2 INGRAHHAM STREET

BROOKLYN, NEW YORK

Supplemental Remedial Investigation Work Plan (SRIWP)

NYSDEC BCP Site Number: C224036

Prepared for:

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SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN (SRIWP)

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1.0 Introduction

Bogart Holdings LLC has enrolled in the New York State Brownfield Cleanup Program (NYS BCP) to investigate and remediate a two-acre site located at 2 Ingraham Street in East Williamsburg section of Brooklyn, New York. Commercial/retail use is proposed for the property. The Remedial Investigation (RI) work was performed between April and July 2013. The Remedial Investigation Report (RIR) summarized the nature and extent of contamination at the site. Based on the RIR, the New York State Department of Environmental Conservation (NYSDEC) requested additional sampling to be performed to further delineate the contamination at the site.

1.1 Site Location and Current Use

The Site is located at 2 Ingrham Street in the East Williamsburg section in Brooklyn, New York and is identified as Block 3084 and Lot 1 on the New York City Tax Map. Figure 1 shows the Site location. The Site is 80,000-square feet and is bounded by Ingraham Street to the north, Harrison Place to the south, Morgan Avenue to the east, and Bogart Street to the west. A map of the site boundary is shown in Figure 1. Currently, the Site is used for retail, offices and food distribution containing of a one-story building built to the property lines and encompasses the whole block.

1.2 Proposed Development Plan

The proposed future use of the Site will remain a one-story commercial/retail building, including a restaurant and athletic facility. Layout of the proposed site development is presented in Figure 2. The current zoning designation is M1-1. The proposed use is consistent with existing zoning for the property.

1.3 Previous Investigations

Previous investigations performed at the Site included the following:

- Phase I Environmental Site Assessment (ESA) Report by ERD Environmental, Inc.

  ERD conducted a Phase I ESA for Citicorp Real Estate, Inc. and issued a report dated November 1996. The report covered the site history, including historical operations by Jayer Plating, ERD's site inspection and recommendations for follow-up sampling, particularly in the area of the former plating operation. The ERD report also included an environmental database search with Sanborn Fire Insurance maps and a City Directory.

- Focused Phase II Soil Investigation Report: Trench Area 1, 2 Ingraham Street, Brooklyn, New York by Excel Environmental Resources, Inc. (Excel), May 22, 1997

  Excel was hired by Rainbow Polybag Co., Inc. to investigate the former Jayer

  Plating trench area as recommended in the Phase I ESA. Excel drilled four soil borings,

  SB-1, SB-2, SB-4 and SB-6 and collected 10 soil samples for Target Analyte List (TAL) metals. High concentrations of plating metals, particularly chromium and nickel, in the former trench area indicated that former plating operation had affected soil as deep as 16.5 feet below grade in boring SB-1.

- December 1997 AKRF, Inc. Site Investigation Report, Prepared for Milhan Realty Corp.

  AKRF conducted a soil and groundwater field investigation in October 1997 for the property owner, Milhan Realty Corp. and drilled soil borings and four monitoring wells. This investigation confirmed the soil contamination found by Excel and determined that groundwater in two of the monitoring wells contained elevated TAL metals

concentrations. AKRF also found that up-gradient (background) groundwater samples also contained elevated concentration of TAL metals with respect to New York State groundwater standards.

2.0 Investigation Objectives & Scope of Work

The objective of this SRIWP is to further investigate the areas with data gaps as per NYSDEC's review of the RIR. The following scope of work was developed to include the identified areas of concern:

Area 1 – Southwest Portion of the Former Trench

Advance six borings as specified by NYSDEC southwest of the trench in soda store to the depth of 35 fbg.

a. Collect continuous soil sample to the boring termination depth using macrocore sampler in five-foot increments using disposable acetate sleeves. Each sample will be screened for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory indications of environmental impacts. Submit three [3] soil samples from each borehole, one sample to be collected from 0-5 fbg, one sample from the groundwater interface, or from the one of highest observed contamination (visual/olfactory/PID); and one from the terminal depth of the boring. If the boring reaches bedrock at a shallower depth than the proposed excavation depth, the deeper soil sample shall be taken from 2 feet above the bedrock.
b. Analyze the collected samples for TCL (VO, SVO), TAL metals.

Area 2 – East of Soil Boring B-15

Advance one soil boring east of boring B-15 Soil borings to the depth of 35 fbg.

a. Collect continuous soil sample to the boring termination depth using macrocore sampler in five- foot increments using disposable acetate sleeves. Each sample will be screened for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory indications of environmental impacts. Submit three [3] soil samples from each borehole, one sample to be collected from 0-5 fbg, one sample from the groundwater interface, or from the one of highest observed contamination (visual/olfactory/PID); and one from the terminal depth of the boring. If the boring reaches bedrock at a shallower depth than the proposed excavation depth, the deeper soil sample shall be taken from 2 feet above the bedrock.
b. Analyze the collected samples for TCL (VO, SVO), TAL metals.

Area 3 – Soil Boring B-7 Area

Advance two soil borings southwest and north of B-7 to the depth of 35 fbg, and one sub-slab vapor point, west side of B-7 in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York.

a. Collect continuous soil sample to the boring termination depth using macrocore sampler in five-foot increments using disposable acetate sleeves. Each sample will be screened for organic vapors with a photo-ionization detector (PID) and evaluated for visual and olfactory indications of environmental impacts. Submit two [2] soil samples from each borehole, one

sample to be collected at the 0-5 foot and the deeper sample to be collected at the groundwater interface and 30-35 fbg. In the event that evidence of contamination is observed, collect additional sample from the suspect contaminated zone. If the boring reaches bedrock at a shallower depth than the proposed excavation depth, the deeper soil sample shall be taken from 2 feet above the bedrock.

b. Collect one ambient air sample near MW-9 and analyze using USEPA Method TO-15 for volatile organic chemical compounds.
c. Collect one sub-slab vapor sample west of B-7 to evaluate the vapor media in this area

Area 4 – Soil Boring SB-2 Area

Advance four soil borings in close proximity of the soil boring SB-2 to the depth of 5 fbg.

a. Collect one [1] soil sample from each borehole from 0-5 fbg. If impacts are found in the top 5 feet, the boring will be further advanced to a (visual/olfactory/PID) clean zone.
b. Analyze the collected samples for TCL(SVOCs) and TAL Metals.

Area 5 – Discharge Point of Former Trench

Using the tracer test, identify the pipe and the path of the trench drain.

a. Collect soil samples below the floor drain and along the discharge pipe pathway and at the point of discharge to confirm absence of contamination.
b. Analyze the collected samples for TCL (VO, SVO) and TAL Metals.

Area 6 – Additional Site Sampling

Advance six borings (B-17 – B-22) as specified by NYSDEC, see Figure 2.

a. Analyze the collected samples for TCL(VOC, SVOCs), PCBs, Pesticides and TAL Metals.

Follow-up Sampling of On-site Monitoring Wells

a. Collect groundwater samples from all on/off site monitoring wells. Analyze the collected samples for TCL (VO, SVO) and TAL Metals.

Conduct a soil vapor intrusion sampling of the site by advancing three sub-slab vapor points, one indoor and one ambient air sample in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Collect three air samples (sub-slab, indoor and ambient) and analyze using USEPA Method TO-15 for volatile organic chemical compounds.

3.0 Sampling Plan

3.1 Sampling Methodology

Established sampling and analysis procedures will be followed to ensure that samples are collected and analyzed using suitable methods and those samples are handled and transported correctly. Procedures will also ensure that proper quality assurance (QA) is conducted and appropriate records are kept.

Soil Borings Advancement

The soil borings will be advanced to various depths, using a truck mounted Geoprobe® system. Geoprobe® is a brand name of hydraulically-powered machines that utilize both static force and percussion to advance sampling and logging tools into the subsurface. The Geoprobe® brand name refers to both machines and tools manufactured by Geoprobe® Systems are used to perform soil core and soil gas sampling, and groundwater sampling.

Sub-Slab Soil Vapor Probes Installation

Sub-slab probe will be installed and sampled according to the Final Guidance for Evaluating Soil Vapor Intrusion in State of New York, dated October 2006, prepared by the New York State Department of Health.

Utilizing truck mounted direct push technology sampling equipment (Geoprobe), a sub-slab probe implant will be installed to the desired depth.

3.2 Sampling Procedures

Samples will be collected and transported using documented chain of custody and sample management procedures to ensure the integrity of the samples and provide an accurate and defensible written record of the possession and handling of a sample from the time of collection, through laboratory analyses.

Soil Sampling

Soil samples will be collected with two-inch by five-foot split spoon samplers. All samples will be examined for petroleum odors and sheen.

Each soil sample will be collected directly from the split-spoon samples, placed into laboratory supplied sample bottle, labeled and stored on site in a cooler with ice. Sample identification will be executed by use of a sample tag, log book and chain of custody form. All samples collected will be analyzed in accordance with the Analytical Procedures provided in section 3.6 of this report.

Groundwater Sampling

Sampling would commence as soon as possible after purging. The field project manager would determine when the most representative sample can be obtained based upon available site information.

Using a water level detector, the depth to the water table and depth to the well bottom would be measured and recorded. All sampling information would be recorded in the logbook or sampling data sheets. Samples would be taken first from the deepest ground-water horizon, followed by the middle horizon, and finally the top horizon. This procedure would minimize disturbances to the flow field imposed by the sampling process. Using a peristaltic pump, groundwater sample would be pumped into a suitably labeled sample container and capped.

Field duplicates and other quality control (QC) samples would be collected immediately following collection of the original sample. After collection, each water sample would be stored on ice in a cooler until readied for delivery to the analytical laboratory. All sample collection procedures would be in accordance with the quality control described below. Following sample collection, each sample would be labeled with detailed information regarding the location, date, and time of collection. Chain-of-custody procedures would be followed from sample collection through sample analysis.

Sub-Slab Vapor Sampling

- The sub-slab probe will consist of a 21" stainless steel wire screen implant fitted with a ¼" diameter polyethylene tubing to the surface.
- The sub-slab probe will be sealed at grade with a cement-bentonite mixture.

Qualified ESPL personnel will complete all installation and sampling activities in general compliance with appropriate sampling and decontamination protocols recognized by the New York State Department of Environmental Conservation and New York State Department of Health. Sub-slab samples will be collected in the following manner at all locations:

- After the installation of the probe, 1-3 implant volumes will be purged prior to sample collection.
- Flow rates for both purging and collection will not exceed 0.2 liters per minute to minimize outdoor air infiltration during sampling.
- Samples will be collected utilizing laboratory certified clean Summa® canister (1 liter canister) fitted with two (2) hour valve regulators.

3.3 Sampling Locations

The preliminary proposed sampling locations are shown in Appendix A Figure 2 and may need to be adjusted as necessary to avoid potential subsurface structures and/or utilities. Utility mark out by the local one-call center and any information provided by the property owner will be considered when locating the boring. The proposed sampling locations will be marked out in the field prior to the mobilization of drilling equipment.

The exact sampling locations will be determined in the field based on accessibility, the presence of unforeseen impedances or other factors. Final sample locations will be recorded in the field logbook and staked in the field when sampling is completed. A survey crew will locate each sampling location on the final site map. The map will be provided in a final site investigation and sampling and analysis report.

3.4 Quality Control

The following steps will be implemented prior to initiating any field activities to ensure that the sampling is in accordance with the sampling plan.

Decontamination Procedures

During mobilization phase and prior to sampling activities, all sampling equipment will be decontaminated according to the procedures described below. These procedures are designed to prevent cross-contamination between different sampling locations, spread of contamination from one location to another by sampling equipment, and minimize contact time between sampling crews with contaminated media.

All sampling and other equipment that make direct contact with samples, such as split spoons and trowels will be decontaminated after each use. Each piece of equipment will be washed thoroughly with tap water and detergent. The equipment will be rinsed with deionized water and allowed to air dry. To prevent contamination during transport, decontaminated equipment intended to be used during sampling will be wrapped in aluminum foil. These procedures will be repeated at each sampling location.

The field supervisor will notify the contract laboratory of the upcoming sampling events so that the laboratory can prepare the appropriate types and numbers of sample containers. The anticipated number of sampling locations, the list of sampling

parameters to be analyzed for each location and the number of extra bottles needed for quality control testing will be specified to the laboratory manager.

All field equipment intended to be used during sampling will be inspected.

- All forms to be used in the field, including the field logbook, chain of custody forms and sample analyses request forms will be assembled.
- If appropriate, sample bottles will be pre-labeled during sampling activities. Pertinent information such as identification numbers, sample location, sample type, preservatives and type of parameters will be identified on the label with permanent ink during pre-sampling activities. The labels will be covered with transparent tape to protect them from getting wet in the ice packs.
- The sampling personnel will review proper sampling protocols. The project health and safety plan will be reviewed frequently to minimize the risk of injuries during the sampling activities.
- Samples will be collected and containerized in appropriate pre-cleaned sample containers in accordance with TABLE-1 & 2 “Sample Containers, Volumes to be Collected, Preservatives and Holding Times by Parameter and Matrix”.
- New clean soil vapor implants will be installed at each location.
- The collected soil & groundwater samples will be stored and transported at 4 degrees Celsius (°C) for preservation accompanied by a chain of custody documentation for laboratory analysis.
- All samples collected will be analyzed in accordance with the Analytical Procedures provided in section 3.5 of this report.
- Disposable vinyl gloves will be used by field technical personnel during sampling activities.
- Samples will be collected using laboratory certified clean Summa® canister (1 liter canister).
- Samples will meet appropriate holding times and temperatures, and will be delivered to the laboratory as soon as possible after collection.
- Field blanks will be supplied by the testing laboratory. The field blank(s) will be laboratory analyzed for the same parameters as the recovered samples.
- Samples will be hand delivered to a NYSDOH ELAP certified laboratory.

3.5 Disposal of Residual Materials

In the process of collecting environmental samples the sampling team will generate different types of potentially contaminated investigation-derived waste (IDW) that may include:

- Used personal protective equipment (PPE)
- Disposable sampling equipment
- Decontamination fluids

The IDW will contain minor residual amount of “SOIL”. These wastes are not considered hazardous and will be disposed of at a permitted facility.

Used PPE and disposable equipment will be double bagged and placed in municipal refuse dumpster. Any PPE and disposable equipment that is to be disposed of which can still be used will be rendered inoperable before disposal.

Decontamination fluids that will be generated during sampling will consist of deionized water, residual contaminants, and water with non-phosphate detergent. The volume and concentration of the decontamination fluid will be sufficiently low to allow disposal at the site or sampling area. This minimal volume of decontamination will be disposed on site.

If hazardous materials are found during sampling screening activities, appropriate level of notification and response procedures will be implemented in accordance with the Health and Safety Plan (HASP).

3.6 Analytical Procedures

The table below presents the requirements for sample containers, volumes to be collected, preservatives and holding times by parameter and matrix:

Soil

Soil samples collected will be analyzed by a NYSDOH ELAP certified laboratory for Full List VOC with Methyl tert-butyl ether (MTBE) by EPA Method 8021, 8260B), SVOC analysis (Base Neutrals and Acid extractable –BNA, EPA Method 8270C), Target Analyte List (TAL) Metals (EPA Method 6020) and Pesticides/PCBs (Method 8081A/8082).

TABLE 1

Soil Sample Containers Parameter and Matrix

Parameter	Container	Volume to be Collected	Preservative	Holding Times
VOCs	Glass	4 oz wide mouth glass jar with Teflon lined caps, no headspace	Cool (4°C)	7 days
SVOCs	Glass	8 ounce glass jar with Teflon lined caps	Cool (4°C)	7 days until extraction, then 40 days for analysis
Pesticides/PCBs	Glass	8 ounce glass jar with Teflon lined caps	Cool (4°C)	7 days until extraction, then 40 days for analysis
Metals	Glass	8 ounce glass jar with Teflon lined caps	Cool (4°C)	6 months, except 28 days for Hg

Groundwater

Groundwater samples collected will be analyzed for Full List VOC with Methyl tert-butyl ether (MTBE) by EPA Method 8021, 8260B), SVOC analysis (Base Neutrals and Acid extractable –BNA, EPA Method 8270C), Target Analyte List (TAL) Metals (EPA Method 6020) and Pesticides/PCBs (Method 8081A/8082) filtered and unfiltered.

TABLE 2

Aqueous Sample Containers Parameter and Matrix

Parameter	Container	Volume to be Collected	Preservative	Holding Times
VOCs	Glass	2 x 40 ml VOA vials	HCL	7 days
SVOCs	Glass	1 x 1 liter	Cool (4°C)	7 days until extraction, then 40 days for analysis
Metals	Plastic	1 X 250 ml	HNO3	6 months, except 28 days for Hg

Sub-Slab Vapor

The soil-vapor samples will be analyzed using USEPA Method TO-15 for volatile organic chemical compounds and helium. Analysis for EPA Method TO-15 will provide a wide range of volatile organic constituents. The minimum reporting limit will be 1 microgram per cubic meter (1mcg/m^3) or less.

4.0 Documenting and Reporting

4.1 Photographs

Photographs will be taken at the sampling locations and at surrounding areas. The photos will verify information entered in the field logbook. Each photo taken will be written in the logbook with the approximate time, date, and location.

4.2 Labeling

All samples collected will be labeled in clear and precise way for proper identification for tracking in the laboratory. Each sample will reference the sample data, the type of sample (L – liquid, S – soil), and the sample point identification.

4.3 Chain of Custody

A sample chain-of-custody form will be maintained by sampling personnel until the samples are relinquished to the analytical laboratory. The sample collector will be responsible for the integrity of the samples collected until transferred to another person. The sample collector will document all pertinent sample collection data. Individuals relinquishing or receiving custody of the samples will sign, date, and note the time on the analysis request/chain-of-custody form. A chain-of-custody form will accompany the sample containers or coolers, including transport to the analytical laboratory.

4.4 Packaging & Shipment

Samples will be collected and containerized in appropriate pre-cleaned sample containers.

Samples that require cooling to 4°C will be placed in a cooler with ice or ice gel or in a refrigerator immediately upon collection and during transport. All packaging and transportation activities will meet all relevant local, state, and federal laws and internal requirements.

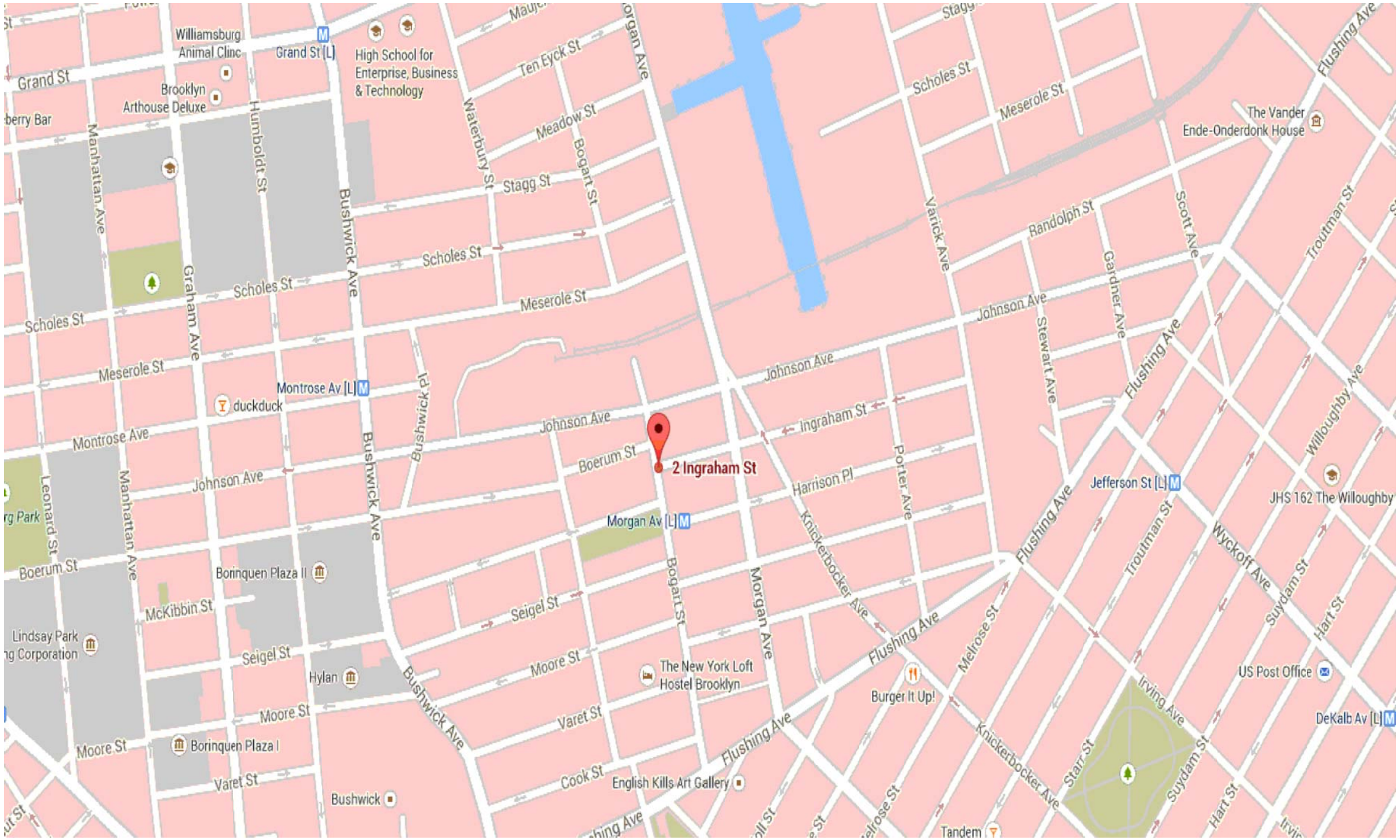

Figure 1

ESPL Environmental Consultants Corp.
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Sheet Title: Site Location Map	Project #: 134-4	Scale: As Shown	
Client & Location: Bogart Holdings LLC 2 Ingraham Street, Brooklyn NY 11203	Date: October 14,2014	Drawn By: T.H.	

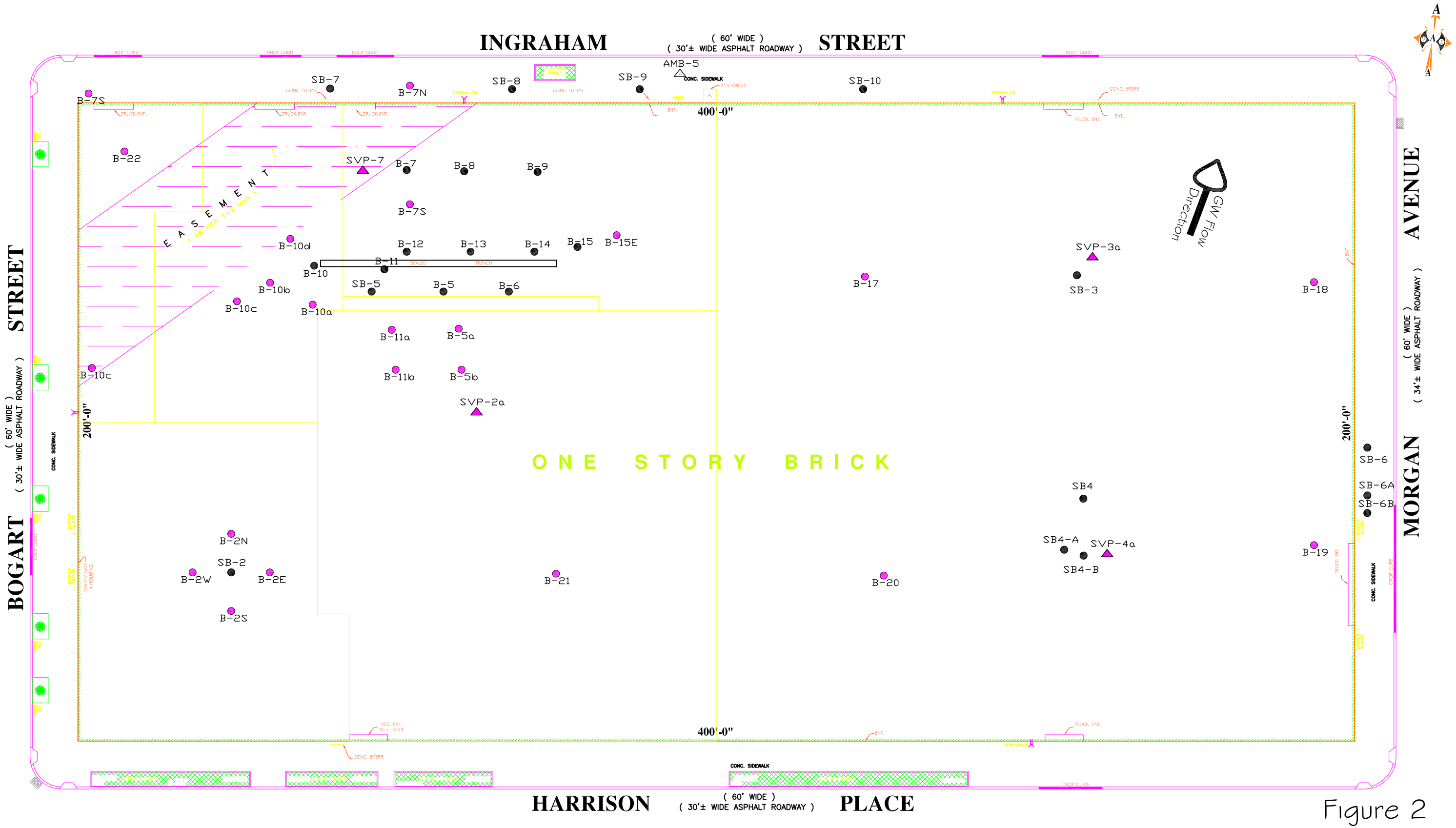

Figure 2

ESPL Environmental Consultants Corp. Address: 2 West 32nd St. NY, NY 10001 Tel: 212-330-7501 Email: mail@espl.com www.espl.com	Sheet Title:	Supplemental RIR Soil Boring & Soil Vapor Sampling Locations Map	Project #: 134-4	Scale: As Shown	Legend: B-14 RIR Soil Boring Location Tree B-17 Supplemental RIR Soil Boring Location SVP-2a Supplemental Soil Vapor Location AMB-5 Supplemental Ambient Air Sample Location
	Client & Location:	Bogart Holdings LLC 2 Ingraham Street, Brooklyn NY 11203	Date: October 14,2014	Drawn By: T.H.	