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# Supplemental Remedial Investigation Work Plan

for

**1095 Southern Boulevard  
Block 2727, Lot 41  
New York, NY 10459  
NYSBCP Site No. C203055**

*Prepared For:*

**Urban Health Plan, Inc.  
1065 Southern Boulevard  
Bronx, NY 10459**

*Prepared By:*

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A handwritten signature in blue ink, appearing to read "Joel B. Landes", written over a horizontal line.

**Joel B. Landes  
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**10 August 2012  
170199901**

## TABLE OF CONTENTS

<b>1.0</b>	<b>Introduction .....</b>	<b>1</b>
<b>2.0</b>	<b>Background Information .....</b>	<b>1</b>
2.1	<i>Site Description.....</i>	<i>1</i>
2.2	<i>Summary of Previous Investigations .....</i>	<i>1</i>
<b>3.0</b>	<b>Supplemental REMEDIAL Investigation.....</b>	<b>2</b>
3.1	<i>Groundwater Monitoring Well Installation .....</i>	<i>3</i>
3.1.1	Drilling Procedures .....	3
3.1.2	Field Screening .....	3
3.1.3	Monitoring Well Installation.....	4
3.1.4	Monitoring Well Development .....	4
3.1.5	Equipment Decontamination .....	4
3.1.6	Investigation-Derived Waste Management.....	5
3.2	<i>Surveying.....</i>	<i>5</i>
3.3	<i>Fraction Organic Carbon .....</i>	<i>5</i>
3.4	<i>Groundwater Sampling .....</i>	<i>5</i>
3.4.1	Bedrock Well Sampling.....	5
3.5	<i>Data Validation.....</i>	<i>6</i>
<b>4.0</b>	<b>Remedial Investigation Report .....</b>	<b>6</b>
<b>5.0</b>	<b>Schedule .....</b>	<b>7</b>

## **FIGURES**

Figure 1	Site Location Map
Figure 2	Site Plan – Existing Conditions
Figure 3	Remedial Investigation Soil Sample Results
Figure 4	Remedial Investigation Groundwater Sample Results
Figure 5	Proposed Bedrock Well Location Plan
Figure 6	Bedrock Well Construction Detail

## **TABLES**

Table 1	Summary of Proposed Samples and Analytical Methodology
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## **APPENDICES**

Appendix A	Relevant Correspondence
Appendix B	Fact Sheet #2
Appendix C	DNAPL-LENS-DETECT™ Material Safety Data Sheet

## **1.0 INTRODUCTION**

Langan Engineering & Environmental Services, Inc., PC (Langan) prepared this Supplemental Remedial Investigation Work Plan (SRIWP), on behalf of Urban Health Plan, Inc. (UHP), to describe the means and methods to identify dense-non aqueous phase liquid (DNAPL) and delineate the vertical extent of chlorinated volatile organic compound (CVOC) impacts within the boundary of the property at 1095 Southern Boulevard, Bronx, New York (the "Site"). The objective of this SRIWP is to: 1) address Site characterization concerns that the New York State Department of Environmental Conservation (NYSDEC) communicated in its 3 February 2012 letter to UHP and 2) provide additional information on environmental Site conditions to assist Site development planning. This SRIWP supplements the NYSDEC-approved Remedial Investigation Work Plan (RIWP), submitted by Hydro Tech Environmental, Corp. (Hydro Tech) on 4 August 2011, and consists of the installation and sampling of up to three bedrock groundwater monitoring wells within the Site boundary. UHP entered into the New York State Brownfield Cleanup Program (NYSBCP) as a Volunteer on 4 March 2011 (NYSBCP Site No. C203055) and is a contract vendee contemplating purchase of the property. Relevant NYSDEC correspondence is included in Appendix A.

## **2.0 BACKGROUND INFORMATION**

### **2.1 Site Description**

The Site, shown on Figure 1, is a 10,000 square foot (0.23 acre) vacant lot located in the Bronx, New York and is listed as Block 2727, Lot 41 on the New York City tax map. The Site opens to Southern Boulevard to the east and is bound by a five-story residential building to the north, a two-story commercial building to the south, and a five-story and three, 2-story residential buildings to the west (Figure 2). A chain link security fence with plywood sheeting surrounds the Site and a stockpile consisting of demolition debris covers most of the western and central portions of the Site.

### **2.2 Summary of Previous Investigations**

Two recognized environmental concerns (RECs) were identified in a Phase I Environmental Site Assessment (ESA), performed by Hydro Tech and dated February 10, 2011, including:

1. The historical utilization of the Site as a dry cleaning facility.
2. The destruction of the former Site building by fire.

A Phase II Environmental Site Investigation (ESI) was prepared by Hydro Tech to investigate the RECs identified in their Phase I ESA report. Concentrations of CVOCs, polyaromatic hydrocarbons (PAHs), and metals that exceed New York State standards set forth in 6 NYCRR Part 375-3.6(b) for Unrestricted Use were identified in soil during the Phase II at depths 4 to 8 feet below grade. Hydro Tech concluded that the historical dry-cleaning operations were the source of CVOCs in soil and PAHs and metals in soil are constituents of historic fill. The presence of CVOCs in shallow soil prompted further environmental investigation.

In response to the Phase II findings, two groundwater investigations were performed: one to assess Site impacts and another to assess off-Site impacts from historical dry cleaning operations. Both

investigations confirmed the presence of CVOC concentrations above their respective Technical and Operational Guidance Series (TOGS) Ambient Water Quality Standards (AWQS) and Guidance Values and Groundwater Effluent Limitations.

After UHP entered into the NYSBCP as a Volunteer, an RIWP was prepared, in accordance with the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, to detail activities for quantification of Site contamination and delineation of the vertical and areal extent of CVOCs. The NYSDEC approved the RIWP on 26 September 2011 and the RI was implemented in November and December 2011. The RI consisted of the completion of 10 soil probes and 9 monitoring wells, and collection and analysis of 13 groundwater, 17 soil, and 5 soil vapor samples (sample locations are depicted on Figure 2). Hydro Tech issued a preliminary summary of the RI results to the NYSDEC on 28 December 2011. Concentrations of CVOCs above their respective NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) and AWQS are depicted on Figures 3 and 4, respectively. The NYSDEC concluded that the RI data suggest the potential for DNAPL in contact with bedrock. Due to NYSDEC concerns that the sample results indicate the potential for DNAPL and fractured bedrock may serve as a conduit for contaminant migration, the NYSDEC changed the Site status to a “Significant Threat Determination” in the 22 March 2012 Fact Sheet #2. A copy of Fact Sheet #2 is included in Appendix B.

Data submitted in the 28 December 2011 preliminary investigation summary was used to locate the proposed bedrock monitoring wells. The primary objective of installing and sampling these wells is to determine if DNAPL is present and, if it is, to identify whether CVOC and/or DNAPL impacts extend into bedrock fractures.

### **3.0 SUPPLEMENTAL REMEDIAL INVESTIGATION**

These SRIWP activities will be conducted in accordance with the NYSDEC-approved RIWP 4 August 2011 except as otherwise indicated below. We propose installation of up to three bedrock groundwater monitoring wells to satisfy the requirements of NYSDEC’s February 3, 2012 letter. The completion depth of the bedrock wells will depend on the results of field screening described in section 3.1.2. Wells installed in competent bedrock will be of open-hole construction; wells installed in weathered bedrock or at the soil-bedrock interface will be of 2-inch polyvinyl chloride (PVC) construction. If the presence of DNAPL is suspected in overburden or weathered bedrock per field screening, one well will be installed at locations BW-1, BW-2, and BW-2 and vertically screened at the depth most likely to yield DNAPL. Because the objective of SRIWP is to determine whether DNAPL is present and not to delineate its extent, if a monitoring well is installed in weathered bedrock or unconsolidated overburden at these locations, a coupled bedrock monitoring well will not be installed during this mobilization.

The proposed locations are depicted on Figure 5 and the analytical scope and location rationale are summarized on Table 1. Proposed well locations BW-1, BW-2, and BW-3 are located in areas with the highest likelihood of encountering DNAPL, based on soil boring data and analytical results provided in the 28 December 2011 preliminary investigation. Assuming a northeasterly groundwater flow direction, as concluded by Hydro Tech in their previous investigations, the locations are also situated to best triangulate groundwater flow and contaminant concentration gradients. Well installation, sampling, and analytical procedures are described in the following subsections.

### **3.1 Groundwater Monitoring Well Installation**

Langan will retain a New York State-licensed well driller to install the bedrock monitoring wells. Well installation and development will be overseen by a field geologist. Final monitoring well locations may be moved based on field conditions.

#### **3.1.1 Drilling Procedures**

Overburden will be drilled and sampled using a Sonic® rig equipped with 5-foot long, 4-inch diameter core sampler. The core sampler will be driven in advance of 7-inch diameter temporary outer casing. The core sampler will be driven until refusal at bedrock. Upon refusal, bedrock will be cored for approximately 3 additional feet into competent rock. Once competent rock is encountered, a permanent, 4-inch diameter steel casing will be installed and the annulus will be sealed from rock to ground surface using grout consisting of Portland cement and granular bentonite. The bedrock seal will be allowed to cure for 24 before drilling activities resume.

#### **3.1.2 Field Screening**

Unconsolidated overburden and cored bedrock will be screened to determine if the presence of DNAPL can be determined in the field. Field screening techniques include the following:

- Soil stratigraphy using the Unified Soil Classification System (USCS);
- Visual and olfactory evidence of contamination;
- Instrumental evidence using a photoionization detector (PID); and,
- Field testing using hydrophobic dye.

Soil samples will be visually inspected and field screened for the presence of volatile organic vapors and a stratigraphic description will be provided. Visual inspection will consist of screening the sample for visual indications of contamination such as discoloration. VOC field screening will be completed by placing a portion of the collected sample into a sealable plastic bag and then monitoring for headspace vapor concentrations using a portable PID calibrated to a known concentration of isobutylene. To target for the DNAPL contaminants of concern (tetrachloroethene and its biodegradation daughter products), a 9.8 electron Volt (eV) lamp-equipped PID will be used instead of the standard 10.6 or 11.7 eV lamps. The 9.8-eV lamp filters out compounds with higher ionization energies and focuses screening on the compounds that could result in the presence of DNAPL. A weighted correction factor specific to these compounds will be applied to the PID following isobutylene calibration.

Soil stratigraphy and bedrock lithology will be described using the USCS, which includes descriptions of soil type, color, grain size, and moisture content. For cored bedrock, rock quality designations will be calculated in the field.

Soil and rock cores will also be screened using a hydrophobic dye, DNAPL-LENS-DETECT™ or equivalent. DNAPL-LENS-DETECT™ is a spray used to visualize DNAPL in rock and drill cores. The spray contains a blue anthraquinone dye, detergents and surfactants. When the spray comes in contact with DNAPL it allows the water solution to stay on the surface where the surfactants and detergents allow the dye to penetrate the DNAPL. If DNAPL is present, it should change color to royal blue. The reaction

of the dye with the DNAPL takes place within 30 to 60 seconds. The DNAPL-LENS-DETECT™ material safety data sheet is provided in Appendix C.

The activities described above will be recorded in field notes and on soil boring logs. Field notes and soil borings logs will be made available to the NYSDEC for review and will be included as an appendix to the remedial investigation report (RIR).

### 3.1.3 Monitoring Well Installation

The proposed bedrock monitoring wells will be of open-hole construction consistent with the detail provided in Figure 6 and installed based on field screening results. After the grout seal has cured for at least 24 hours, the borehole will be drilled using a 3 and 7/8-inch HQ Core bit. We anticipate approximately 15 feet of bedrock drilling; 5 feet to enter competent rock plus ten feet to access fractures for groundwater production. After reaching competent rock, if we do not encounter water-bearing fractures, the borehole location will be abandoned after 18 feet of rock drilling (3 feet of drilling to set the casing and an additional 15 feet of open-hole rock coring). In the event that field screening indicates possible DNAPL in saprolitic (i.e. weathered) bedrock or at the interface between overburden soil and bedrock, a 2-inch, PVC monitoring well will be installed, consistent with the flowing parameters: 2-inch, schedule 40 PVC casing, screen, and sump; 2-ft long sump; 10-ft long, 0.010-inch slotted screen; clean sand filter pack (e.g., Morie #2); transition sand (e.g. Morie #00); bentonite seal; and, grout to surface. The annulus will be backfilled with filter pack to 2 feet above top of screen, then transition sand 6 to 12 inches, followed by at least 2 feet of hydrated bentonite seal, then grout to manhole/concrete well pad. Surface completion of the monitoring wells will consist of a lockable j-plug at top of the steel casing and flush mount concrete well pads with steel manholes. Well construction diagrams consisting of as-built conditions will be submitted in the RIR.

### 3.1.4 Monitoring Well Development

No sooner than 12 hours following well installation, the wells will be inspected to verify that their surface seals are intact. Depth to water and product will be measured using an oil-water interface probe in each of the three new bedrock monitoring wells. A low-yield is anticipated from the bedrock wells; therefore, prior to pumping, the wells will be surged and agitated with a weighted, dedicated, polyethylene bailer. The wells will then be developed by continuously pumping using a submersible, centrifugal or peristaltic pump at a flow rate of generally less than 5 gallons per minute. Only properly decontaminated and dedicated/disposable down-hole equipment will be used. During pumping, pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), temperature, and turbidity will be monitored and recorded approximately every 5 to 10 minutes. Well development will continue until a minimum of three well volumes have been removed, the discharge is free of silt or fine sand, and the field parameters have stabilized for a maximum of one hour to attempt to achieve turbidity levels below the NYSDEC goal of 50 Nephelometric Turbidity Units (NTUs). The well development observations and data generated will be recorded in a field logbook.

### 3.1.5 Equipment Decontamination

Between soil boring locations, the augers, rods, core barrels, and all other down-hole drilling equipment will be decontaminated using steam/high-pressure hot water cleaning or Alconox and hot water cleaning at a centralized decontamination area set up on the Site. Decontamination wastes will be collected into

DOT-approved 55-gallon drums for temporary storage, characterization, and proper off-site disposal. The decontamination area will be lined with heavy plastic sheeting or otherwise constructed to contain decontamination wastes, and to minimize the potential for cross contamination to other areas of the Site.

#### 3.1.6 Investigation-Derived Waste Management

Soil cuttings and liquids will be placed in DOT-approved, 55-gallon drums and managed as F002 hazardous waste in accordance with the NYSDEC's Technical Administrative Guidance Memorandum 3028 "Contained-In" Criteria. The drums will be temporarily stored at the Site. Drums will be filled between one-half to two-thirds full to allow easy maneuvering during drum pickup and disposal. Debris, including plastic sheeting, personal protection equipment (PPE), used sampling tools, decontamination debris, etc. will be segregated if necessary from drill cuttings and liquid wastes, and will be placed in plastic bags and disposed as non-hazardous, non-regulated waste. Drummed wastes will be disposed off-site at a suitable facility that is licensed to accept F002 hazardous waste. Drum labels will include the date on which the drum was initially filled, the locations at which the waste was generated, and the date on which waste characterization sample(s) in the drum were collected.

### 3.2 Surveying

The existing array of wells at the Site, including bedrock monitoring wells and monitoring wells installed during the previous RI, will be surveyed by a NYS-licensed surveyor for horizontal location, top of well casing (measuring point) elevation, and top of ground surface elevation. Elevations and horizontal locations will be surveyed relative to established Site benchmarks and an assumed on-site Datum.

### 3.3 Fraction Organic Carbon

Representative fraction organic carbon ( $F_{oc}$ ) samples will be collected from the overburden soil matrix during drilling activities. A sample will be collected for  $F_{oc}$  analysis from each unique soil strata observed in each boring. Sampling for  $F_{oc}$  will be biased toward intervals that are not CVOC impacted. Based on this approach up to nine  $F_{oc}$  samples will be collected but only three will be analyzed based on field screening.  $F_{oc}$  samples will be analyzed to determine the affinity of the soil matrix to bind CVOC contamination and the relative degree of saturation if DNAPL is observed.

### 3.4 Groundwater Sampling

Prior to the start of groundwater sampling, measurement of one complete set of static groundwater levels for the existing array of wells will be completed. In addition, well bottoms will be screened for DNAPL presence. Water levels and DNAPL thickness (if present) will be measured using an oil-water interface probe.

#### 3.4.1 Bedrock Well Sampling

Consistent with scope summarized in Table 1, groundwater samples will be collected from each bedrock well, a minimum of one week after development (see Section 3.1.4). Samples will be collected in accordance with the low-flow technique developed by United States Environmental Protection Agency (USEPA) using an appropriate low-flow (e.g., 0.1-0.5 L/min) pump and dedicated tubing. An in-line water quality measurement device (e.g., flow-through cell) will be used to record chemical and physical



groundwater parameters such as temperature, pH, electro-conductivity, turbidity, oxidation-reduction potential, and dissolved oxygen concentration, and will be recorded during purging of the well. The groundwater samples will be collected into laboratory-supplied containers when the chemical and physical parameters have stabilized to within 10% variability between successive measurements.

As listed in Table 1, a set quality assurance/quality control samples will be collected to evaluate sample integrity. One trip blank, equipment blank, field duplicate, and matrix spike/matrix spike duplicate will be analyzed.

The groundwater and QA/QC samples will be submitted under chain-of-custody protocol to a New York State Department of Health Environmental Laboratory Approval Program-certified laboratory for analysis of target compound list (TCL) volatile organic compounds by USEPA Method SW-846 8260B. All analytical data will be reported by the laboratory following the NYSDEC ASP Category B deliverables, and a data usability summary report (DUSR) will be prepared in accordance with NYSDEC requirements.

### **3.5 Data Validation**

We will subcontract a third party to perform data validation in accordance with the USEPA validation guidelines for organic and inorganic data review. A DUSR will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain-of-custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.

Data will be submitted to the NYSDEC Environmental Information Management System (EIMS) electronically using the NYSDEC's standardized EQUIS™ database software application electronic data deliverable (EDD) format and valid values.

## **4.0 REMEDIAL INVESTIGATION REPORT**

Following completion of the Supplemental Remedial Investigation and receipt of analytical data, a RIR will be prepared. The report will include a Site history summary, a description of Site conditions and the Site investigation, scaled Site maps, tabulated analytical data, soil boring and well construction logs, laboratory analytical reports, and discussions of the findings. The scaled Site maps will be used to show the monitoring wells, groundwater elevations contours, groundwater flow, and, if appropriate groundwater contaminant concentrations. Interpretation of the data and field observations will be used to identify areas where DNAPL are present in Site soil, bedrock and groundwater. The report will provide recommendation as necessary for implementing any additional remedial measures.

## **5.0 SCHEDULE**

Because of limited availability of suitable drill rigs to perform this work, we tentatively scheduled drilling activities to begin on 10 September 2012. We understand that the Volunteer or the NYSDEC may require more time and need to delay these activities. Based on this timeline, the anticipated project schedule is listed below:

- 03 July 2012                      Submit Draft SRIWP to NYSDEC
- 10 August 2012                 Submit Final SRIWP to NYSDEC
- 24 August 2012                 NYSDEC approval of SRIWP
- 10 September 2012              Begin drilling activities
- 10 September 2012              Bedrock monitoring well development and survey
- 17 September 2012              Bedrock monitoring well sampling
- 1 October 2012                  Analytical results receipt and data validation
- 31 October 2012                 Submittal of Remedial Investigation Report

## FIGURES





**LEGEND:**

— SITE BOUNDARY

MW-1 MONITORING WELL LOCATION (MW)

SP-1 SOIL PROBE LOCATION (SP) – MARCH 2010

SV-1 SOIL VAPOR IMPLANT LOCATION (SV)

SP-1/MW-1 SOIL PROBE CONVERTED TO MONITORING WELL (SP/MW)

SP-1 SOIL PROBE LOCATION (SP) – OCTOBER 2010

MW-1 NESTED MONITORING WELL (MW)

**NOTES:**

1. SAMPLE LOCATIONS TAKEN FROM HYDRO TECH ENVIRONMENTAL, CORP., REMEDIAL INVESTIGATION AND REMEDIAL ACTION LETTER REPORT FIGURE 1, DATED 28 DECEMBER 2011.
2. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO, VERSION 6. COPYRIGHT 2012

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NJ Certificate of Authorization No: 24GA27996400

Project **SITE PLAN - EXISTING CONDITIONS**  
 SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN  
 1095 SOUTHERN BOULEVARD

BRONX NEW YORK

Project No. 170199901	Date 07/03/2012	Scale 1" = 20'	Fig. No. 2
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LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-14 8'-10'	SP-14 10'-12'
SAMPLING DATE			
11/11/2011			
Volatile Organic Compounds (ug/mg)			
Tetrachloroethylene	1300	21	ND
Trichloroethylene	470	1.1	ND

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-5 16'-18'
SAMPLING DATE		
11/18/2011		
Volatile Organic Compounds (ug/mg)		
Tetrachloroethylene	1300	4

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-6 8'-10'	SP-6 22'-23'
SAMPLING DATE			
11/17/2011			
Volatile Organic Compounds (ug/mg)			
Tetrachloroethylene	1300	1100	6.9

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-18 8'-10'	SP-18 14'-16'	SP-18 22'-23'
SAMPLING DATE				
11/17/2011				
Volatile Organic Compounds (ug/mg)				
cis-1,2-Dichloroethylene	250	45	<b>40000</b>	11
Tetrachloroethylene	1300	19	<b>1200000</b>	31
Trichloroethylene	470	4.3	<b>120000</b>	6.1

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-15 10'-12'
SAMPLING DATE		
11/11/2011		
Volatile Organic Compounds (ug/mg)		
Tetrachloroethylene	1300	33
Trichloroethylene	470	1.7

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-16 10'-12'	SP-16 14'-16'
SAMPLING DATE			
11/11/2011			
Volatile Organic Compounds (ug/mg)			
Tetrachloroethylene	1300	30	1.7
Trichloroethylene	470	1.4	ND

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-17 8'-10'	SP-17 22-24'
SAMPLING DATE			
11/11/2011			
Volatile Organic Compounds (ug/mg)			
cis-1,2-Dichloroethylene	250	1.9	ND
Tetrachloroethylene	1300	4.8	ND
trans-1,2-Dichloroethylene	190	1.8	ND
Trichloroethylene	470	2.5	ND



LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-1 20'-22'
SAMPLING DATE		
11/17/2011		
Volatile Organic Compounds (ug/mg)		
		ND

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-3 10'-12'
SAMPLING DATE		
11/18/2011		
Volatile Organic Compounds (ug/mg)		
cis-1,2-Dichloroethylene	250	13
Tetrachloroethylene	1300	99
Trichloroethylene	470	13

LAB SAMPLE ID	NYSDEC SOIL CLEANUP OBJECTIVES	SP-2 18'-20'	SP-2 26'-28'
SAMPLING DATE			
11/17/2011			
Volatile Organic Compounds (ug/mg)			
cis-1,2-Dichloroethylene	250	<b>3700</b>	ND
Tetrachloroethylene	1300	<b>51000</b>	16
trans-1,2-Dichloroethylene	190	17	ND
Trichloroethylene	470	<b>12000</b>	3.7

**LEGEND:**

— SITE BOUNDARY

● SP-1 SOIL PROBE LOCATION (SP) – MARCH 2010

⊙ SP-1/MW-1 SOIL PROBE CONVERTED TO MONITORING WELL (SP/MW)

● SP-1 SOIL PROBE LOCATION (SP) – OCTOBER 2010

**NOTES:**

1. SAMPLE LOCATIONS TAKEN FROM HYDRO TECH ENVIRONMENTAL, CORP., REMEDIAL INVESTIGATION AND REMEDIAL ACTION LETTER REPORT FIGURE 1, DATED 28 DECEMBER 2011.
2. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO, VERSION 6. COPYRIGHT 2012.
3. ANALYTICAL RESULTS COMPARED TO NYSDEC PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOs)
4. ONLY DETECTED COMPOUNDS ARE SHOWN.
5. COMPOUNDS DETECTED AT CONCENTRATIONS EXCEEDING THEIR RESPECTIVE SCOs ARE SHOWN IN BOLD.
6. ND=NON DETECT
7. ug/kg=MILLIGRAMS PER KILOGRAM.



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NJ Certificate of Authorization No: 24GA27996400

Project  
**REMEDIAL INVESTIGATION SOIL SAMPLE RESULTS**  
SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN  
1095 SOUTHERN BOULEVARD

BRONX NEW YORK

Project No.	Date	Scale	Fig. No.
170199901	06/28/2012	1" = 20'	3

Sample ID	NYSDEC TOGS	MW-3
Volatile Organic Compounds (µg/L)		
cis-1,2-Dichloroethylene	5	110
Tetrachloroethylene	5	71
Trichloroethylene	5	51
Vinyl Chloride	2	3.4

Sample ID	NYSDEC TOGS	MW-12
Volatile Organic Compounds (µg/L)		
1,1-Dichloroethylene	5	23
cis-1,2-Dichloroethylene	5	21000
Tetrachloroethylene	5	4200
trans-1,2-Dichloroethylene	5	82
Trichloroethylene	5	6400
Vinyl Chloride	2	900

Sample ID	NYSDEC TOGS	MW-5
Volatile Organic Compounds (µg/L)		
		ND

Sample ID	NYSDEC TOGS	MW-4
Volatile Organic Compounds (µg/L)		
cis-1,2-Dichloroethylene	5	5.2

Sample ID	NYSDEC TOGS	MW-11
Volatile Organic Compounds (µg/L)		
cis-1,2-Dichloroethylene	5	20
Tetrachloroethylene	5	2.8
Trichloroethylene	5	12
Vinyl Chloride	2	1.4

Sample ID	NYSDEC TOGS	MW-10A	MW-10B
Volatile Organic Compounds (µg/L)			
1,1-Dichloroethylene	5	ND	39
cis-1,2-Dichloroethylene	5	48	18000
Tetrachloroethylene	5	220	8100
trans-1,2-Dichloroethylene	5	ND	64
Trichloroethylene	5	36	11000
Vinyl Chloride	2	1.4	1300

Sample ID	NYSDEC TOGS	MW-9A	MW-9B
Volatile Organic Compounds (µg/L)			
cis-1,2-Dichloroethylene	5	63000	26000
Tetrachloroethylene	5	66000	21000
trans-1,2-Dichloroethylene	5	190	120
Trichloroethylene	5	17000	14000
Vinyl Chloride	2	3200	620

Sample ID	NYSDEC TOGS	MW-8
Volatile Organic Compounds (µg/L)		
1,1-Dichloroethylene	5	23
cis-1,2-Dichloroethylene	5	12000
Tetrachloroethylene	5	51000
trans-1,2-Dichloroethylene	5	52
Trichloroethylene	5	52000
Vinyl Chloride	2	13000

Sample ID	NYSDEC TOGS	MW-1
Volatile Organic Compounds (µg/L)		
1,1-Dichloroethylene	5	41
Tetrachloroethylene	5	7800
trans-1,2-Dichloroethylene	5	31
Trichloroethylene	5	12000
Vinyl Chloride	2	110



Sample ID	NYSDEC TOGS	MW-14
Volatile Organic Compounds (µg/L)		
cis-1,2-Dichloroethylene	5	8.0
Tetrachloroethylene	5	2.1
Trichloroethylene	5	3.4

Sample ID	NYSDEC TOGS	MW-15
Volatile Organic Compounds (µg/L)		
cis-1,2-Dichloroethylene	5	22000
Tetrachloroethylene	5	11000
Trichloroethylene	5	17000
Vinyl Chloride	2	140

- LEGEND:**
- SITE BOUNDARY
  - MONITORING WELL LOCATION (MW)
  - SOIL PROBE CONVERTED TO MONITORING WELL (SP/MW)
  - NESTED MONITORING WELL (MW)

- NOTES:**
- SAMPLE LOCATIONS TAKEN FROM HYDRO TECH ENVIRONMENTAL, CORP., REMEDIAL INVESTIGATION AND REMEDIAL ACTION LETTER REPORT FIGURE 1, DATED 28 DECEMBER 2011.
  - AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO, VERSION 6. COPYRIGHT 2012
  - WELLS ARE SCREENED APPROXIMATELY 5 FEET ABOVE GROUNDWATER THROUGH 10 FEET BELOW GROUNDWATER.
  - RESULTS COMPARED TO NYSDEC TECHNICAL & OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS (AWQS).
  - ONLY COMPOUNDS DETECTED AT CONCENTRATIONS EXCEEDING THEIR RESPECTIVE AWQS ARE SHOWN.
  - ND = NO DETECTIONS.
  - ug/L = MICROGRAMS PER LITER.

**LANGAN**  
ENGINEERING & ENVIRONMENTAL SERVICES

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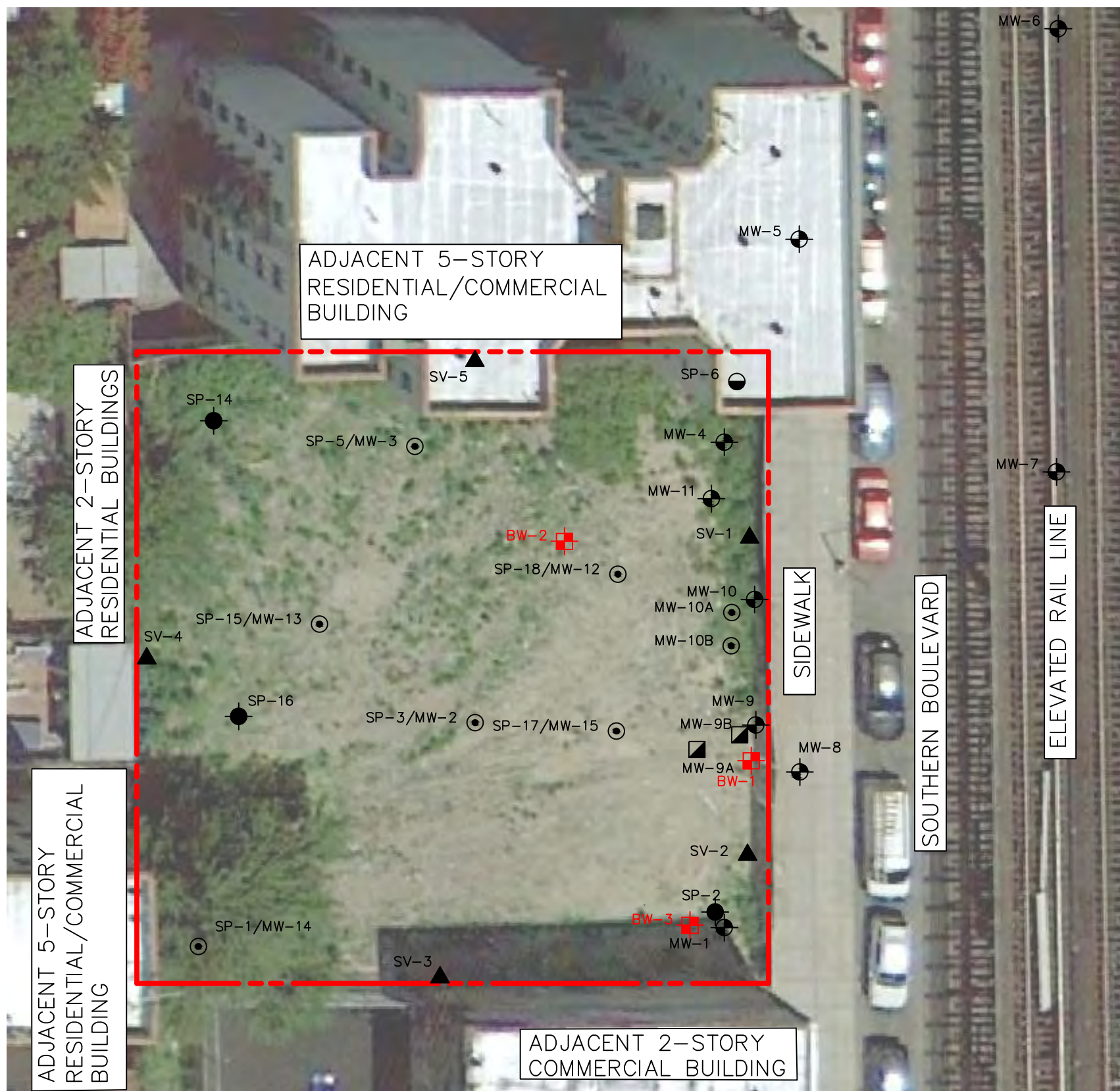
NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA

NJ Certificate of Authorization No: 24GA27996400

Project  
**REMEDIAL INVESTIGATION GROUNDWATER RESULTS**  
SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN  
1095 SOUTHERN BOULEVARD

BRONX NEW YORK

Project No. 170199901	Date 06/28/2012	Scale 1" = 20'	Fig. No. 4
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**LEGEND:**

- SITE BOUNDARY
- MW-1 MONITORING WELL LOCATION (MW)
- SP-1 SOIL PROBE LOCATION (SP) – MARCH 2010
- SV-1 SOIL VAPOR IMPLANT LOCATION (SV)
- SP-1/MW-1 SOIL PROBE CONVERTED TO MONITORING WELL (SP/MW)
- SP-1 SOIL PROBE LOCATION (SP) – OCTOBER 2010
- MW-1 NESTED MONITORING WELL (MW)
- BW-1 PROPOSED BEDROCK MONITORING WELL LOCATION (BW)

**NOTES:**

1. SAMPLE LOCATIONS TAKEN FROM HYDRO TECH ENVIRONMENTAL, CORP., REMEDIAL INVESTIGATION AND REMEDIAL ACTION LETTER REPORT FIGURE 1, DATED 28 DECEMBER 2011.
2. AERIAL IMAGE TAKEN FROM GOOGLE EARTH PRO, VERSION 6. COPYRIGHT 2012



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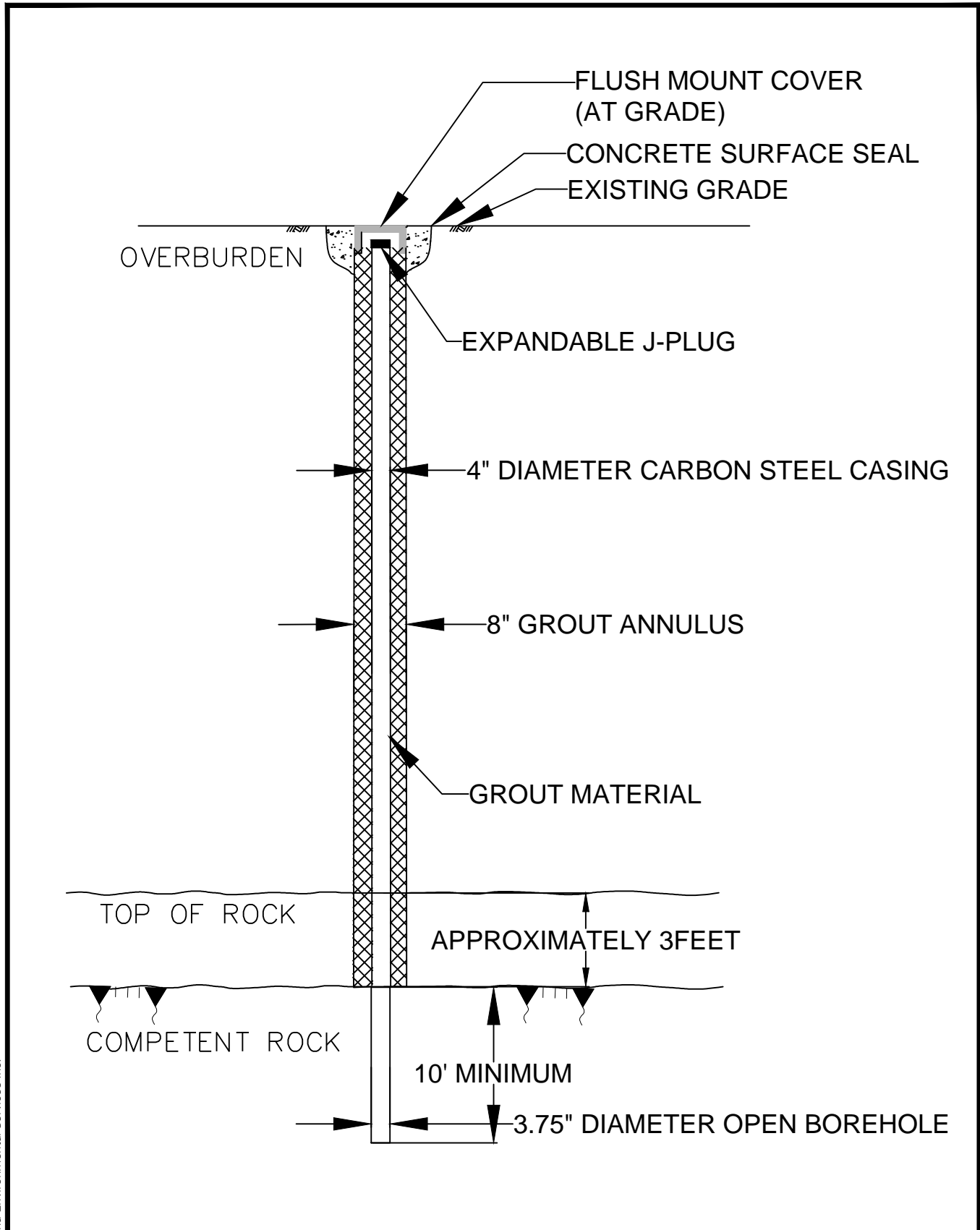
NJ Certificate of Authorization No: 24GA27996400

Project  
**PROPOSED BEDROCK WELL LOCATIONS**  
 SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN  
 1095 SOUTHERN BOULEVARD


BRONX NEW YORK

Project No. 170199901	Date 06/28/2012	Scale 1" = 20'	Fig. No. 5
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		<b>Project</b> <b>BEDROCK WELL CONSTRUCTION DETAIL</b> SUPPLEMENTAL REMEDIAL INVESTIGATION WORK PLAN 1095 SOUTHERN BOULEVARD BRONX NEW YORK	
21 Penn Plaza, 8th Floor New York, NY 10001 P: 212.479.5400 F: 212.479.5444 www.langan.com		<b>Project No.</b> 170199901	<b>Date</b> 06/28/2012
NEW JERSEY PENNSYLVANIA <b>NEW YORK</b> CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA NJ Certificate of Authorization No: 24GA27996400		<b>Scale</b> NTS	<b>Fig. No.</b> 6

## TABLES

**Table 1 - Summary of Proposed Samples and Analytical Methodology  
Supplemental Remedial Investigation Work Plan  
1095 Southern Boulevard  
New York, NY 10459  
Brownfield Cleanup Program Site Number C203005**

Location	Well ID / Sample Type	Assumed Depth Interval	Rationale	Analysis	Matrix	Sample Container	Preservation and Holding Time	Quantity
Between MW-8 and MW-9A	BW-1	29 - 39 ft bgs	Location amended per NYSDEC direction in 20 July 2012 email correspondence from Dana Kaplan.	TCL-VOCs + 10 TICs by SW-846 8260B	Groundwater	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1
Approximately 10 feet northwest of MW-12/SP-18	BW-2	28 - 38 ft bgs	SP-18 yielded highest PID and target CVOC results in RI in 14 - 16 ft bgs interval	TCL-VOCs + 10 TICs by SW-846 8260B	Groundwater	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1
Immediately west of MW-1	BW-3	30 - 40 ft bgs	Location amended per NYSDEC direction in 20 July 2012 email correspondence from Dana Kaplan.	TCL-VOCs + 10 TICs by SW-846 8260B	Groundwater	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1
Representative soil interval	BW-1/-2/-3	TBD	Determine soil matrix affinity to bind CVOC contamination	Fraction organic carbon (F <sub>oc</sub> )	Soil	1, 4-oz amber jar	Cool, ≤ 6 °C, 28 days	≈ 3
QA/QC	Trip Blank	30 - 40 ft bgs	Assess potential cross contamination during sample transport	TCL-VOCs + 10 TICs by SW-846 8260B	Lab-grade reagent water	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1
QA/QC	Equipment Blank	not applicable	Assess effectiveness of decontamination procedures	TCL-VOCs + 10 TICs by SW-846 8260B	Distilled/deionized water/equipment rinsate	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1
QA/QC	Field Duplicate	not applicable	Assess laboratory precision on sample matrix	TCL-VOCs + 10 TICs by SW-846 8260B	Groundwater	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1
QA/QC	Matrix Spike/Spike Duplicate	not applicable	Assess laboratory accuracy and precision on sample matrix	TCL-VOCs + 10 TICs by SW-846 8260B	Laboratory-Spiked Groundwater	3, 40-mL amber vials with PTFE septum	HCl (aq) to pH < 2, Cool, ≤ 6 °C, 14 days	1

ft bgs                      Feet below ground surface  
QA/QC                      Quality assurance/quality control  
PTFE                        Polytetrafluoroethylene  
TCL-VOCs                Target compound list volatile organic compounds  
TICs                        Tentatively identified compounds  
HCl (aq)                 Hydrochloric acid  
TBD                        To be determined in the field based on screening results

## **APPENDIX A**

### **Relevant Correspondence**

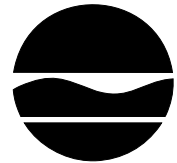
**New York State Department of Environmental Conservation  
Division of Environmental Remediation**

Region 2 Office

47-40 21<sup>st</sup> Street, Long Island City, NY 11101

Phone: (718) 482-4995 • Fax: (718) 482-6358

Website: [www.dec.ny.gov](http://www.dec.ny.gov)



Joe Martens  
Commissioner

September 26, 2011

Paloma Hernandez, President  
Urban Health Plan, Inc.  
1065 Southern Blvd.  
Bronx, NY 10459

Re: 1095 Southern Blvd  
Brownfield Cleanup Program Site # C203055  
Remedial Investigation Work Plan

Dear Ms. Hernandez,

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has reviewed the Remedial Investigation Work Plan (RIWP) dated August 4, 2011, submitted for the 1095 Southern Blvd BCP Site. The RIWP was submitted to NYSDEC by Hydro Tech Environmental, Corp. on behalf of the Volunteer, Urban Health Plan, Inc. The RIWP was released for a public comment period for 30 days as required by program policy. That comment period ended on September 26, 2011.

The RIWP is deemed to be appropriate and protective of the environment and public health and is hereby approved.

The Volunteer and its contractors are solely responsible for safe execution of all invasive and other work performed under the RIWP. In particular, the Volunteer and its contractors are responsible for the structural integrity of excavations, and protection of the structural integrity of buildings, utilities, and other structures both onsite and offsite that may be adversely affected by those excavations. The Volunteer and its contractors must obtain any local, state or federal permits or approvals that may be required to perform work under the Plan. Furthermore, the Volunteer and its contractors are solely responsible for the identification of utilities that might be affected by work under the RIWP and implementation of all required, appropriate, or necessary health and safety measures during performance of work under the approved RIWP.

Should you have any questions, please contact me at 718-482-7541 or [dpkaplan@gw.dec.state.ny.us](mailto:dpkaplan@gw.dec.state.ny.us).

Sincerely,

Dana Kaplan

Cc: Jane O'Connell – NYSDEC  
Bridget Callaghan – NYSDOH  
Rachel Ataman – Hydro Tech

**New York State Department of Environmental Conservation  
Division of Environmental Remediation**

Region 2 Office

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Joe Martens  
Commissioner

February 3, 2012

Paloma Hernandez, President  
Urban Health Plan, Inc.  
1065 Southern Blvd.  
Bronx, NY 10459

Re: 1095 Southern Blvd  
Brownfield Cleanup Program (BCP) Site # C203055  
Remedial Investigation – preliminary results and next steps

Dear Ms. Hernandez,

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has reviewed the summary of analytical results from the Remedial Investigation (RI) of the 1095 Southern Blvd BCP Site. Analytical data from the RI was submitted on December 29, 2011 by Hydro Tech Environmental, Corp. on behalf of Urban Health Plan, Inc. (the Volunteer).

Data collected during the RI documents high concentrations of chlorinated Volatile Organic Compounds (cVOCs) in the soil, groundwater, and soil vapor. The sampling completed to date does not fully delineate the vertical extent of the contamination. Furthermore, the data suggests that there may be a source of Dense Non-Aqueous Phase Liquid (DNAPL) present on the Site which may have entered the bedrock, creating the potential for continued off-site migration of contaminants. The Brownfield Cleanup Program guidelines require a Volunteer to identify and remediate all on-site sources of contamination, and to prevent off-site migration of contaminants. As such, additional investigation is required to completely delineate the extent of contamination on the Site and to determine the most appropriate remedy. Please submit a Supplemental Remedial Investigation Work Plan (SRIWP) to complete the delineation of contamination on the site. In accordance with Appendix A paragraph II.D.2. of the Brownfield Cleanup Agreement (BCA), please notify NYSDEC in writing within 15 days of the date of this letter whether you will elect to prepare the SRIWP. If you elect to prepare and submit the SRIWP, the document will be due within 45 days of the date of this letter.

This letter also serves to notify you that, after evaluating the preliminary RI data, NYSDEC believes that this Site may present a significant threat to public health and to the environment. As per 6 NYCRR 375-2.7(b), once this determination is made, it requires that the Department place the site on the Registry of Inactive Hazardous Waste Sites (the Registry); however, the Department will defer placing a site on the Registry so long as the Volunteer remains in compliance with the terms of the BCA (see 6 NYCRR 375-2.7(c)).

Should you have any questions, please contact me at (718) 482-7541 or [dpkaplan@gw.dec.state.ny.us](mailto:dpkaplan@gw.dec.state.ny.us).

Sincerely,



Dana Kaplan

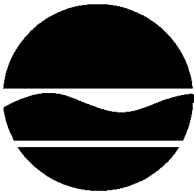
ec: David Yerosh – 1095 Bronx LLC  
Jane O’Connell, Robert Cozzy, Lou Oliva, John Nehila – NYSDEC  
Bridget Callaghan – NYSDOH  
Rachel Ataman – Hydro Tech Environmental Corp.  
David Etkind – Echtman & Etkind, LLP  
Oscar Walters – Demerara Engineering, PLLC

**APPENDIX B**

**Fact Sheet #2**



**NEW YORK STATE  
DEPARTMENT OF**



**ENVIRONMENTAL  
CONSERVATION**

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**NYSDEC Region 2 Office**

47-40 21<sup>st</sup> Street

Long Island City, NY 11101

(Call in advance) (718) 482-4900

Hours: Mon. to Fri. 9 am to 4 pm.

**Project Contacts**

**Dana Kaplan**

NYSDEC

47-40 21<sup>st</sup>. Street

Long Island City, NY 11101

[dpkaplan@gw.dec.state.ny.us](mailto:dpkaplan@gw.dec.state.ny.us)

Tel: (718) 482-7541

Fax: (718) 482-6358

**For public health-related questions:**

**Bridget Callaghan**

NYSDOH

547 River Street

Troy, NY 12180-2216

[beei@health.state.ny.us](mailto:beei@health.state.ny.us)

(518) 402-7860

**For more information about NY  
State's Brownfield Cleanup Program,  
visit:**

[www.dec.ny.gov/chemical/8450.html](http://www.dec.ny.gov/chemical/8450.html)

**FACT SHEET #2**

1095 Southern Blvd.  
Bronx, NY 10459

Site No. C203055

NYSDEC Region 2

March 2012

**Remedial Investigation Update  
and  
Significant Threat Determination**

This Fact Sheet is being provided to you pursuant to the New York State Environmental Conservation Law and the New York State Department of Environmental Conservation ("NYSDEC") Brownfield Cleanup Program ("BCP"). You have been sent this Fact Sheet because you own or live on property near 1095 Southern Blvd (the "Site") or because the NYSDEC believes you may otherwise be interested in activities at the Site, which is located in the Bronx, NY (see next page for Site Location Map). The prospective purchaser of the Site, Urban Health Plan, Inc. (the "Volunteer"), has commenced a Remedial Investigation under the BCP to investigate soil, groundwater, and soil vapor contamination at the Site. The Remedial Investigation Work Plan was approved by NYSDEC in September 2011 following a 30-day public comment period.

**BACKGROUND AND SUMMARY OF REMEDIAL INVESTIGATION**

**FINDINGS TO DATE:** The site is approximately 0.23 acres and is currently vacant and undeveloped. The property has historically been used as a dry cleaner. The Remedial Investigation began in November 2011, and included soil, groundwater, and soil vapor sampling and analysis. Sampling has identified elevated concentrations of the chlorinated solvent perchloroethylene (PCE) and its breakdown products in soil, groundwater and soil vapor. PCE is a compound commonly used in the dry cleaning process. Additional investigation is required to determine the full extent of the contamination and to develop an appropriate plan for cleaning up the Site.

**SIGNIFICANT THREAT DETERMINATION:** As part of every BCP project, NYSDEC, in conjunction with NYSDOH, is required to make a determination whether the conditions at a site pose a significant threat to human health or the environment, as defined in NYSDEC's regulations 6 NYCRR Part 375. The 1095 Southern Blvd Site has been determined by NYSDEC and NYSDOH to pose a significant threat to public health and to the environment. This determination is based on the nature of the existing contaminants identified at the Site; the potential for off-site migration of contaminants in the groundwater and soil vapor; and the potential for human exposure to site-related contaminants via soil vapors.

This determination means that funding for a Technical Assistance Grant, or TAG, will be available to qualifying community groups. Please visit:

<http://www.dec.ny.gov/regulations/2590.html>

or contact the NYSDEC project manager for more information on how to apply for a TAG.

**NEXT STEPS:** Additional investigation is required to determine the full extent of contamination. All of the activities conducted during the investigation and all of the results obtained will be documented in a Remedial Investigation Report. This report will be the basis for determining what actions will be needed to address any contamination at the Site. If remedial actions are required, the Volunteer will prepare a Remedial Action Work Plan (RAWP) that describes the proposed remedy. The RAWP will be made available for public comment. The Volunteer would then design and perform the cleanup action to address the site contamination, with oversight by NYSDEC and NYSDOH.

(Continued on next page)

## BROWNFIELD CLEANUP PROGRAM

NYSDEC will keep the public informed during the cleanup of the Site.

### BROWNFIELD CLEANUP PROGRAM (BCP)

**OVERVIEW:** New York established its BCP to address the environmental, legal, and financial barriers that often hinder the redevelopment and reuse of contaminated properties and to enhance private sector cleanups. New York's BCP features a cooperative approach among the NYSDEC, the NYSDOH, and Volunteers to investigate and/or remediate contaminated sites. Under the BCP, a Volunteer enters into a Brownfield Cleanup Agreement (BCA) with the NYSDEC and thereafter submits one or more work plans to investigate and, if necessary, remediate a site. The primary goal of the BCP is to remediate sites to a level that is protective of public health and the environment consistent with their proposed uses. When a Volunteer completes work, a release from liability from the NYSDEC is provided with standard reservations and a Certificate of Completion (COC) is issued. With its receipt of a COC, the Volunteer would:

- Have no liability to the State for contamination at or coming from the Site, subject to certain conditions; and
- Be eligible for tax credits to offset the costs of remedial activities and for redevelopment of the Site

A COC may be modified or revoked if, for example, the applicant does not comply with the terms of its BCA with NYSDEC, or if the Volunteer commits fraud regarding its application or its certification that it has met cleanup levels.

If you have any questions or know of any individual or organization that would like to be added to the project mailing list, please contact the NYSDEC Project Manager listed on the front page of this Fact Sheet. We encourage you to share this Fact Sheet with neighbors and tenants, and/or post it in a prominent area of your building.

### Receive Site Fact Sheets by Email

Have site information such as this fact sheet sent right to your email inbox. NYSDEC invites you to sign up with one or more contaminated sites county email listservs available at the following web page:

[www.dec.ny.gov/chemical/61092.html](http://www.dec.ny.gov/chemical/61092.html)

It's quick, it's free, and it will help keep you better informed. As a listserv member, you will periodically receive site-related information/announcements for all contaminated sites in the county(ies) you select. You may continue also to receive paper copies of site information for a time after you sign up with a county listserv, until the transition to electronic distribution is complete.

**Note:** Please disregard if you already have signed up and received this Fact Sheet electronically.

### Site Location Map



**APPENDIX C**

**DNAPL-LENS-DETECT™ Material Safety Data Sheet**

# Material Safety Data Sheet

To comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200

## DNAPL Lens Detect - RB Test Kit

### SECTION I -- Manufacturer

OIL IN SOIL LLC Telephone (215) 687-0355  
6 Queen Anne Road  
Levittown, PA 19057 USA

Date of MSDS Preparation Feb. 12, 2011

### SECTION II --Composition Information on Ingredients

Solvent Blue dye, is Anthraquinone Dye . The blue dye comprises less than 1 percent of the weight of the final solution and is not hazardous. A small amount of surfactants are added to help disperse the dye.

### SECTION III -- Physical Characteristics

#### Property

Melting point - 347°C

Specific gravity - ND

Solvent Blue dye - insoluble in water but soluble in oil or other hydrocarbons

Flammability limit - Unknown

Extinguishing media - Water or foam

Special Fire Fighting Procedures - None

### SECTION V -- Reactivity Data

Stability - All Components are STABLE.

Incompatibility - None

Hazardous decomposition Productions - Stable compounds

Hazardous Polymerization - Will not occur

Conditions to Avoid - Fire

### SECTION VI -- Health Hazard Information

#### **First Aid**

If swallowed wash out mouth. If dye comes in contact with skin thoroughly wash area with soap and water.

#### **Eye Contact**

Flush eyes with large amounts of water for 15 minutes. Seek medical attention.

#### **Skin Contact**

Wash hands thoroughly with soap and water.

### SECTION VII -- Spill, Leak and disposal Procedure

**Spills and Leaks** Dig up the soil that kit material has spilled on. If spilled on hard surface soak up spill and wash with detergent and water.

**Disposal** Dispose of soil with oily soil. Dispose of cleanup absorbent with other absorbent material.

### SECTION VIII -- Special Protection Information

**Protective Gloves** Always use protective vinyl or polyethylene gloves.

**Eye Protection** Always wear safety glasses

### SECTION IX --Special Precautions

**Storage Information** Keep away from temperatures greater than 140°F (Spray bottle may deform). **Avoid inhaling any dust from dye or surfactants!**

**DOT Class - Non flammable**