 8-hour Refresher "HAZWOPER" Training
Completed 8-hour Site Supervisor Training

Experience in performing air-monitoring activities on various construction sites utilizing PIDs, Dust Meters, Personal Sampling Pumps, Oxygen & Combustible Gas Meters, and Portable Gas

The responsibility of the Health and Safety Manager is to review and approve the HASP.

Enforcement of this HASP will be the responsibility of the Site Safety Officer and/or the Health and Safety Officer designated for the site, or in their absence, a designated, qualified replacement. Employees of BL Companies, subcontractors, or their employees may be excluded from the site at the discretion of the Health and Safety Officer or the Site Safety Officer, should a violation of the protocols established in this Health and Safety Plan occur.

While working within an Area of Environmental Concern, the Health and Safety Officer and Site Safety Officer will report to the Project Manager on a daily basis regarding the conformance to the protocols outlined in the HASP. The primary responsibilities of the Health and Safety Officer and Site Safety Officer are:

1. Ensure that all BL Companies personnel and subcontractors are familiar with the HASP.

2. Communicate to BL Companies personnel and subcontractors the hazards associated with site activities within the Areas of Environmental Concern.

3. Utilize engineering and administrative controls in order to reduce health and safety risks encountered during project activities.

4. Determine that BL Companies will provide personal protective equipment to their personnel, when engineering and administrative controls are known to be limited in effectiveness.

5. Require that personal protective equipment be properly utilized and maintained by project personnel.

6. Oversee the overall performance of project-related personnel and encourage safe work practices.

7. Identify and correct deficiencies and unsafe work practices.

8. Conduct field screening and monitoring procedures utilizing direct reading instrumentation in order to identify chemical hazards present in construction areas.

9. Advise the Project Manager regarding the reclassification of hazards, as well as any changes in the level of personal protective equipment to be worn.

10. Direct emergency and evacuation procedures for personnel covered under this HASP.

11. Issue stop-work orders as necessary.

The responsibilities of the Project Manager include, but are not limited to:

1. Determine if BL Companies personnel and subcontractors who will work in the exclusion zone, have successfully completed the appropriate educational requirements stipulated in 29 CFR 1926.65, are currently monitored under a medical surveillance program in compliance with those regulations, and are physically fit for work in Level C conditions.

2. Determine availability of personal protective equipment for all BL Companies personnel who will be working in the Areas of Environmental Concern.

3. Notify the Owner of any changes in actual site conditions.

4. Notify the Owner of the reclassifications of hazards within the construction site, as well as any changes in the levels of personal protective equipment to be worn.

5. Conduct oversight of the site operations.

VII. EMPLOYEE TRAINING

Prior to the initiation of operations on the site, employees and subcontractors will receive a pre-entry briefing based upon the contents of this plan. This briefing will include at a minimum the following items:

- Verbal description of the site and hazards present.
- A chemical hazard briefing.
- The location of the nearest emergency communications and emergency facilities and emergency telephone numbers.
- Emergency procedures.
- The identification of hazards that are associated with anticipated tasks of the day
- Hazards specific to the site, their chemical nature, concentrations present or expected, exposure limits, symptoms of overexposure, and emergency first response first aid.
- The inspection and use of personal safety equipment.

- A discussion of the location of safe areas if emergency evacuation is necessary.
- How to detect/eliminate/prevent hazards through the use of monitoring and control measures.

Unless the Action levels outlined in Section X are exceeded during on-site air monitoring in the Area of Environmental Concern, BL Companies personnel and subcontractors are only required to be trained according to 29 CFR 1926.65 paragraph (c)(3)-Initial Training. However, if air monitoring determines that concentrations of contaminants have exceeded the Action Levels outlined in Section X, then all BL Companies personnel who will perform activities within the Area of Environmental Concern will be required to have successfully completed health and safety training meeting all requirements of OSHA 29 CFR 1926.65 and 29 CFR 1910.120. Should this situation occur, a copy of their training certificate will be required on site to confirm that every assigned person has currently received the necessary training.

The purpose of the training is to ensure that workers are aware of potential hazards they may encounter, provide knowledge and skills in order to complete tasks with minimal risk to health and safety, provide knowledge of the purpose and limitations of personal protective equipment, develop safe work practices, and inform workers of the requirement of a medical surveillance program, including the recognition of symptoms and signs that might indicate exposure to a hazard.

VIII. PERSONAL PROTECTIVE EQUIPMENT

Standard levels of personal protection have been divided into four categories by the Environmental Protection Agency, OSHA, U.S. Coast Guard, and National Institute for Occupational Safety and Health (NIOSH). These categories have been established according to the level of hazard that personnel may be exposed to. These four levels include:

Level A - Provides the highest level of respiratory, skin and eye protection.

Level B - Provides the highest respiratory protection, but lower skin protection than in Level A.

Level C - Provides the same skin protection as Level B, but has lower level of respiratory protection.

Level D - Provides no respiratory protection and minimal skin protection.

When working in the Area of Environmental Concern, the level of personal protective equipment (PPE) worn will be in conformance with OSHA 29 CFR 1926.65. The minimal level of PPE will be level D. All BL Companies personnel and subcontractors entering work zones on this project are required to wear Level D PPE at all times. This level of protection may be upgraded to a Level C (either partial or full) at the discretion of the Health and Safety Manager or Site Safety Officer, in the event that site conditions and/or air monitoring results indicate a potential exposure risk.

Level D PPE includes: Coveralls/Tyvek*

Work Gloves
Steel Toe/Shank Work Boots
Hard Hat
Nitrile or Latex Inner Sampling Gloves*
Disposable Outer Boots*
Safety Glasses/Goggles/Face Shield*
Hearing Protection*
Approved Safety Vests (when working within the highway R-O-W)

*When Hazards Exist/Optional

The criteria for Level D PPE include:

- No contaminants are present above the concentrations as specified in the Safety and Health Risk Analysis - Section IV of this HASP.
- Work functions preclude unexpected contact with, or inhalation of any contaminants.
- No contaminants are known or suspected to be present at the site that may cause immediate adverse effects upon contact or inhalation.
-

Level C PPE includes:

Minimum of 2 Workers
Steel Toe/Shank Boots
Hard Hat
Full Face or Half Face Respirator with Appropriate Filters (e.g. Organic vapor cartridge and/or high efficiency particulate filter)
Chemical Specific Protective Clothing
Nitrile or Latex Inner Sampling Gloves
Chemical Specific Protective Outer Gloves
Chemical Specific Protective Outer Boots
Safety Glasses/Goggles/Face Shield*
Hearing Protection*

*When Hazard Exists/Optional

The criteria for Level C include:

- Oxygen concentrations are not less than 19.5% by volume.
- Contact with atmospheric contaminants will not affect exposed areas of the body.
- Measured concentrations in air of identified constituents will be reduced below the threshold limit value (TLV) by the respirator used and the concentrations are within the service limit of the filter canister and the safety factor provided by the type of respirator used.

In the event that airborne concentrations of site contaminants exceed the established exposure action levels set by this HASP, respiratory protective equipment must be worn by OSHA-trained personnel in order to protect workers from hazardous conditions. Every effort will be made to

use engineering controls to minimize exposure levels prior to the use of PPE. However, respiratory equipment should be readily available to personnel at all times. Activities associated with this project are not expected to warrant the use of Level C, Level B, or Level A type respiratory equipment.

IX. MEDICAL SURVEILLANCE PROGRAM

Medical surveillance is essential in the assessment and monitoring of worker fitness and health, both prior to employment and during the course of employment. Accurate medical records should be maintained on file. The information obtained from the program can also be used to adjust claims, provide evidence in litigation and provide information regarding worker health and medical conditions. A medical monitoring program includes a pre-employment medical examination, periodic medical examinations based upon frequency of worker exposure, record keeping, post-injury/accident examinations, and termination medical examination. The medical surveillance program shall categorize employees as "fit for work" and able to wear respiratory protective equipment.

A medical monitoring program is required for employees engaging in operations conducted on hazardous waste sites (29 CFR 1926.65). Since previous environmental investigations conducted at the site did not detect the presence of hazardous concentrations of contaminants, this project is not considered a hazardous waste site. Therefore, BL Companies personnel and subcontractors are not required to be under a medical surveillance program unless air monitoring/laboratory analyses determines that concentrations of contaminants in the Area of Environmental Concern exceeds the Action Levels for this site. In the event this occurs, all personnel working in the Area of Environmental Concern will be required to be provide proof of participation in a medical surveillance program.

X. MONITORING PROGRAM FOR CHEMICAL SUBSTANCES/PHYSICAL AGENTS

Personnel entering the project site must use adequate safety precautions in order to minimize exposure to contaminants. These precautions include exposure monitoring to characterize potential site health hazards, determine type of personal protective equipment necessary, and establish standard operating procedures. Air monitoring is one method of obtaining important information on site hazards. Decisions based upon air monitoring data will be used to determine the level of personal protection. In addition, the air-monitoring program will determine whether personnel need to be trained in accordance with OSHA 29 CFR 1926.65.

The Site Safety Officer, or assigned designee, will be responsible for air monitoring during activities performed in the Area of Environmental Concern. Identification and quantification of airborne contaminants is the overall objective of the air-monitoring program. Results obtained from the air monitoring activities will be carefully evaluated and used in the selection of the proper level of personal protection. This data will also help delineate areas where and when personal protection equipment is needed, identify areas where reclassification or upgrading of PPE is necessary, assess potential health effects from contaminant exposure and determine the need for specific medical monitoring of project personnel.

The air-monitoring program will employ two methods of identifying airborne contaminants. The first method will employ the use of direct reading instruments to obtain "real-time" exposure levels. Real time air monitoring will be conducted for VOCs in the work zone during soil excavation and handling activities. Monitoring for VOCs will be conducted using a photo-ionization detector (PID) equipped with a 10.6 eV lamp calibrated with isobutylene and referenced to benzene in air. Concentrations of volatile organic compounds in the air will be available immediately to personnel so that the appropriate corrective action can be taken.

Certain groups of compounds detected at this site could present a particulate inhalation hazard (dust) if present in elevated concentrations. Real-time particulate air monitoring will be conducted using a Particulate Material Sampler. This instrument is designed to measure the concentration of airborne particulate matter, liquid or solid, and provides a direct and continuous readout.

Monitoring for explosive atmospheres will be conducted using a LEL meter calibrated with pentane as a reference standard and with the alarm set at 10 percent LEL. Monitoring with the LEL meter are required when the potential for explosive atmospheric sources or methane sources are encountered. Hydrogen Sulfide monitoring will also be required prior to entering excavations. Hydrogen sulfide monitoring will be conducted using a Hydrogen Sulfide meter. Air monitoring will also include the use of an oxygen meter prior to entry into an excavation.

Direct reading instruments will be used continuously during excavation activities in the Area of Environmental Concern.

The second method of detection will supplement the direct reading instruments listed above. Because of the low exposure limits of benzene (1 ppm), the PID does not provide a safe screening method for benzene when used alone. Therefore, PID readings will be supplemented with specific colorimetric indicator tubes (Draegar, Sensidyne or equivalent) to detect the presence of benzene, PCE and/or hydrogen sulfide in the breathing zone of the workers during intrusive activities.

Personal sampling may be conducted for activities identified by the Site Safety Officer as requiring additional safety factors. Results of sample analysis can determine changes in personal protective equipment requirements. The Site Safety Officer will have the option of discontinuing air monitoring when conditions prove to be adequate in protecting worker health and safety.

If noise levels become a concern, a calibrated sound level meter will be used to determine employee exposure levels.

Monitoring data will be recorded and maintained by the Site Safety Officer. Notification to BL Companies will be made when airborne contaminant concentrations exceed the action levels set forth in this HASP. If the Action Levels are exceeded, all personnel will be required to leave the work area. Only OSHA-trained personnel will be allowed to return to the work area after donning the appropriate PPE. The date, time, location, sampling parameters and instrument

readings will be recorded and transferred to the Project Manager for placement into the project files.

A. Direct Reading Instruments

Direct reading instruments provide information at the time of sampling, thereby enabling rapid decision making. These instruments are capable of detecting contaminant concentrations in parts per million (ppm). They are used to detect flammable or explosive atmospheres (Combustible Gas Meter), oxygen deficient atmospheres (Oxygen Sensor), certain gases and vapors (Photoionization Detector, Flame Ionization Detector, or Colormetric Detector Tubes), and certain particulates (Infrared Spectrophotometer, Miniram). Direct reading instruments are designed to detect and measure specific classes of chemicals or conditions. Instruments designed for specific substances may also detect other substances that may result in false readings ("false-positives").

Only personnel trained in the use of this equipment and knowledgeable in their limitations will operate these instruments. Data interpretation will be based upon actual field conditions when compared to specific background information. At a minimum, monitoring equipment will be calibrated in the field at the start and end of each day, and whenever equipment operation is questionable. The Site Safety Officer will keep a log of the time and date of all field calibrations.

The Site Safety Officer will utilize a Photoionization Detector (PID) to monitor total volatile organic compounds, and a Particulate Material Sampler to monitor dust particulates. If the PID detects a sustained concentration of total volatile organic compounds above background levels, then additional equipment will be utilized (oxygen sensor, combustible gas meter, etc.).

B. Personal Air Monitoring

Whenever direct monitoring indicates that worker exposure to hazardous substances or physical agents (noise) may be at or above an Action Level (See Subsection C), personal air monitoring methods in accordance with NIOSH/OSHA guidelines will be implemented. Initially, personal air monitoring will be conducted on workers who are most likely to have the highest exposure. If personal air monitoring results indicate exposure levels at or above the PEL, personal air monitoring will be expanded to cover all employees in the work area.

C. Action Levels

If the action levels listed in Table 1 (below) are exceeded in the breathing zone of any worker for a duration of one minute or longer, all workers will be notified and required to leave the excavation area. Personal decontamination procedures may be necessary prior to leaving the area. The Site Safety Officer will brief the OSHA-trained workers prior to returning to the support zone where they will upgrade from Level D to Level C PPE (See Note):

TABLE 1

CONTAINMENT	INSTRUMENT	ACTION LEVEL
Combustible Gas	CG-1	<10% Lower Explosive Limit (LEL) is normal >10 % LEL requires immediate site evacuation
Dusts	Particulate Material Sampler	>2.5 mg/m^3
Noise		>85 decibels requires hearing protection
Oxygen	Oxygen Meter	19.5% to 23% is normal
Volatile Organic Compounds	PID/FID	>10 ppm

If the contaminant concentrations listed in Table 2 are detected in the breathing zone for a duration of one minute, the workers will then upgrade from Level C PPE to Level B PPE.

TABLE 2

CONTAINMENT	INSTRUMENT	ACTION LEVEL
Combustible Gas	CG-1	<10% Lower Explosive Limit (LEL) is normal >10% LEL requires immediate site evacuation
Dusts	Particulate Material Sampler	>5.0 mg/m^3
Noise		>85 decibels requires hearing protection
Oxygen	Oxygen Meter	19.5% to 23% is normal (Note 2)
Volatile Organic Compounds	PID/FID	>50 ppm

Note: Oxygen deficiency is not corrected with Level C air purifying respiratory protection. Only Level B supplied air respiratory protection provides this correction.

D. Community Air Monitoring Program (CAMP)

Based upon the nature of know or potential contaminants at the site, real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the site will be necessary.

Continuous Monitoring
Continuous monitoring will be conducted for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic Monitoring
Periodic monitoring for VOCs will be conducted during non-intrusive activities. Non intrusive activities include the collection of surface soil and sediment samples, the collection of ground water samples from existing monitoring wells, opening a well cap, overturning soil, well bailing/purging, arriving at the site, and prior to leaving the site.

VOC Monitoring, Response Levels and Actions

VOCs will be monitored at the downwind perimeter of the site on a continuous basis during ground intrusive activities. Upwind concentrations will be measured at the start of each workday and periodically afterwards to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contamination known or suspected to be present – Photoionization detector (PID). The PID will be calibrated at a minimum daily using an appropriate surrogate. The PID will be capable of calculating 15-minute running average concentrations, which will be compared to the following action levels:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the site exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downgradient perimeter of the site persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of the vapors identified, corrective actions will be taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the site or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm background for the 15-minute average.

- If the total organic vapor level is above 25 ppm at the perimeter of the site, activities will be shutdown.

All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the site at temporary particulate monitoring stations. The particulate monitoring will be 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 actions levels. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assess during all work activities. The following are the action levels for particulates:

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the site, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the site.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentrations to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for State (DEC and DOH) personnel to review.

XI. HEAT STRESS/COLD STRESS MONITORING

1. HEAT STRESS

Due to the additional physical and psychological stress of working, employees will be monitored for signs of stress when the ambient temperature in the work area is 70° F. Frequency of monitoring for signs of stress shall increase as the ambient temperature increases. In addition, a schedule for working in PPE has been included in the HASP (Table 3) as a guideline for work time duration should work be anticipated above the expected Level D personal protection. There are four levels of heat stress that workers should be aware of. The following summarizes the four levels of heat stress, their symptoms, and treatment.

A. Heat Rash: the inflammation and clogging of the sweat ducts due to overexposure to heat.

Symptoms: Appearance of small red vesicles on the skin.

Treatment: Mild drying of the skin.

B. Heat Cramps: a salt/water imbalance in the body resulting from inadequate replacement of salt in the body after over-exposure to heat.

Symptoms: Uncontrolled spasms and cramps in muscles, especially in the abdomen.

Treatment: Consume salted fluids.

C. Heat Exhaustion: mild shock caused by insufficient water and/or salt when exposed to heat for an extended period of time.

Symptoms: Fatigue, dizziness, weakness, nausea, clammy skin, and paleness.

Treatment: Go to a cool environment, consume salted fluids.

D. Heat Stroke: dangerous rise in body temperature caused by dehydration and/or lack of salt intake.

Symptoms: Nausea, headache, dizziness, delirium, hot and dry skin, and coma

Treatment: Go to a cool environmental, immerse victim in cold/iced water, fan, seek medical attention.

The monitoring of personnel during work activities can greatly reduce the risk of heat stress during hot and humid weather. To prevent workers from being overcome by heat stress, coolers of chilled water and gatorade-type liquids should be made available to the workers throughout the day. Workers should also be advised to utilize sunscreen and be provided with a cool shaded break area. Additional factors that may increase the risk of heat stress include: obesity, old age, and recent illness or alcohol intake.

TABLE 3

RECOMMENDED HEAT STRESS WORK SCHEDULE			
AMBIENT TRANSPORTATION	**PROTECTION LEVEL (USEPA)**	**MAXIMUM WORK* PERIOD (hours)**	**REST* PERIOD (hours)**
Above 90°F	A	.25	.50
	B	.50	.50
	C	.75	.25
85-90°F	A	.50	.25
	B	.50	.25
	C	.75	.20
80-85°F	A	1.0	.25
	B	1.5	.25
	C	2.5	.20
70-80°F	A	1.5	.20
	B	3.0	.15
	C	5.0	.15
60-70°F	A	2.0	.15
	B	4.0	.15
	C	6.0	.15
50-60°F	A	3.0	.15
	B	8.0	0
	C	8.0	0
30-50°F	A	5.0	.10
	B	8.0	0
	C	8.0	0
Below 30°F	A	8.0	0
	B	8.0	0
	C	8.0	0

*Wind chill, relative humidity, work load and physical ability should be taken into consideration.

2. COLD EXPOSURE

Cold injury (frostbite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. Persons working outdoors in temperatures at
or below freezing may be frostbitten. Extreme cold for a short period of time may cause severe injury to exposed body surfaces, or result in profound generalized cooling, and causing death. Areas of the body that have high surface area-to-volume ratios, such as fingers, toes, and ears, are the most susceptible.

Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. As a general rule, the greatest incremental increase in wind chill occurs when a

wind of 5 mph increases to 10 mph. Additionally, water conducts heat 240 times faster than air. Thus, the body cools suddenly when protective equipment is removed if the clothing underneath is perspiration soaked.

Local injury resulting from cold is included in the generic term frostbite. There are several degrees of damage. Frostbite of the extremities can be categorized into:

- Frost nip or incipient frostbite: characterized by suddenly blanching or whiting of the skin.
- Superficial frostbite: skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.
- Deep frostbite: tissues are cold, pale, and solid; and extremely serious injury.

Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages:

- Shivering,
- Apathy, listlessness, and sleepiness, and sometimes rapid cooling of the body to less than 95 degrees,
- Unconsciousness, glassy stare, slow pulse, and slow respiratory rate,
- Freezing of the extremities, and
- Death.

To guard against cold injury, wear, use appropriate clothing including hand, face and foot- wear; have warm shelter readily available; carefully schedule work and rest periods; and, monitor workers' physical conditions. Loosely layered clothing is preferred because of the added insulating properties from entrapped air between the layers. The fingers, toes, nose tips, ears, and cheeks should be periodically exercised to keep them warm and to detect any numb or hard areas indicative of frostbite. However, once frostbite occurs, the preferred method of thawing is gradual rewarming by placing body surfaces against the frostbitten part. Workers should use the "buddy system" to detect signs of frostbite on co-workers.

XII. STANDARD OPERATING SAFETY PROCEDURES & ENGINEERING CONTROLS

All personnel working in the Areas of Environmental Concern will adhere to the items outlined in this HASP. A signature sheet is included at the end of the HASP and will be signed by all personnel indicating they have read and understand the contents. A daily health and safety meeting will be held at the site to discuss concerns or hazards anticipated during the day's activities. Project personnel will notify the Site Safety Officer of any unsafe condition or practices at the site so that the condition or practice can be remedied.

Engineering controls will be utilized whenever possible in order to reduce the potential for exposure to hazards, and so that changes in upgrades of personnel protective equipment and work zone delineation can be prevented. An example of a typical engineering control consists of wetting down soils with water in order to reduce airborne dust generated during construction

activities and thereby reducing or eliminating the need for respiratory protection. In addition, having workers stay upwind of potential airborne contaminants is another engineering control utilized to reduce worker exposure.

XIII. SITE CONTROL MEASURES

When air monitoring in the Areas of Environmental Concern identifies airborne concentrations of contaminants above the action level outlined in Section X, restricted access and protective zones will be established with respect to the contamination hazards of the site. These zones will be determined by the Site Safety Officer and/or the Health and Safety Officer. These zones will help minimize the possibility of cross contamination of uncontaminated areas. The establishment of zones will also be used to prevent exposure of project personnel to contaminated materials. In addition, "zones" will be established to control entry by unauthorized and/or untrained personnel into these areas. The health and safety of project related personnel is the overall objective when establishing protective zones.

A. Support Zone

The support zone will be kept free of any contaminated material and is usually used for equipment storage and assembly. Support personnel are staged in this area along with vehicles and equipment not required in the work area that has been designated as contaminated. The location of the support zone will be determined by the Site Safety Officer after he/she evaluates the contaminant hazard, exposure potential, wind direction and speed, topography, visibility, or other factors that may impact personnel located in this zone.

B. Contaminant Reduction Zone

The contaminant reduction zone is the area between the support zone and the area designated as contaminated (exclusion zone). This area is a transition zone and initially is uncontaminated. Decontamination equipment is located in the contaminant reduction zone and decontamination procedures are executed in this zone for all personnel, equipment and materials passing to the support zone. Separate decontamination areas will be provided for personnel and equipment. The contaminant reduction zone will also provide support to non-construction activities such as sample preparation and packaging. The staging of equipment and personnel who will assist workers in the area of contamination also takes place in this zone. No smoking, eating, chewing gum or tobacco, drinking, taking medicine, or application of cosmetics (including chapstick and sunscreen) will be permitted in the contaminant reduction zone. These materials, in addition to lighters or matches will not be allowed in this zone.

C. Exclusion Zone

The contaminated area is known as the exclusion zone and is the area in which actual intrusive activities are performed. No person will be allowed to enter the exclusion zone without authorization from the Site Safety Officer or the Health and Safety Officer. Activities within the exclusion zone will be monitored continuously in order to prevent exposure to contaminants. Entrance and exit to the exclusion zone will be maintained at a single access point whenever

practical. All equipment and personnel will enter and exit the exclusion zone through the contaminant reduction zone. In addition, there will be no smoking, eating, chewing gum, chewing tobacco, drinking, taking medicine, or application of cosmetics in the exclusion zone. These materials, in addition to lighters and matches will not be allowed in this zone.

XIV. DECONTAMINATION PROCEDURES

To minimize contact with contaminated substances and lessen the potential for contamination, personnel will make every effort not to walk through areas of obvious contamination (i.e. liquids, discolored surfaces, smoke/vapor clouds, etc.). Personnel will not kneel or sit on the ground in the Exclusion Zone and/or Contaminant Reduction Zone.

Decontamination will be required when the airborne concentration of contaminants exceeds the action levels outlined in Section X, or in the opinion of the Site Safety Officer, significant levels of contamination may be transported off-site or between locations on the site by personnel or equipment. If the site requires the use of disposable protective equipment (Level D or above), a decontamination area will be designated within the contaminant reduction zone prior to commencement of the work.

The decontamination area will be equipped with potable and non-potable water, brushes, soap and solvents for decontamination, first aid kits, including eye wash, extra personal protective equipment, and plastic bags for disposal of contaminated material. A soap (detergent) and water wash/rinse will be used for all protective equipment. A waterless hand cleaner and paper towels may be used for hands, arms, or any skin surface potentially in contact with contaminated material. This area will be manned by personnel dressed in a level of personal protective equipment sufficient to enter the exclusion zone in the case of emergency.

Equipment decontamination may involve an initial hand wash, using a solution of water and Alconox, followed by a clean water rinse, a methanol rinse, and steam cleaning. All decontamination fluids and disposable personnel protective equipment will be collected in the proper containers (i.e., drums, garbage bags), so that they may be disposed of properly at a later time.

XV. EMERGENCY EQUIPMENT AND FIRST AID REQUIREMENTS

In the case of an accident, severe injury, or other medical emergency, medical assistance should be contacted immediately. First aid should be administered on-site only by trained personnel. The Site Safety Officer has been certified in first aid and CPR. In addition, the medical facility that will receive the injured person should be notified as to the condition and the type of injury. A non-severe injury may require transportation in a site vehicle. Directions to the closest hospital and pertinent telephone numbers are listed at the beginning of this HASP. A copy of the HASP should accompany all personnel transported to the hospital in order to provide information for proper diagnosis and medical treatment. The Site Safety Officer, Health and Safety Officer and Project Manager should be notified of the injury. In addition, an Accident Report/Incident Report should be completed as soon as possible by the Health and Safety Manager. A copy of an Accident Report/Incident Report is located in Appendix B.

A. Emergency Medical Equipment

Emergency medical equipment will be kept on-site and shall include at a minimum:

First aid kit
Emergency eye wash

Should an emergency shower be required, potable or non-potable water available at the decontamination areas can be used.

B. Emergency First Aid

The following generalized emergency first aid is intended for cases where the exact cause of the symptoms is not well known.

Exposure	First Aid
Dizziness, headache, nausea	Remove to fresh air. Perform artificial respiration if necessary. Seek medical attention if persists.
Burning sensation (eyes)	Irrigate immediately for 15 minutes. Seek medical attention if persists.
Burning sensation (skin)	Decontaminate with soap and water. Remove wet or contaminated clothing. Seek medical attention if persists.
Ingestion	Get emergency medical help. Induce vomiting if conscious.

C. Personal Injury Within the Exclusion Zone

Upon notification of an injury in the exclusion zone, an emergency signal horn blast will be sounded. All site personnel will assemble in the decontamination area. The Site Safety Officer will evaluate the nature of the injury and if necessary, the affected person will be decontaminated prior to movement. No person will re-enter the Exclusion Zone until after the cause of injury or illness has been determined.

D. Personnel Injury Outside the Exclusion Zone

Upon notification of an injury outside of the Exclusion Zone, the Site Safety Officer will assess the nature of the injury. If the cause of the injury/illness does not affect the performance of site personnel, activities may continue while the injury is handled. If the injury increases the risk to others, an air horn will be sounded and site personnel will move to the decontamination area for further instructions. Activities on-site will stop until the risk has been removed or minimized.

XVI. EMERGENCY RESPONSE PLAN

In the event of an emergency, site control, communications and appropriate evacuation routines will be the responsibility of the Site Safety Officer. Emergency communication with off-site emergency response groups will be via telephone. Telephones will be located in the project trailer and in the vehicles of the Project Manager and Site Safety Officer. For on-site emergency communications, the Site Safety Officer will signal utilizing an air horn located in the trailer. Immediately after sounding the alarm, (one long blast) the Site Safety Officer will telephone all pertinent emergency personnel (ambulance, fire etc.) and notify the Project Manager and Health and Safety Officer. All personnel will leave the area via the safest route and meet at a location designated by the Site Safety Officer. The Site Safety Officer will check to determine that all personnel have been accounted for. If personnel are identified as missing, the Site Safety Officer will contact emergency services for assistance.

Environments characterized as immediately dangerous to life and health (IDLH) are not anticipated to occur at the site and are therefore not covered by this HASP. Unexpected occurrences of such conditions will necessitate immediate evacuation of the area. Emergency situations that may occur under such circumstances include uncontrolled releases of contaminants, severe weather, discovery of drums or other unknown material. These situations may require the involvement of trained and equipped emergency response personnel.

A. Emergency Communications

In the event of an emergency, the Site Safety Officer will alert the construction site by using an air horn. The following signals will be used:

Three short blasts	Personnel injury - Evacuate to designated area
One long blast	Site emergency - Everyone evacuate to designated off-site area.

When working in the Area of Environmental Concern, personnel will use the "buddy" system. Hand signals should be pre-arranged should other means of communications breakdown. The following standard hand signals should be utilized:

Thumbs up	Ok, I'm alright, I understand
Thumbs down	No, negative
Hand gripping throat	Out of air, can't breath
Grip partner's waist, wrist	Leave area immediately, no debate
Hands on top of head	Need assistance

B. Fire and Explosion

Upon notification of a fire or explosion on-site, the emergency signal horn will be sounded and all site personnel will move to the decontamination area or to an area upwind of the fire or explosion. The fire department will then be alerted.

C. Personal Protective Equipment Failure

If any site worker experiences a failure or alteration of personal protective equipment that affects the protection factor, that person and his/her buddy (under modified Level D conditions) will immediately leave the Exclusion Zone and go to the decontamination area where the Site Safety Officer will assess and remedy the situation.

Under Level C conditions (or higher), failure or alteration of personal protective equipment will immediately cause all personnel present in the work area to withdraw with their assigned buddies from the exclusion zone. All personnel will assemble in the decontamination area, where the Site Safety Officer will assess the failure. Re-entry to the exclusion zone will not be permitted until the cause of the failure has been determined and the equipment has been repaired or replaced.

D. Other Equipment Failure

Should other equipment fail to operate properly, the Site Safety Officer and/or the Project Manager will be notified. The effect of equipment failure on continuing operations at the site will then be evaluated. If the failure affects the safety of personnel or prevents completion of tasks, all personnel will leave the Exclusion Zone until the appropriate remedial actions have been taken.

XVII. SPILL CONTAINMENT PROGRAM

If a spill or release of hazardous materials occurs at the site, work will cease and access to the Site will be under the guidance of the Site Safety Officer. The spill area will be identified and made into an exclusion zone. All personnel on-site will be notified of the event and evacuated to an upwind location. An evaluation of the situation will be made in order to determine the identity of the released material, as well as the hazard to the public and on-site personnel. Emergency services will be notified immediately. The Project Manager will be notified immediately of the situation. The Project Engineer will also be notified immediately of the situation in order to allow implementation of protocols within their HASP. The spill or release may also require the notification of the NYSDEC Spill Hotline. All events will be documented in detail by the Site Safety Officer in the project field book.

Once the hazards associated with the release have been recognized, a decision will be made by the Project Manager to determine if sufficient equipment and trained personnel are available on-site to control the release. If the release cannot be controlled with the personnel and equipment available, no action will be taken until appropriate support is available.

Air monitoring will be conducted by the Site Safety Officer, upwind of the spill, in order to determine the hazards associated with the release. Personal protective equipment will be determined based on air monitoring results. If the material is unknown, Level B PPE will be the minimum level of protection utilized. If appropriate equipment is available, samples of the material will be collected by OSHA-trained personnel, and submitted to a certified laboratory for analysis. The Project Manager will review the documentation regarding the spill or release in order to determine if a similar release can be avoided in the future.

XVIII. LOGS, RECORD KEEPING AND INSPECTIONS

The Site Safety Officer will keep a field log in a dedicated field book regarding daily field activities. The daily log will also document equipment calibration that has occurred each day. Copies of the field book logs, or the entire field book, will be given to the Project Manager at the completion of the project for insertion into the project file.

The daily log will also document visitors to the Site. All personnel visiting the Site must check in with the HSO or designee for orientation and briefing of site hazards.

Accidents and incidents will be recorded on an accident/incident report included in Appendix B. The Health and Safety Officer is responsible for filling out the Accident/Incident Report.

The Health and Safety Officer may inspect the site at any time in order to determine if the HASP is being implemented correctly and to determine if the Contractor's personnel are utilizing safe work practices. During the inspection, the Health and Safety Officer will document his/her observations and make notes regarding any potential hazard not addressed in this HASP. Documentation generated during the site inspection will be given to the Project Manager for incorporation into the project file.

XIX. CONFINED SPACE PROCEDURES

A *confined space* is defined as a space that has all of the following features: it is large enough for an employee to enter and perform work; it has limited or restricted entrances or exits; and, it is not intended for continuous employee occupancy. A *permit-required confined space* is a confined space that poses any one of the following hazards: a potentially hazardous atmosphere; a potential for engulfment of an employee; and, an internal configuration, such as a tapered floor, which could cause an employee to become trapped.

A potentially hazardous atmosphere is one that could cause death, incapacitation, injury, acute illness, and impairment of ability to self-rescue, and includes one or more of the following:

a. Flammable gases, vapors, and/or mists in excess of 10% of Lower Flammable Levels (LELs);

b. Airborne combustible dusts in excess of LELs;

c. Oxygen deficiency (<19.5%) or oxygen enrichment (>23.5%);

d. Acutely toxic contaminants at concentrations greater than the Permissible Exposure Limits (PEL) or equivalent; and

e. Any other condition recognized as Immediately Dangerous to Life and Health (IDLH).

If access to a permit-required confined space is necessary in order to perform this project, the Health and Safety Officer must be notified in order that he/she may coordinate a proper permit-required confined space entry program under 29 CFR 1910.146.

APPENDIX A

SIGNATURE OF FIELD TEAM MEMBERS AND OBSERVERS

I have read and understand this Health and Safety Plan.

NAME	SIGNATURE	DATE

APPENDIX B

ACCIDENT/INCIDENT REPORT

NAME: _____DATE: _____
EMPLOYER: _____JOB TITLE: _____
EVENT LOCATION & TIME: _____
****
EVENT DESCRIPTION: _____
_____
_____
_____
_____
TYPE: ___Physical ___Chemical ___Biological ___Other
INJURIES: _____
CONTRIBUTING ACTS/CONDITIONS: _____
_____
MEDICAL TREATMENT/LOCATION & TIME: _____
_____
_____
****
PROJECT MANAGEMENT REVIEW
CORRECTIVE ACTS TO BE TAKEN: _____
_____
_____
****
SIGNATURES:

_____	_____	_____
EMPLOYEE	PROJECT MANAGER	HEALTH & SAFETY OFFICER
DATE:_____	_____	_____

APPENDIX C

CALIBRATION LOG SHEET

PROJECT NAME: ____________________
PROJECT NO.: ______________________

INSTRUMENT	DATE	COMMENTS

APPENDIX D

EXCLUSION ZONE SIGN-IN SHEET

NAME/COMPANY	SIGNATURE	DATE	TIME IN	TIME OUT

APPENDIX E

LIST OF ACRONYMS

ACGIH - American Conference of Governmental Industrial Hygienists
AOEC - Area of Environmental Concern
AT&T - American Telephone and Telegraph
CFR - Code of Federal Regulations
CHM - Certified Hazards Manager
CIH - Certified Industrial Hygienist
CL&P - Connecticut Light and Power
ConnDOT - Connecticut Department of Transportation
CPR - Cardiopulmonary Resuscitation
CTDEP - Connecticut Department of Environmental Protection
DEC - Direct Exposure Criteria
FID - Flame Ionization Detector
GA/GAA - a groundwater classification code
GA/GAA PMC - GA/GAA Groundwater Pollutant Mobility Criteria
GB - a groundwater classification code, GB is poorer quality than GA/GAA
GB PMC - GB Groundwater Pollutant Mobility Criteria
HASP - Health and Safety Plan
HAZWOPER - Hazardous Waste Site Operations and Emergency Response
HSM - Health and Safety Manager
HSO - Health and Safety Officer
I/C DEC - Industrial/Commercial Direct Exposure Criteria
IDLH - Immediately Dangerous to Life or Health
LEP - Licensed Environmental Professional
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety and Health Administration
PE - Professional Engineer
PEL - Permissible Exposure Limit
PID - Photoionization Detector
PPE - Personal Protective Equipment
ppm - parts per million
RCRA - Resource Conservation and Recovery Act
REL - Recommended Exposure Limit
RES DEC - Residential Direct Exposure Criteria
RSRs - Remediation Standard Regulations
STEL - Short Term Exposure Limit
TBA - To Be Announced
TBD - To Be Determined
TLV - Threshold Limit Value
TPH - Total Petroleum Hydrocarbons
TWA - Time weighted average

U.S. EPA - United States Environmental Protection Agency
VOCs - Volatile Organic Compounds
WPCA - Water Pollution Control Authority

APPENDIX F

BL Companies
Standard Operating Procedures

Quality Assurance/Quality Control

A. Introduction

This document provides the user with quality assurance requirements and procedures for conducting environmental measurement sampling episodes. In order to generate analytical data of known and defensible quality, adherence to established quality assurance protocol is necessary. This will ensure that samples obtained in the field are representative of the particular environment from which they have been collected and are of satisfactory quality and quantity to meet the project objectives.

The importance of the environmental sample collection process and associated analytical data is demonstrated through integration of this information into the decision-making process. All phases of site remediation rely on the provision of accurate analytical data. These phases include an initial site evaluation, remedial investigation and design phases, human and environmental risk assessments, determination of treatment effectiveness, remedial alternative selection and cost/benefit analysis, and finally, monitoring the results of the remedial action selected.

The following quality assurance requirements have been established to maintain sample integrity to as great an extent as possible and are applicable for most site investigations. Their prime objective is maintaining the physical form and chemical composition of the sample and preventing contamination from other sources or changes in contaminant concentration. To meet this objective there must be a measure of control over all sample handling procedures beginning with sample container cleaning procedures and ending with laboratory analysis. This section focuses on the first half of the control process; the procedures leading up to and ending with sample packaging and transport to the laboratory.

B. Sample Containers

Prior to the collection of a sample, consideration must be given to the type of container that will be used to store and transport the sample. The laboratory performing the analysis is usually responsible for providing proper sample containers. This selection is based on the sample matrix, potential contaminants to be encountered, analytical methods requested, and the laboratory's internal quality assurance requirements. Selection of appropriate sample containers should also be based upon review of the criteria listed below.

1. Reactivity of Container Material with Sample

Choosing the proper composition of sample containers will help to ensure that the chemical and physical integrity of the sample is maintained. For sampling potentially hazardous materials, glass is recommended because it is chemically inert to most substances. Plastic containers are not recommended for most hazardous wastes because the potential exists for contaminants to adsorb to the surface of the plastic or for the plastisizers to leach into the sample.

In some instances, however, the sample characteristics or analytes of interest may dictate that plastic containers be used instead of glass. Because some metals species will adhere to the sides of glass containers in an aqueous matrix, plastic bottles must be used for these types of samples collected for metals analysis. A separate, plastic container should accompany glass containers if metals analysis is to be performed along with other analyses. Likewise, other sample characteristics may dictate that glass cannot be used.

2. Volume of the Container

The volume of sample to be collected will be dictated by the analyses being performed and the sample matrix. The laboratory must supply bottles of sufficient volume to perform the required analyses. In most cases, the methodology dictates the volume of sample material required to complete the analyses. However, individual labs may provide larger volume containers for various analytes to ensure sufficient quantities for duplicates or other quality control checks.

To facilitate transfer of the sample from the sampler into the container and to minimizes spillage and sample disturbance, wide-mouth containers are recommended. Aqueous volatile organic samples must be placed into septum vials. Non-aqueous volatile organic samples should be collected in the same type of vial or in wide-mouth jars provided by the laboratory.

3. Color of Container

Whenever possible, amber glass container should be used to prevent photodegradation of the sample, except when samples are being collected for metals analyses. If amber containers are not available, then containers holding samples should be protected from light.

4. Container Closures

Container closures should screw on and off the containers and form a leak-proof seal. Closures should be constructed of a material which is inert with respect to the sampled material. Alternately, the closure may be separated from the sample by a closure liner that is inert to the sample material such as PTFF sheeting.

5. Decontamination of Sample Containers and Chain of Custody

Sample containers must be cleaned. The cleaning procedures are dictated by the specific analyses to be performed on the sample. The person responsible for cleaning the sample container should record the procedure used and initiate the chain of custody. This chain of custody accompanies the bottles during transportation to the field, sample collection, transportation back to the lab, analysis, and final disposal of the sample. The sample bottles should be prepared fro shipment accompanied by the chain of custody and the cooler or shuttle containing them should be custody sealed. When collecting a sample, sampling personnel should record the seal number associated with each sample shuttle or cooler and record whether the seal was intact upon arrival in the field. This assures the sample containers were not tampered with in the time between their preparation and their arrival in the field. After sample collection, the bottles again should be sealed into the shuttle or cooler and the seal number should be recorded. Upon arrival at the lab, the person receiving the sample should note the number and condition of the custody seal.

6. Sample Bottle Storage and Transport

No matter where the sample bottles are, whether at the lab waiting to be packed for shipment or in the field waiting to be filled with sample, care must be taken to avoid contamination. Sample shuttles, or coolers, and sample bottles themselves must be stored and transported in clean environments. Sample bottles and clean sampling equipment must never be stored near solvents, gasoline, or other equipment that is a potential source of cross contamination.

C. Decontamination of Sampling Equipment
(See Page 40)

D. Measures of Quality Assurance and Quality Control (QA/QC)

QA/QC samples are intended to provide control over the collection of environmental measurements and subsequent review, interpretation, and validation of generated analytical data. The various types of blank samples with related QA/AC concerns such as packaging, handling, preparation and actual procurement of samples from field locations are discussed below.

1. Trip Blanks

The primary purpose of this type of blank is to detect additional sources of contamination that might potentially influence contaminant values reported in actual samples both quantitatively and qualitatively. The following have been identified as potential sources of contamination.

- Laboratory reagent water
- Sample containers

- Cross contamination in shipment
- Ambient air or contact with analytical instrumentation during preparation and analysis at the laboratory
- Laboratory reagents used in analytical procedures

A trip blank consists of a set of sample bottles filled at the laboratory with laboratory demonstrated analyte free water. This water must originate from one common source and physical location within the laboratory and must be the same water as the method blank water used by the laboratory performing the analysis. Trip blanks should be handled, transported, and analyzed in the same manner as the samples acquired that day, except that the sample containers themselves are not opened in the field. Rather, they just travel with the shipment or two day sampling event. Each sample matrices and associated blanks must be packaged in separate sample shuttles prior to shipment back to the lab. Trip blanks must return to the lab with the same set of bottles they accompanied to the field.

The purpose of a trip blank is to place a mechanism of control on sample bottle preparation and blank water quality as well as sample handling. The trip blank travels to the site with the empty sample bottles and back from the site with the collected samples in an effort to simulate sample-handling conditions. Contaminated trip blanks may indicate inadequate bottle cleaning or blank water of questionable quality.

2. Field Blank

The primary purpose of this type of blank is to provide an additional check on possible sources of contamination beyond that which is intended for trip blanks. A field blank serves the same purpose as a trip blank and is also used to indicate potential contamination from ambient air (field blank) and from sampling instruments used to collect and transfer samples from point of collection into sample containers.

A field blank is conducted using two identical sets of laboratory cleaned sample containers. One set of containers is empty and will serve as the sample containers to be analyzed. The second sets of containers are filled at the laboratory with laboratory demonstrated analyte free water (documentation to be made available upon request). This water must originate from one common source and physical location within the laboratory and must be the same water as the method blank water used by the laboratory performing the analysis. Field blanks should be handled, transported, and analyzed in the same manner as the samples acquired that day. At the field location, in the most contaminated area, this analyte free water is passed through clean sample equipment and placed in the empty sample container for analysis. (Note: It may be necessary for the lab to provide extra, full volatile organic vials to ensure sufficient volume of blank water to eliminate headspace.) The reason for performing field blanks in the most contaminated area is to attempt to simulate a worst-case scenario regarding ambient air contributions to sample contamination. Field blanks must be performed at a rate of one per day per sample matrix regardless of whether samples are shipped that day. Field blanks must

return to the lab with the same set of sample bottles they accompanied to the field. Field blanks must be packaged with their associated matrix.

The purpose for field blanks is to place a mechanism of control on sample handling, storage, and shipment. The field blank travels and is stored with the samples, and is thereby representative of affects on sample quality. By being opened in the field and transferred over a cleaned sampling device (where applicable), the field blank is also indicative of ambient conditions and/or equipment conditions that may potentially affect the quality of the associated samples. When field blanks are required for samples collected directly into laboratory provided sample containers, the full set of blank water containers should be poured directly into the identical empty set of containers.

3. Analytical Requirements for Blank Samples

   a. Trip Blanks – Trip blanks for all matrices must be prepared and analyzed for volatile organics. If samples collected that day are not being analyzed for volatile organics or if other parameters are of concern, then the inclusion of a trip blank and selection of analytical parameters is at the discretion of the project manager.

   b. Field Blanks – Field blanks for all matrices must be analyzed for the same parameters as the sample collected that day.

It is important to note that both trip blanks and field blanks are only capable of determining that contamination of samples may have occurred from additional sources other than the actual environmental matrix being investigated and cannot identify, but may suggest, possible sources of additional contaminant contribution to the reported analytical values.

4. Additional QA/QC

   Additional parameter blanks may be required in specific cases.

   a. Method Blanks – Non-Aqueous Matrices - The use of solid method blank for volatiles and organic extractables is unacceptable to USEPA. Method blanks associated with non-aqueous samples should consist of laboratory demonstrated analyte free water (documentation available upon request) which is prepared and analyzed in the same manner as the samples.

   b. Duplicate Samples Obtained in the Field – Collection of duplicate samples provides for the evaluation of the laboratory's performance by comparing analytical results of two samples from the same location. Duplicate samples are to be included for each matrix at a minimum rate of five percent. If less than twenty-five samples are collected during a particular sampling episode, then one duplicated should be performed. Duplicate requirements may be

waived depending on the particular regulatory program or remedial phase involved.

i. Aqueous Matrix

Duplicate of water samples should be obtained by alternately filling sample containers from the same sampling device for each parameter. Samples for volatile organics analysis from monitor wells should be filled from the same bailer full of water whenever possible and be the first set of containers filled. When other devices are used (bladder pumps), the vials for volatile organics should be alternately filled.

ii. Non-Aqueous Matrix

Obtaining duplicate samples in a soil or sediment matrix required homogenization of the sample aliquot prior to filling sample containers. Regardless, volatile organic samples must always be taken from discrete locations or intervals prior to compositing of mixing the sample. This practice is necessary to prevent loss of volatile constituents and to preserve, to the extent practicable, the physical integrity of the volatile fraction. Homogenization of the sample for remaining parameters is necessary to generate two equally representative samples. Moisture content, particle size, and adsorption properties of various soils, sediments, and waste materials may inhibit the ability to achieve complete mixing prior to filling sample containers.

c. Background Samples – When background samples are required for comparison of site conditions to the surrounding environment they should be collected and handled in the same manner as all other samples. Requirement for inclusion of background samples are determined on a program and/or case-by-case basis.

E. Sample Preservation Requirements

Certain analytical methodologies for specific analytes require chemical additives in order to stabilize and maintain sample integrity. Generally, this is accomplished under two scenarios:

- Sample bottles are preserved at the laboratory prior to shipment into the field or,
- Preservatives are added in the field immediately after the samples are collected.

Many laboratories provide pre-preserved bottles as a matter of convenience and to help ensure that samples will be preserved immediately upon collection. A problem associated with this method arises if not enough sample was able to be collected,

resulting in too much preservative for the sample. More commonly encountered problems with this method include the possibility of insufficient preservative provided to achieve the desired pH level or the need for additional preservation due to the chemical reactions caused by the addition of sample liquids to pre-preserved bottles. Field sampling teams should always be prepared to add additional preservatives to samples if the aforementioned situations should occur. However, most preservatives will be added to containers prior to arriving at the site.