Former Tri-State Industrial Laundries Site

1634 LINCOLN AVENUE
CITY OF UTICA, ONEIDA COUNTY, NEW YORK

Site Management Plan

NYSDEC Site Number: C633068

Prepared for:
BRE Lincoln Avenue, LLC and
Lincoln C/B Properties, Inc.
c/o Fitzgerald, Depietro and Wojnas
291 Genesee Street
Utica, New York 13501

Prepared by:
Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects
290 Elwood Davis Road
Box 3107
Syracuse, New York 13220

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

JUNE 2013

Table of Contents

Table of Contents – Continued

Table of Contents – Continued

Table of Contents – Continued

Section Page

List of Tables

List of Figures

Appendices

1.0 Introduction and Description of Remedial Program

1.1 Introduction

This document is required as an element of the remedial program at Former Tri-State Industrial Laundries Site (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with a Brownfield Cleanup Agreement (BCA) executed on July 22, 2009 and last amended on March 8, 2013. Tri-State changed its name to Lincoln C/B Properties, Inc. (LCBP) on December 4, 2012. Tri-State transferred fee simple title to the Site to BRE Lincoln Avenue, LLC (BRE) on June 17, 2011.

1.1.1 General

LCBP entered into a BCA with the NYSDEC to remediate a 1.66 acre property located in City of Utica, Oneida County, New York. This BCA required the Remedial Party, LCBP and BRE, to investigate and remediate contaminated media at the Site. A figure showing the Site location is provided in Figure 1, and identified areas of environmental concern (AOCs) on the 1.66 acre Site are provided in Figure 2. The boundaries of the Site are more fully described in the metes and bounds Site description (Appendix A) and in the Environmental Easement (Appendix B).

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this Site, which is hereafter referred to as 'remaining contamination." This Site Management Plan (SMP) was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Barton & Loguidice, P.C. (B&L), on behalf of LCBP and BRE, in accordance with the requirements in NYSDEC DER-10 Technical Guidance for Site

Investigation and Remediation, dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easement for the Site.

1.1.2 Purpose

The Site contains contamination left after completion of the remedial action. Engineering Controls have been incorporated into the Site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. An Environmental Easement granted to the NYSDEC, and recorded with the Oneida County Clerk, will require compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on Site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary ensure compliance with all ECs and ICs required by the Environmental Easement for contamination that remains at the Site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the environmental easement, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA for the Site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easement for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 Site Background

1.2.1 Site Location and Description

The Site is located in the City of Utica, County of Oneida, New York and is identified as Block 318 and Lots 62-2-10.1 + 10.2, 62-2-11.1 + 11.2, 62-2-12.1, 62-2-12.2, 62-2-13, and 62-2-14 on the City of Utica Tax Map. The Site is an approximately 1.66 acre area bounded by New York State Routes 5, 8 and 12 (Arterial) to the north, Lincoln Avenue and residential neighborhoods to the south, commercial facilities to the east, and mixed residential and commercial properties to the west (see Figure 2). Nail Creek flows to the east in a closed conduit on the north side of the Site. The boundaries of the Site are more fully described in Appendix A – Metes and Bounds. The western portion of the Site is leased by Indium Corporation of America, where the metallic element germanium is produced.

1.2.2 Site History

LCBP operated an industrial laundry facility at the Site from approximately 1930 to 1999. There is over a 125-year history of industrial operations at the Site, including former laundering not affiliated with LCBP. LCBP operated three (3) perchloroethylene (tetrachloroethylene) dry cleaning units of varying sizes in the western portion of the facility from 1977-1983. Dry cleaning operations were terminated in 1983. LCBP also operated a water wash line with six washing machines that utilized alkaline cleaner, a non-surfactant, bleach, and a softening agent. This cleaning stream was discharged to the Oneida County sanitary sewer system following pretreatment. Prior to 1984, Tri-State discharged to the Nail Creek culvert. Tri-State ceased all industrial operations at the facility in 1999.

A subsidiary cleaning company, Environmental Laundries, Inc., also located on-site, operated two (2) additional perchloroethylene (tetrachloroethylene) dry cleaning units. These operations were conducted in the central portion of the building. Additional Site history was evaluated through a review of Sanborn Fire Insurance Maps and is summarized in the January 2010 Remedial Investigation Work Plan (RIWP).

LCBP conducted an investigation of subsurface contamination in accordance with the BCP. The investigation and related activities were conducted under the oversight of B&L, NYSDEC and the New York State Department of Health (NYSDOH).

The results of the BCP investigation activities indicated the presence of residual subsurface soil and groundwater impacts on-site. Contamination is limited to the Site and is limited to volatile organic compounds (VOCs). There are three areas of concern (AOC) including the main chlorinated solvent impacts located below the former assembly room slab contributory to impacts in the area of monitoring well B-8 (AOC 1); a separate isolated area of chlorinated solvents adjacent to the exterior pit (AOC 2); and an area of petroleum impacts (non-chlorinated) adjacent to the former USTs along Lincoln Avenue (AOC 3). The AOCs are depicted on Figure 2. The remaining subsurface soil impacts identified as part of the BCP investigation are isolated, bound to the Site, and occur under several feet of clean overburden cover. Sampling of Site soils and groundwater indicate exceedances of their respective 6

NYCRR Part 375 and Part 703 standards; however, the Site and nearby parcels use the municipal water supply and there are no other downgradient receptors.

Based upon the Site investigation results, an Alternatives Analysis Report (AAR) was prepared. The AAR evaluated remedial alternatives to eliminate or mitigate threats to public health and the environment in order to support the selection of a preferred remedy. The alternatives were based upon the findings presented in the December 2011 RI Report. Six remedial alternatives, including "No Action" and "No Further Remedial Action" were evaluated to address the remedial objectives for each AOC (refer to July 2012 AAR for additional detail). The NYSDEC selected Alternative 5 as the Site remedy. A Remedial Action Work Plan (RAWP) was prepared (dated November 2012) and identifies the tasks to implement the NYSDEC selected remedy as presented in the July 2012 AAR.

1.2.3 Geologic Conditions

Surface Features

The majority of the Site consists of a concrete block building, portions of which have exterior siding. There is asphalt parking and loading provided along the south of the building adjacent to Lincoln Avenue. There is approximately 30-feet of a grass buffer along the north side of the building. The Site is separated from the NYS Department of Transportation (NYSDOT) Arterial right-of-way (ROW) by a chain-link fence to the north. Nail Creek is present north of the Site in a closed 10 by 10-foot culvert. Portions of the Site investigation extended off-site to the north, in which a NYSDOT ROW permit was acquired.

Surface Water Hydrology

The Site is covered with the structure, and only a very minimal portion of the Site is vegetated on the north side; some stormwater infiltrates the Site prior to exiting as runoff. There is a closed stormwater drainage system on the south side of the Site, along Lincoln Avenue, owned by the City of Utica.

Site Geology

The Site is located in the Hudson-Mohawk Lowlands, which is characterized by broad valleys with low elevation and relief. The highlands surrounding the region include the Allegheny Plateau to the south, the Tug Hill Plateau (a remnant of the Alleghany Plateau) to the northwest, and the Adirondack Central Highlands to the north and northeast.

The United States Department of Agriculture's (USDA) Soil Survey for Oneida County maps this area as Alton-Urban land complex. The Alton complex parent material is described as gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits. The Site is mapped on the New York Surficial Geology Map – Hudson Mohawk Sheet (Cadwell, et al., 1987) as lacustrine sand. A large kame deposit is mapped roughly 2,000 feet to the northwest of the Site and glacial till is mapped slightly further to the south. According to the New York State Museum and Science Service's Geologic Map of New York dated 1970, the Site is underlain by a tongue of the Ordovician age Utica Shale, with the Pulaski/Whetstone Gulf formation (Upper Ordovician age siltstone and sandstone) found roughly one half mile or less to the north and south.

The subsurface investigation found the Site soils typically consist of fill material near the surface (usually extending to depths less than 5 feet), underlain by a medium stiff shallow overburden unit that was typically described as Silt with some Sand and Gravel using the Modified Burmister Soil Classification system. The shallow overburden unit was underlain by a very stiff to hard grey till (aka glacial till unit), which was typically described as SILT and CLAY, some Sand and Gravel. Occasional soft sand lenses with higher permeability were encountered in the deeper glacial till unit. Groundwater was usually encountered at depths of 6 to 9 ft bgs. Several of the borings encountered refusal on what was believed to be bedrock at depths of approximately 20 ft, and weathered shale fragments were often noted in the immediately overlying soil sample descriptions. Bedrock cores were not collected during the investigation. Subsurface investigation and well construction logs are provided as Appendix C.

Site Hydrogeology

The static water level elevations collected from the groundwater monitoring wells indicated a general groundwater flow direction in the shallow and deep overburden units from southwest to northeast. A groundwater flow figure for the shallow overburden unit is shown in Figure 3. A groundwater flow figure for the deeper glacial till unit is shown in Figure 4. Based on these data, the lateral hydraulic gradient was calculated to be 0.028 feet per foot in the shallow overburden unit and 0.006 feet per foot in the glacial till unit. The data indicate the influence of pumping from the existing groundwater extraction system.

In-situ variable hydraulic conductivity testing was performed following the completion of monitoring well installation and well development. Hydraulic conductivity values in the shallow overburden unit ranged from 1.0×10^{-5} cm/sec at MW-1S to 1.6×10^{-4} cm/sec at MW-2S; and in the glacial till unit, hydraulic conductivity ranged from 8.3×10^{-6} cm/sec at MW-9D to 1.0×10^{-1} cm/sec at MW-03.

1.3 Summary of Remedial Investigation Findings

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the Site. The results of the RI are described in detail in the RI Report, dated December 2011 (Revision 2), prepared by B&L. The RI Report summarized and expanded on data from prior investigations conducted over a 20 year history of environmental monitoring. Generally, the RI determined that three (3) AOCs were identified as follows:

1. B-8 area located in vicinity of the former assembly room (AOC 1);
2. Area located in vicinity of the former exterior wastewater discharge pit, including accumulated water within the pit (AOC 2); and
3. Area of non-chlorinated petroleum impacts adjacent to the truck loading area along Lincoln Avenue (AOC 3).

The following are potential exposure pathways associated with each recognized AOC:

- Volatilization of organic constituents from subsurface soils and groundwater (vapor intrusion) throughout the on-site building (AOC 1 and 3).
- Absorption and ingestion of groundwater accumulated within the exterior pit (AOC 2).
- During future subsurface construction activities, one or more potential exposure pathways associated with residual subsurface soil, groundwater, and soil vapors could exist for potential construction site workers or wildlife (AOCs 1, 2 and 3).
- There are no complete off-site exposure pathways under existing conditions.

As listed in the NYSDEC February 2013 Decision Document, specific contaminants of concern (COCs) exceeding Standards, Criteria and Guidance (SCGs) identified at this Site are:

Tetrachloroethylene (PCE)	Trichloroethene (TCE)
Benzene	Xylene (Mixed)
Ethylbenzene	Vinyl Chloride

The COCs exceed the applicable SCGs for:

Soil
Groundwater
Soil Vapor Intrusion

Below is a summary of Site conditions when the RI was performed in 2010-2011.

Soil

The data collected from the BCP soil borings built upon the 20-plus years of environmental investigation at the Site. VOCs were detected in subsurface soil samples above Part 375 Protection of Groundwater SCOs and they are the sole contaminants of concern at the Site. A summary of the subsurface soil boring data correlating to the defined AOCs are provided in Tables 1 and 2. The areas of concern are depicted on Figure 2.

Table 1. Remedial Investigation Subsurface Soil Boring Exceedances: Volatile Organic Compounds (EPA Method 8260)
Areas of Concern 1 and 3

Parameter	NYSDEC Part 375 SCO for Protection of Groundwater (ug/kg)	Pre-BCP Investigation Points				BCP Investigation Points					
		B-12 (6-7.5')	B-13 (6-9')	B-15 (6-9')	B-16 (3-6')	B-28 (6-8')	B-30 (15.5-18.5')	B-31 (7-9')	B-32 (14-18')	B-33 (10-12')	B-33 (12-14')
Cis-1,2-Dichloroethene	250	**380**	ND	ND	**2600**	**980**	3.4	**6400**	ND	**680**	**2800**
Benzene	60	--	--	--	--	ND	**420**	ND	ND	ND	ND
Ethylbenzene	1000	--	--	--	--	**1800**	16	ND	ND	ND	ND
Mixed Xylenes	260	--	--	--	--	**15,700**	25	ND	ND	ND	ND
Tetrachloroethene	1300	**2800**	**1,100,000**	**260,000**	410	ND	ND	**200,000**	**130,000**	ND	**31,000**
Trichloroethene	470	210	ND	**6000**	30	ND	ND	**5700**	ND	ND	**3400**
Vinyl Chloride	20	ND	ND	ND	**630**	ND	ND	ND	ND	6.8	ND

Notes:

Vinyl Chloride (700 ug/kg) above Protection of GW SCO (20 ug/kg) at location B-23. Isolated area not included as an AOC. Split spoon soil samples were also collected from the following locations, with no exceedances of Part 375 Protection of Groundwater SCOs: MW-24 (18-20'); MW-28 (17-19.5'); MW-30 (6-8'); MW-31 (13.5-18.5'); MW-32 (10-12'); MW-32 (20-21'); MW-33 (18-20'); MW-34 (8-10'); MW-1S (5-8'); MW-1D (14-19'); MW-4D; MW-7 (8-10'); MW-7D (18-20'); MW-9D (17.5-20'); MW-11D (2-9'); MW-11D (10-15'); MW-12S (3-8'); and MW-13S (5-10')

Table 2. Remedial Investigation Subsurface Soil Boring Exceedances: Volatile Organic Compounds (EPA Method 8260) Area of Concern 2				
Parameter	**NYSDEC Part 375 SCO for Protection of Groundwater (ug/kg)**	**B-24 (5-6.5')**	**MW-8D (6-8')**	**MW-9D (6-8')**
Cis-1,2-Dichloroethene	250	**980**	**3000**	**1600**
Tetrachloroethene	1300	**5700**	ND	**160,000**
Trans-1,2-Dichloroethene	190	**ND**	**260**	ND
Trichloroethene	470	**5900**	**4200**	**4200**
Vinyl Chloride	20	**ND**	**78**	ND

Notes:

Vinyl Chloride (700 ug/kg) above Protection of GW SCO (20 ug/kg) at location B-23. Isolated area not included as an AOC. Split spoon soil samples were also collected from the following locations, with no exceedances of Part 375 Protection of Groundwater SCOs: MW-24 (18-20'); MW-28 (17-19.5'); MW-30 (6-8'); MW-31 (13.5-18.5'); MW-32 (10-12'); MW-32 (20-21'); MW-33 (18-20'); MW-34 (8-10'); MW-1S (5-8'); MW-1D (14-19'); MW-4D; MW-7 (8-10'); MW-7D (18-20'); MW-9D (17.5-20'); MW-11D (2-9'); MW-11D (10-15'); MW-12S (3-8'); and MW-13S (5-10')

The estimated area and volume of residual impacted soil is presented in Table 3 for each AOC.

Table 3. Remedial Investigation Approximate Areas of Residual Soil Impacts				
AOC	**Surface Area (ft^2)**	**Impacted Depth (fbg)**	**Soil Volume (ft^3)**	**Soil Volume (cy)**
1 (Former Assembly Room Slab)	6,900	12-18 ft (exterior north side) 3-11 ft (basement) 2-9 ft (first floor)	52,500	1,944
2 (Exterior Pit and MW-9)	600 (area outside of pit)	4-9	3,000	111
3 (Non-Chlorinated Petroleum)	3,850	4-10	23,100	856
Total	**11,350**	**varies**	**78,600**	**2,911**

Site-Related Groundwater

A total of twenty (20) monitoring wells were installed as part of the BCP investigation, including ten (10) locations each within the shallow overburden and deeper till locations. The BCP investigation groundwater monitoring locations augmented the pre-BCP monitoring well network that consisted of an additional eleven (11) locations (total of 31 monitoring well locations). Wells were installed throughout the downgradient property border (north side of the

facility), off-site in the NYSDOT right-of-way, in the building interior surrounding the known area of chlorinated solvent impacts in the central basement, and upgradient along Lincoln Avenue. A summary of the monitoring well data is provided in the December 2011 RI Report.

The results of the groundwater investigation indicated the three isolated AOC (see Figure 2 for a summary of the results). Migration has not occurred beyond the sanitary sewer line located north of B-8. The ongoing operation of the groundwater treatment system has been effective in maintaining an on-site hydraulic control. Chlorinated solvent degradation compounds, cis-1, 2 dichloroethene and vinyl chloride, are present indicating that active dechlorination is occurring. There are no off-site receptors and the Site and surrounding areas are serviced by a public water supply.

Site-Related Soil Vapor Intrusion

Based on the BCP vapor intrusion investigation results, vapor mitigation is warranted for the western and eastern portions of the building. The central portion of the building, which is closest to well B-8, did not exhibit vapor concentrations that necessitate mitigation. This is likely attributed to depressurization of this portion of the sub-slab from operation of the active groundwater remediation system in proximity to B-8. Vapor intrusion mitigation, however, has been included as part of the selected remedy for the entire building footprint. The BCP off-site vapor intrusion investigations indicated that there are no off-site vapor intrusion concerns.

Underground Storage Tanks

Four (4) underground storage tanks (USTs) were closed-in-place as interim remedial measures. These tanks included two (2) 4,000-gallon mop oil USTs located inside the building and two (2) 10,000-gallon #6 heating oil USTs located in the courtyard exterior of the building (see Figure 2). The USTs were closed under the oversight of NYSDEC in accordance with DER-10. Soil and groundwater samples were collected and were analyzed for VOCs, SVOCs, metals, and PCBs. A summary of the qualified UST subsurface soil and groundwater closure data are presented in the December 2011 RI Report. In consultation with the NYSDEC, the following samples were collected as part of the tank closures:

- Mop Oil Tank 1 – five (5) soil samples (A-E) and one (1) groundwater sample;

- Mop Oil Tank 2 – five (5) soil samples (A-E);
- Fuel Oil Tank 1 – four (4) soil samples (A-D) and one (1) groundwater sample;
- Fuel Oil Tank 2 –one (1) groundwater sample;

Clearance soil results were compared against Protection of Groundwater SCOs and groundwater samples were compared to Part 703 Water Quality Standards.

Acetone was the only compound that exceeded the Protection of Groundwater SCOs from any of the soil samples collected from the UST clearance soil samples. Acetone was detected at Mop Oil Tank 1 Bottom A (59 ug/kg), Mop Oil Tank 1 Bottom B (120 ug/kg), Mop Oil Tank 1 Bottom E (87 ug/kg) and Mop Oil Tank 2 Bottom E (88 ug/kg). The concentrations only marginally exceeded the Acetone Protection of Groundwater SCO of 50 ug/kg. Acetone was not detected in the corresponding groundwater samples and is not considered a Site contaminant of concern. The following table presents the minor groundwater exceedances from water that accumulated in the tanks following cleaning.

Table 4. UST Clearance Sample Results – Tank Water
VOCs (EPA Method 8260 B) and SVOCs (EPA Method 8270 C)

Parameter	NYSDEC Part 703 Groundwater Standard	Mop Oil Tank 1	Mop Oil Tank 2	Fuel Oil Tank 1	Fuel Oil Tank 2
Volatile Organic Compounds – (EPA Method 8260 B); ppb					
cis-1,2-Dichloroethene	5	**20**	No water present	ND	ND
Isopropylbenzene	5	**45**		ND	3.5
Vinyl chloride	2	**18**		ND	ND
Total Xylenes	5	ND		**21.3**	0.55
Semi-Volatile Organic Compounds – (EPA Method 8270 C); ppb					
bis(2-Ethylhexyl)phthalate	5	**8.1**	No water present	ND	ND
Naphthalene	10	ND		**25**	ND

1.4 Summary of Remedial Actions

The Site was remediated in accordance with the NYSDEC-approved Remedial Action Work Plan dated November 2012. Remedial activities were completed at the Site in December 2012 through May 2013.

The following is a summary of the Remedial Actions performed at the Site:

1. Installation of a dual phase soil vapor and groundwater extraction system. This action improves on the perimeter hydraulic control. In addition to treating groundwater, dual phase extraction conducted under higher vacuum treats soil vapor as the groundwater table is depressed. The dual phase vapor and groundwater extraction system was installed in each area of concern.
2. The Former Waste Water Exterior Pit (AOC 2) was cleaned of all water, debris and sediments and all media properly disposed. The existing piping was sealed to remove the potential exposure pathways and possible discharge points outside of the pit.
3. Installation of sub-slab depressurization systems beneath all on-site structures. Suction fans were installed to produce negative pressure beneath building slabs preventing the mobilization of vapors into the building. The ventilation system was augmented by sealing potential vapor routes in the existing slab over the areas of impact.

In addition to the above, the remedy requires the following controls:

1. A site cover will be maintained to allow for industrial use of the Site. Any Site redevelopment will maintain a site cover, which may consist either of the structures such as buildings, pavement, sidewalks comprising the Site development or a soil cover in areas where the upper one foot of exposed surface soil will not exceed the applicable soil cleanup objectives (SCOs). Where a soil cover is required, it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for industrial use. Any fill

material brought to the Site will meet the requirements for the identified Site use as set forth in 6 NYCRR Part 375-6.7(d).

2. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

   a. requires the remedial party or Site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);

   b. allows the use and development of the controlled property for industrial use defined by Part 375-1.8(g), although land use is subject to local zoning laws;

   c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and

   d. prohibits agriculture or vegetable gardens on the controlled property; and

   e. requires compliance with the Department approved Site Management Plan.

3. Development and implementation of a Site Management Plan for long term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

1.4.1 Removal of Contaminated Materials from the Site

Excavation of impacted soils as a remedial technique was not selected. Concentration reduction and contaminant mass removal has been conducted by treatment systems described in Section 2.2.1.

1.4.2 Site-Related Treatment Systems

Site treatment systems utilized during the remedial efforts are described in Section 2.2.1.1 through Section 2.2.1.4. These treatment systems are presented in Table 5.

1.4.3 Remaining Contamination

Figure 2 summarizes the results of all soil samples remaining at the Site after completion of Remedial Action that exceed the Track 1 (unrestricted) SCOs. Remaining volume of soils exceeding unrestricted SCOs are estimated and presented in Table 3.

2.0 Engineering and Institutional Control Plan

2.1 Introduction

2.1.1 General

Since remaining contaminated soil, groundwater and soil vapor exists beneath the Site, Engineering Controls and Institutional Controls (EC/ICs) are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easement;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the Site remedy, as determined by the NYSDEC.

2.2 Engineering Controls

2.2.1 Engineering Control Systems

The remedy includes the implementation of institutional and engineering controls. The following section outlines the conceptual approach for the design and installation of the following engineering controls at each AOC.

Table 5. Engineering Control Remedy

Engineering Control	Area of Concern Location
Maintenance of Cover System	Entire Site including: 1: Former Assembly Room Slab (B-8) 2: Exterior Pit 3: Petroleum Former Truck Loading Area along Lincoln Avenue
Operation of the Existing Groundwater Extraction System	1: Former Assembly Room Slab (B-8) 3: Petroleum Former Truck Loading Area along Lincoln Avenue
Sub-Slab Depressurization System	1: Former Assembly Room Slab (B-8) 2: Exterior Pit 3: Petroleum Former Truck Loading Area along Lincoln Avenue
Dual-Phase Extraction System	
Exterior Pit Closure	2: Exterior Pit

The following sections provide the conceptual design for the engineering controls. The detailed engineering control remedial design plans are maintained at the remedial Site.

2.2.1.1 Cover System (AOC 1, 2, and 3)

Exposure to remaining contamination in soil/fill at the Site is prevented by a cover system placed over the Site. This cover system is currently comprised of asphalt pavement, concrete building slabs or a minimum of 12 inches of clean soil. The Excavation Work Plan that appears in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP.

A majority of the Site is covered by a combination of the existing concrete building slabs and exterior paving along Lincoln Avenue. The balance of the Site has a soil cover. These semi-impermeable cover systems eliminate human direct contact with soils containing VOCs and also sheds or limits water infiltration into each area of concern. AOC 2 (exterior pit) is also capped

as detailed below in Section 2.2.1.5. The caps will be inspected and maintained to prevent direct contact with the subsurface contamination.

2.2.1.2 Operation of the Existing Groundwater Extraction System (AOC 1 and 3)

The existing groundwater remediation system has been in operation since 1991. The remedial system consists of eighteen (18) groundwater extraction points located on the exterior north side of the building between B-8 and B-9 (Appendix E). The existing system has been effective in providing a hydraulic control. The effectiveness of the system has stabilized in terms of contaminant mass removal at B-8. The installation of a DPE system has been selected to provide further mass contaminant reduction. The DPE system and existing groundwater extraction system function independently. Both systems discharge to the City of Utica sanitary sewer system. Provisions to decommission each system are discussed in Section 2.2.2 of this Site Management Plan.

Procedures for operating and maintaining the existing groundwater extraction system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.1.3 Sub-Slab Depressurization System (SSDS – AOC 1, 2, and 3)

The SSDS is designed in accordance with EPA's Radon Prevention in the Design and Construction of Schools and Other Large Buildings (June 1994). The Site has been divided into multiple functioning units given the various building components that comprise the Site and is shown in Appendix E. Separate SSDS extraction pits have been installed in each functioning unit. The depressurization system is comprised of a well point installed in a suction pit to create negative pressure beneath the slab. One (1) pit was installed in the western portion of the building (slab on grade), two (2) pits were installed in the central basement area to ensure communication across the interior basement columns, and one (1) pit was installed in the eastern basement area (see Appendix E). The EPA indicates that a single suction pit provides sufficient coverage for 100,000 ft^2. The actual areas served by the designed suction pits at the Site are

much less; 27,500ft^2 in the western portion of the building, 10,000 ft^2 in the central portion of the building, and 20,000 ft^2 in the eastern portion of the building. The entire footprint of the building is depressurized.

The following specifications have been incorporated into the SSDS design:

1. *Sealing* – the entire building slab has been inspected for cracks and penetrations. Elastomeric joint sealant, caulks, mortar, grouts, expandable foam, etc. have been utilized to seal penetrations that extend below the slab thickness. Surficial cracks that do not extend below the slab did not require sealing, but will be visually inspected as part of the Site Management Plan.

2. *Depressurization Diagnostic Test* – a diagnostic test was conducted to verify the sub-slab suction field prior to installation of each SSDS suction pit. A hole was drilled in the slab near the center of the area of interest and suction was applied. Smaller holes were installed through the concrete slab approximately 30 feet from each SSDS pit. A manometer was utilized to verify negative pressure field under the slab. The approximate positions of the temporary points are present in Appendix E Figure 3a.

3. *Well Point Installation* – a well point was installed in a radon mitigation style suction pit within the slab. In-line active fans we reutilized for depressurization in each functioning area. A total of three (3) suction fans were installed. The two suction pits installed in the central basement area were manifolded to one suction fan.

4. *Vent Pipe Exhaust* is located at least 10 feet above ground level and, at minimum, will extend 1 foot above the surface of the roof. The exhaust area will be selected to be away from any HVAC intake.

5. *Labeling* – all subsurface piping is labeled as "SSD System" (Sub-Slab Depressurization System).

6. *System Failure Warning* – the exhaust fans are equipped with a warning device to indicate equipment failure. Emergency contact names and telephone numbers are posted near the warning device.

Procedures for operating and maintaining the Sub-Slab Depressurization system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.1.4 Dual Phase Extraction (DPE) System (AOC 1, 2, and 3)

A DPE system has been installed to provide source reduction within each of the 3 AOCs or zones (see Figure 2). The DPE system will include installation of eight (8) extraction points shown in Appendix E. Four (4) interior extraction points have been installed in AOC 1 (central basement), two (2) exterior points in AOC 2 (pit), and two (2) points have been installed in AOC 3 (petroleum impacted area). All points have been piped and manifolded to a rotary claw vacuum pump located within a treatment structure on the exterior north side of the building. Groundwater has been treated with activated carbon and discharged Oneida County sanitary sewer system. Vapors are exhausted on-site; one air sample has been collected downwind of the exhaust point after the system was operating and analyzed to verify that activated carbon vapor treatment is not required.

The DPE system was designed based on two EPA guidance documents, *Dual-Phase Extraction (May 1995)* and *SVE System Friction Loss Calculations*. The following assumptions were made in order to size the system:

Number of extraction points = 8
Number of zones = 3
Minimum radius of influence of extraction points = 40 feet
Porosity of the soil = 35%
Extraction well diameter = 2 inches
Piping type and diameter = 2 inch Schedule 80 PVC
Blower sizing = 150 cfm, 29 inches Hg

Zone	DPE Well	Well Depth (ft)	Total Piping Length (ft)	Expected Vacuum (in Hg)	Expected Flow Rate (cfm)
AOC-1	1	13	195	7-13	15-18
AOC-1	2	13	162	7-13	15-18
AOC-1	3	13	18	7-13	15-18
AOC-1	4	13	58	7-13	15-18
AOC-2	5	9.5	62	6.8-12	15-18
AOC-2	6	9.5	100	6.8-12	15-18
AOC-3	7	11	80	7-13	15-18
AOC-3	8	10	110	7-13	15-18

The expected flow rates and vacuums were calculated after accounting for losses in the system, such as pipe friction losses and additional losses due to valves, filters, separators, and silences. The DPE design and layout are provided in the plans included in Appendix E. The following components have been incorporated into the DPE system design:

1. *Rotary Claw Vacuum Pump* – This pump is utilized to extract groundwater and soil vapors. Single-pump DPE systems are generally better suited to low-permeability conditions. Each AOC and individual extraction well are separately manifolded to the DPE system allowing separate locations to be pulsed and decommissioned as they become asymptotic.

2. *Extraction Wells* – The extraction wells are similar in construction to the BCP monitoring wells. Extraction wells were constructed of 4-inch diameter PVC casing and screening (see details in Appendix E). The wells were screened continuously throughout the contaminant zone; the screen extends one foot above and one foot below the extent of contamination identified during the Site Investigation. As the groundwater table is depressed, the vacuum pump will continue to remove soil vapors.

3. *Manifold piping* – Manifold piping is a combination of aboveground and below grade piping in order to maintain safe work spaces within the building. Aboveground exterior piping is heat traced and insulated to prevent freezing.

Control valves are installed on each individual wellhead. Piping to the extraction wells is sloped toward the well so that condensate or groundwater that is entrained with the air flow stream will flow back toward the well.

4. *Groundwater Treatment* – Treatment is provided through two (2) 50-gallon capacity granular activated carbon (GAC) containers operated in series. Treated groundwater is discharged to the Oneida County sanitary sewer in accordance with the Site's sewer use discharge permit.

5. *Blower* – A rotary claw vacuum pump is utilized to provide vacuum to the DPE wells. The pump is capable of providing 29-in Hg of vacuum and 150 cfm with a silencer to reduce noise emissions.

6. *Instrumentation and Controls* – Several gauges have been installed as part of the DPE system to monitor effectiveness to provide information necessary to make appropriate system adjustments. Instrumentation includes devices to monitor pressure and vacuum, air/vapor flow rate, and groundwater extraction rates.

Procedures for operating and maintaining the Dual-Phase Extraction (DPE) system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.1.5 Exterior Pit Closure (AOC 2)

The exterior pit located in AOC 2 was cleaned, capped and closed in place (see Appendix E). Excess fluids were removed, the pit interior cleaned, existing pipes were capped and grouted, and the pit was filled to capacity with gravel then the area was topsoil and seeded. Residual liquids, washwater generated during the pit cleaning, and solids removed from the pit and piping interiors were transported and disposed of in accordance with applicable laws and regulations.

Procedures for operating and maintaining the passive cap over the exterior pit system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for the

inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Cover System

The Cover System is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity. The NYSDEC will be notified of planned modifications or replacement of the Cover System. Modified or replaced Cover Systems will meet criteria detailed in Section 7.5 of the Decision Document.

2.2.2.2 Existing Groundwater Extraction System

The existing groundwater extraction system will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the groundwater extraction system is no longer required, a proposal to discontinue the system will be submitted by the property owner. Conditions that warrant discontinuing the groundwater extraction system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards, (2) have become asymptotic to a low level over an extended period of time as accepted by the NYSDEC, or (3) the NYSDEC has determined that the groundwater extraction system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the Site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

2.2.2.3 Sub-Slab Depressurization System (SSDS)

The active SSD system will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the SSD system is no longer required, a proposal to discontinue the SSD system will be submitted by the property owner to the NYSDEC and NYSDOH.

2.2.2.4 Dual Phase Extraction (DPE) System

The DPE system will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the DPE system is no longer required, a proposal to discontinue the system will be submitted by the property owner. Conditions that warrant discontinuing the DPE system include contaminant concentrations in groundwater that: (1) reach levels that are consistently below ambient water quality standards, (2) have become asymptotic to a low level over an extended period of time as accepted by the NYSDEC, or (3) the NYSDEC has determined that the DPE system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in groundwater collected from monitoring wells located throughout the Site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

2.2.2.5 Exterior Pit Cover System

The exterior pit cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity. The NYSDEC will be notified of planned modifications or replacement of the Exterior Pit Cover System.

2.3 Institutional Controls

A series of Institutional Controls is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to industrial uses only. Adherence to these Institutional Controls on the Site is required by the Environmental Easement and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater, soil vapor and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP;

Institutional Controls identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement.

The Site has a series of Institutional Controls in the form of Site restrictions. Adherence to these Institutional Controls is required by the Environmental Easement. Site restrictions listed in Section 7.6 of the Decision Document that apply to the Controlled Property are:

- Requires the remedial party or Site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- Allows the use and development of the controlled property for industrial use defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- Prohibits agriculture or vegetable gardens on the controlled property; and requires compliance with the Department approved Site Management Plan.

2.3.1 Excavation Work Plan

The Site has been remediated for restricted industrial use. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix D to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site. A sample HASP is attached as Appendix F to this SMP that is in current compliance with DER-10, and 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. Based on future changes to State and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The Site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The Site owner will ensure that Site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

The following section pertains to new construction, as a SSDS has already been installed to address SVI within the existing building. Prior to the construction of any enclosed structures located over areas that contain remaining contamination and the potential for soil vapor intrusion (SVI) has been identified (see Figure 2), an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the

building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH "Guidance for Evaluating Vapor Intrusion in the State of New York". Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 Inspections and Notifications

2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive Site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;

- If Site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system;

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the Brownfield Cleanup Agreement (BCA).
- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Brownfield Cleanup Agreement (BCA), and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 Contingency Plan

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to a qualified environmental professional. These emergency contact lists must be maintained in an easily accessible location at the Site.

Table 6: Emergency Contact Numbers

Medical, Fire, and Police:	911
Dig Safely Utility One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362
City of Utica Fire Department	(315) 731-2000

2.5.2 Map and Directions to Nearest Health Facility

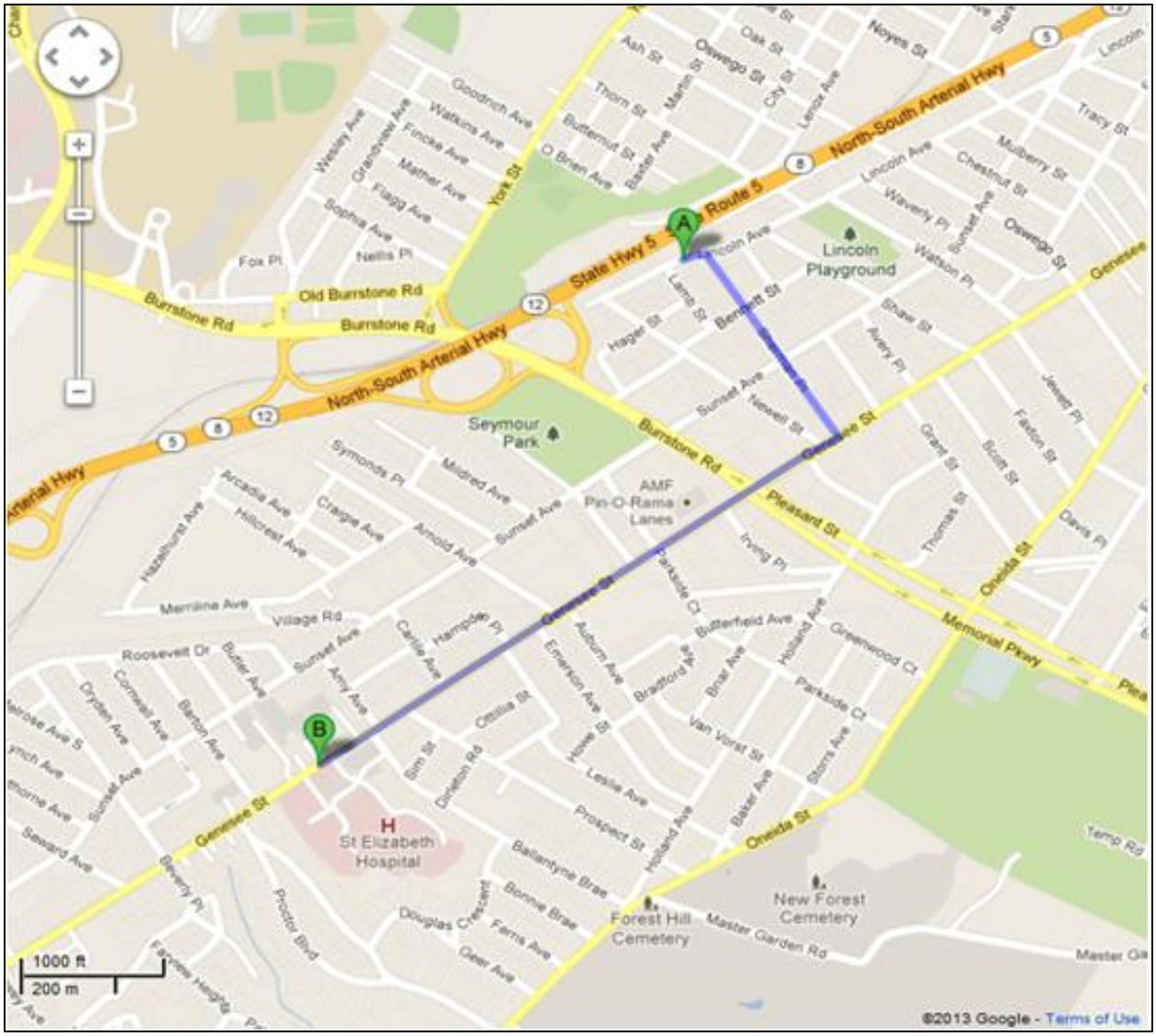
Site Location:	Former Tri-State Industrial Laundries Site 1634 Lincoln Avenue, Utica, NY
Nearest Hospital Name:	St. Elizabeth Medical Center
Hospital Location:	2209 Genesee Street Utica, New York
Hospital Telephone:	Emergency Department 911 or 315-798-8289

Directions to the Hospital:

1.	Head **east** on **Lincoln Ave** toward **Sherman Pl**.	171 ft
2.	Take the 1st right onto **Sherman Pl**	0.3 mi
3.	Turn right onto **Genesee St**	0.8 mi
4.	Look for Signage to Emergency Department Entrance	

Total Distance:	1.2 Miles
Total Estimated Time:	4 Minutes

Map Showing Route from the Site to the Hospital:



2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 6). The list will also be posted prominently at the Site and made readily available to all personnel at all times.

2.5.3.1 Spill Control

A major spill is not anticipated at the Site. Should a spill of any type occur, site personnel should report it immediately to the facility designated Project Manager (currently Mr. Stephen Bussey), who will make arrangements for the proper cleanup of the spill. These arrangements will include diking and ditching, as necessary, as well as the use of absorbents such as saw-dust or vermiculite. The emergency response personnel will be contacted immediately by the facility designated Project Manager in the event that on-site materials can not immediately contain the spill.

2.5.3.2 Emergency Routes

Prior to beginning Site work, entrance and exit routes should be planned and emergency escape routes discussed. In the event of an emergency situation, the entire field team will immediately halt work and act according to instructions provided by the Project Manager.

As appropriate, the fire department and other emergency response groups will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table 6). The list will also be prominently posted at the Site and made readily available to all personnel at all times.

2.5.3.3 Amendments to the Contingency Plan

Any proposed amendments to the contingency plan provided herein will be required to be submitted to the NYSDEC for review and approval prior to implementation. All Site personnel shall be made aware of any and all changes, and revisions to the contingency plan shall be posted in a conspicuous location onsite. Potentially interested parties shall be made aware of said changes if applicable (i.e., emergency responders, waste disposal contractors, etc.).

3.0 Site Monitoring Plan

3.1 Introduction

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the soil cover system, and all affected Site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria.
- Evaluating Site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;

- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

Monitoring of the performance of the remedy and overall reduction in contamination on-Site will be conducted on a frequency presented in Table 7 for the first 2 years, unless a reduction in frequency is solicited and granted by the NYSDEC. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 7 and outlined in detail in Sections 3.2 and 3.3 below.

Table 7. Monitoring/Inspections Schedule

Program	Frequency*	Matrix	Analysis
Groundwater Monitoring Wells MW-1s, MW-2s, MW-2D, MW-3S, MW-5D, MW-6D, B-6, MW-7S, B-8, MW-8s, MW-8D, MW-9S, MW-9D	Quarterly	Groundwater	VOCs
Groundwater Level Monitoring All available site groundwater wells	Quarterly	Groundwater	Static Water Levels
SSDS	Annual	Sub-Slab Vapors	Pressure Field, Visual and Operational Inspection
Cover System Inspections	Annual	--	See Section 3.4 of SMP
Periodic Review Report	Annual	--	See Section 5.3 of SMP
Inspection Certifications	Annual	--	See Section 5.2 of SMP
Performance Monitoring**	See Table 9	--	Varied

*The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH.
** Performance Monitoring of active EC systems are discussed in Section 4.3 and Table 9 of SMP.
Note: MW-3S and 7S will be included when sufficient water is present to allow sampling.
The condition of B-6 is to be verified.

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the Site will be conducted within 5 days of the event to verify the

effectiveness of the EC/ICs implemented at the Site by a qualified environmental professional as determined by NYSDEC.

3.2 Cover System Monitoring

The cover system will be monitored annually (concurrent with Site-Wide Inspections – refer to Section 3.4 below) to evaluate activities, land use or features that could reduce the effectiveness or structural integrity of the cover system. Modified or replaced Cover Systems will meet criteria detailed in Section 7.5 of the Decision Document. Annual monitoring will document qualitative changes to the cover system horizontal and vertical extent and general integrity. Cover system monitoring will be documented on an inspection form (Appendix I).

3.3 Media Monitoring Program

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on a quarterly basis to assess the performance of the remedy. The network of monitoring wells has been installed to monitor both up-gradient and down-gradient groundwater conditions at the Site. The network of on-site wells has been designed based on the following criteria:

Water level measurements will be collected from all available wells to assess changes in flow patterns over a range of seasonal groundwater conditions. Monitoring well MW-1S represents conditions upgradient from the AOCs and groundwater samples will be collected from this well. Groundwater samples will be collected from monitoring wells MW-2S/MW-2D, MW-3S, MW-5D, B-6, MW-6D, MW-7S, B-8, MW-8S/MW-8D, and MW-9S/MW-9D to represent water quality in the vicinity of the AOCs and in close proximity to the DPE and other remedial activities. These samples will be analyzed for VOCs. These locations (see Figure 2) will be sampled quarterly and will provide useful Site data on changes to the groundwater contaminant extent. Monitoring well construction logs of these locations are included in Appendix C. The condition and usability of well B-6 will be verified prior to sampling.

The groundwater monitoring program will consist of quarterly sampling for VOCs (via EPA Method 8260). The sampling frequency may be modified with the approval NYSDEC.

Groundwater monitoring results will be documented annually as part of the Periodic Review Report. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC. Performance monitoring (influent/effluent sampling) for active EC systems is discussed in Section 4.3 of SMP. Deliverables for the groundwater monitoring program are specified below:

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log presented in Appendix G. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network. Deliverables for the groundwater monitoring program are specified below:

- Groundwater Sampling Logs/Groundwater Monitoring Well Inspection Form
- Laboratory Analysis Report
- Exceedances Tabulated
- Brief Narrative Report on Methodology and Results

Refer to the Sampling and Analysis Plan supplied as Appendix H for sampling protocols.

3.3.1.2 Monitoring Well Repairs, Replacement, and Decommissioning

If bio-fouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be

performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 Sub-Slab Vapor Monitoring

Sub-slab soil vapor will be sampled annually to verify that a negative pressure field is present. Section 4.3.1 discusses regular monitoring and inspection activities related to the SSDS.

3.3.2.1 Sampling Protocol

The negative pressure field induced by the SSD System has been monitored upon startup and will be monitored annually thereafter. Points will be installed through the concrete slab approximately 30 feet from each SSDS pit as shown in Appendix E Figure 3a. A manometer will be used to record pressure in sub-slab material. Collection of soil vapor samples for laboratory analyses is not currently anticipated. Sampling activities will be recorded in a field book and a vapor-sampling (if required) log presented in Appendix G. Other observations (e.g., permanent vapor probe integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the vapor monitoring probe network.

Refer to the Sampling and Analysis Plan supplied as Appendix H for protocols.

3.3.2.2 Monitoring Probe Repairs, Replacement, and Decommissioning

If biofouling or silt accumulation occurs in the SSD extraction probes, the probes will be physically agitated/surged with air and redeveloped. Additionally, monitoring probes will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the probes unusable.

Repairs and/or replacement of probes in the network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring probes for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Decommissioning without replacement will be done only with the prior approval of NYSDEC. Abandonment will be performed in accordance with NYSDEC procedures. Permanent vapor probes that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.4 Site-Wide Inspection

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect Engineering Controls or monitoring devices. During these inspections, an inspection form will be completed (Appendix I). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General Site conditions at the time of the inspection;
- The Site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that Site records are up to date.

3.5 Monitoring Quality Assurance/Quality Control

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the Site (Appendix J). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;

- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which 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.
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules;
- Corrective Action Measures.

3.6 Monitoring Reporting Requirements

Forms and any other information generated during regular monitoring events and inspections will be kept on file on-site. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. The report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (o be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 8.

Table 8. Monitoring/Inspection Reports	
Task	**Report Frequency***
Periodic Review Report	Annual
Inspection Certifications	Annual
*The frequency of events will be conducted as specified until otherwise approved by NYSDEC.	

4.0 Operation and Maintenance Plan

4.1 Introduction

This Operation and Maintenance Plan describes the measures necessary to operate, monitor and maintain the mechanical components of the remedy selected for the Site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the Site to operate and maintain the SSDS, DPE and GW Extraction systems;
- Includes an operation and maintenance contingency plan; and,
- Will be updated periodically to reflect changes in Site conditions or the manner in which the SSDS, DPE and GW Extraction systems are operated and maintained.

Information on non-mechanical Engineering Controls (i.e., cover system) is provided in Section 3 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the Site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 Engineering Control System Operation and Maintenance

4.2.1 Sub-Slab Depressurization System

Final SSD System as-built drawings, component manuals, trouble-shooting guides and maintenance schedules are kept on file along with this document and shall be made accessible to the NYSDEC upon request.

The purpose of a sub-slab depressurization system is to create negative pressure (in relation to ambient pressure) directly under an existing or proposed structure. This negative pressure field becomes the path of least resistance for any gases present below or in the vicinity of the structure. VOCs pulled into this pressure field, either passively or with the assistance of a fan or blower, of this negative pressure field are collected in a series of pipes and are piped to an

ambient air discharge point (outside of the structure). Performance testing of SSD system effectiveness is based on the pressure field measured surrounding extraction probe arrays.

The SSD system(s) has been designed in conformance with standard engineering principles and practices. Specifications incorporated into the sub-slab depressurization system design are presented in Section 2.2.1.3 of this SMP. SSD system design layout is provided in Appendix E.

4.2.1.1 Sub-Slab Depressurization System Start-Up and Testing

The system testing described above has been conducted if, in the course of sub-slab depressurization system lifetime, significant changes are made to the system, and the system must be restarted. Once start-up has occurred, the following confirmatory test should be performed to illustrate proper functioning of the system:

- **Confirmation of Pressure Field –** The primary performance standard which should be used to confirm effective SSD system operation is the demonstration of a negative pressure field extending under the entire slab. Pressure testing has been conducted to demonstrate the presence of a negative pressure field. After the pressure field is confirmed following system start-up, monitoring of the in-line manometer or other pressure gauge should be an adequate indicator of satisfactory system operation.

A report detailing the SSD system installation and operation shall be submitted to the NYSDEC after system start-up. This report should generally include the following: a plan or sketch outlining the locations of all system components and vacuum monitoring points; and a brief account of field operations associated with the SSD system installation and startup.

4.2.1.2 Sub-Slab Depressurization System Operation: Routine Operation Procedures

The SSDS is designed to run continuously and the warning device will be inspected monthly by representatives of the property owner to make sure the system is on. Additionally, the seals around suction joints will be regularly inspected. It is recommended that the inspection

occur concurrent with the annual Site-Wide inspection. SSDS routine inspection will include the following:

- Visual inspection of the complete system including vent fans, manometers, piping and labeling;
- Calibration of the depressurization system;
- Testing of the warning device;
- Checks of pressure gauges in the vent pipes;
- Annual inspection of system components including fan bearings and exhaust pipe conditions; and
- An annual inspection for cracks and penetrations in the slab

4.2.1.3 Sub-Slab Depressurization System Operation: Routine Equipment Maintenance

The warning device should be inspected monthly to make sure the system is working correctly. Periodic monitoring (e.g., annual) will be conducted to document SSD system operation in accordance with performance standards. Monitoring reports on SSD systems should generally include laboratory and screening results (if conducted, and any problems/changes made to the system.

4.2.1.4 Sub-Slab Depressurization System Operation: Non-Routine Equipment Maintenance

During cooler weather, unintended trapping of moisture condensation in horizontal runs can compromise system performance. Maintenance should include inspection for such inadvertent effects and, if identified, moisture should be removed from the system to ensure continued system performance. Fans may last for five years or more, and may then need to be repaired or replaced.

4.2.2 Dual-Phase Extraction (DPE) System

Final DPE System as-built drawings, component manuals, trouble-shooting guides and maintenance schedules are kept on file along with this document and shall be made accessible to the NYSDEC upon request. The DPE system has been designed in conformance with standard engineering principles and practices. The DPE system has been installed to provide source reduction within each AOC (see appendix A). The DPE system will include installation of eight (8) extraction points comprising of 3 zones. Four (4) interior extraction points have been installed in AOC 1 (central basement), two (2) exterior points in AOC 2 (pit), and two (2) points have been installed in AOC 3 (petroleum impacted area). All points are piped and manifolded to a vacuum pump located within a treatment structure on the exterior north side of the building. Groundwater is treated with activated carbon and discharged to the Oneida County sanitary sewer system.

Vapors are exhausted on-site; one air sample has been collected approximately 50 feet downwind of the exhaust point after the system was operating. The sample was collected and analyzed using TO-15 procedures to verify that activated carbon vapor treatment is not required. Other performance sampling pertaining to the active EC systems are discussed in Section 4.3.

The DPE system was designed based on two EPA guidance documents, *Dual-Phase Extraction (May 1995)* and *SVE System Friction Loss Calculations*. The assumptions made in order to size the system are presented in Section 2.2.1.4 of this SMP. DPE design layout is provided in Appendix E.

4.2.2.1 Dual-Phase Extraction (DPE) System Start-Up and Testing

The system testing described above has been conducted if, in the course of DPE system lifetime, significant changes are made to the system, and the system must be restarted. Once start-up has occurred, the following confirmatory test should be performed to illustrate proper functioning of the system:

- Water samples from each operating zone (three zones upon initial startup) have been collected from installed spigots during the first 12-24 hours after startup.

Derived data have been compared to future data and used to estimate mass reduction.

- Discharge water (effluent after carbon treatment) has been tested during the first 12-24 hours after startup.
- Air sampling within approximately 50 feet downwind of the vapor discharge point occurred during the first 12-24 hours after startup. This sampling consisted of TO-15 SUMA canister sampling and analyses.

A report detailing the DPE system installation and operation will be submitted to the NYSDEC after system start-up. This report will generally include the following: a plan or sketch outlining the locations of all system components and well points; and a brief account of field operations associated with the DPE system installation and startup.

4.2.2.2 Dual-Phase Extraction (DPE) System Operation: Routine Operation Procedures

The following procedures will be performed for proper operation of the DPE system:

- Visual inspection of the complete system including extraction points, control equipment, pumping equipment, treatment equipment, gauges, piping and labeling;
- Monthly low/pressure measurements and corresponding system balancing;
- Monthly vapor concentration readings;
- Checks of pressure gauges;
- Checks on GAC vapor and groundwater media to evaluate the need for carbon change-out; and
- Semi-annual water discharge sampling concurrent with Groundwater Extraction System discharge sampling.

4.2.2.3 Dual-Phase Extraction (DPE) System Operation: Routine Equipment Maintenance

Periodic monitoring (e.g., annual) will be conducted to document DPE system operation in accordance with performance standards and as summarized in Section 4.2.2.2 above. Monitoring reports on DPE systems should generally include laboratory and screening results (if conducted) and any problems/changes made to the system.

4.2.2.4 Dual-Phase Extraction (DPE) System Operation: Non-Routine Equipment Maintenance

Replacement of system components at or near the manufacturer's expected lifecycle of the component may occur. These maintenance items will be identified during periodic monitoring as described in 4.2.2.3 or in the event of damage to the system.

4.2.3 Existing Groundwater Extraction System

Design information (including completed construction drawings) is filed at the Site along with this document and shall be made accessible to the NYSDEC upon request. The existing groundwater remediation system has been in operation since 1991. The remedial system consists of eighteen (18) groundwater extraction points located on the exterior north side of the building between B-8 and B-9 (see Appendix E). The existing system has been effective in providing a hydraulic control. The effectiveness of the system has stabilized in terms of contaminant mass removal at B-8. The installation of a DPE system has been selected to provide further mass contaminant reduction. The DPE system and existing groundwater extraction system will function independently. Both systems will discharge to the City of Utica sanitary sewer system. Coordination with the Oneida County Sewer District has been conducted as part of DPE system pre-construction to secure all necessary approvals for modifications to the existing discharges.

4.2.3.1 Existing Groundwater Extraction System Start-Up and Testing

The system testing described above will be conducted if, in the course of groundwater extraction system lifetime, significant changes are made to the system, and the system must be restarted.

Groundwater extraction system installation and operation manuals are maintained at the Site and have been utilized since system startup in 1991. Available documents include a plan

outlining the locations of all system components and vacuum monitoring points; and a brief account of field operations associated with the groundwater extraction system installation and startup.

4.2.3.2 Existing Groundwater Extraction System Operation: Routine Operation Procedures

The following procedures will be performed for proper operation of the groundwater extraction system:

- Visual inspection of the complete system including extraction points, control equipment, pumping equipment, treatment equipment, gauges, piping and labeling;
- Monthly water level measurements and corresponding system balancing;
- Checks of flow meters and pressure gauges;
- Checks on GAC groundwater media to evaluate the need for carbon change-out; and
- Semi-annual water discharge sampling concurrent with DPE System discharge sampling.

4.2.3.3 Existing Groundwater Extraction System Operation: Routine Equipment Maintenance

Periodic monitoring (e.g., annual) will be conducted to document groundwater extraction system operation in accordance with performance standards. Monitoring reports on groundwater extraction system should generally include laboratory and screening results (if conducted) and any problems/changes made to the system.

4.2.3.4 Existing Groundwater Extraction System Operation: Non-Routine Equipment Maintenance

Replacement of system components at or near the manufactures expected lifecycle of the component may occur. These maintenance items will be identified during periodic monitoring as described in 4.2.3.3 or in the event of damage to the system.

4.3 Engineering Control System Performance Monitoring

4.3.1 Sub-Slab Depressurization System

4.3.1.1 Monitoring Schedule

The sub-slab depressurization system has been tested after installation, once the system has been operational for 12-24 hours. A follow-up test will be conducted annually to monitor the system's continued effectiveness.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSD system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSD system are specified later in this Plan.

4.3.1.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. SSD system components to be monitored include, but are not limited to, the following:

- Vacuum blower
- Changes in facility layout
- General system piping
- Seals and penetrations
- Ventilators

A complete list of components to be checked is provided in the Inspection Checklist, presented in Appendix K. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSD system restarted.

4.3.1.3 System Monitoring Devices and Alarms

The SSD system has a warning device to indicate that the system is not operating properly. In the event that the warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the SSD system restarted. Operational problems will be noted in the subsequent Periodic Review Report.

4.3.1.4 Sampling Event Protocol

A calibrated micro-manometer will be used to collect pressure field readings in the vicinity of the SSD extraction points. Appendix E – Figure 3a depicts proposed sampling point locations near each SSD extraction pit. Sampling points will be created by drilling through the concrete slab and installing a temporary tube to be connected to the manometer. The tube will be removed and the drill hole sealed with concrete after pressure field sampling.

4.3.2 Dual-Phase Extraction System

4.3.2.1 Monitoring Schedule

Influent water samples have been collected from spigots on each zone during the first 12-24 hours of DPE system startup, and will be collected 3 months and 6 months after system startup. A performance monitoring schedule is provided in Table 9. Effluent water (post-treatment) samples have been collected from the DPE system during the first 12-24 hours of DPE system startup and semi-annually thereafter. Effluent samples are collected to demonstrate attainment of discharge permit criteria. Air sampling within 50 feet downwind of the vapor discharge point has been conducted during the first 12-24 hours after startup.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the DPE system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the DPE system are specified later in this Plan.

4.3.2.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. DPE system components to be monitored include, but are not limited to, the following:

- Extraction well pressure readings
- Extraction well intake pipe level
- Changes in facility layout
- General system piping
- Seals and penetrations
- Carbon filtration media

A complete list of components to be checked will be maintained onsite when received from the installer. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the DPE system restarted.

4.3.2.3 System Monitoring Devices and Alarms

The DPE system has a warning device mounted to the exterior of the remedial structure to indicate that the system is not operating properly. Representatives of the property owner will conduct weekly visual checks of the warning device status. In the event that the warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the DPE system restarted. Operational problems will be noted in the subsequent Periodic Review Report.

4.3.2.4 Sampling Event Protocol

Sampling spigots have been installed for collection of influent and effluent samples. Sampling handling protocols are presented in the Sampling and Analyses Plan (Appendix H). Air sampling approximately 50 feet downwind of the vapor discharge point was collected and consisted of an air sample collected in a SUMA canister and analyzed for TO-15. Appendix E – Figure 3b depicts the vapor discharge point sampling location.

Table 9. Active EC System Performance Monitoring/Testing Schedule			
Active EC System	**Frequency***	**Matrix**	**Analysis**
DPE System	At startup, 3-months and 6-months after startup, semi-annual thereafter	Influent water	VOCs
DPE System	At startup, semi-annual thereafter	Effluent water	VOCs
DPE System	At startup	Air Discharge	VOCs-
Groundwater Extraction System	Semi-annual	Effluent water	VOCs
Sub-Slab Vapor	At startup, bi-annual thereafter	Sub-Slab Vapors	Pressure Field
*The frequency of events will be conducted as specified until otherwise approved by NYSDEC. **Monitoring/Inspection Schedule for specific media are discussed in Section 3.0 of SMP.			

4.3.3 Groundwater Extraction System

4.3.3.1 Monitoring Schedule

The Groundwater Extraction system has been operating for several years. Monitoring of this system will not be changed. Semi-annual effluent samples are collected to demonstrate attainment of discharge permit criteria.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the Groundwater Extraction system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the Groundwater Extraction system are specified later in this Plan.

4.3.3.2 General Equipment Monitoring

A visual inspection of the complete system will be conducted during the monitoring event. Groundwater Extraction system components to be monitored include, but are not limited to, the following:

- Extraction well pressure readings
- Extraction well intake pipe level
- Changes in facility layout
- General system piping

- Seals and penetrations
- Carbon filtration media

A complete list of components to be checked is maintained onsite. If any equipment readings are not within their typical range, any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the Groundwater Extraction system restarted.

4.3.3.3 System Monitoring Devices and Alarms

The Groundwater Extraction system has a warning device to indicate that the system is not operating properly. In the event that the warning device is activated, applicable maintenance and repairs will be conducted, as specified in the Operation and Maintenance Plan, and the Groundwater Extraction system restarted. Operational problems will be noted in the subsequent Periodic Review Report.

4.3.3.4 Sampling Event Protocol

Discharge sampling will continue on a semi-annual basis. Sampling protocols are presented in the Sampling and Analyses Plan (Appendix H).

4.4 Maintenance and Performance Monitoring Reporting Requirements

Maintenance reports and any other information generated during regular operations at the Site will be kept on-file on-site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Routine Maintenance Reports

Checklists or forms will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date;

- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Presence of leaks;
- Date of leak repair;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5.0 Inspections, Reporting and Certifications

5.1 Site Inspections

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which shall be inserted as appendices. Additionally, a general site-wide inspection form will be completed during the site-wide inspection (see Appendix I). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and Site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,

- The Site remedy continues to be protective of public health and the environment and is performing as designed in the RAWP and FER.

5.2 Certification of Engineering and Institutional Controls

After the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;

- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the Site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative].

For each institutional identified for the Site, I certify that all of the following statements are true:

- The institutional control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any Site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the Site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement.
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of

[business address], am certifying as [Owner or Owner's Designated Site Representative].

- No new information has come to my attention, including groundwater monitoring data from wells located at the Site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and

Every five years the following certification will be added:

- The assumptions made in the qualitative exposure assessment remain valid.

The signed certification will be included in the Periodic Review Report described below.

5.3 Periodic Review Report

A Periodic Review Report will be submitted to the Department every year, beginning fifteen months after the Certificate of Completion is issued. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site described in Appendix A (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the Site;
- Results of the required annual Site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;

- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A Site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific RAWP, ROD or Decision Document;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - Any new conclusions or observations regarding Site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.
- A performance summary for all treatment systems at the Site during the calendar year, including information such as:
    - The number of days the system was run for the reporting period;
    - The average, high, and low flows per day;
    - The contaminant mass removed;
    - A description of breakdowns and/or repairs along with an explanation for any significant downtime;
    - A description of the resolution of performance problems;

- A summary of the performance, effluent and/or effectiveness monitoring; and
- Comments, conclusions, and recommendations based on data evaluation.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the Site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 Corrective Measures Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

Figure 1

Site Location

SOURCE: UTICA WEST, NEW YORK U.S.G.S. QUADRANGLE MAP, DATE 1976.

QUADRANGLE LOCATION

2000' 0 2000'

1"=2000'

N

TRUE OR CALLED NORTH

Barton & Loguidice, P.C.

Date	Scale
JULY, 2009	1" = 2000'

TRI-STATE INDUSTRIAL LAUNDRIES, INC.

FORMER TRI-STATE INDUSTRIAL LAUNDRY

PROJECT LOCATION MAP

CITY OF UTICA ONEIDA COUNTY, NEW YORK

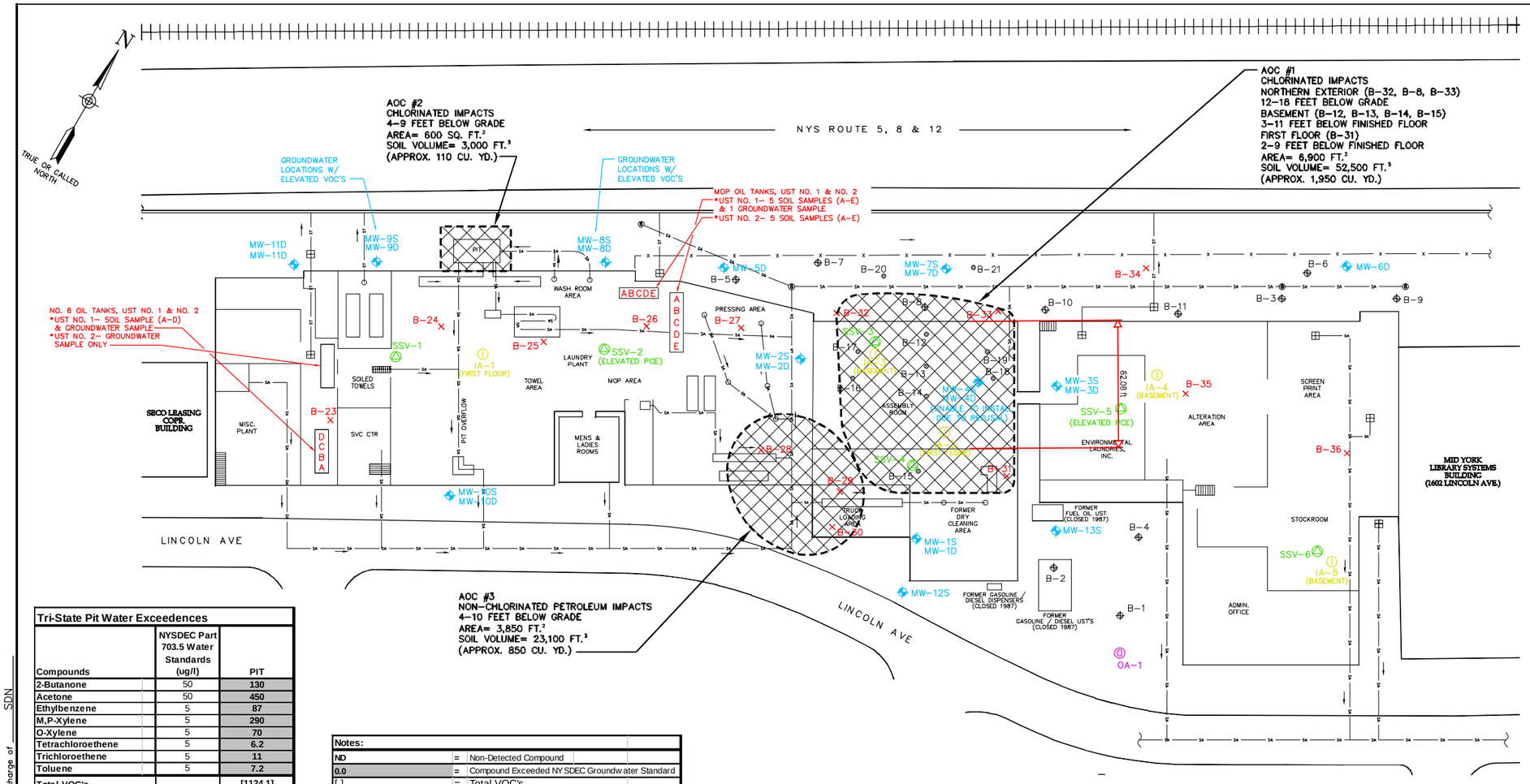
Figure Number 1

Project Number 1205.001

Plotted: Jul 15, 2009 - 7:56AM SYR By: jgs
I:\Shared\200\20001205001-S\2000.1205.001_FIG01.dwg

Figure 2

Areas of Concern &
BCP Remedial Investigation Data Summary



LEGEND:

- EXISTING SANITARY SEWER PIPE
- B-## NOVEMBER 2008 BORING LOCATIONS
- HISTORIC MONITORING WELL
- MW-## BCP MONITORING WELL LOCATION
- B-## BCP SOIL BORING LOCATION
- SSV BCP SUB–SLAB SOIL VAPOR LOCATION
- IA–# BCP INDOOR AIR LOCATION
- OA BCP OUTDOOR AIR LOCATION

NOTE:

1. REFERENCE TO ROOMS AND OPERATIONS ARE HISTORICAL. NO CLEANING OPERATIONS ARE CURRENTLY CONDUCTED.

Tri-State Pit Water Exceedences

Compounds	NYSDEC Part 703.5 Water Standards (ug/l)	PIT
2-Butanone	50	130
Acetone	50	450
Ethylbenzene	5	87
M,P-Xylene	5	290
O-Xylene	5	70
Tetrachloroethene	5	6.2
Trichloroethene	5	11
Toluene	5	7.2
Total VOC's		[1124.1]

SVOC BIS (2–ETHYLHEXYL)PHTHALATE 1400.0 PPB IN PIT WATER

Notes:		
ND	=	Non-Detected Compound
0.0	=	Compound Exceeded NYSDEC Groundwater Standard
[ ]	=	Total VOC's

Summary of the Tri-State Groundwater Exceedences for the Monitoring Wells

Compounds	NYSDEC Part 703.5 Water Standards (ug/l)	MW-1S		MW-1D		MW-2S		MW-2D		MW-3S		MW-3D		MW-5D		MW-6D		Dupe (MW-6D)	MW-7S		MW-7D		MW-8S		MW-8D		MW-9S		MW-9D		MW-10S		MW-10D		MW-11S	MW-11D	MW-12S	MW-13S	B-5	B-7	B-8	B-10	B-11
Date		Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11		Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jun-10	Jan-11	Jan-11	Jan-11	Jan-11	Jan-11	Jan-11	Jan-11	Jan-11	Jan-11	Jan-11
Benzene	1	2.6J	4.4J	ND	ND	ND	ND	ND	ND	DRY	DRY	0.37J	ND	3.6J	1.2J	0.44J	0.38J	0.35J	DRY	ND	ND	ND	ND	450E	210	ND	ND	140	6.40	140	520E	0.31J	0.43J	ND	ND	ND	ND	0.36J	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	5	7.4	49	ND	ND	0.41J	ND	5.1	0.98J	DRY	DRY	0.37J	ND	3.6J	1.2J	0.44J	0.38J	0.35J	DRY	ND	ND	ND	ND	450E	210	ND	ND	140	6.40	140	520E	0.31J	0.43J	ND	ND	ND	ND	8.20	ND	ND	2400	ND	ND
Isopropylbenzene	5	-	0.97J	-	ND	-	1.1J	-	ND	DRY	DRY	-	ND	-	ND	-	ND	-	DRY	ND	-	ND	ND	-	ND	-	ND	-	ND	-	6.9	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	5	60	2.7J	ND	ND	ND	ND	ND	ND	DRY	DRY	ND	ND	ND	ND	0.44J	ND	ND	DRY	ND	ND	ND	ND	ND	ND	ND	ND	7.5	ND	1200	110	ND	ND	ND	ND	0.63J	ND	3.7J	ND	ND	4500	ND	0.66J
Trans-1,2-Dichloroethene	5	ND	0.57J	ND	ND	ND	ND	ND	ND	DRY	DRY	ND	ND	ND	ND	ND	ND	ND	DRY	ND	ND	ND	ND	4.3J	ND	ND	ND	16	1.2J	110	76	ND	ND	ND	ND	0.33J	ND	ND	ND	ND	ND	8.3J	ND	ND
Trichloroethene	5	3.4J	8.5	ND	ND	ND	0.36 J	ND	ND	DRY	DRY	ND	ND	3.6J	ND	ND	ND	ND	DRY	ND	ND	ND	ND	4.3J	ND	ND	ND	16	1.2J	110	76	ND	ND	ND	ND	ND	ND	ND	ND	ND	540	ND	ND
Toluene	5	ND	0.41J	ND	ND	ND	ND	ND	ND	DRY	DRY	ND	ND	0.52J	ND	ND	ND	ND	DRY	ND	ND	ND	ND	9.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	2	1.5J	12	ND	ND	22	ND	23	3.1	DRY	DRY	0.32J	ND	0.91J	2.2J	ND	ND	ND	DRY	ND	ND	ND	ND	430E	360	ND	ND	9	4.3J	13J	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total VOC's		83.48	96.41	0.61	4.70	31.33	3.90	35.30	5.28	-	-	2.39	0.43	23.89	9.20	0.88	0.38	0.35	-	0.00	0.00	0.00	0.00	933.80	573.90	5.70	0.00	176.98	12.56	1463.00	734.20	12.03	15.84	5.32	0.00	2.66	3.60	2.16	11.90	0.00	0.00	7448.30	0.00	0.66

Summary of the Tri-State Sub-Surface Soil Exceedences

Compounds	NYSDEC Part 375 Restricted Soil Cleanup Objectives for the Protection of Groundwater (ug/kg)	MW-1S (5-8')	MW-1D (14-19')	MW-4D	MW-7 (8-10')	MW-7D (18-20')	MW-8D (6-8')	MW-9D (6-8')	MW-9D (17.5-20')	MW-11D (2-9)	MW-11D (10-15')	MW-12S (3-8')	MW-13S (5-10')	MW-13S (5-10')
Acetone	50	ND	8.1	ND	ND	ND	ND	ND	ND	59.0	24.0	43.0	16.0	32.0
Cis-1,2-Dichloroethene	250	ND	ND	ND	ND	ND	3000.0	1600.0	ND	ND	ND	ND	10.0	11.0
Benzene	60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.0	ND	ND
Ethylbenzene	1000	ND	ND	ND	ND	ND	ND	ND	ND	24.0	0.65	ND	0.4	
Mixed Xylene	260	ND	ND	ND	ND	ND	ND	ND	ND	170.0	ND	8.8	0.82	1.9
Tetrachloroethene	1300	1.0	ND	ND	ND	ND	ND	160000.0	ND	ND	ND	ND	34.0	35.0
Toluene	700	ND	ND	ND	ND	12.0	ND	ND	ND	3.8	ND	1.3	19.0	14.0
Trans-1,2-Dichloroethene	190	ND	ND	ND	ND	ND	260.0	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	470	ND	ND	ND	ND	ND	4200.0	4200.0	ND	ND	ND	ND	0.49	0.52
Vinyl Chloride	20	ND	ND	ND	ND	ND	78.0	ND	ND	ND	ND	ND	ND	2.0
Total VOC's		[44.1]	[8.1]	[0.0]	[0.0]	[47.0]	[7538.0]	[165800.0]	[4.4]	[256.8]	[24]	[55.75]	[80.31]	[96.82]

Compounds	NYSDEC Part 375 Restricted Soil Cleanup Objectives for the Protection of Groundwater (ug/kg)	B-23 (10-15')	B-24 (5-6.5')	B-24 (18-20')	B-28 (6-8')	B-28 (17-19.5')	B-30 (6-8')	B-30 (15.5-18.5')	B-31 (7-9')	B-31 (13.5-18.5')	B-32 (10-12')	B-32 (14-18')	B-32 (14-18' Dupe)	B-32 (20-21')	B-33 (10-12')	B-33 (12-14')	B-33 (18-20')	B-34 (8-10')
Acetone	50	36.0	ND	3.8	ND	3.3	8.9	22.0	ND	22.0	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	250	39.0	980.0	1.0	ND	ND	ND	3.4	6400.0	ND	ND	ND	ND	ND	680.0	2800.0	ND	ND
Benzene	60	ND	ND	ND	ND	ND	ND	420.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1000	ND	ND	1800.0	ND	ND	ND	16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mixed Xylene	260	56.0	ND	ND	157000.0	ND	ND	25.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1300	ND	5700.0	ND	ND	ND	ND	ND	200000.0	ND	ND	130000.0	130000.0	ND	ND	31000.0	ND	99.0
Toluene	700	14.0	ND	ND	ND	ND	ND	3.0	ND	ND	ND	ND	ND	ND	8.9	ND	ND	ND
Trans-1,2-Dichloroethene	190	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	470	ND	5900.0	0.5	ND	ND	ND	ND	5700.0	ND	ND	ND	ND	ND	ND	3400.0	ND	5.9
Vinyl Chloride	20	700.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8	ND	ND	ND
Total VOC's		[845]	[12580]	[5.31]	[315800]	[3.5]	[8.9]	[521.2]	[212100.0]	[11.0]	[6.8]	[130000.0]	[130000.0]	[0.0]	[778.1]	[37200.0]	[0.0]	[104.9]

Notes:		
ND	=	Compund Not Detected
0.0	=	Compound Exceeded Part 375 Standard
[ ]	=	Total VOC's

MW-1S also had two (2) SVOC's- Benzo (a) anthracene (2200.0) and Chrysene (2100.0)

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

AREAS OF CONCERN AND BCP REMEDIAL INVESTIGATION DATA SUMMARY

TRI–STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI–STATE INDUSTRIAL LAUNDRY
ONEIDA COUNTY, NEW YORK
CITY OF UTICA

Barton Loguidice, P.C.

Date
FEBRUARY, 2012

Approximate Scale
1" = 30'

Sheet Number
2

File Number
1205.001

Plotted: Feb 29, 2012 – 9:15AM SYR By: jgs
I:\Shared\1200\1205001\1205001_AOC AND BCP REM INVEST_02.dwg
Drawn by JGS Designed by MPS In charge of SDN
Checked by

Figure 3

Groundwater Contours – Shallow Wells

N

NYS ROUTE 5, 8 & 12

MW-11S
MW-11D

MW-9S(462.04)
MW-9D

MW-8S
MW-8D

MW-5D

B-5
(458.75)

B-7
(458.59)

MW-7S(456.73)
MW-7D

B-8
(458.41)

B-10
(457.61)

B-11
(459.03)

B-6

B-3

MW-6D

B-9

WASH ROOM AREA

PRESSING AREA

LAUNDRY PLANT

SOILED TOWELS

TOWEL AREA

MOP AREA

MISC. PLANT

MENS & LADIES ROOMS

ASSEMBLY ROOM

ALTERATION AREA

SCREEN PRINT AREA

ENVIRONMENTAL LAUNDRIES, INC.

STOCKROOM

ADMIN. OFFICE

TRUCK LOADING AREA

FORMER DRY CLEANING AREA

461

460

459

458

457

MW-2S
MW-2D

MW-4S
MW-4D

MW-3S(NA)
MW-3D

EXISTING HIGH VACUUM EXTRACTION SYSTEM

EXISTING GROUNDWATER EXTRACTION SYSTEM

MW-10S
MW-10D

MW-1S(459.60)
MW-1D

MW-12S

MW-13S

B-4

B-2

B-1

LINCOLN AVE

LAMB ST.

LINCOLN AVE

LEGEND:

x	EXISTING FENCE
MW-##	HISTORIC MONITORING WELL LOCATION
MW-##	BCP MONITORING WELL LOCATION
450	GROUNDWATER CONTOUR

40' 0 40'
1"=40'

TRI-STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI-STATE INDUSTRIAL LAUNDRY

GROUNDWATER CONTOURS SHALLOW WELLS

ONEIDA COUNTY, NEW YORK

CITY OF UTICA

Barton & Loguidice, P.C.

Date
AUGUST, 2011

Scale
1" = 40'

Figure Number
3

Project Number
1205.001

Plotted: Sep 13, 2011 - 9:53AM SYR By: jgs
I:\Shared\1200\1205001\1205001_GW CONTS 2011.dwg

Figure 4

Groundwater Contours – Deep Wells

N

NYS ROUTE 5, 8 & 12

MW-11S
MW-11D

MW-9S
MW-9D(459.46)

MW-8S
MW-8D

MW-5D

B-5

B-7

MW-7S
MW-7D(458.17)

B-8

B-10

B-11

B-6

B-3

MW-6D
(455.48)

B-9

459

456

457

458

WASH ROOM AREA

LAUNDRY PLANT

PRESSING AREA

EXISTING HIGH VACUUM EXTRACTION SYSTEM

EXISTING GROUNDWATER EXTRACTION SYSTEM

SOILED TOWELS

TOWEL AREA

MOP AREA

MW-2S
MW-2D

MW-4S
MW-4D

ASSEMBLY ROOM

MW-3S
MW-3D(458.62)

SCREEN PRINT AREA

ALTERATION AREA

MISC. PLANT

MENS & LADIES ROOMS

ENVIRONMENTAL LAUNDRIES, INC.

MW-10S
MW-10D

TRUCK LOADING AREA

FORMER DRY CLEANING AREA

STOCKROOM

MW-13S

B-4

MW-1S
MW-1D(458.32)

B-2

LINCOLN AVE

MW-12S

B-1

ADMIN. OFFICE

LINCOLN AVE

LAMB ST.

LEGEND:

x	EXISTING FENCE
MW-##	HISTORIC MONITORING WELL LOCATION
MW-##	BCP MONITORING WELL LOCATION
458	GROUNDWATER CONTOUR

40' 0 40'

1"=40'

GROUNDWATER CONTOURS DEEP WELLS

TRI-STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI-STATE INDUSTRIAL LAUNDRY

CITY OF UTICA

ONEIDA COUNTY, NEW YORK

Barton Loguidice, P.C.

Date
AUGUST, 2011

Scale
1" = 40'

Figure Number
4

Project Number
1205.001

Plotted: Sep 13, 2011 - 9:54AM SYR By: jgs
I:\Shared\1200\1205001\1205001_GW CONTS 2011.dwg

Appendix A

Metes and Bounds

RECORD DESCRIPTION

PARCEL I:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York shown on a map entitled "Map showing property of Frederick Gillmore on Lincoln & Wheeler Avenue made by J. Kemper, Civil Engineer" and dated March 18, 1913 which map has been filed in the Oneida County Clerk's Office described as follows: COMMENCING at an iron pipe shown on said map in the northerly line of Lincoln Avenue in the southwesterly corner of the property owned by the party of the first part and running thence northerly at right angles to Lincoln Avenue 87.17 feet to an iron pipe; thence westerly at an angle of 83° 16' 4-12 feet to an iron pipe; thence northerly 13.17 feet to an iron pipe thence easterly 8.67 feet to an iron pipe thence northerly at right angles to Wheeler Avenue 62 feet to the southerly line of Wheeler Avenue; thence easterly along the southerly line of Wheeler Avenue 15.24 feet; thence southerly at right angles to Wheeler Avenue 15.24 feet; thence southerly at right angles to Wheeler Avenue northerly line of Lincoln Avenue and thence westerly along the northerly line of Lincoln Avenue 20 feet to the place of beginning.

PARCEL II:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, more particularly described as being the northerly four (4) feet from front to rear of Lot 118 as shown and distinguished upon a map and plot of the "Allotment of the Chenango Canal land" within the City of Utica, made by C. W. Adams surveyor posted and filed in the Office of the City Surveyor of the City of Utica, on or about the 29th day of December 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889.

PARCEL III:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, known and designated as the southerly 40 feet wide in front on Lincoln Avenue, 35 feet wide in the rear taken from the southerly side of Lot No. 17, and the northerly 5 feet wide, front and rear, of Lot No. 18, as laid out and described on a map of property in Utica, N.Y., made for William B. Lane and Frederick G. Fincke, executors of the estate of George H. Wiley, deceased, made from actual survey October 14, 1904, by C. S. Taylor, and filed in the Oneida County Clerk's Office 18, 1904, to which reference is hereby made. Said pieces or portions of said lots taken together make a lot 45 feet wide in front on the northwesterly side of Lincoln Avenue 40 feet in width in the rear and 95 feet, more or less, deep as laid out on said map.

PARCEL IV:

ALL THAT PART OR PORTION OF "ABANDONED CHENANGO CANAL LAND", situated in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal Land" within the City of Utica made by C. W. Adams, surveyor, posted and filed in the Office of the City Surveyor of the City of Utica, on or about the 27th day of December 1888 and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889 as Lot Nos. 118, 119 and 120, bounded and described as follows, on the north by Lot No. 117, on the east by the Blue Line of the Chenango Canal lands, on the south by the north line of a proposed street, and on the west by the east line the proposed street and fronting on the said proposed street and are each about 40 feet wide in front and rear except that the rear line of Lot 120 is irregular in shape and as the same are laid down on said map. Subject to the provisions of Section 12 of Chapter 456 of the Laws of 1887 aforesaid.

EXCEPTING AND RESERVING, from the above premises the following: ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, more particularly described as being the northerly 4 feet from front to rear of Lot 118 as shown and distinguished upon a map and plot of the "Allotment of the Chenango Canal Land" within the City of Utica, made by C. W. Adams, surveyor posted and filed in the Office of the City Surveyor of the City of Utica, on or about the 29th day of December, 1888 and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889.

ALSO, ALL THAT PIECE OR PARCEL OF LAND, situate in Utica, County of Oneida and State of New York, known and distinguished as all that part of Lot No. 18 on a Map of property in Utica, N.Y. made for William B. Lane and Frederick G. Finck as executors of George H. Wiley deceased made by C. S. Taylor October 14, 2004 and filed in the Oneida County Clerk's Office October 18, 1904 to which reference is hereby made, bounded and described as follows: BEGINNING at the northerly corner of Lincoln Ave., with the northerly line of Wheeler Ave. thence northerly on the line of Wheeler Ave. 3 feet thence at right angles easterly 24-11/12 feet thence at right angles southerly 5-11/12 feet thence at right angles northeasterly 89/4/12 feet thence at right angles southerly 56 feet more or less to the northerly line of Lincoln Ave. and thence westerly along the northerly line of Lincoln Ave. 120 feet more or less to the junction of Wheeler Ave. the place of beginning.

ALL THAT TRACT OR PORTION OF abandoned Chenango Canal land, situated in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the Allotment of the Chenango Canal land within the City of Utica, made by C. W. Adams, surveyor, posted and filed in the Office of the City Surveyor of the City of Utica on or about the 27th day of December, 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889, as Lot Nos. 122 and 123 bounded and described as follows, they lie together and front upon the westerly line of Chenango Ave. and are about 40 feet each front and rear and are bounded on the east by the west line of Chenango Ave., on the south by Lot No. 124, on the west by the blue line of Chenango Canal lands and on the north by the south line of a proposed Street as laid down on said map, subject to the provisions of Section 12 of said Chapter 456 of the laws of 1887.

PARCEL V:

ALL THAT CERTAIN TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, being Lots 124, 125 and 126 as shown on a map of the allotment of the lands of the old Chenango Canal, made by C. W. Adams, surveyor, and filed in the Oneida County Clerks office about March 27, 1889, being further described as follows:

BEGINNING at a point in the westerly street line of Lincoln Avenue, formerly known as Chenango Avenue, at a distance of 87.50 feet westerly of an iron pipe set in the ground, marking an angle in said street line, said place of beginning being marked by an iron axle driven in the ground in the northerly line of said lot 124 of said map, running thence southerly along said street line one hundred and twenty (120) feet to an iron pipe set in the ground, thence northerly and at right angles to said street line, 109.47 feet to a point on the top of a concrete culvert there located, passing through an iron pipe set in the ground marking the line, at a distance of 106.33 feet from said street line thence easterly and forming an interior angle of 90 degrees and 58 minutes, 120 feet along said concrete culvert to the easterly line of the property herein described, thence southerly and at right angles to said Lincoln Avenue street line and passing through an iron pipe set in the ground at the easterly edge of said culvert, marking this last course, a total distance of 110.15 feet to the place of beginning, being as shown on a map of a survey made by Joseph Kemper, civil engineer, dated at Utica, N.Y. February 1, 1937.

PARCEL VI:

ALL THAT PART OR PORTION OF "Abandoned Chenango Canal" and situate in the City of Utica, County of Oneida and State of New York and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal land" within the City of Utica made by C. W. Adams Surveyor, posted and filed in the office of the City Surveyor of the City of Utica on or about the 27th day of December 1888, and a duplicate of which was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889 as Lot No. 127 bounded and described as follows, on the north by Lot No. 126 on the east by the west line of Lincoln Avenue on the south by Lot No. 128 and on the west by the blue line of the Chenango Canal lands and being about 40 feet front and rear as the same is laid down on said map.

PARCEL VII:

ALL THAT PART OR PORTION OF "Abandoned Chenango Canal land" situated in the City of Utica, County of Oneida and State of New York and known and distinguished upon a map and plot of the allotment of the "Chenango Canal land" within the City of Utica made by C. W. Adams, surveyor, posted and filed in the office of the City Surveyor of the City of Utica on or about the 27th day of December, 1888 and a duplicate of which has been and was filed in the Clerks Office of Oneida County on or about the 27th day of March 1889 as Lot No. 116 bounded and described as follows, on the north by Lot No. 115 , on the east by the blue line of Chenango Canal lands, on the south by Lot No. 117 and on the west by the east line of the proposed St. and fronting upon the easterly side of said proposed St. and as the same is laid down on said map being about 40 feet front and rear, subject to the provisions of Section 12 of said Chapter 456 of the laws of 1887.

ALSO, ALL THAT PART OR PORTION OF "Abandoned Chenango Canal land", situate in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal land," within the City of Utica, made by C. W. Adams, surveyor, posted and filed in the office of the City Surveyor of the City of Utica, on or about the 27th day of December, 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889, as Lot No. 117 described as follows: on the north by Lot 116, on the east by the blue line of the Chenango Canal lands, on the south by Lot 118 and on the west. by the east line of the proposed St. and as laid down on said map.

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, known and distinguished as Lot No. 16 and the northerly 5 ft. wide in front and rear taken from Lot No. 17 its entire length, as laid out on map of property in Utica, New York made for William B. Lane and Frederick G. Fincke, executors of George H. Wiley, deceased, from actual survey October 14, 1904 by C.S. Taylor, C.E. and filed October 18, 1904 in Oneida County Clerk's Office.

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, known and distinguished as Lot Nos. 14 and 15 on a map of property in Utica, N.Y. made for William B. Lane and Frederick G. Fincke, Executors of George H. Wiley, deceased, from actual survey, October 14, 1904 by C. E. Taylor, C.E., and filed in the Oneida County Clerk's Office October 18, 1904.

ALSO, ALL THAT PART OR PORTION OF "Abandoned Chenango Canal Land", situated in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal Land", within the City of Utica, made by C. W. Adams, surveyor, posted and filed in the office of City Surveyor of the City of Utica, on or about the 27th day of December 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County, on or about the 27th day March, 1889; as Lots Nos. 114 and 115 bounded and described as follows: on the north by Lot No. 113; the east by the blue line of the Chenango Canal lands; on the south by Lot No. 116, and on the west by the east line of the proposed street, and fronting upon said proposed street as the same is laid down on said map, being about 40 feet. each front and rear, subject to the provisions of Section 12 of said Chapter 456 of the laws of 1887.

PARCEL VIII:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, bounded and described as follows: BEGINNING at a point formed by the intersection of the northerly line of Lincoln Avenue and the westerly line of Wheeler Avenue, said point of beginning being also the southeasterly corner of property shown on the City Tax Maps as Book 4, Map 13, Block 6, Lot 23; thence northerly along the westerly line of Wheeler Avenue, a distance of 90.37 +/- feet to a point, said point being located distant 8.50 feet southerly measured at right angles from the center line of an existing railroad siding or branch track operated by the Delaware Lackawanna and Western R.R. Co., Utica Division; thence easterly at an interior angle of 74° 38' 16" with the last described line a distance of 49.15 +/- feet to a point; thence southerly along a line parallel with the first described line a distance of 4.0 +/- feet to a point in the existing southerly line of Wheeler Avenue; thence westerly along the southerly line of said street a distance of 8.0 +/- feet to a point in the existing easterly line of said street; thence southerly along the existing easterly line of said street a distance of 92.92 +/- feet to a point in the northerly line of Lincoln Avenue; thence westerly along the northerly line of Lincoln Avenue a distance of 43.98 +/- feet to the place of beginning.

ENVIRONMENTAL EASEMENT AREA DESCRIPTION
NYSDEC SITE NO. C633068

ALL that piece or parcel of property hereinafter designated as Environmental Easement Area, being Tax Lots 318.62-2-10.1/10.2, 318.62-2-11.1/11.2, 318.62-2-12.1, 318.62-2-12.2, 318.62-2-13, and 318.62-2-14 in the City of Utica, County of Oneida, State of New York and more particularly described as follows:

BEGINNING at a point on the northerly boundary of Lincoln Avenue, an existing city street, at its intersection with the division line between the property of BRE Lincoln Avenue, LLC (reputed owner) on the northeast and the property of SECO Leasing Corp. (reputed owner) on the southwest, said point also being the southeast corner of Lot 127 as shown on a map entitled "Allotment of the Chenango Canal Land" within the City of Utica, prepared by C.W. Adams, surveyor, a copy of which was filed in the Clerk's Office of Oneida County on March 27, 1889, thence; N 29°33'40" W along the westerly line of Lot 127 a distance of 107.65 feet to a point on the southerly boundary of the City of Utica: North-South Arterial Highway, thence; Along the last mentioned highway boundary the following two (2) courses and distances: (1) N 59°01'44" E a distance of 3.94 feet to a point, thence; (2) N 59°41'37" E a distance of 236.08 feet to a point at the intersection of the southwesterly boundary of Wheeler Avenue, an existing city street, thence; Along the southwesterly and southerly boundaries of Wheeler Avenue the following four (4) courses and distances: (1) S 29°33'40" E a distance of 18.85 feet to a point, thence; (2) N 75°48'31" E a distance of 49.78 feet to a point, thence; (3) S 29°33'13" E a distance of 4.00 feet to a point, thence; (4) N 60°26'47" E a distance of 286.41 feet to a point at the intersection with the division line between the property of BRE Lincoln Avenue, LLC (reputed owner) on the southwest and the property of Mid-York Library System (reputed owner) on the northeast, thence; Along the last mentioned division line S 29°33'13" E a distance of 162.49 feet to a point on the northerly boundary of Lincoln Avenue, thence; Along the last mentioned street boundary the following three (3) courses and distances: (1) S 59°43'32" W a distance of 147.70 feet to a point, thence; (2) S 86°24'18" W a distance of 207.94 feet to a point, thence; (3) S 60°05'30" W a distance of 239.76 feet to the point of beginning, being 72,891± square feet or 1.673 acres, more or less.

Deed Reference: Instrument No. 2011-011198

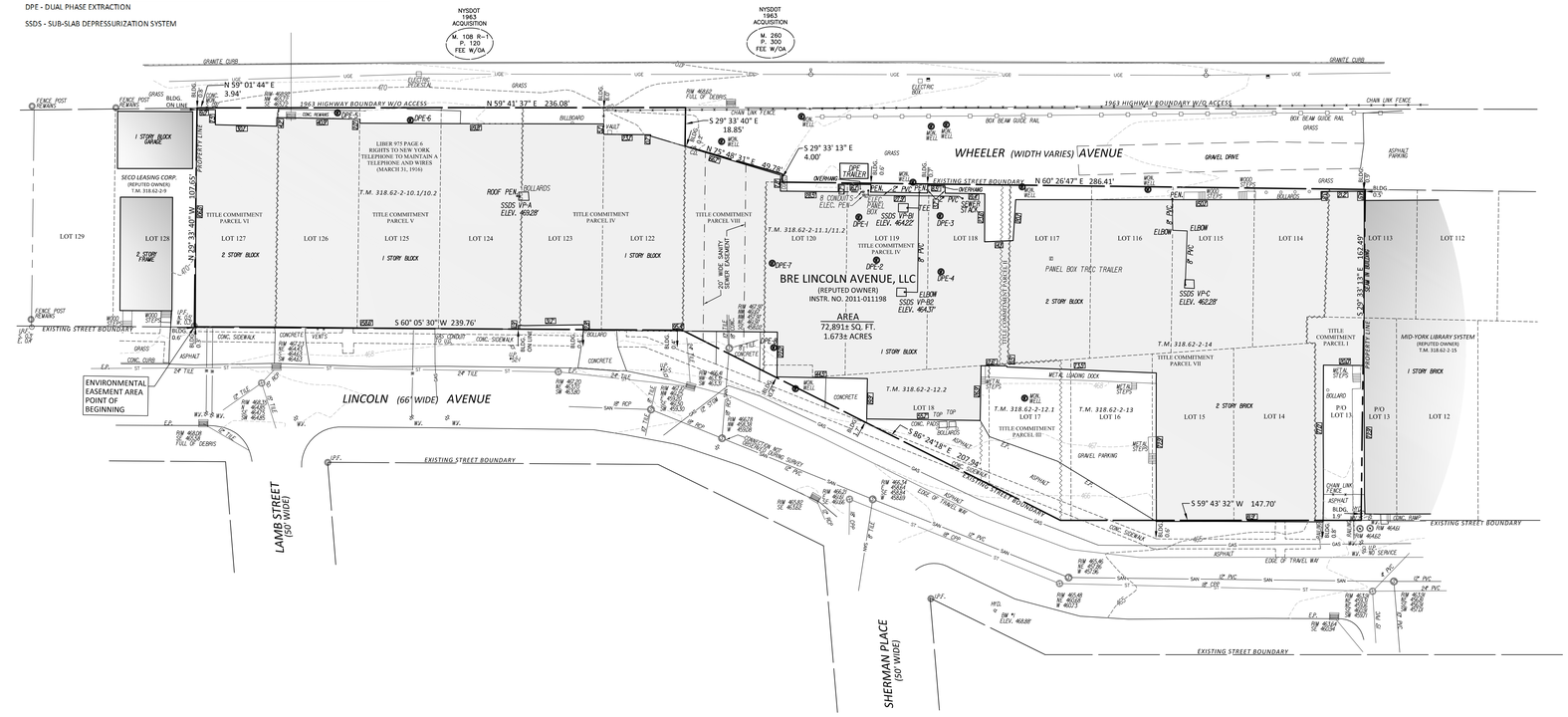
TABLE OF ENGINEERING CONTROLS

HORZ. DATUM: NAD 83(CORS) - NEW YORK STATE PLANE COORDINATE SYSTEM, CENTRAL ZONE
VERT. DATUM: NAVD 88
UNITS: U.S. SURVEY FEET

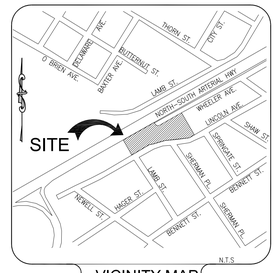
POINT ID	NORTHING	EASTING	GROUND ELEV.	PVC ELEV.	BALL VALVE ELEV.
DPE-1	1130278.9	1174299.9	464.31	464.82	465.31
DPE-2	1130265.1	1174318.0	464.48	464.90	465.41
DPE-3	1130299.6	1174334.0	464.36	464.76	465.26
DPE-4	1130276.1	1174348.2	464.37	464.98	465.49
DPE-5	1130194.0	1174052.8	469.27	468.12	468.63
DPE-6	1130209.0	1174085.6	468.83	467.79	468.29
DPE-7	1130237.9	1174274.5	469.04	467.81	468.34
DPE-8	1130202.5	1174296.0	468.35	467.37	467.88
SSDS VP-A	1130203.6	1174150.8	469.28	-	-
SSDS VP-B1	1130294.8	1174318.1	464.22	-	-
SSDS VP-B2	1130258.4	1174337.8	464.37	-	-
SSDS VP-C	1130331.0	1174455.1	462.28	-	-

DPE - DUAL PHASE EXTRACTION

SSDS - SUB-SLAB DEPRESSURIZATION SYSTEM



SCALE: 1" = 30' (9m)
30 (9m) 0 (0m) 30 (9m) 60 (18m)



VICINITY MAP

CITY OF UTICA: NORTH-SOUTH ARTERIAL HIGHWAY
SOUTH CITY LINE TO ORISKANY STREET WEST

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT *DERWEB@GW.DEC.STATE.NY.US*

ENGINEERING / INSTITUTIONAL CONTROLS

- Compliance with the Environmental Easement and the SMP by the Grantor and the Grantor's Successors and assigns;
- All Engineering Controls on the Environmental Easement Area ("EEA") must be operated and maintained as specified in the SMP;
- All Engineering Controls on the EEA must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater, soil vapor and other environmental or public health monitoring must be performed as defined in the SMP;
- Data and information pertinent to Site Management of the EEA must be reported at the frequency and in a manner defined in the SMP;
- The use and development of the EEA is limited to industrial uses only as described in 6 NYCRR Part 375-1.8(g)(2)(iv);
- The EEA may not be used for higher level of use, such as unrestricted or restricted residential or commercial use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the EEA that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- The use of groundwater underlying the EEA is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed within the EEA and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the EEA are prohibited.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE N.Y.S.D.E.C. AND / OR THEIR AGENTS MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS / EGRESS ACCESS POINT.

BOUNDARY REFERENCES

1. ABSTRACT OF TITLE PREPARED BY STEWART TITLE INSURANCE COMPANY, CERTIFICATE NO. 159289, DATED FEBRUARY 11, 2013.
2. DEED FILED AT INSTR. NO. 2011-011198 (VESTING DEED)
3. DEED FILED AT INSTR. NO. 2002-012010 (SECO LEASING CORP.)
4. DEED FILED IN LIBER 1900, PAGE 434 (MID-YORK LIBRARY SYSTEM)
5. MAP TITLED, "ALLOTMENT OF THE CHENANGO CANAL LAND", PREPARED BY C. W. ADAMS, SURVEYOR, FILED IN THE OFFICE OF THE ONEIDA COUNTY CLERK DECEMBER 27, 1889.
6. MAP TITLED, "MAP OF PROPERTY IN UTICA, N.Y. MADE FOR W. B. LANE AND FRED G. FINCKE, EXECUTORS OF GEORGE H. WILEY. DECEASED" PREPARED BY C. S. TAYLOR, C.E. DATED OCTOBER 14, 1904, FILED IN THE OFFICE OF THE ONEIDA COUNTY CLERK.
7. CITY TAX MAP, BOOK 4, MAP 13, BLOCK 6, DATED DECEMBER 19, 1939, FILED IN THE OFFICE OF THE ONEIDA COUNTY CLERK.
8. NEW YORK STATE DEPARTMENT OF TRANSPORTATION ACQUISITION MAP NO. 108 R-1, PARCEL NO. 120, DATED AUGUST 30, 1963.
9. NEW YORK STATE DEPARTMENT OF TRANSPORTATION ACQUISITION MAP NO. 260, PARCEL NO. 300, DATED MARCH 25, 1963.

SURVEY NOTES

1. COORDINATES ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (CORS) - NEW YORK STATE PLANE COORDINATE SYSTEM, EAST ZONE.
2. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
3. MAPPING UNITS ARE U.S. SURVEY FEET.
4. THE CONTOUR INTERVAL IS 1 FOOT.
5. UTILITIES SHOWN HEREON ARE BASED ON VISIBLE EVIDENCE. THE UNDERGROUND POSITION OF ALL UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE.

THIS SURVEY HAS BEEN REVISED WITH THE BENEFIT OF A COMMITMENT FOR TITLE INSURANCE PREPARED BY STEWART TITLE INSURANCE COMPANY, TITLE NO. 30-159289, DATED MARCH 21, 2013.

SURVEYOR'S CERTIFICATION

TO: (1) THE PEOPLE OF THE STATE OF NEW YORK, ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (2) BRE LINCOLN AVENUE, LLC (3) STEWART TITLE INSURANCE COMPANY;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN THE ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY THE ALTA AND NSPS, AND INCLUDES ITEMS 4, 5, 7a, 8, 11b & 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MARCH 26, 2013.

JEFFREY F. PHILLIPS, LS 50773
FOR: POPLI DESIGN GROUP
555 Penbrooke Drive
Penfield, NY 14526
Phone: 585-388-2060

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

LEGEND

- SANITARY SEWER MANHOLE
- STORM WATER MANHOLE
- CATCH BASIN
- FIRE HYDRANT
- WATER VALVE
- MONITORING WELL
- UTILITY POLE
- BUILDING DIMENSION
- TITLE COMMITMENT PARCEL DIVISION

SURVEY BY:
POPLI DESIGN GROUP
ARCHITECTURE ENGINEERING
555 Penbrooke Drive Penfield NY 14526

PREPARED FOR:
Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects

SURVEYOR JOB NUMBER:	SU4007.08
SURVEY CREW	W. STRATTON N. DUNN
DRAWN BY:	W. STRATTON
CHECKED BY:	J. PHILLIPS

REVISIONS

5/28/13	ADDED LOCATION OF ENGINEERING CONTROLS
6/7/13	REVISED ENGINEERING CONTROL LABLES

ALTA / ACSM LAND TITLE SURVEY
FOR
#1612, 1616, 1634 & 1642 LINCOLN AVENUE
A.K.A.
TRI-STATE INDUSTRIAL LAUNDRIES BROWNFIELD CLEANUP PROJECT
NYSDEC SITE NO. C633068

City of Utica, County of Oneida, State of New York

SCALE: 1" = 30' DATE: APRIL 15, 2013

Appendix B

Environmental Easement

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this _____day of _____, 20__, between Owner(s) BRE Lincoln Avenue, LLC, having an office at c/o Fitzgerald, DePietro and Wojnas, 291 Genesee Street, Utica, County of Oneida, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 1612, 1616, 1634 and 1642 Lincoln Avenue in the City of Utica, County of Oneida and State of New York, known and designated on the tax map of the County Clerk of Oneida as tax map parcel numbers: Section 318.62 Block 2 Lot 14; Section 318.62 Block 2 Lot 13; Section 318.62 Block 2 Lot 11.1; Section 318.62 Block 2 Lot 11.2; Section 318.62 Block 2 Lot 10.1; Section 318.62 Block 2 Lot 12.2; Section 318.62 Block 2 Lot 12.1; and Section 318.62 Block 2 Lot 10.2, being the same as that property conveyed to Grantor by deed dated June 17, 2011 and recorded in the Oneida County Clerk's Office in Instrument No. 2011-011198. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.673 +/- acres, and is hereinafter more fully described in the Land Title Survey dated April 15, 2013 prepared by Jeffrey F. Phillips, LS, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: A6-0621-07-09, as amended by Amendment No. 1 and Amendment No. 2, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv) if current land use is selected, enter current use.

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Oneida County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled

Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential, Restricted Residential or Commercial purposes as defined in 6NYCRR 375-1.8(g)(i), (ii) and (iii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved b the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by

the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C633068
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

BRE Lincoln Avenue, LLC:

By: S H Bussey

Print Name: Stephen H. Bussey

Title: Member Date: 6/18/13

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Oneida)

On the 18th day of June, in the year 2013, before me, the undersigned, personally appeared S. H. Busbey, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

June C. Pavia
Notary Public - State of New York

JUNE C. PAVIA
Notary Public, State of New York
Re. # 01PA6010351
Appointed in Oneida County
My Commission Expires 7/20/14

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the _____ day of _____, in the year 20__, before me, the undersigned, personally appeared Robert Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

SCHEDULE "A" PROPERTY DESCRIPTION

Tri-State Industrial Laundries
Brownfield Cleanup Project
NYSDEC Site No. C633068

Record Description for #1612, 1616, 1634 & 1642 Lincoln Avenue

PARCEL I:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York shown on a map entitled "Map showing property of Frederick Gillmore on Lincoln & Wheeler Avenue made by J. Kemper, Civil Engineer" and dated March 18, 1913 which map has been filed in the Oneida County Clerk's Office described as follows: COMMENCING at an iron pipe shown on said map in the northerly line of Lincoln Avenue in the southwesterly corner of the property owned by the party of the first part and running thence northerly at right angles to Lincoln Avenue 87.17 feet to an iron pipe; thence westerly at an angle of 83° 16' 4-12 feet to an iron pipe; thence northerly 13.17 feet to an iron pipe thence easterly 8.67 feet to an iron pipe thence northerly at right angles to Wheeler Avenue 62 feet to the southerly line of Wheeler Avenue; thence easterly along the southerly line of Wheeler Avenue 15.24 feet; thence southerly at right angles to Wheeler Avenue 15.24 feet; thence southerly at right angles to Wheeler Avenue northerly line of Lincoln Avenue and thence westerly along the northerly line of Lincoln Avenue 20 feet to the place of beginning.

PARCEL II:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, more particularly described as being the northerly four (4) feet from front to rear of Lot 118 as shown and distinguished upon a map and plot of the "Allotment of the Chenango Canal land" within the City of Utica, made by C. W. Adams surveyor posted and filed in the Office of the City Surveyor of the City of Utica, on or about the 29th day of December 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889.

PARCEL III:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, known and designated as the southerly 40 feet wide in front on Lincoln Avenue, 35 feet wide in the rear taken from the southerly side of Lot No. 17, and the northerly 5 feet wide, front and rear, of Lot No. 18, as laid out and described on a map of property in Utica, N.Y., made for William B. Lane and Frederick G. Fincke, executors of the estate of George H. Wiley, deceased, made from actual survey October 14, 1904, by C. S. Taylor, and filed in the Oneida County Clerk's Office 18, 1904, to which reference is hereby made. Said pieces or portions of said lots taken together make a lot 45 feet wide in front on the northwesterly side of Lincoln Avenue 40 feet in width in the rear and 95 feet, more or less, deep as laid out on said map.

PARCEL IV:

ALL THAT PART OR PORTION OF "ABANDONED CHENANGO CANAL LAND", situated in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal Land" within the City of Utica made by C. W. Adams, surveyor, posted and filed in the Office of the City Surveyor of the City of Utica, on or about the 27th day of December 1888 and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889 as Lot Nos. 118, 119 and 120, bounded and described as follows, on the north by Lot No. 117, on the east by the Blue Line of the Chenango Canal lands, on the south by the north line of a proposed street, and on the west by the east line the proposed street and fronting on the said proposed street and are each about 40 feet wide in front and rear except that the rear line of Lot 120 is irregular in shape and as the same are laid down on said map. Subject to the provisions of Section 12 of Chapter 456 of the Laws of 1887 aforesaid.

EXCEPTING AND RESERVING, from the above premises the following: ALL THAT TRACT OR PARCEL OF

LAND, situate in the City of Utica, County of Oneida and State of New York, more particularly described as being the northerly 4 feet from front to rear of Lot 118 as shown and distinguished upon a map and plot of the "Allotment of the Chenango Canal Land" within the City of Utica, made by C. W. Adams, surveyor posted and filed in the Office of the City Surveyor of the City of Utica, on or about the 29th day of December, 1888 and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889.

ALSO, ALL THAT PIECE OR PARCEL OF LAND, situate in Utica, County of Oneida and State of New York, known and distinguished as all that part of Lot No. 18 on a Map of property in Utica, N.Y. made for William B. Lane and Frederick G. Finck as executors of George H. Wiley deceased made by C. S. Taylor October 14, 2004 and filed in the Oneida County Clerk's Office October 18, 1904 to which reference is hereby made, bounded and described as follows: BEGINNING at the northerly corner of Lincoln Ave., with the northerly line of Wheeler Ave. thence northerly on the line of Wheeler Ave. 3 feet thence at right angles easterly 24-11/12 feet thence at right angles southerly 5-11/12 feet thence at right angles northeasterly 89/4/12 feet thence at right angles southerly 56 feet more or less to the northerly line of Lincoln Ave. and thence westerly along the northerly line of Lincoln Ave. 120 feet more or less to the junction of Wheeler Ave. the place of beginning.

ALL THAT TRACT OR PORTION OF abandoned Chenango Canal land, situated in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the Allotment of the Chenango Canal land within the City of Utica, made by C. W. Adams, surveyor, posted and filed in the Office of the City Surveyor of the City of Utica on or about the 27th day of December, 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889, as Lot Nos. 122 and 123 bounded and described as follows, they lie together and front upon the westerly line of Chenango Ave. and are about 40 feet each front and rear and are bounded on the east by the west line of Chenango Ave., on the south by Lot No. 124, on the west by the blue line of Chenango Canal lands and on the north by the south line of a proposed Street as laid down on said map, subject to the provisions of Section 12 of said Chapter 456 of the laws of 1887.

PARCEL V:

ALL THAT CERTAIN TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, being Lots 124, 125 and 126 as shown on a map of the allotment of the lands of the old Chenango Canal, made by C. W. Adams, surveyor, and filed in the Oneida County Clerk's office about March 27, 1889, being further described as follows:

BEGINNING at a point in the westerly street line of Lincoln Avenue, formerly known as Chenango Avenue, at a distance of 87.50 feet westerly of an iron pipe set in the ground, marking an angle in said street line, said place of beginning being marked by an iron axle driven in the ground in the northerly line of said lot 124 of said map, running thence southerly along said street line one hundred and twenty (120) feet to an iron pipe set in the ground, thence northerly and at right angles to said street line, 109.47 feet to a point on the top of a concrete culvert there located, passing through an iron pipe set in the ground marking the line, at a distance of 106.33 feet from said street line thence easterly and forming an interior angle of 90 degrees and 58 minutes, 120 feet along said concrete culvert to the easterly line of the property herein described, thence southerly and at right angles to said Lincoln Avenue street line and passing through an iron pipe set in the ground at the easterly edge of said culvert, marking this last course, a total distance of 110.15 feet to the place of beginning, being as shown on a map of a survey made by Joseph Kemper, civil engineer, dated at Utica, N.Y. February 1, 1937.

PARCEL VI:

ALL THAT PART OR PORTION OF "Abandoned Chenango Canal" and situate in the City of Utica, County of Oneida and State of New York and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal land" within the City of Utica made by C. W. Adams Surveyor, posted and filed in the office of the City Surveyor of the City of Utica on or about the 27th day of December 1888, and a duplicate of which was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889 as Lot No. 127 bounded and described as follows, on the north by Lot No. 126 on the east by the west line of Lincoln Avenue on the south by Lot No. 128 and on the west by the blue line of the Chenango Canal lands and being about 40 feet front and rear as the same is laid down on said map.

PARCEL VII:

ALL THAT PART OR PORTION OF "Abandoned Chenango Canal land" situated in the City of Utica, County of Oneida and State of New York and known and distinguished upon a map and plot of the allotment of the "Chenango

Canal land" within the City of Utica made by C. W. Adams, surveyor, posted and filed in the office of the City Surveyor of the City of Utica on or about the 27th day of December, 1888 and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March 1889 as Lot No. 116 bounded and described as follows, on the north by Lot No. 115 , on the east by the blue line of Chenango Canal lands, on the south by Lot No. 117 and on the west by the east line of the proposed St. and fronting upon the easterly side of said proposed St. and as the same is laid down on said map being about 40 feet front and rear, subject to the provisions of Section 12 of said Chapter 456 of the laws of 1887.

ALSO, ALL THAT PART OR PORTION OF "Abandoned Chenango Canal land", situate in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal land," within the City of Utica, made by C. W. Adams, surveyor, posted and filed in the office of the City Surveyor of the City of Utica, on or about the 27th day of December, 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County on or about the 27th day of March, 1889, as Lot No. 117 described as follows: on the north by Lot 116, on the east by the blue line of the Chenango Canal lands, on the south by Lot 118 and on the west. by the east line of the proposed St. and as laid down on said map.

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, known and distinguished as Lot No. 16 and the northerly 5 ft. wide in front and rear taken from Lot No. 17 its entire length, as laid out on map of property in Utica, New York made for William B. Lane and Frederick G. Fincke, executors of George H. Wiley, deceased, from actual survey October 14, 1904 by C.S. Taylor, C.E. and filed October 18, 1904 in Oneida County Clerk's Office.

ALSO, ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, known and distinguished as Lot Nos. 14 and 15 on a map of property in Utica, N.Y. made for William B. Lane and Frederick G. Fincke, Executors of George H. Wiley, deceased, from actual survey, October 14, 1904 by C. E. Taylor, C.E., and filed in the Oneida County Clerk's Office October 18, 1904.

ALSO, ALL THAT PART OR PORTION OF "Abandoned Chenango Canal Land", situated in the City of Utica, County of Oneida and State of New York, and known and distinguished upon a map and plot of the "Allotment of the Chenango Canal Land", within the City of Utica, made by C. W. Adams, surveyor, posted and filed in the office of City Surveyor of the City of Utica, on or about the 27th day of December 1888, and a duplicate of which has been and was filed in the Clerk's Office of Oneida County, on or about the 27th day March, 1889; as Lots Nos. 114 and 115 bounded and described as follows: on the north by Lot No. 113; the east by the blue line of the Chenango Canal lands; on the south by Lot No. 116, and on the west by the east line of the proposed street, and fronting upon said proposed street as the same is laid down on said map, being about 40 feet. each front and rear, subject to the provisions of Section 12 of said Chapter 456 of the laws of 1887.

PARCEL VIII:

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Utica, County of Oneida and State of New York, bounded and described as follows: BEGINNING at a point formed by the intersection of the northerly line of Lincoln Avenue and the westerly line of Wheeler Avenue, said point of beginning being also the southeasterly corner of property shown on the City Tax Maps as Book 4, Map 13, Block 6, Lot 23; thence northerly along the westerly line of Wheeler Avenue, a distance of 90.37 +/- feet to a point, said point being located distant 8.50 feet southerly measured at right angles from the center line of an existing railroad siding or branch track operated by the Delaware Lackawanna and Western R.R. Co., Utica Division; thence easterly at an interior angle of 74° 38' 16" with the last described line a distance of 49.15 +/- feet to a point; thence southerly along a line parallel with the first described line a distance of 4.0 +/- feet to a point in the existing southerly line of Wheeler Avenue; thence westerly along the southerly line of said street a distance of 8.0 +/- feet to a point in the existing easterly line of said street; thence southerly along the existing easterly line of said street a distance of 92.92 +/- feet to a point in the northerly line of Lincoln Avenue; thence westerly along the northerly line of Lincoln Avenue a distance of 43.98 +/- feet to the place of beginning.

Environmental Easement Area Description

ALL that piece or parcel of property hereinafter designated as Environmental Easement Area, being Tax Lots 318.62-2-10.1/10.2, 318.62-2-11.1/11.2, 318.62-2-12.1, 318.62-2-12.2, 318.62-2-13, and 318.62-2-14 in the City of Utica, County of Oneida, State of New York and more particularly described as follows:

BEGINNING at a point on the northerly boundary of Lincoln Avenue, an existing city street, at its intersection with the division line between the property of BRE Lincoln Avenue, LLC (reputed owner) on the northeast and the property of SECO Leasing Corp. (reputed owner) on the southwest, said point also being the southwest corner of Lot 127 as

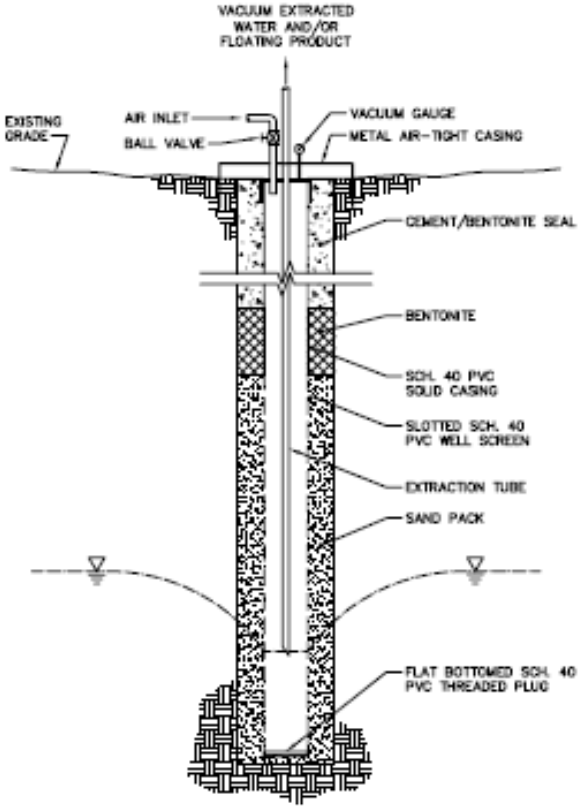
shown on a map entitled "Allotment of the Chenango Canal Land" within the City of Utica, prepared by C.W. Adams, surveyor, a copy of which was filed in the Clerk's Office of Oneida County on March 27, 1889, thence; N 29°33'40" W along the westerly line of Lot 127 a distance of 107.65 feet to a point on the southerly boundary of the City of Utica: North-South Arterial Highway, thence; Along the last mentioned highway boundary the following two (2) courses and distances: (1) N 59°01'44" E a distance of 3.94 feet to a point, thence; (2) N 59°41'37" E a distance of 236.08 feet to a point at the intersection of the southwesterly boundary of Wheeler Avenue, an existing city street, thence; Along the southwesterly and southerly boundaries of Wheeler Avenue the following four (4) courses and distances: (1) S 29°33'40" E a distance of 18.85 feet to a point, thence; (2) N 75°48'31" E a distance of 49.78 feet to a point, thence; (3) S 29°33'13" E a distance of 4.00 feet to a point, thence; (4) N 60°26'47" E a distance of 286.41 feet to a point at the intersection with the division line between the property of BRE Lincoln Avenue, LLC (reputed owner) on the southwest and the property of Mid-York Library System (reputed owner) on the northeast, thence; Along the last mentioned division line S 29°33'13" E a distance of 162.49 feet to a point on the northerly boundary of Lincoln Avenue, thence; Along the last mentioned street boundary the following three (3) courses and distances: (1) S 59°43'32" W a distance of 147.70 feet to a point, thence; (2) S 86°24'18" W a distance of 207.94 feet to a point, thence; (3) S 60°05'30" W a distance of 239.76 feet to the point of beginning, being 72,891± square feet or 1.673 acres, more or less.

Appendix C

Monitoring Well Boring and Construction Logs

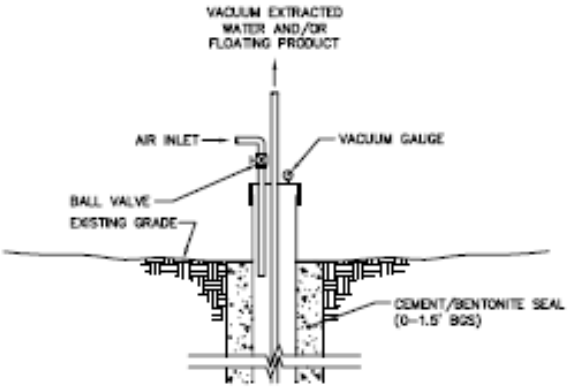
Dual Phase Extraction (DPE) Well Construction Details
Tri-State Industrial Laundries Site, Utica, New York

Zone	DPE Well	Depth to GW (FBG)	Bottom Depth (FBG)	Screen Range (FBG)	Diameter (in)	Zone of Contamination (FBG)	Finish
AOC-1	**1**	5	13	3-13	4	3-12	Flushmount
AOC-1	**2**	5	13	3-13	4	3-12	Flushmount
AOC-1	**3**	4	13	3-13	4	3-12	Flushmount
AOC-1	**4**	4	13	3-13	4	3-12	Flushmount
AOC-2	**5**	5	9.5	4-9.5	4	4-9	Riser
AOC-2	**6**	5	9.5	4-9.5	4	4-9	Riser
AOC-3	**7**	5	11	4-11	4	4-10	Flushmount
AOC-3	**8**	5	10	4-10	4	4-10	Flushmount



SINGLE PUMP, DPE EXTRACTION WELL DETAIL

NOT TO SCALE



ABOVE GRADE WELL DETAIL

NOT TO SCALE

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-01S**

Project No. 2.1205.001

PROJECT INFORMATION				DRILLING INFORMATION			
Project:	Tri-State Laundry Inc.			**Drilling Co:**	NYEG Drilling LLC		
Client:	Tri-State			**Driller:**			
Site Location:	1634 Lincoln Avenue			**Rig Type:**	Geoprobe 7822 DT		
Job No:	2.1205.001			**Drilling Method(s):**			
Project Manager:	Dave Hanny						
Logged By:	Bryce Dingman			**Hammer Type, Weight/Dro**	N/A		
Dates Drilled	5/27/2010			**Borehole Diam:**	2"	**Total Depth:**	8.0'
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	N/A	**Easting:**	N/A	**Ground Elevation:**	465.48'	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	N/A	**TOC Elevation:**	465.08'	**Slot Size:**	0.010"

Barton & Loguidice, P.C. | Tri-State Laundry Inc. | BORING NO: MW-01S

Depth (ft)	Sample Type	Description	Sample No./ interval (ft bg		Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / *Well Construction*
		Ground surface							*Flush Mount Completion*
1	MC	0-1.5' Brown medium to coarse SAND	S-1	0-5	36"				*Filter Sandpack to the surface*
2		1.5-5.0' Brown SILT and CLAY, moist to wet, slightly plastic							*Top of bentonite chip seal*
3						-	0.0	1.2	*Top of choker sand*
4									*Top of well screen and filterpack sand*
5	MC	Brown SILT, little fine Sand, trace fine Gravel, saturated, firm, more of sweet odor	S-4	6-8	24"				
6	BLACKLIGHT(-)/SAMPLE								*0.010-inch slot 2" dia. PVC screen*
7						-	0.0	1.8	
8									*Bottom of the well screen 8.0'*
		End of Boring							
9									
10									
11									
12									

Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-02D**

Project No. 2.1205.001

PROJECT INFORMATION				DRILLING INFORMATION			
Project:	Tri-State Laundry Inc.			**Drilling Co:**	NYEG Drilling LLC		
Client:	Tri-State			**Driller:**			
Site Location:	1634 Lincoln Avenue			**Rig Type:**	Dill Rig and Geoprobe 7822 DT		
Job No:	2.1205.001			**Drilling Method(s):**			
Project Manager:	Dave Hanny						
Logged By:	Dave Hanny			**Hammer Type, Weight/Drop**	N/A		
Dates Drilled	5/24/10 and 5/25/10			**Borehole Diam:**	2"	**Total Depth:**	20.0'
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	N/A	**Easting:**	N/A	**Ground Elevation:**	467	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	N/A	**TOC Elevation:**	TBD	**Slot Size:**	0.010"
Barton & Loguidice, P.C.			Tri-State Laundry Inc.			BORING NO:	MW-02D

Depth (ft)	Sample Type	Description	Sample No./ Interval (ft bg)	Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / Well Construction
		Ground surface						*Flush Mount Completion*
0	MC	0-6" Brown fine SAND and SILT, soft, wet, non-plastic 6-8" Dark brown medium to coarse SAND and little fine Gravel, loose, moist 8"-5' Brown SILT with some Clay slightly plastic, moist, wet, firm, little fine gravel (sub-round)	S-1	0-5 / 34"	-	0.0	0.2	*Filter Sandpack to the surface*
5	MC	5-8' Brown SILT with some CLAY, slightly plastic, becomes saturated at 7.5-80', soft 8-9' Brey SILT with coarse sand, little Gravel, trace medium Gravel (sub-round to sub-angular) 9-10' Grey SILT with little to trace coarse Sand and fine Gravel, firm to dense, moist	S-2	5-10 / 26"	-	0.0 0 0 0 0 0 0 0 2.1 3.2	2.5	*Top of bentonite chip seal* *Top of choker sandpack* *Top of Filter Sandpack*
10	MC	10-12.5' Grey SILT with some Clay slightly plastic, trace to fine Gravel, dense moist	S-3	10-15 / 58"		0.0 0.0 0.0 0.0		*Top of screen*
12	MC cont.	Continued - 12-15' Grey SILT, little, fine to medium Gravel, very dense, moist, trace Clay, non-plastic	S-3 cont.	10-15 cont. / 58" cont.	-	0.0 0.0 0.0 0.0 0.0 0.0	4.6	*0.010-inch slot 2" dia. PVC screen*
15	MC	Grey SILT with some Clay, becomes wet to saturated from 17.5-19.2', firm. 19.2-19.5' material grades to a grey SILT with fine to medium Gravel, crumbly, dry, encountered refusal at 19.5	S-4	15-20 / 54"	-	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0	*19.5' - Bottom of screen*
20		**End of Boring**						

Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-02S**

Project No. 2.1205.001

PROJECT INFORMATION				DRILLING INFORMATION			
Project:	Tri-State Laundry Inc.			**Drilling Co:**	NYEG Drilling LLC		
Client:	Tri-State			**Driller:**			
Site Location:	1634 Lincoln Avenue			**Rig Type:**	Geoprobe 7822 DT		
Job No:	2.1205.001			**Drilling Method(s):**			
Project Manager:	Dave Hanny						
Logged By:	Bryce Dingman			**Hammer Type, Weight/Dro**	N/A		
Dates Drilled	6/3/2010 and 6/7/10			**Borehole Diam:**	2"	**Total Depth:**	8.0'
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	N/A	**Easting:**	N/A	**Ground Elevation:**	466.83'	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	N/A	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Barton & Loguidice, P.C. Tri-State Laundry Inc. BORING NO: MW-02S

Depth (ft)	Sample Type		Description	Sample No./ interval (ft bg		Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / *Well Construction*
			Ground surface							*Flush Mount Completion*
	MC	BLACKLIGHT(-)	0-6" Brown fine SAND and SILT, soft, wet, non-plastic 6-8" Dark brown medium to coarse SAND and little fine Gravel, loose, moist 8"-5' Brown SILT with some Clay slightly plastic, moist, wet, firm, little fine gravel (sub-round)	S-1	0-5	34"	-	0.0	0.2	*Filter Sandpack to the surface* *Top of bentonite chip seal* *Top of choker sand* *Top of filterpack sand* *Top of well screen*
1										
2										
3										
4										
5	MC	BLACKLIGHT(-)	5-8' Brown SILT with some CLAY, slightly plastic, becomes saturated at 7.5-80', soft	S-2	5-10	26"	-	0.0 0 0 0 0 0	2.5	*0.010-inch slot 2" dia. PVC screen*
6										
7										
8			8-9' Brey SILT with coarse sand, little Gravel, trace medium Gravel (sub-round to sub-angular)					0		*Bottom of the well screen 8.0'*
9			9-10' Grey SILT with little to trace coarse Sand and fine Gravel, firm to dense, moist					0 2.1		*Bottom of the well screen 19'*
10			**End of Boring**					3.2		
11										
12										

Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-03S**

Project No. 2.1205.001

PROJECT INFORMATION		**DRILLING INFORMATION**	
Project:	Tri-State Laundry Inc.	**Drilling Co:**	NYEG Drilling LLC
Client:	Tri-State	**Driller:**	Doug and Steve
Site Location:	1634 Lincoln Avenue	**Rig Type:**	Geoprobe
Job No:	2.1205.001	**Drilling Method(s):**	4' - 2" macro-core
Project Manager:	Dave Hanny		
Logged By:	Matt Strodel	**Hammer Type, Weight/Dro**	N/A
Dates Drilled	5/20/2010	**Borehole Diam:** 2"	**Total Depth:** 2'11"
LOCATION INFORMATION (NYSP)		**WELL INFORMATION**	
Horiz. Datum:	N/A **Easting:** N/A	**Ground Elevation:**	460.04' **Screen Type/Diam:** PVC/2"
Vert. Datum:	N/A **Northing:** N/A	**TOC Elevation:**	459.86' **Slot Size:** 0.010"

Barton & Loguidice, P.C. Tri-State Laundry Inc. BORING NO: MW-03S

Depth (ft)	Sample Type	Description	Sample No./	interval (ft bg	Recovery (in)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / *Well Construction*
		Ground surface							*Flush Mount Completion*
	MC	0-4" Concrete 4-6" Runner Crush	S-1	0-2	19"				*Concrete to the surface* *Top of Filter Sandpack*
		6-8" Brown to orange SILT and Sand small Gravel							*Top of Well Screen 6"*
1		8-19" Grey Till with CLAY, some Sand, some medium Gravel, soft, moist							*Bottom of Well Screen 12"*
2						-	4.0	5.1	
3		**End of Boring**							
4									
5									
6									
7									
8									
9									
10									
11									
12									

Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-5D**

Project No. 2.1205.001

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Tri-State Laundry Inc.	**Drilling Co:**	NYEG Drilling LLC
Client:	Tri-State	**Driller:**	
Site Location:	1634 Lincoln Avenue	**Rig Type:**	
Job No:	2.1205.001	**Drilling Method(s):**	
Project Manager:	Dave Hanny		
Logged By:	Dave Hanny	**Hammer Type, Weight/Drop**	N/A
Dates Drilled	5/11/10 and 5/14/10	**Borehole Diam:** 2"	**Total Depth:** 20.0'
LOCATION INFORMATION (NYSP)		**WELL INFORMATION**	
Horiz. Datum:	N/A **Easting:** N/A	**Ground Elevation:** TBD	**Screen Type/Diam:** PVC/2"
Vert. Datum:	N/A **Northing:** N/A	**TOC Elevation:** TBD	**Slot Size:** 0.010"

Barton & Loguidice, P.C. — Tri-State Laundry Inc. — BORING NO: MW-5D

Depth (ft)	Sample Type	Description	Sample No./	Interval (ft bg)	Recovery (in	Blow Count	PID (ppm)	Headspace (ppm)	Notes / Well Construction
		Ground surface							*Flush Mount Completion*
1	MC	**TOPSOIL:** 0-6" Black TOPSOIL, dry	S-1	0-2	4"	4 4 5 5	0.0 0.0 0.0 0.0	0	*Portland concrete surface seal*
2	MC	Concrete - low recovery	S-2	2-4	6"	5 5 7 12	0.0 0.0 0.0 0.0	0.0	
3									
4	MC	Brown SILT with some Sand and Gravel	S-3	4-6	15"	1 3 11	0.0 0.0 0.0 0.0	0.1	
5		Gray SILT with trace Gravel, moist at 5'							
6	MC	**GRAY TILL:** Gray SILT with some Clay and fine Sand, saturated	S-4	6-8	13"	2 2 3 4	0.3 0.3 0.3 0.3	2.9	*Top of choker sandpack*
7									*Top of bentonite chip seal*
8	MC	Gray CLAY with some Sand and fine Gravel, saturated at 9.5'	S-5	8-10	4"	1 1 1 1	0.7 0.7 0.7 0.7	2.3	*Top of choker sandpack*
9									*Top of filter sandpack*
10									
11	MC	Grey SILT with some Sand and Gravel, saturated at 11'	S-6	10-12	20"	4 10 11 11	1.7 1.7 1.7 1.7	3.9	*0.010-inch slot 2" dia. PVC screen*
12		BACKLIGHT (-) Gray SILT , dense, dry Note: Casing set at 11'							*Top of screen*
12	MC	Grey Till - CLAY with little fine Sand, saturated	S-7	12-14	1.5	5 10 17 19	- - - -	-	
13									
14	MC	Same as above, saturated	S-8	14-16	12"	16 16 19 17	- - - -	-	*0.010-inch slot 2" dia. PVC screen*
15									
16	MC	Gray CLAY with trace Sand	S-9	16-18	24"	5 7 7 10	- - - -	-	
17									
18	MC	Gray CLAY with some Gravel Gray CLAY with trace Sand	S-10	18-20	11"	9 18 26 22	- - - -	-	*20' - Bottom of screen*
19									
20		**End of Boring**							
21									
22									
23									
24									
25									
26									
27									
28									

Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-06D**

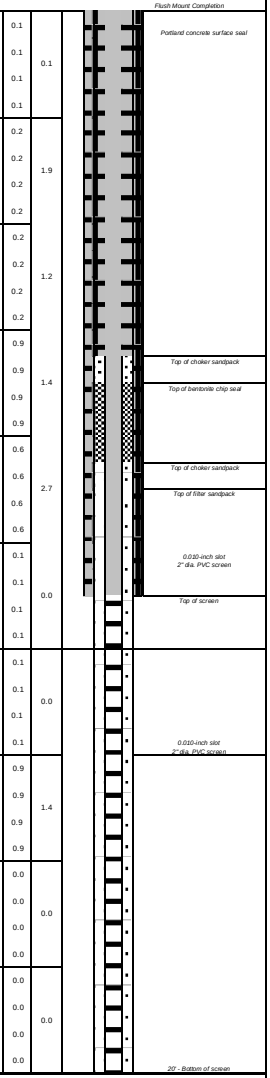
Project No. 2.1205.001

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Tri-State Laundry Inc.	**Drilling Co:**	NYEG Drilling LLC
Client:	Tri-State	**Driller:**	
Site Location:	1634 Lincoln Avenue	**Rig Type:**	
Job No:	2.1205.001	**Drilling Method(s):**	
Project Manager:	Dave Hanny		
Logged By:	Bryce Dingman	**Hammer Type, Weight/Drop**	N/A
Dates Drilled	5/10/10 and 5/13/10	**Borehole Diam:** 2"	**Total Depth:** 20.0'
LOCATION INFORMATION (NYSP)		**WELL INFORMATION**	
Horiz. Datum:	N/A **Easting:** N/A	**Ground Elevation:** 465.37'	**Screen Type/Diam:** PVC/2"
Vert. Datum:	N/A **Northing:** N/A	**TOC Elevation:** 464.76'	**Slot Size:** 0.010"

Barton & Loguidice, P.C. — Tri-State Laundry Inc. — BORING NO: MW-06D

Depth (ft)	Sample Type	Description	Sample No./ Interval (ft bg)	Recovery (in)	Blow Count	PID (ppm)	Headspace (ppm)
		Ground surface					
1	MC	**TOPSOIL:** 0-6" Black TOPSOIL, some fine Gravel, firm, moist	S-1	0-2 8"	7	0.1	
		Concrete			10	0.1	
					31	0.1	0.1
2					10	0.1	
	MC	Concrete	S-2	2-4 1.2	16	0.2	
3		**BROWN SILT:** Brown SILT with little Clay, little fine Gravel, moist, firm to dense			12	0.2	
					7	0.2	1.9
4					13	0.2	
	MC	Brown to gray SILT with some Clay, little fine Gravel and Sand, moist	S-3	4-6 8"	15	0.2	
5		**Concrete Fill**			22	0.2	
					3	0.2	1.2
6					2	0.2	
	MC	**Brown SILT:** Brown SILT with some fine Sand , saturated, soft, little fine Gravel	S-4	6-8 1.0	1	0.9	
7	BLACK/LIGHT/SAMPLE				1	0.9	
					2	0.9	1.4
8					2	0.9	
	MC	Brown SILT with some Clay, fine Gravel and Wood debris, saturated	S-5	8-10 1.0	3	0.6	
9	BLACK/LIGHT/SAMPLE				3	0.6	
					3	0.6	2.7
10		**GREY TILL:**			50/4	0.6	
	MC	Grey SILT, little fine SANDand fine to medium Gravel, dry, dense, brittle	S-6	10-12 1.0	6	0.1	
11					6	0.1	
		Note: Set 4" Steel Casing at 11'			13	0.1	0.0
12					7	0.1	
12	MC	Grey Till - SILT with fine Sand, little fine Gravel, trace med gravel, very dense, dry	S-7	12-14 1.5	25	0.1	
13					24	0.1	
					25	0.1	0.0
14					29	0.1	
	MC	Grey Till - SILT with fine to medium Gravel, some corase Gravel,	S-8	14-16 13"	24	0.9	
15					46	0.9	
					50	0.9	1.4
16					50	0.9	
	MC	Grey Till - SILT with fine to coarse Gravel, some fine Sand	S-9	16-18 20"	25	0.0	
17					34	0.0	
					42	0.0	0.0
18					46	0.0	
	MC	Grey Till - SILT, dense, smooth weathered bedrock - possible shale	S-10	18-20 11"	37	0.0	
19						0.0	
						0.0	0.0
20					50/.2	0.0	
		End of Boring					
21							
22							
23							
24							
25							
26							
27							
28							

Notes / *Well Construction*



Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-07S**

Project No. 2.1205.001

PROJECT INFORMATION				DRILLING INFORMATION			
Project:	Tri-State Laundry Inc.			**Drilling Co:**	NYEG Drilling LLC		
Client:	Tri-State			**Driller:**			
Site Location:	1634 Lincoln Avenue			**Rig Type:**			
Job No:	2.1205.001			**Drilling Method(s):**			
Project Manager:	Dave Hanny						
Logged By:	Dave Hanny			**Hammer Type, Weight/Dro**	N/A		
Dates Drilled	5/12/2010			**Borehole Diam:**	2"	**Total Depth:**	11'
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	N/A	**Easting:**	N/A	**Ground Elevation:**	466.55'	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	N/A	**TOC Elevation:**	466.11'	**Slot Size:**	0.010"

Barton & Loguidice, P.C. Tri-State Laundry Inc. BORING NO: MW-07S

Depth (ft)	Sample Type	Description	Sample No./ interval (ft bg	Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	
		Ground surface						*Flush Mount Completion*
1	MC	**TOPSOIL:** 0-6" Brown TOPSOIL, some fine Gravel, firm, moist, transitions from dark to light brown Sand, wet, loose	S-1	0-2	11"	1 1 1 2	0.2 0.3 0.3 0.3	1.5	*Portland concrete surface seal*
2	MC	Gray fine to medium, stained SAND and some Silt, petroleum odor present, wet	S-2	2-4	8"	W.O.H. W.O.H.	32.2 181.0	743.0	*Top of choker sandpack* *Top of bentonite chip seal*
3						2 1	449.0		
4	MC	Same as above, wet	S-3	4-6	4"	W.O.H. W.O.H.			*Top of choker sandpack*
5						1 2	148.0	618.0	*Top of filter sandpack*
6	MC	Same as above, Black, stained tighter Silt and some sand with angular Gravel, petroleum odor present wet	S-4	6-8	7"	1 1	44.0 10.0		Top of Well Scree 11'
7						2	64.9	741.0	
8	MC	Gray SAND and SILT, loose, wet to saturated, petroleum odor present	S-5	8-10	9"	2 4 4	218.0 54.1		*0.010-inch slot* *2" dia. PVC screen*
9		**Grey Till:** Grey, firm TILL at 10', wet to moist Note: Steel Casing set at 11.4'				2 4	38.4 12.3	395.0	
10	MC	Brown SILT, with some Sand and little Gravel	S-6	10-12	12"	7	0.0		
11		Grey Till - firm				50/.3	0.0	0.0	Botton of Well Screen
12		**End of Boring - Refusal 11'**							

BLACKLIGHT(-) and COMPOSITE SAMPLE COLLECTED

BLACKLIGHT(-)

Notes:

SUBSURFACE INVESTIGATION LOG

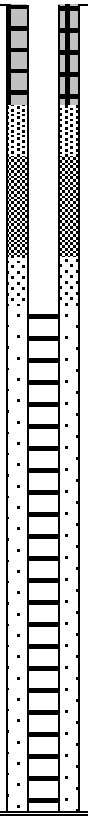
Boring No. **MW-08S**

Project No. 2.1205.001

PROJECT INFORMATION				DRILLING INFORMATION			
Project:	Tri-State Laundry Inc.			**Drilling Co:**	NYEG Drilling LLC		
Client:	Tri-State			**Driller:**			
Site Location:	1634 Lincoln Avenue			**Rig Type:**	Geoprobe 7822 DT		
Job No:	2.1205.001			**Drilling Method(s):**			
Project Manager:	Dave Hanny						
Logged By:	Bryce Dingman			**Hammer Type, Weight/Dro**	N/A		
Dates Drilled	5/26/2010			**Borehole Diam:**	2"	**Total Depth:**	8.0'
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	N/A	**Easting:**	N/A	**Ground Elevation:**	TBD	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	N/A	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Barton & Loguidice, P.C. | Tri-State Laundry Inc. | BORING NO: MW-08S

Depth (ft)	Sample Type		Description	Sample No./ interval (ft bg		Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / *Well Construction*
			Ground surface							*Flush Mount Completion*
1	MC		Brown fine SAND with some Silt, little fine to medium Gravel (sub-round), moist, non cohesive - No odor but a lot of moisture in the bag affected the PID	S-1	0-2	21"	3 5 4 6	32.3 17.6 26 16.2	34.0	*Filter Sandpack to the surface* *Top of bentonite chip seal*
2										
3	MC		Brown SILT with some Clay, little fine to medium Gravel, soft, wet, slightly cohesive (plastic)	S-2	2-4	24"	4 5 3 3	10.1 1.1 1.1 2.0	0.0	*Top of choker sand* *Top of well screen and filterpack sand*
4										
5	MC	BLACKLIGHT (-)	Same as above - less Clay, soft saturated at 5'	S-3	4-6	12"	3 3 2 9	0.0 0.0 0.0 0.0	0.0	*0.010-inch slot* *2" dia. PVC screen*
6										
7	MC	BLACKLIGHT(-)/SAMPLE	Brown fine Sand, some Silt, some coarse Sand and fine to medium Gravel, saturated, soft, encountered grey till at 7'9"	S-4	6-8	-	17 13 12 8	0.0 0.0 0.0 0.0	2.4	*Bottom of the well screen 8.5'*
8			**End of the boring**							
9										
10										
11										
12										



Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-08D**

Project No. 2.1205.001

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Tri-State Laundry Inc.	Drilling Co:	NYEG Drilling LLC
Client:	Tri-State	Driller:	
Site Location:	1634 Lincoln Avenue	Rig Type:	Dill Rig and Geoprobe 7822 DT
Job No:	2.1205.001	Drilling Method(s):	
Project Manager:	Dave Hanny		
Logged By:	Dave Hanny	Hammer Type, Weight/Drop:	N/A
Dates Drilled	5/24/10 and 5/25/10	Borehole Diam: 2"	Total Depth: 20.0'
LOCATION INFORMATION (NYSP)		WELL INFORMATION	
Horiz. Datum:	N/A Easting: N/A	Ground Elevation: TBD	Screen Type/Diam: PVC/2"
Vert. Datum:	N/A Northing: N/A	TOC Elevation: TBD	Slot Size: 0.010"

Barton & Loguidice, P.C. — Tri-State Laundry Inc. — BORING NO: MW-08D

Depth (ft)	Sample Type	Description	Sample No./ interval (ft bg)	Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / Well Construction
		Ground surface						*Flush Mount Completion*
1	MC	Brown fine SAND with some Silt, little fine to medium Gravel (sub-round), moist, non cohesive - No odor but a lot of moisture in the bag affected the PID	S-1 0-2	21"	3 5 4 6	32.3 17.6 26 16.2	34.0	*Filter Sandpack to the surface*
2								
3	MC	Brown SILT with some Clay, little fine to medium Gravel, soft, wet, slightly cohesive (plastic)	S-2 2-4	24"	4 5 3 3	10.1 1.1 1.1 2.0	0.0	
4								
5	MC BLACK/LIGHT (-)	Same as above - less Clay, soft saturated at 5'	S-3 4-6	12"	3 3 2 9	0.0 0.0 0.0 0.0	0.0	*Top of bentonite chip seal*
6								
7	MC BLACK/LIGHT(-)/SAMPLE	Brown fine Sand, some Silt, some coarse Sand and fine to medium Gravel, saturated, soft, encountered grey till at 7'9"	S-4 6-8	-	17 13 12 8	0.0 0.0 0.0 0.0	2.4	
8	MC	Same as above	S-5 8-10	-		0.0		*Top of choker sandpack*
9						0.0	0.0	
10						0.0		*Top screen and Filter Sandpack*
11	MC cont.	Grey SILT with little Clay, firm to dense	S-6 10-15	18"	-	0.0 0.0 0.0	0.0	
12						0.0		
13	MC cont.	Continued - Same as above	S-6 cont. 10-15 cont.	18" cont.	-	0.2 0.0 0.0	0.8	*0.010-inch slot 2" dia. PVC screen*
14						0.0 0.0		
15	MC	Grey SILT (gray to black) and fine SAND with some coarse Gravel	S-7 15-20	48"		0.0	0.0	
16						0.0		
17						0.0		
18					-	0.0		
19						0.0	0.0	
20						0.0		*20' - Bottom of screen*
		End of Boring						
21								
22								
23								
24								
25								
26								
27								
28								

Notes:

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-09S**

Project No. 2.1205.001

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Tri-State Laundry Inc.	**Drilling Co:**	NYEG Drilling LLC
Client:	Tri-State	**Driller:**	
Site Location:	1634 Lincoln Avenue	**Rig Type:**	Geoprobe 7822 DT
Job No:	2.1205.001	**Drilling Method(s):**	
Project Manager:	Dave Hanny		
Logged By:	Bryce Dingman	**Hammer Type, Weight/Dro**	N/A
Dates Drilled	5/24/10 and 5/25/10	**Borehole Diam:** 2"	**Total Depth:** 8.5'
LOCATION INFORMATION (NYSP)		**WELL INFORMATION**	
Horiz. Datum:	N/A **Easting:** N/A	**Ground Elevation:** 467.05'	**Screen Type/Diam:** PVC/2"
Vert. Datum:	N/A **Northing:** N/A	**TOC Elevation:** 466.43'	**Slot Size:** 0.010"

Barton & Loguidice, P.C. Tri-State Laundry Inc. BORING NO: MW-09S

Depth (ft)	Sample Type	Description	Sample No./ interval (ft bg		Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / Well Construction
		Ground surface							*Flush Mount Completion*
1	MC	0-6" Topsoil and Brick fill, dry, loose	S-1	0-2	17"	3	17.7		*Filter Sandpack to the surface*
		6"-1' Black fine to medium SAND, some Silt, trace fine Gravel, non-cohesive, odor, moist				4	68.4	10.1	
		Brown SILT and fine SAND, little fine to medium Gravel, firm, moist, non-plastic				5	15.2		
2						3	8.7		*Top of bentonite chip seal*
3	MC	Brown fine SAND and SILT, little fine to medium Gravel (sub-round to sub-angular), non-plastic, loose, firm	S-2	2-4	12"	7	4.1		
						6	4.1	9.7	
4						4	4.1		*Top of choker sand*
						3	4.1		*Top of well screen and filterpack sand*
5	MC BLACKLIGHT (-)	Same as above - becomes black at 5', saturated, sewage odor, not sweet	S-3	4-6	6"	2	54.0		
						2	54.0	-	
6						1	54.0		
						1	54.0		
7	MC BLACKLIGHT(-)/SAMPLE	Brown SILT, little fine Sand, trace fine Gravel, saturated, firm, more of sweet odor	S-4	6-8	20"	4	240.0		*0.010-inch slot 2" dia. PVC screen*
						3	220.0	2000.0	
8						6	1030.0		
						7	510.0		
9	MC	8-8.5' Brownish-grey SILT and fine SAND, saturated, then grades to a grey Silt and Clay, dense, little fine to medium Gravel (sub-round), slightly plastic	S-5	8-10	24"	6	42.7		*Bottom of the well screen 8.5'*
						7	22.3	33.8	
10						10	1.2		
						13	0.0		
11	MC BLACKLIGHT(-)	Grey SILT with little Clay, firm to dense, moist-wet, slightly plastic	S-6	10-15	24"	-	16.8		
							2.8	13.1	
12							2.0		
							1.2		

Notes: **End of Boring**

SUBSURFACE INVESTIGATION LOG

Boring No. **MW-09D**

Project No. 2.1205.001

PROJECT INFORMATION		DRILLING INFORMATION	
Project:	Tri-State Laundry Inc.	**Drilling Co:**	NYEG Drilling LLC
Client:	Tri-State	**Driller:**	
Site Location:	1634 Lincoln Avenue	**Rig Type:**	Geoprobe 7822 DT
Job No:	2.1205.001	**Drilling Method(s):**	
Project Manager:	Dave Hanny		
Logged By:	Bryce Dingman	**Hammer Type, Weight/Drop:**	N/A
Dates Drilled	5/24/10 and 5/25/10	**Borehole Diam:** 2"	**Total Depth:** 20.0'
LOCATION INFORMATION (NYSP)		**WELL INFORMATION**	
Horiz. Datum:	N/A **Easting:** N/A	**Ground Elevation:** 467.02'	**Screen Type/Diam:** PVC/2"
Vert. Datum:	N/A **Northing:** N/A	**TOC Elevation:** 466.71'	**Slot Size:** 0.010"

Barton & Loguidice, P.C. — Tri-State Laundry Inc. — BORING NO: MW-09D

Depth (ft)	Sample Type	Description	Sample No./ interval (ft bg)	Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)	Notes / Well Construction
		Ground surface						*Flush Mount Completion*
1	MC	0-6" Topsoil and Brick fill, dry, loose	S-1	0-2	17"	3	17.7	*Filter Sandpack to the surface*
		6"-1' Black fine to medium SAND, some Silt, trace fine Gravel, non-cohesive, odor, moist				4	68.4	
		Brown SILT and fine SAND, little fine to medium Gravel, firm, moist, non-plastic				5	15.2	10.1
2						3	8.7	
3	MC	Brown fine SAND and SILT, little fine to medium Gravel (sub-round to sub-angular), non-plastic, loose, firm	S-2	2-4	12"	7	4.1	
						6	4.1	
4						4	4.1	9.7
						3	4.1	
5	MC	BLACK/LIGHT(-) Same as above - becomes black at 5', saturated, sewage odor, not sweet	S-3	4-6	6"	2	54.0	
						2	54.0	-
6						1	54.0	*Top of bentonite chip seal*
						1	54.0	
7	MC	BLACK/LIGHT(-)/SAMPLE Brown SILT, little fine Sand, trace fine Gravel, saturated, firm, more of sweet odor	S-4	6-8	20"	4	240.0	
						3	220.0	
8						6	#####	2000.0
						7	510.0	
9	MC	8-8.5' Brownish-grey SILT and fine SAND, saturated, then grades to a grey Silt and Clay, dense, little fine to medium Gravel (sub-round), slightly plastic	S-5	8-10	24"	6	42.7	*Top of choker sandpack*
						7	22.3	
10						10	1.2	33.8 *Top of Filter Sandpack*
						13	0.0	
11	MC	BLACK/LIGHT(-) Grey SILT with little Clay, firm to dense, moist-wet, slightly plastic	S-6	10-15	24"		16.8	*Top of screen*
						-	2.8	
12							2.0	13.1
							1.2	
12	MC cont.	BLACK/LIGHT(-) Same as above	S-6 cont.	10-15 cont.	24"		0.2	
		Grey SILT and fine SAND with some medium to coarse Sand and little fine Gravel, wet, dense, non cohesive					0.0	
13						-	0.0	
							0.0	0.8
14							0.0	*0.010-inch slot 2" dia. PVC screen*
							0.0	
15	MC	Grey SILT and fine SAND with some med to coarse Sand and little fine to medium Gravel (sub-round), saturated at 15.5'-17'	S-7	15-20	56"		0.0	
							0.0	
16						-	0.0	0.8
							0.0	
17							0.0	
		Same as above - dry, very dense					0.0	
18							0.0	
						-	0.0	0.4
19							0.0	
							6.8	
20		**End of Boring**						*20' - Bottom of screen*
21								
22								
23								
24								
25								
26								
27								
28								

Notes:

SUBSURFACE INVESTIGATION LOG

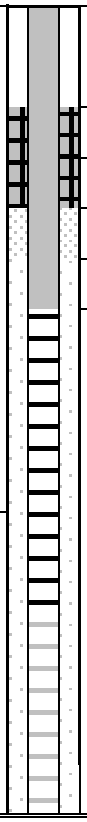
Boring No. **MW-10S**

Project No. 2.1205.001

PROJECT INFORMATION				DRILLING INFORMATION			
Project:	Tri-State Laundry Inc.			**Drilling Co:**	NYEG Drilling LLC		
Client:	Tri-State			**Driller:**			
Site Location:	1634 Lincoln Avenue			**Rig Type:**	Geoprobe 7822 DT		
Job No:	2.1205.001			**Drilling Method(s):**	2" Macrocore		
Project Manager:	Dave Hanny						
Logged By:	Brian McGrath			**Hammer Type, Weight/Drop:**	N/A		
Dates Drilled	10/22/2011			**Borehole Diam:**	2"	**Total Depth:**	8
LOCATION INFORMATION (NYSP)				**WELL INFORMATION**			
Horiz. Datum:	N/A	**Easting:**	N/A	**Ground Elevation:**	465.85'	**Screen Type/Diam:**	PVC/2"
Vert. Datum:	N/A	**Northing:**	N/A	**TOC Elevation:**	TBD	**Slot Size:**	0.010"

Barton & Loguidice, P.C. Tri-State Laundry Inc. BORING NO: MW-10S

Depth (ft)	Sample Type	Description	Sample No./ interval (ft bg		Recovery (ft)	Blow Count	PID (ppm)	Headspace (ppm)
		Ground surface						
1	MC	0-9" Brown SILT with little Gravel	S-1	0-2	9"	22 3 3 3	0.0 0.0 0.0 0.0	0.0
2		No Recovery	S-2	2-4	0"	2 3 5 5	0.0 0.0 0.0 0.0	0.0
3								
4		**Brown Silt:** Brown SILT with little Sand, very low recovery, spoon is saturated	S-3	4-6	2"	3 4 7 11	0.0 0.0 0.0 0.0	0.0
5	MC							
6		Brown SILT with little Sand and Gravel, saturated at 6'	S-4	6-8	20"	9 15 12 16	0.0 0.0 0.0 0.0	0.0
7		**GREY TILL:** saturated						
8		**End of Boring**						
9								
10								
11								
12								



Flush Mount Completion

Top of bentonite chip seal 0.8'

Top of choker sandpack

Top of filter sandpack

Top of Well Screen 3'

0.010-inch slot
2" dia. PVC screen

Botton of Well Screen

Notes:

Appendix D

Excavation Work Plan and Community Air Monitoring Plan

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068

City of Utica, New York

Excavation Work Plan

June 2013

Barton & Loguidice

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068
City of Utica

Excavation Work Plan

June 2013

Prepared For:

BRE Lincoln Avenue, LLC and
Lincoln C/B Properties, Inc.
c/o Fitzgerald, Depietro and Wojnas
291 Genesee Street
Utica, New York 13501

Prepared By:

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects
290 Elwood Davis Road
Box 3107
Syracuse, New York 13220

This document is printed on recycled paper

Table of Contents

1.0 Notification

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or its representative will notify the Department provided that such advance notice will not be required in the event of an emergency and as long as a follow-up description of the work is provided within 48 hours. Currently, this notification will be made to:

Regional Remediation Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
Region 6
317 Washington Street
Watertown, New York 13601

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP:
    - Simple excavations may only require compliance with a portion of the EWP. For example, excavation of a small volume of soil from above the water table that is directly loaded for off-site disposal

would not require the stockpiling or fluids management provisions of this template.

- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in the appendices of the associated Site Management Plan;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

2.0 Soil Screening Methods

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, and material that can be returned to the subsurface.

Excavated soils from areas anticipated to contain remaining contamination and located outside of existing building footprints will undergo instrument based and field identification screening. Instrument based screening will consist of utilizing a photoionization detector (PID), and field identification screening will be based on visual and olfactory observations. This screening will be conducted in-situ, or from the excavator bucket on successive 2-foot lifts of soil removed from the excavation. This soil will be segregated as follows:

- Material that requires analytical testing:
    - Soils generated from areas anticipated to contain remaining contamination and located outside of existing building footprints with PID readings equal or greater to 50 ppm or that exhibit potential contamination through field identification screening. All soil that requires testing will be stockpiled in accordance with Section 3.0.

- Material that requires off-site disposal under the criteria identified in Section 7.0:
    - Soils that required analytical testing based on the results of instrument based and field identification screening and were determined to have contaminant concentrations in excess of Part 375 Protection of Groundwater Standards. Sampling and analytical testing will be conducted as outlined in Section 7.0.
- Material that can be returned to the subsurface under the criteria identified in Section 7.0 :
    - Soil for which PID readings were less than 50 ppm and did not exhibit signs of contamination through field identification screening; or
    - Soils that were tested and had concentrations less than Part 375 Protection of Groundwater Standards. These soils must be replaced in-kind and not at a different depth from which they were removed.

Soils outside of the "Limits of Remaining Contamination" shown on Figure 2 in the SMP can be assumed to be clean. Instrument based screening is not required to be conducted in areas outside of the "Limits of Remaining Contamination". However, if field identification screening identifies new areas of contamination, then testing will be conducted as outlined above.

3.0 Stockpile Methods

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC.

4.0 Materials Excavation and Load Out

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. Dig Safely NY will be contacted in accordance with State and Local utility clearance requirements. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

5.0 Materials Transport Off-Site

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

Truck transport routes are as follows:

To get to Routes 8 & 12 South and 5 West:

- Go Left out of Facility onto Lincoln Avenue
- Take Lincoln Ave 0.28 miles
- Turn Left onto Oswego Street, Go 0.05 miles
- Take Left Onto Routes 8 & 12 South and 5 West (aka Arterial)

To get to Routes 8 & 12 North and 5 East:

- Go Left out of Facility onto Lincoln Avenue
- Take Lincoln Ave 0.28 miles
- Turn Left onto Oswego Street, Go 0.05 miles
- Take Right Onto Routes 8 & 12 North and 5 East (aka Arterial)

All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport;

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

6.0 Materials Disposal Off-Site

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

7.0 Materials Reuse On-Site

Chemical criteria for on-site reuse of material have been approved by NYSDEC and are discussed below. The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

All material requiring testing, as outlined in Section 2.0, that is generated from areas anticipated to contain remaining contamination and located outside of existing building footprints and is proposed for reuse at the site shall be sampled and analyzed by an analytical laboratory approved by NYSDOH. Results shall be compared to NYSDEC Part 375 Protection of Groundwater Standards to determine suitability for on-site reuse. Samples shall be collected in accordance with DER-10 and analysis shall be the full list of analytes (TCL volatiles) contained in NYSDEC Part 375 at the time of excavation. All excavated soil shall be stockpiled as described in Section 3.0 pending analysis or reuse.

Soil generated from below building slabs can be replaced in-kind as long as engineering/institutional controls are in-place without regard for whether concentrations would exceed Part 375 Protection of Groundwater Standards.

Soil generated from areas outside of the “Limits of Remaining Contamination” is assumed to be clean, and can be reused without additional testing as long as there are no signs of contamination through field identification screening. Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

8.0 Fluids Management

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e., a local pond, stream or river) will be performed under a SPDES permit.

9.0 Cover System Restoration

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Decision Document. A demarcation layer, consisting of orange snow fencing material or equivalent material will be placed to provide a visual reference to the top of the 'Remaining Contamination Zone. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy. If the building, or any portion of the structure, were to be demolished at least one-foot of soil will remain above the Remaining Contaminant Zone. The clean overburden soil may be onsite native material if the building demolition activities do not extend into the zone of contamination, or imported fill if additional material is needed to maintain a one-foot separation to the Remaining Contaminant Zone. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

10.0 Backfill from Off-Site Sources

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

11.0 Stormwater Pollution Prevention

If the NYSDEC determines that a Stormwater Pollution Prevention Plan is required under applicable law, the following conditions shall be adhered to (in addition to other conditions required by the NYSDEC):

Erosion and sediment control practices will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Accumulated sediments will be removed as required to keep the erosion and sediment control practices functional.

All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials.

Manufacturer's recommendations will be followed for replacing silt fencing and other practices damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

If the cumulative disturbance is over 1 acre (including clearing and grubbing), adherence to NYSDEC guidelines is required as is attainment of the proper SPDES General Permit for Stormwater Discharges from Construction Activity by submission of a Notice of Intent (NOI) to the Department and preparation of a stormwater pollution

prevention plan (SWPPP). The SWPPP shall be prepared for the proposed site work by a qualified professional per NYSDEC requirements. All elements required to be in the SWPPP are identified in the SPDES General Permit. Items required for recordkeeping and posting at the site are identified in the SPDES General Permit as well, and this must be adhered to. The owner/operator can file a Notice of Termination (NOT) with the NYSDEC once site work is complete and the site is stabilized.

A copy of the applicable SPDES General Permit and necessary forms can be obtained from NYSDEC website or from the regional office.

12.0 Contingency Plan

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for TAL metals; TCL volatiles and semi-volatiles, unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

13.0 Community Air Monitoring Plan

Air Monitoring Procedures

The Project Manager or designee will conduct air monitoring in accordance with the New York State Department of Health (NYSDOH) Community Air Monitoring Plan. Direct reading instruments will be calibrated in accordance with manufacturer's requirements and the results of the calibration will be documented.

This Community Air Monitoring Plan (CAMP) sets forth the procedures for performing real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area with respect to specific activities to be completed during excavation of contaminated soils within the Limits of Remaining Contamination. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses, and on-site or nearby workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of excavation activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities do not spread contamination off-site through the air.

Air sampling stations will be based on generally prevailing wind conditions (assumed to be west to east). Sampling locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations. Fixed monitoring stations shall be located at the southern site perimeter, regardless of wind direction, as there are residential homes south of Lincoln Avenue.

Continuous monitoring will be required for all subsurface intrusive activities within the limits of remaining contamination**.** Subsurface intrusive activities include, but are

not limited to, re-grading, intrusive elements or utility installation, and soil excavation that occur outside of a building.

VOCs will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds five (5) parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below five (5) ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions 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 exclusion zone 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 over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shut down.

All 15-minute readings will be recorded and available for New York State Department of Environmental Conservation (NYSDEC) and NYSDOH personnel to review. Instantaneous readings, if any, used for decision making purposes will also be recorded.

Particulate concentrations will also be monitored continuously at the upwind and downwind perimeters of the exclusion zone or work area. 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 action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

- 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 work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques if downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and if no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume if dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and available for NYSDEC and NYSDOH personnel to review.

Table 1. Monitoring Protocols and Contaminant Action Levels

Contaminant/ Atmospheric Condition	Monitoring Equipment	Monitoring Protocol	Breathing Zone* Action Level Concentrations	
			Monitored Level for Mandatory Respirator Use**	Monitored Level for Mandatory Work Stoppages***
VOCs	Photoionization detector (PID) with an 11.7 eV lamp	Initially readings will be recorded every 15 minutes. If no sustained readings are obtained in the breathing zone, readings will be recorded every 30 minutes.	5 ppm above background	25 ppm above background
Particulates	MiniRam or Dusttrak or Equivalent	Three times daily when work is being conducted that can generate dust, e.g.		150 ug/m^3 at fence line (institute engineering controls to control dust) per NYSDEC DER-10

*Monitoring performed in the breathing zone for sustained readings of 5 minutes or more. Monitor source first; if the source is near or above the action level concentration, monitor in the breathing zone.
**Monitored levels will require the use of approved respiratory protection specified in the Health and Safety Plan.
***Consult the Project Manager.

Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

14.0 Odor Control Plan

This odor control plan is capable of controlling emissions of nuisance odors off-site. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

15.0 Dust Control Plan

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved though the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

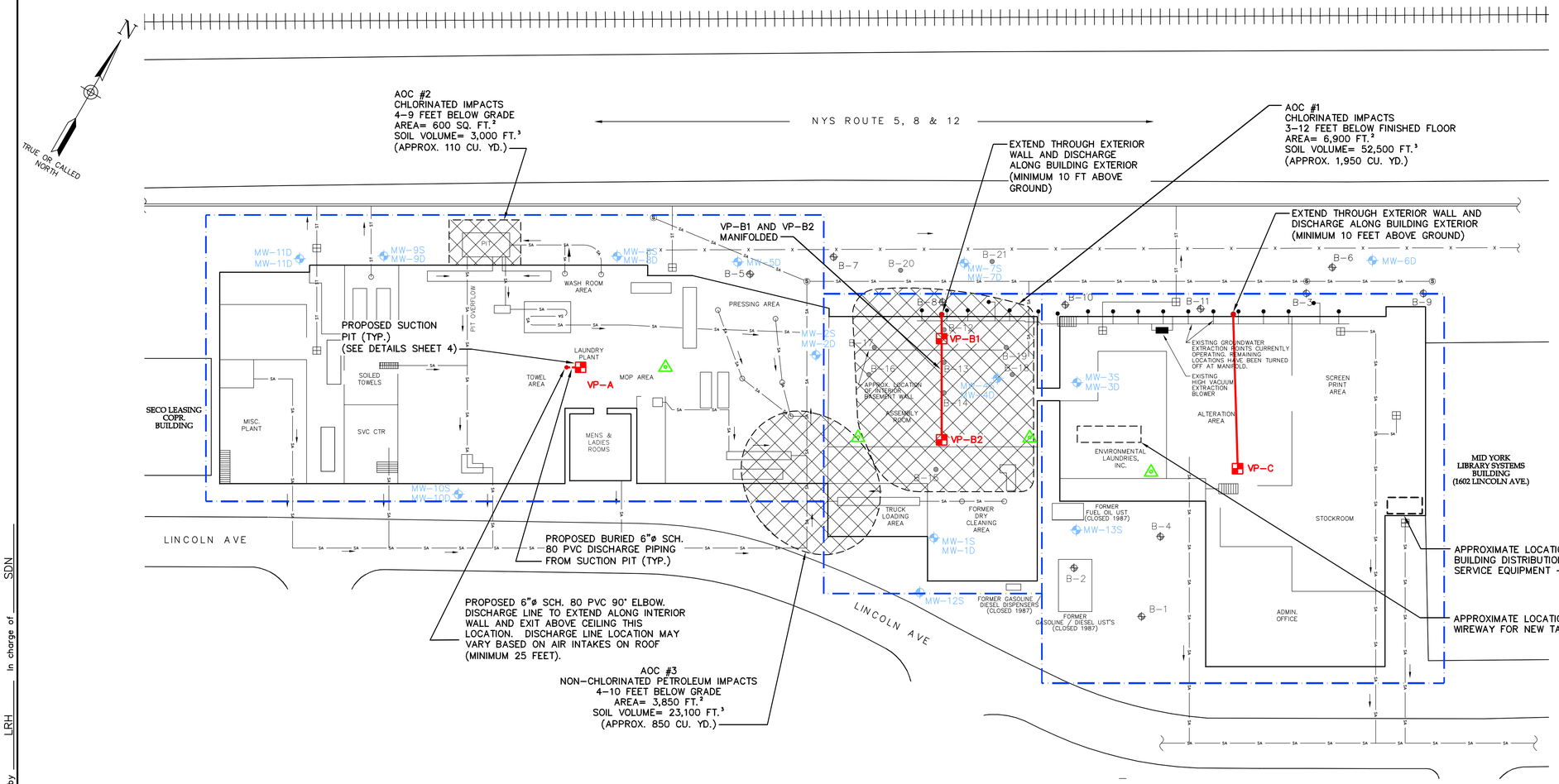
16.0 Other Nuisances

If necessary, a plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing and during all remedial work.

A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

Appendix E

EC System Components

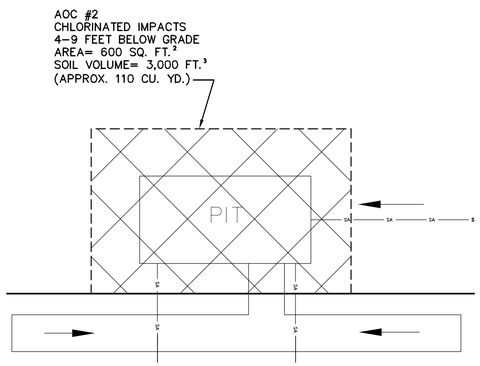


LEGEND:

- SA — EXISTING SANITARY SEWER PIPE
- B–## — NOVEMBER 2008 BORING LOCATIONS
- HISTORIC MONITORING WELL
- MW–## — BCP MONITORING WELL LOCATION
- PROPOSED SUCTION PIT
- PROPOSED PIPE RISER
- PROPOSED BURIED PIPING
- PROPOSED ABOVEGROUND PIPING
- SUB–SLAB DEPRESSURIZATION AREA
- SSDS PRESSURE FIELD MONITORING POINT

NOTE:

1. REFERENCE TO ROOMS AND OPERATIONS ARE HISTORICAL. NO CLEANING OPERATIONS ARE CURRENTLY CONDUCTED.
2. ALL JOINTS, CRACKS, SUMPS AND/OR PIPE UTILITY PENETRATIONS ON THE LOWEST LEVELS OF THE BUILDING MUST BE SEALED TO PREVENT INTRUSION OF SOIL VAPORS (SEE NOTES SHEET 4).
3. VP–1, VP–B1/B2 AND VP–C SERVICED BY SEPARATE EXHAUST FANS. TOTAL OF 3 EXHAUST FANS TO BE UTILIZED FOR SSDS.



PIT CLOSURE PLAN

SCALE: 1" = 10'–0"

PIT CLOSURE NOTES:

1. PERMANENTLY CLOSE ALL DRAINS TO EXTERIOR PIT IN ACCORDANCE WITH SPECIFICATION 02081. REMOVE EXISTING TOP OF PIT.
2. DRAIN PIT AND ANY ACCUMULATED SEDIMENT USING A VACUUM TRUCK IN ACCORDANCE WITH SPECIFICATION 02081. DISPOSE OF MATERIALS IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
3. STEAM CLEAN, FLUSH AND VACUUM PIT AGAIN.
4. FILL THE PIT WITH GRAVEL TO WITHIN TWELVE INCHES OF EXISTING GRADE IN ACCORDANCE WITH SPECIFICATION 03302.
5. APPLY TWELVE INCHES OF TOPSOIL ABOVE GRAVEL. SLOPE FINISHED GRADE AWAY FROM BUILDING FOUNDATION. SEED AND MULCH IN ACCORDANCE WITH SPECIFICATIONS 02484 AND 02485.

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

TRI–STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI–STATE INDUSTRIAL LAUNDRY

PROPOSED SUB–SLAB DEPRESSURIZATION SYSTEM AND PIT CLOSURE DESIGN

ONEIDA COUNTY, NEW YORK

CITY OF UTICA

Barton & Loguidice, P.C.

Date
JUNE, 2013

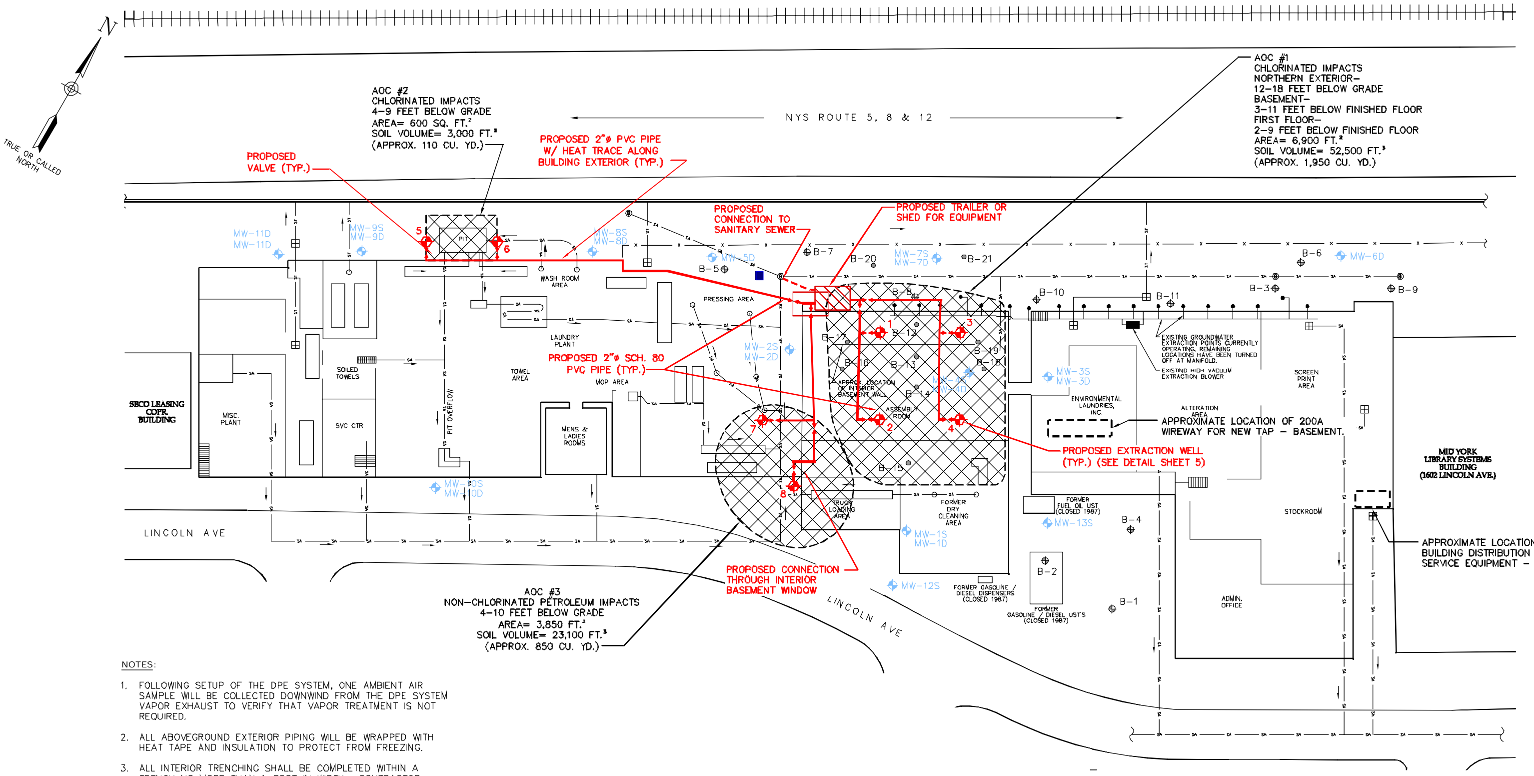
Approximate Scale
1" = 30'

Sheet Number
3A

File Number
1205.001

Plotted: Jun 05, 2013 – 8:37AM SYR By: jgs
I:\Shared\1200\1205001\SEPT 2012\1205001_FIG 3A_SUBSLAB DEPRESSURIZATION SYSTEM_SSDS.dwg

Checked by DRH Drawn by JGS Designed by LRH In charge of SDN



30' 0 30' 60'

APPROXIMATE SCALE: 1"=30'

LEGEND:

- EXISTING SANITARY SEWER PIPE
- B-## NOVEMBER 2008 BORING LOCATIONS
- HISTORIC MONITORING WELL
- MW-## BCP MONITORING WELL LOCATION
- PROPOSED EXTRACTION WELL
- PROPOSED DPE SYSTEM PIPING (ABOVE GRADE)
- PROPOSED DPE SYSTEM PIPING (BELOW GRADE)
- PROPOSED VALVE
- DPE Exhaust Startup Air Sample Location

NOTE:

1. REFERENCE TO ROOMS AND OPERATIONS ARE HISTORICAL. NO CLEANING OPERATIONS ARE CURRENTLY CONDUCTED.

NOTES:

1. FOLLOWING SETUP OF THE DPE SYSTEM, ONE AMBIENT AIR SAMPLE WILL BE COLLECTED DOWNWIND FROM THE DPE SYSTEM VAPOR EXHAUST TO VERIFY THAT VAPOR TREATMENT IS NOT REQUIRED.
2. ALL ABOVEGROUND EXTERIOR PIPING WILL BE WRAPPED WITH HEAT TAPE AND INSULATION TO PROTECT FROM FREEZING.
3. ALL INTERIOR TRENCHING SHALL BE COMPLETED WITHIN A TRENCH NO MORE THAN 1-FOOT IN WIDTH. CONTRACTOR SHALL BACKFILL WITH GRAVEL AND FINISH WITH CONCRETE.

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By ______ Date ______
Ck'd ______ Date ______

REVISIONS

TRI-STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI-STATE INDUSTRIAL LAUNDRY

PROPOSED DUAL-PHASE EXTRACTION SYSTEM DESIGN

CITY OF UTICA ONEIDA COUNTY, NEW YORK

Barton & Loguidice, P.C.

Date: SEPTEMBER, 2012

Approximate Scale: 1" = 30'

Sheet Number: 3B

File Number: 1205.001

Checked by ______ Drawn by JGS Designed by LRH In charge of SDN

Plotted: Nov 14, 2012 - 3:26PM SYR By: pcr
I:\Shared\1200\1205001\SEPT 2012\1205001_FIG 3B_DPE SYSTEM_UPDATE.dwg

EXHAUST FAN:

1. EXHAUST FAN SHALL BE SUITABLE FOR CONTINUOUS OPERATION AND SHALL OPERATE AT AT THE EQUIVALENT OF 500 CFM AT 0" OF STATIC PRESSURE. FAN SHALL BE MANUFACTURED SPECIFICALLY FOR OUTDOOR USE. FAN SHALL BE FANTECH MODEL FR 250 OR APPROVED EQUAL, AND SHALL PROVIDE GREATER THAN 300 cfm AT A STATIC HEAD OF 1".
2. PROVIDE A WATERPROOF LABEL TO READ AS FOLLOWS: "VAPOR REDUCTION DEVICE. DO NOT REMOVE."

SEALING POTENTIAL VAPOR ENTRY ROUTES:

1. ALL JOINTS, CRACKS, SUMPS, AND PIPE/UTILITY PENETRATIONS THAT EXTEND BELOW THE BOTTOM OF EXISTING SLAB SHALL BE PROPERLY SEALED TO PREVENT INTRUSION OF ADDITIONAL SOIL VAPORS AND INTERNAL PRESSURE VARIANCES.
2. SEALANT SHALL BE POLYURETHANE, AIRTIGHT, AND ELASTIC FORMING GOOD ADHERENCE TO CONCRETE. SILICONE CAULKS SHALL NOT BE PERMITTED.
3. SURFACE TO SEAL SHALL BE CLEAN, DRY, AND FREE OF GRIT. THE SURFACE TEMPERATURE SHALL BE ABOVE FREEZING.
4. APPLY SEALANTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
5. TYPICAL DIMENSIONS FOR CAULK BEADS ARE 1/2 IN. DEEP BY 1/4 IN. TO 1/2 IN. WIDE.
6. IT MAY BE NECESSARY TO USE BACKER ROD WHEN APPLYING SEALANT IN WIDE GAPS.
7. ALL SUMPS SHALL BE SEALED WITH A GASKETED LID. FOR SEALING OF SUMPS, UTILIZE A SILICONE RATHER THAN POLYURETHANE CAULK FOR SEALING SUMP LIDS AND ACCESS PORTS TO ENSURE A TIGHT FITTING GASKET THAT CAN BE REMOVED AT A FUTURE DATE. THIS IS ONLY SATISFACTORY IF THE SUMP COVER IS BOLTED DOWN AND THE SEAL IS AIRTIGHT. ADDITIONALLY, A POLYETHYLENE SHEETING SHALL BE INSTALLED AS A VAPOR RETARDER. ALTERNATELY (FOR CIRCULAR SUMPS) A PLASTIC MEMBRANE MAY BE UTILIZED. ALL CRACKS WITHIN SUMPS SHALL BE SEALED.

PIPING:

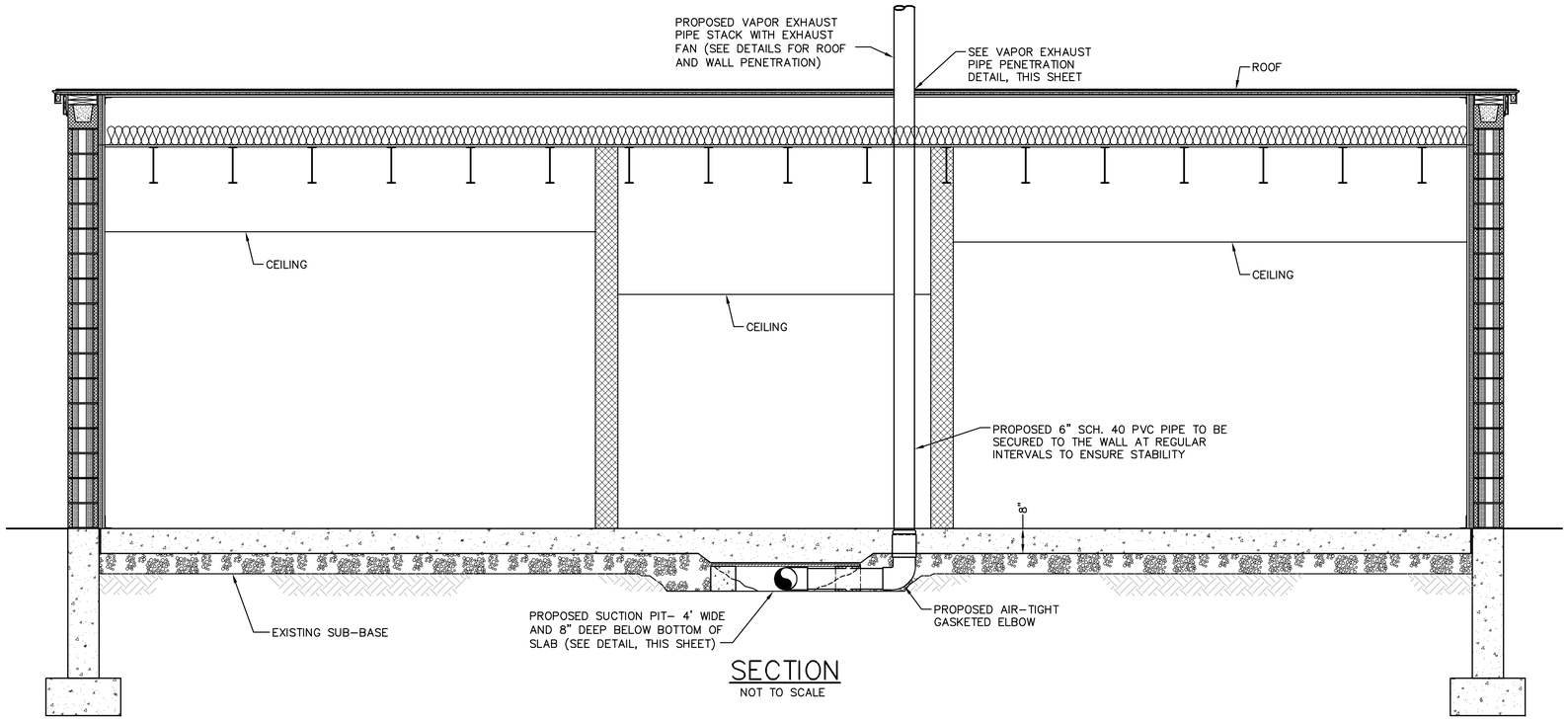
1. ALL SUBSURFACE PIPING SHALL BE LABELED "SSD SYSTEM". ALL EXPOSED PIPING AND SYSTEM COMPONENTS SHALL BE LABELED "SSD SYSTEM – MAY CONTAIN VAPORS". THE FAN PENETRATION SHALL BE LABELED "SOIL GAS VENT STACK MAY CONTAIN HIGH LEVELS OF VAPOR: DO NOT PLACE AIR INTAKE WITHIN 25 FT". LABELS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN EVERY 10 FEET.
2. PIPE LABELS SHALL BE PLACED AT LEAST EVERY 10 FEET ALONG THE ENTIRE PIPE RUN.
3. AT THE VENT EXIT, AFFIX A PERMANENT LABEL TO THE VENT WITH A WARNING THAT READS "GAS VENT STACK MAY CONTAIN HIGH LEVELS OF VAPORS; DO NOT PLACE AIR INTAKE WITHIN 25 FEET."
4. THE SSDS EXHAUST FAN SHALL NOT BE PLACED WITHIN 25 FEET OF ANY OUTDOOR AIR INTAKES. THE SSDS SHALL EXHAUST AT A HIGHER ELEVATION THAN ALL VENTS, DOORS, AND WINDOWS (MINIMUM OF 10 FEET ABOVE GROUND SURFACE).
5. PIPING TO BE ADEQUATELY SECURED TO WALL SO AS NOT TO SHIFT AFTER INSTALLATION.

WARNING SYSTEM:

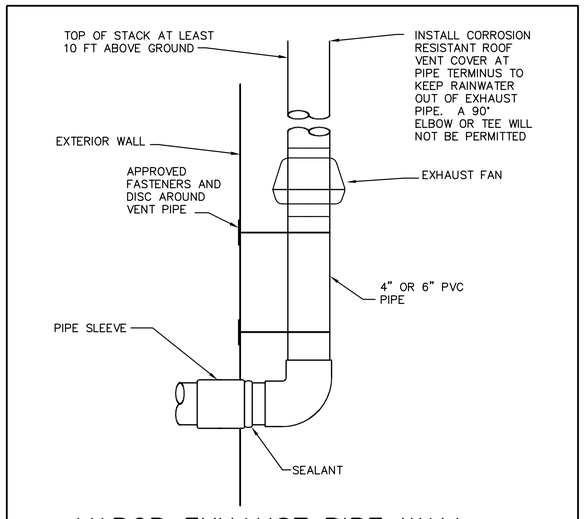
1. THE SYSTEM SHALL INCLUDE A VISIBLE WARNING DEVICE TO INDICATE LOSS OF NEGATIVE PRESSURE. THIS DEVICE MAY BE AN ELECTRONIC PRESSURE SENSING DEVICE THAT ACTIVATES A WARNING LIGHT OR AN AUDIBLE ALARM WHEN A SYSTEM PRESSURE DROP OCCURS (NOT SOLELY WHEN THE FAN HAS CEASED PROPER OPERATION). INSTALL WARNING DEVICE IN AN AREA FREQUENTLY VISITED BY RESPONSIBLE STAFF. WARNING SYSTEM SHALL BE INSTALLED WITHIN THE BUILDING INTERIOR ON THE RISER PIPE, AND SHALL BE AT A HEIGHT SUCH THAT IT IS EASILY OBSERVABLE AND ACCESSIBLE FROM FLOOR LEVEL.

SITE RESTORATION:

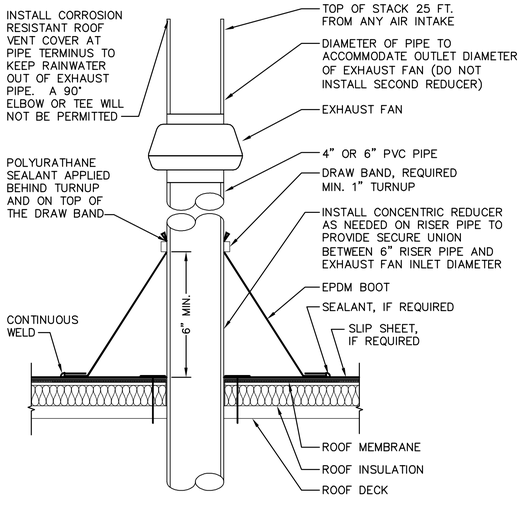
1. THE SITE SHALL BE RESTORED IN A MANNER CONSISTENT WITH EXISTING BUILDING USE AND AESTHETICS.



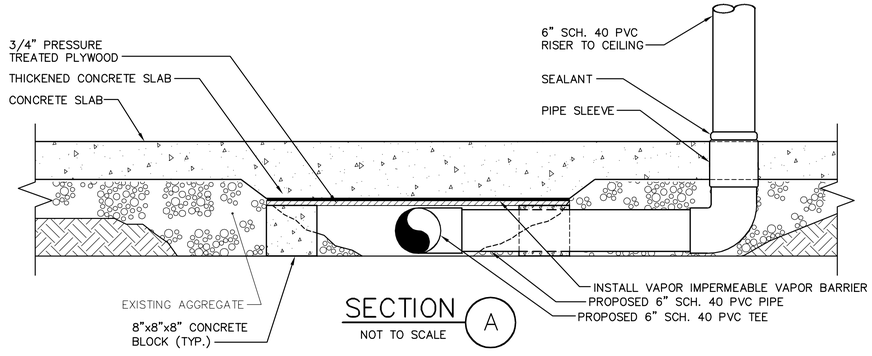
SECTION
NOT TO SCALE



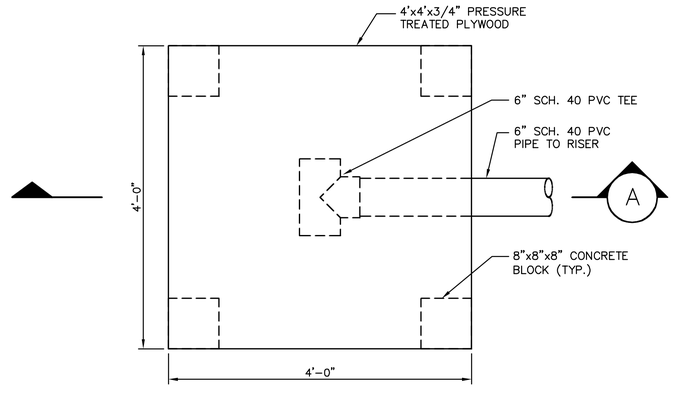
VAPOR EXHAUST PIPE WALL PENETRATION DETAIL
NOT TO SCALE



VAPOR EXHAUST PIPE ROOF PENETRATION DETAIL
NOT TO SCALE



SECTION A
NOT TO SCALE



TYPICAL VAPOR SUCTION PIT DETAIL
NOT TO SCALE

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

TRI-STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI-STATE INDUSTRIAL LAUNDRY

SUB-SLAB DEPRESSURIZATION SYSTEM DETAILS

CITY OF UTICA ONEIDA COUNTY, NEW YORK

Barton Loguidice, P.C.

Date
OCTOBER, 2012

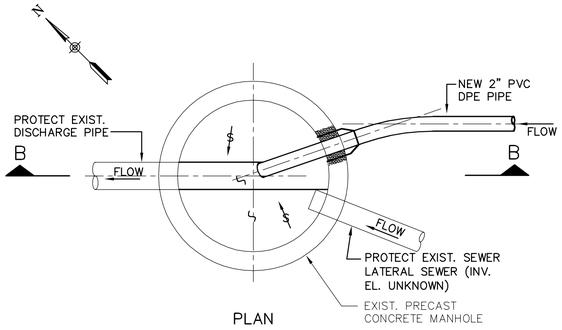
Scale
AS SHOWN

Sheet Number
4

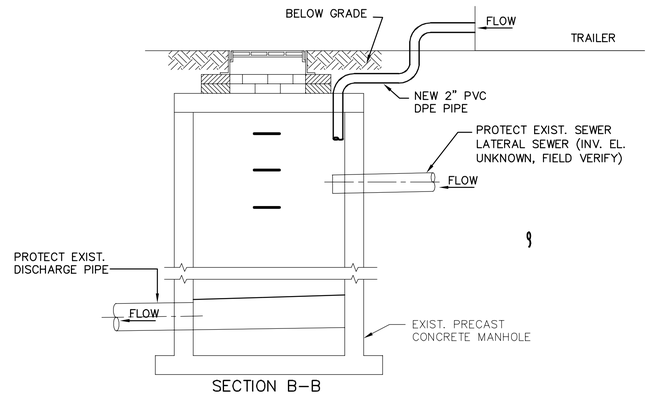
File Number
1205.001

Checked by DRH Drawn by JGS Designed by LRH In charge of SDN

Plotted: Nov 14, 2012 - 3:25PM SYR By: pcf
I:\Shares\1200\205001\SEPT 2012\205001_FIG 4_DEPRESSURIZATION DETAILS_PCR.dwg



PLAN



SECTION B–B

NOTE:

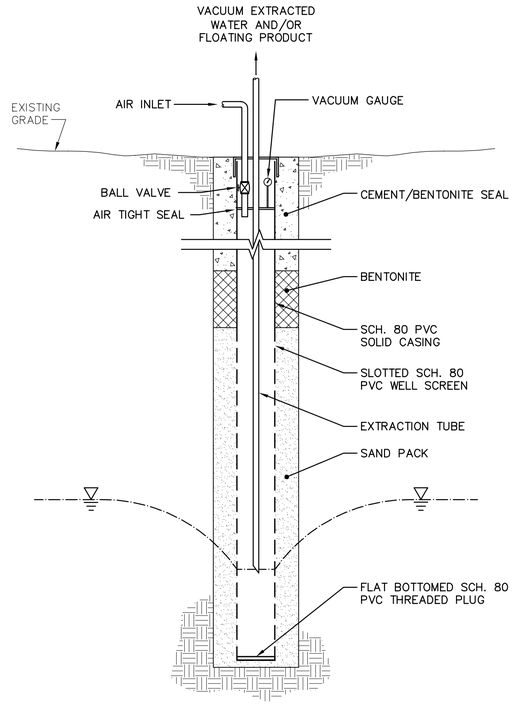
CONTRACTOR SHALL FIELD VERIFY LOCATION, DEPTH AND CONFIGURATION OF EXISTING TERMINAL MANHOLE PRIOR TO CONNECTION.

CONNECTION TO EXISTING MANHOLE DETAIL

NOT TO SCALE

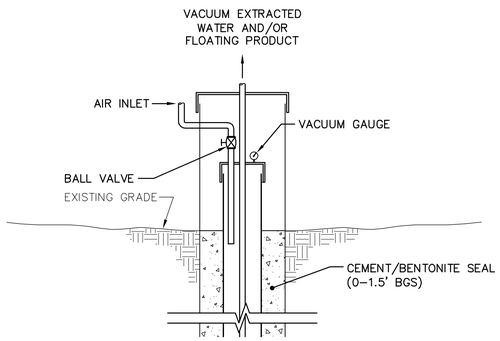
DPE WELL	DEPTH TO GW (FBG)	SCREEN RANGE (FT)	BOTTOM DEPTH (FT)	ZONE OF CONTAMINATION (FT)	PIPING RUN (FT)	FINISH
1	5	3-13	13	3-12	195	FLUSHMOUNT
2	5	3-13	13	3-12	162	FLUSHMOUNT
3	4	3-13	13	3-12	18	FLUSHMOUNT
4	4	3-13	13	3-12	58	FLUSHMOUNT
5	5	4-9.5	9.5	4-9	62	RISER
6	5	4-9.5	9.5	4-9	100	RISER
7	5	4-11	11	4-10	80	FLUSHMOUNT
8	5	4-10	10	4-10	110	FLUSHMOUNT

DPE WELL DETAILS



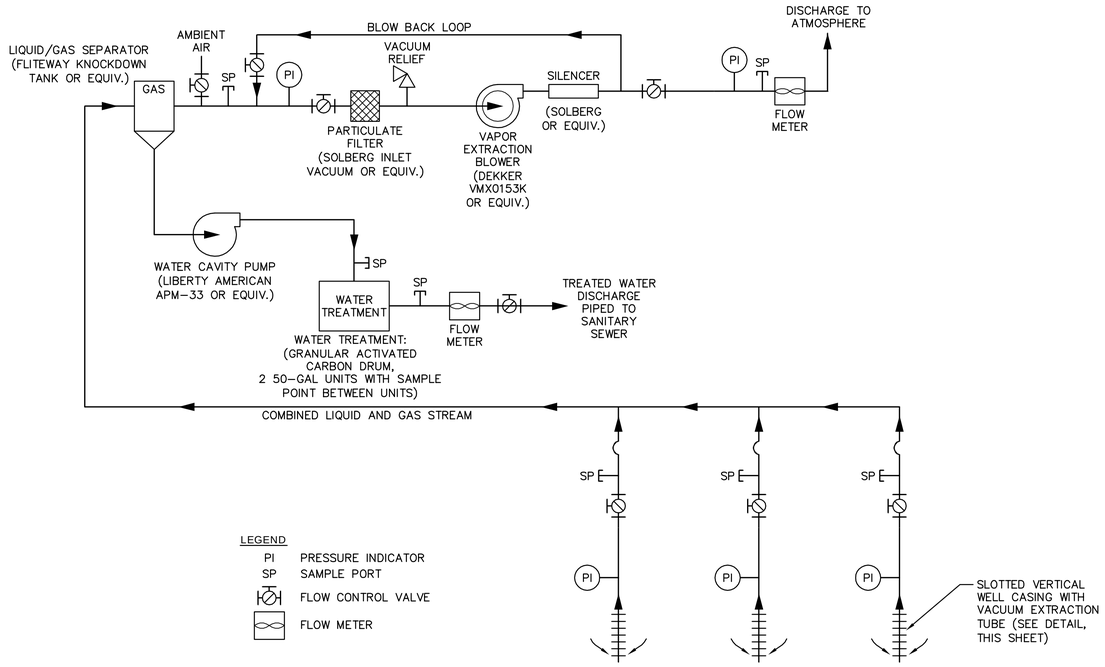
SINGLE PUMP, DPE EXTRACTION WELL DETAIL

NOT TO SCALE



ABOVE GRADE WELL DETAIL

NOT TO SCALE



SCHEMATIC OF SINGLE PUMP DPE SYSTEM

NOT TO SCALE

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

TRI–STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI–STATE INDUSTRIAL LAUNDRY

DUAL PHASE EXTRACTION SYSTEM DETAILS

CITY OF UTICA ONEIDA COUNTY, NEW YORK

Barton & Loguidice, P.C.

Date OCTOBER, 2012

Scale AS SHOWN

Sheet Number 5

File Number 1205.001

Checked by DRH Drawn by JGS Designed by LRH In charge of SDN

Plotted: Nov 14, 2012 – 3:30PM SYR By: pcf
I:\Shared\1205\1205001\SEPT 2012\1205001_FIG 5_EXTRACTION DETAILS_UPDATE.dwg

GENERAL NOTES

SYMBOLS AND ABBREVIATIONS
1. THIS SHEET CONTAINS SYMBOLS AND ABBREVIATIONS TYPICALLY SHOWN ON ELECTRICAL DRAWINGS AND SCHEMATICS. THIS CONTRACT DRAWING SET MAY NOT CONTAIN ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET.

PERMITS AND INSPECTIONS
1. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND ARRANGE FOR ALL REQUIRED INSPECTIONS IN ACCORDANCE WITH STATE AND LOCAL GOVERNING AUTHORITIES.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH NEC, AND STATE AND LOCAL GOVERNING REGULATIONS.

SCOPE
1. UNLESS OTHERWISE INDICATED, PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM INCLUDING ALL NECESSARY MATERIAL, LABOR, AND EQUIPMENT.
2. ALL DISCONNECTS REQUIRED BY CODE MAY NOT BE SHOWN. CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS AND OVERCURRENT PROTECTIVE DEVICES.
3. ALL EQUIPMENT AND MATERIAL SHALL BE LABELED AND LISTED, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING.
4. PROVIDE ELECTRICAL POWER WIRING TO ALL MECHANICAL EQUIPMENT.

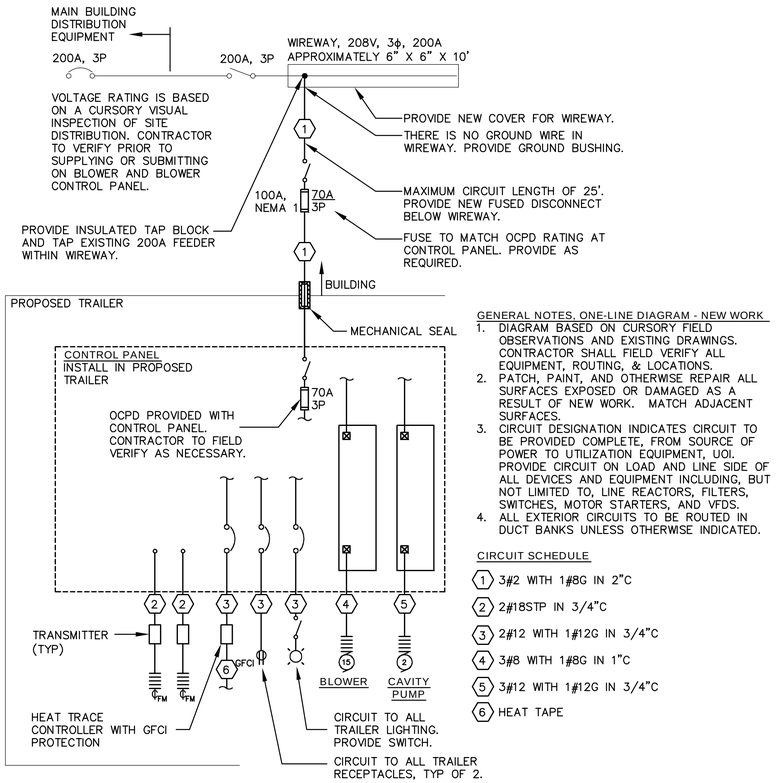
COORDINATION OF WORK
1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THAT WORKING AND DEDICATED EQUIPMENT SPACE REQUIREMENTS ARE MET PER NEC AND AHJ.
2. FIELD LOCATE ALL CORE DRILL LOCATIONS.
3. BEFORE CUTTING OR DRILLING INTO BUILDING ELEMENTS INSPECT AND LAYOUT WORK TO AVOID DAMAGING STRUCTURAL ELEMENTS AND BUILDING UTILITIES.
4. BEFORE SELECTING MATERIAL AND EQUIPMENT, AND PROCEEDING WITH WORK, INSPECT AREAS WHERE MATERIAL AND EQUIPMENT ARE TO BE INSTALLED TO INSURE SUITABILITY, AND CHECK NEEDED SPACE FOR PLACEMENT, CLEARANCES AND INTERCONNECTIONS.
5. COORDINATION OF POSSIBLE SYSTEM SHUT–DOWNS AND WORK AREAS NEED TO BE COORDINATED WITH THE OWNER.
6. VERIFY RECEPTACLE, SWITCH, & COVER PLATE COLORS WITH OWNER.
7. TURN OVER TO THE OWNER ALL MANUFACTURER'S WARRANTIES FOR EQUIPMENT AND MATERIALS PROVIDED.

DEFINITIONS
1. THE DEFINITION OF ELECTRICAL TERMS USED SHALL BE AS DEFINED IN THE EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS REFERENCED IN THE BUILDING CODE OF NEW YORK STATE.
2. THE TERM "INDICATED" SHALL MEAN "AS SHOWN ON CONTRACT DOCUMENTS (SPECIFICATIONS, DRAWINGS, AND RELATED ATTACHMENTS)".
3. THE TERM "PROVIDE" SHALL MEAN "TO FURNISH, INSTALL, AND CONNECT COMPLETELY".
4. THE TERM "SIZE" SHALL MEAN ONE OR MORE OF THE FOLLOWING: "LENGTH, CURRENT AND VOLTAGE RATING, NUMBER OF POLES, NEMA SIZE, AND OTHER SIMILAR ELECTRICAL CHARACTERISTICS".

PLANS
1. ELECTRICAL PLANS, DETAILS, AND ONE LINE DIAGRAMS SHOW THE GENERAL LOCATION AND ARRANGEMENT OF THE ELECTRICAL SYSTEM. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL CONDUIT BODIES, CONNECTORS, BENDS, FITTINGS, HANGERS, AND ADDITIONAL PULL BOXES WHICH THE CONTRACTOR MUST PROVIDE TO COMPLETE THE ELECTRICAL SYSTEM.
2. ELECTRICAL PLANS AND DETAILS DO NOT SHOW ALL INTERFERENCES AND CONDITIONS, VISIBLE AND/OR HIDDEN, THAT MAY EXIST; THUS REQUIRING THE CONTRACTOR TO INSPECT AND SURVEY THE SPACE BEFORE PERFORMING THE WORK.

METHODS
1. ALL EXTERIOR CONDUITS TO HAVE DUCT SEAL INSTALLED AT ALL ENDS, BOXES, WEATHERHEADS, PENETRATIONS TO INTERIOR SPACES, ETC.
2. DUCT BANKS SHALL NOT BE ROUTED DIRECTLY ABOVE OR BELOW EXISTING/PROPOSED UTILITIES EXCEPT WHEN CROSSING. WHERE CROSSING EXISTING OR PROPOSED UTILITIES DUCT BANKS SHALL CROSS AT 90 DEGREE ANGLES.
3. ALL CONDUIT SYSTEMS EXPOSED TO TEMPERATURE DIFFERENTIALS, IN POTENTIAL CONDENSING ATMOSPHERES, EXTERIOR INSTALLED, OR INSTALLED UNDERGROUND SHALL HAVE PROVISIONS FOR DRAINING WATER OUT OF CONDUIT SYSTEMS. PROVIDE DRAIN IN CONDUIT SYSTEMS AT LOW POINTS, LOW POINT SHALL NOT BE AT EQUIPMENT OR DEVICE. A BREATHER SHALL BE PROVIDED AT THE HIGH POINT OF THE SYSTEM.

UNDERGROUND UTILITIES
1. UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES WHETHER FUNCTIONAL OR ABANDONED WITHIN THE PROJECT AREA ARE SHOWN ON THESE DRAWINGS.
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK & SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM HIS/HER WORK.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFELY NEW YORK" 1–800–962–7962 PRIOR TO ANY EXCAVATION.



GENERAL NOTES, ONE-LINE DIAGRAM - NEW WORK
1. DIAGRAM BASED ON CURSORY FIELD OBSERVATIONS AND EXISTING DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL EQUIPMENT, ROUTING, & LOCATIONS.
2. PATCH, PAINT, AND OTHERWISE REPAIR ALL SURFACES EXPOSED OR DAMAGED AS A RESULT OF NEW WORK. MATCH ADJACENT SURFACES.
3. CIRCUIT DESIGNATION INDICATES CIRCUIT TO BE PROVIDED COMPLETE, FROM SOURCE OF POWER TO UTILIZATION EQUIPMENT, UOI. PROVIDE CIRCUIT ON LOAD AND LINE SIDE OF ALL DEVICES AND EQUIPMENT INCLUDING, BUT NOT LIMITED TO, LINE REACTORS, FILTERS, SWITCHES, MOTOR STARTERS, AND VFDS.
4. ALL EXTERIOR CIRCUITS TO BE ROUTED IN DUCT BANKS UNLESS OTHERWISE INDICATED.

CIRCUIT SCHEDULE
1. 3#2 WITH 1#8G IN 2"C
2. 2#18STP IN 3/4"C
3. 2#12 WITH 1#12G IN 3/4"C
4. 3#8 WITH 1#8G IN 1"C
5. 3#12 WITH 1#12G IN 3/4"C
6. HEAT TAPE

ONE–LINE DIAGRAM
NOT TO SCALE

CONDUIT SCHEDULE

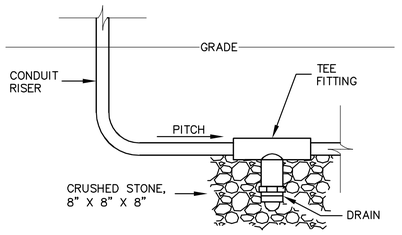
CIRCUIT TYPE	BUILDING OR AREA	AREA DESCRIPTION	CONDUIT TYPE	REMARKS
CONTROL AND COMMUNICATIONS CIRCUITS INCLUDING, BUT NOT LIMITED TO, 4-20mA, FIBER, DC VOLTAGE	GENERAL (ALL AREAS)	INTERIOR - DRY	EMT	
		INTERIOR - DAMP OR CORROSIVE	SCHEDULE 40 PVC	
		IN SLAB	SCHEDULE 40 PVC	
		UNDERGROUND 90 DEGREE SWEEPS	RGS	
		EXTERIOR EXPOSED	RGS	
		RISERS FROM UNDERGROUND	RGS	
		DIRECT BURIED DUCT BANK	SCHEDULE 80 PVC	
		CONCRETE ENCASED DUCT BANK	SCHEDULE 40 PVC	
		REINFORCED CONCRETE DUCT BANK	SCHEDULE 40 PVC	
FEEDER AND BRANCH CIRCUITS, AC VOLTAGE RELAY CIRCUITS	GENERAL (ALL AREAS)	INTERIOR - DRY	EMT	
		INTERIOR - DAMP OR CORROSIVE	PVC COATED RGS	
		IN SLAB	SCHEDULE 40 PVC	
		UNDERGROUND 90 DEGREE SWEEPS	RGS	
		EXTERIOR EXPOSED	RGS	
		RISERS FROM UNDERGROUND	RGS	
		DIRECT BURIED DUCT BANK	SCHEDULE 80 PVC	
		CONCRETE ENCASED DUCT BANK	SCHEDULE 40 PVC	
		REINFORCED CONCRETE DUCT BANK	SCHEDULE 40 PVC	

GENERAL NOTES, CONDUIT SCHEDULE
1. CONDUIT TYPES ARE UNLESS OTHERWISE INDICATED OR REQUIRED BY EQUIPMENT OR CABLE MANUFACTURERS. PROVIDE AS REQUIRED.

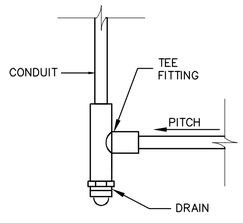
SYMBOLS

LINEWEIGHT AND LINETYPE DESIGNATIONS

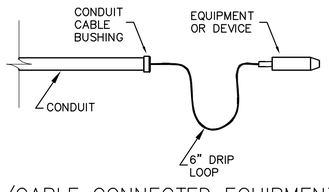
- EXISTING UOI
- PROPOSED (TO BE PROVIDED BY THIS CONTRACT) UOI
- UGE — UNDERGROUND ELECTRIC
- (1) KEYED NOTE
- (1) FEEDER DESIGNATION
- TRANSFORMER
- GAS/WATERTIGHT PENETRATION
- INSULATED BUSHING OR CONDUIT STUB
- FLEXIBLE CONNECTION
- CONTINUATION
- JB JUNCTION BOX
- (X) MOTOR WITH HORSEPOWER
- VARIABLE FREQUENCY DRIVE (VFD)
- ϕ_{FM} FLOW METER
- DUPLEX RECEPTACLE
- GFCI INDICATES GFCI PROTECTED RECEPTACLE
- WP INDICATES GFCI PROTECTED W/ IN–USE WEATHERPROOF COVER
- LIGHT FIXTURE
- 20A,1P CIRCUIT BREAKER
- FUSE
- DISCONNECT SWITCH
- CONTACTOR (NO)
- CONTACTOR (NC)
- (R) RELAY
- OVERLOAD RELAY



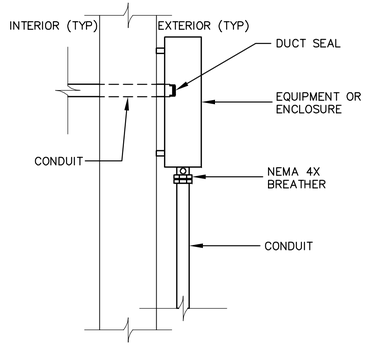
DRAIN BELOW GRADE



DRAIN ABOVE GRADE OR WITHIN UNDERGROUND ENCLOSURE



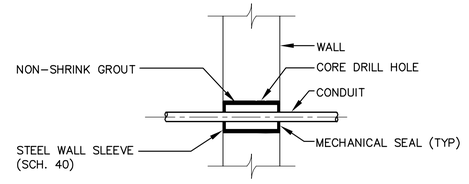
CORD/CABLE CONNECTED EQUIPMENT



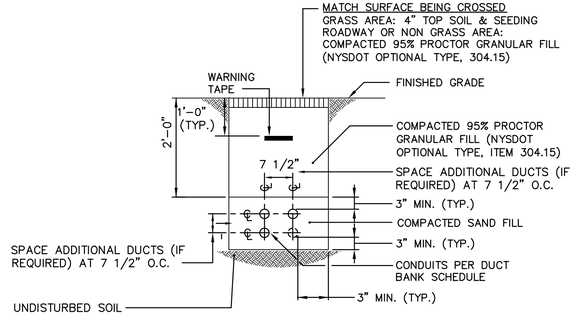
CONDUIT CONNECTED EQUIPMENT

GENERAL NOTES, TYPICAL CONDUIT DRAIN DETAILS
1. ALL CONDUIT SYSTEMS EXPOSED TO TEMPERATURE DIFFERENTIALS, IN POTENTIAL CONDENSING ATMOSPHERES, EXTERIOR INSTALLED, OR INSTALLED UNDERGROUND SHALL HAVE PROVISIONS FOR DRAINING WATER OUT OF CONDUIT SYSTEMS. PROVIDE DRAIN IN CONDUIT SYSTEMS AT LOW POINTS, LOW POINT SHALL NOT BE AT EQUIPMENT OR DEVICE. A BREATHER SHALL BE PROVIDED AT THE HIGH POINT OF THE SYSTEM.

TYPICAL CONDUIT DRAIN DETAILS
NOT TO SCALE



TYPICAL WALL CONDUIT PENETRATION
NOT TO SCALE



SAND FILL DUCT BANK SECTION
NOT TO SCALE

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

COMPLETED CONSTRUCTION

Significant Construction Changes Are Shown

By _____ Date _____

Ck'd _____ Date _____

REVISIONS

TRI–STATE INDUSTRIAL LAUNDRIES, INC.
FORMER TRI–STATE INDUSTRIAL LAUNDRY

ELECTRICAL DETAILS

ONEIDA COUNTY, NEW YORK
CITY OF UTICA

Barton Loguidice, P.C.

Date SEPTEMBER, 2012

Scale AS SHOWN

Sheet Number 6

File Number 1205.001

Checked by SDN In charge of
Drawn by JGS Designed by LRH
By: pcf SYR
Plotted: Nov 14, 2012 – 4:07PM
I:\Shared\1200\1205001\SEPT 2012\1205001_P16 6_ELECTRICAL DETAILS.dwg

Appendix F

Health and Safety Plan

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068

City of Utica, New York

Health and Safety Plan

April 2013

Barton & Loguidice

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068

City of Utica, New York

Health and Safety Plan

April 2013

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068
City of Utica

Health and Safety Plan

April 2013

Prepared For:

BRE Lincoln Avenue, LLC and
Lincoln C/B Properties, Inc.
c/o Fitzgerald, Depietro and Wojnas
291 Genesee Street
Utica, New York 13501

Prepared by:

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Designers
290 Elwood Davis Road
P. O. Box 3107
Syracuse, New York 13220

This document is printed on recycled paper

Table of Contents

1.0 Purpose

The purpose of this Health and Safety Plan for the Former Tri-State Industrial Laundries Site is to provide specific guidelines and establish procedures for the protection of personnel during potential subsurface activities in areas documented to contain contamination. The Plan is based on the site information available at this time and anticipated conditions to be encountered during the different phases of work. This Plan is subject to modification as data are collected and evaluated.

All personnel conducting activities on-site must be in compliance with all applicable Federal and State rules and regulations regarding safe work practices. Personnel conducting field activities must also be familiar with the procedures, requirements and provisions of this Plan. In the event of conflicting Plans and requirements, personnel must implement those safety practices that afford the highest level of protection.

1.1 Personnel

BRE Lincoln Avenue, LLC (BRE) and Lincoln C/B Properties, Inc (LCBP):

Site Manager

Subcontractors:

To be determined

2.0 Site Control

The purpose of site control is to minimize the exposure of site workers to potential contamination, protect the public from the site's hazards, and prevent vandalism. The degree of site control necessary depends on site characteristics and the surrounding community. The majority of the site remediation is occurring within a locked building, which provides site control. During the field activities, personnel, subcontractors and visitors shall report to the on-site supervisor prior to entering the work area.

2.1 Work Zones

Particular attention will be placed on the condition of the site regarding the following three main work zone areas:

Activity Zone

This zone applies to the immediate work area and includes all materials, equipment, vehicles and personnel involved in the site activity. For example, during the installation of a monitoring well, the activity zone will encompass the borehole, drilling rig, monitoring well construction materials and equipment, sampling equipment, decontamination supplies, and drilling/well inspection personnel. Site control measures will include flagging the perimeter of the activity zone to clearly mark the limits of work and to warn employees, passers-by and visitors of the site activity. In addition, the Site Supervisor will maintain communication with personnel as the location of this zone (and the type of work being performed) changes throughout the project.

Material and Equipment Storage Zone

This zone exhibits the least amount of activity, and as a result, will require the least security. An appropriate area will be designated on-site for the storage of all equipment and supplies to be used throughout the site investigation. The area

is to be kept clean and orderly at all times and free from loose equipment, tools, materials or supplies which may compromise the safety of site workers, personnel or the public. Construction materials and equipment will be covered with plastic at the end of each workday. Any spills or breakages occurring in this area will be immediately attended to before the Site work continues.

Decontamination Zone

In order to prevent incidental contact with contaminants on investigation equipment or in the wash water, all activities within the decontamination area will be completed before subsequent site work or any other activity begins. This includes:

- Complete removal of contaminants on all equipment used during the preceding phase of the investigation;
- Placement of the waste wash water and sediment in sealed drums;
- Storage of the drums in a secure and out-of-the-way place for future disposal;
- Proper labeling of drum contents;
- Cleanup (if necessary) of area outside of decontamination area; and,
- Storage of all decontamination equipment, site investigation equipment and materials in the Materials and Equipment Storage Zone.

3.0 Site Activities and Personal Protection

3.1 General Guidelines

The following is a list of the general guidelines required for the Site Activities at the Former Tri-State Industrial Laundries property.

All field investigation activities must be coordinated through the designated Site Manager.

During any activity conducted on-site in which a potential exists for exposure to hazardous materials, accident or injury, at least two persons must be present who are in constant communication with each other.

Samples obtained from areas known or suspected to contain contaminated substances or materials must be handled with appropriate personal protection equipment.

All equipment used to conduct the Site Investigation must be properly decontaminated and maintained in good working order. Equipment must be inspected for signs of defects and/or contamination before and after each use.

Eating, drinking, chewing gum or tobacco, and smoking are prohibited within the work zones previously defined.

The discovery of any condition that would suggest the existence of a situation more hazardous than anticipated will result in the evacuation of the activity zone until a complete evaluation of the hazard can be performed.

3.2 Training Requirements

All personnel performing intrusive work tasks contained in and related to the Work Plan will have received training which meets the requirements of Federal Occupational Safety and Health Organization (OSHA) regulations contained in 29 CFR 1910.120 and will also have received refresher training as specified by the same standard.

3.3 Hazard Evaluation

Table 3-1 presents a summary of the potential hazards that personnel involved with Site Activities may encounter during the fieldwork. The table includes chemical, mechanical, electrical and temperature hazards and routes of possible entry for hazardous compounds.

3.4 Personal Protective Clothing and Equipment

The documented site history is evidence that contaminants associated with volatile organic compounds (VOCs), specifically chlorinated solvents may be encountered. The activities proposed at the site may involve only limited direct contact with these contaminants. As a result, it is anticipated that all site investigation activities will be performed in Level D protective clothing and equipment. This level of protection will afford site workers with adequate safeguard regarding the typical hazards expected at the Site.

Table 1
Hazard Evaluation

Activity	Hazard Type					
	Mechanical	**Electrical**	**Chemical**	**Physical**	**Biological**	**Temperature**
Site Inspection	Accidental injury from sampling equipment	Exposed cords and broken lights	Accidental inhalation, ingestion, skin absorption or eye contact with contaminants	Cuts from broken glass, slips, trips and fall hazards.	Bees and wasps	Heat Stress Frost Bite
Boring/Well Installation, Testing and Monitoring	Accidental injury from drilling rig or soil boring equipment	Buried power lines	Accidental inhalation, ingestions, skin absorption or eye contact with contaminants	Strains from carry heavy objects, slips, trips and fall hazards. Excessive noise.	None Anticipated	Heat Stress Frost Bite
Split-Spoon Soil Sampling	None Anticipated	None Anticipated	Accidental inhalation ingestion, skin absorption or eye contact with contaminants	Fall hazards.	Bees and wasps, animals	Heat Stress Frost Bite
Sub-slab Soil Vapor Survey	Accidental injury from soil boring equipment or drilling equipment	Buried power lines	Accidental inhalation ingestion, skin absorption or eye contact with contaminants	Strains from carry heavy objects, slips, trips and fall hazards. Excessive noise.	None Anticipated	Heat Stress Frost Bite
Well Sampling	None Anticipated	Generators and power cords	Accidental inhalation, ingestion, skin absorption or eye contact with contaminants	Strains from lifting. Fall hazards.	Bees and wasps	Heat Stress Frost Bite
DPE System Monitoring	Accidental injury from operating motors/pump and blowers	Energized motors/pump and blowers	Accidental inhalation, ingestion, skin absorption or eye contact with contaminants	Strains from maintenance or carbon media removal	None anticipated	Burns from hot equipment

3.5 Air Monitoring

The Site Manager or designee will conduct DOH Community Air Monitoring Plan (CAMP). Direct reading instruments will be calibrated in accordance with manufacturer's requirements and the results of the calibration will be documented.

This Community Air Monitoring Plan (CAMP) sets forth the procedures for performing real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area with respect to specific activities to be completed. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses, and on-site or nearby workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

Continuous monitoring will be required for all ground intrusive activities with exception to well installation and soil boring activities.

Periodic monitoring for VOCs will also be required during non-intrusive activities such as the collection of groundwater samples from monitoring wells. "Periodic" monitoring during sample collection will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities.

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must 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 downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions 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 exclusion zone 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 over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

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

Particulate concentrations will also be monitored continuously at the upwind and downwind perimeters of the exclusion zone or work area. 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 action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

- 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 work area, 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 work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must 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 concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and available for State (NYSDEC and NYSDOH) personnel to review.

Table 2
Monitoring Protocols and Contaminant Action Levels

Contaminant/ Atmospheric Condition	Monitoring Equipment	Monitoring Protocol	Breathing Zone* Action Level Concentrations	
			Monitored Level for Mandatory Respirator Use**	Monitored Level for Mandatory Respirator Use**
VOCs	Photoionization detector (PID) with an 11.7 eV lamp	Initially readings will be recorded every 15 minutes. If no sustained readings are obtained in the breathing zone, readings will be recorded every 30 minutes.	5 ppm above background	5 ppm above background
Particulates	MiniRam or Dusttrak or equivalent	Three times daily when work is being conducted that can generate dust, e.g., monitoring well installation		

*Monitoring performed in the working zone for sustained readings of 5 minutes or more. Monitor source first; near the source, or if above the action level concentration, monitor in the breathing zone.
**Monitored levels will require the use of approved respiratory protection.
***Consult the Site Manager.
Monitoring is not required for soil boring or well installation activities.

4.0 Emergency Response Plan

In the event of an unplanned occurrence or situation requiring outside or support service, the appropriate contact from the following list will be made:

Contact	Person or Agency	Phone Number
BRE and LCBP	Site Manager (refer to Mr. Stephen Bussey)	(800) 942-1581
Barton & Loguidice, P.C.	David Hanny – Project Manager	(585) 325-7190
NYSDEC	Mr. Peter Ouderkirk – Project Manager	(315) 785-2523
Law Enforcement	City of Utica, NYS Police	911
Fire Department	City of Utica FD	911 or (315) 731-2000
Ambulance	Emergency Services	911
Hospital - Emergency	St. Elizabeth's Medical Center	(315) 798-8289

4.1 Site Resources

The Site Manager will maintain a cellular phone.

4.2 Emergency Routes

The closest hospital to the site is St. Elizabeth's Medical Center in Utica, New York. The route to be used in transport to the hospital is shown on Figure 1.

4.3 Emergency Procedures

In the event that an emergency develops on-site, the procedures identified herein are to be immediately followed. Emergency conditions are considered to exist if:

- Any member of the field team is involved in an accident or experiences any adverse effects or symptoms relating to site work; or,

- A condition is discovered that suggests the existence of a situation more hazardous than anticipated.

The following general emergency procedures should be accounted for in advance of, and upon acknowledgment of, either of the previous two observations:

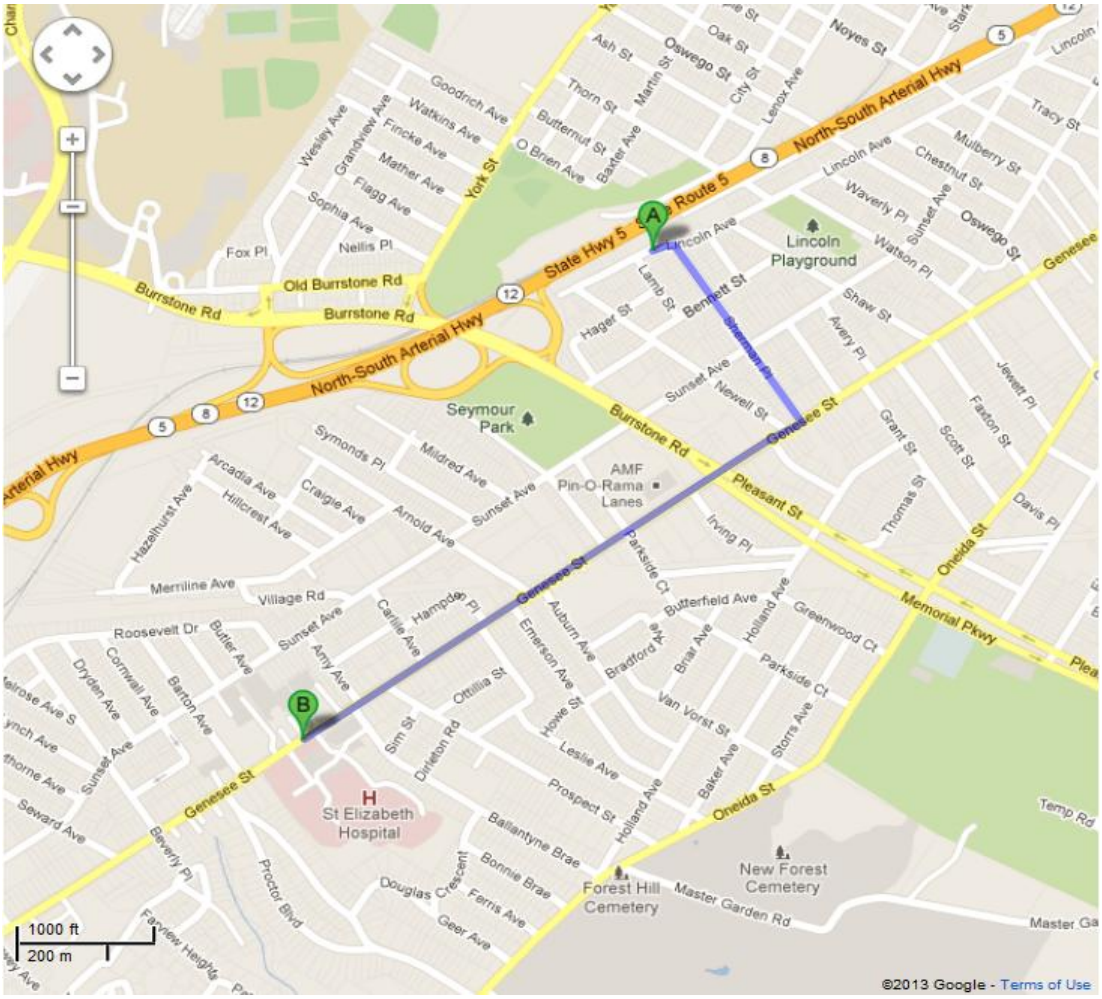
- Site work area entrance and exit routes should be planned; and,
- Emergency escape routes identified and discussed prior to any site activity.

In the event of an emergency situation, the entire field team will immediately halt work, and act according to the instructions provided by the Site Manager. The appropriate emergency response agency or department will be contacted.

The Site Manager will complete the necessary accident forms and make provisions to complete the project task in progress at the time of the incident.

Figure 1

Emergency Hospital Route



1.	Head **east** on **Lincoln Ave** toward **Sherman Pl**.	171 ft
2.	Take the 1st right onto **Sherman Pl**	0.3 mi
3.	Turn right onto **Genesee St**	0.8 mi
4.	Look for Signage to Emergency Department Entrance	

St. Elizabeth Medical Center
2209 Genesee St, Utica, NY 13501

Total Travel Estimate: 1.2 miles - about 4 minutes
(User must verify directions prior to use)

Appendix G

Groundwater Monitoring Well/ Soil Vapor Sampling Log Form

Barton & Loguidice, P.C.
Consulting Engineers

FIELD SAMPLING DATA SHEET

SITE: Tri-State Industrial Laundries Site **SAMPLE LOCATION:** _____

CLIENT: BRE **JOB #:** _____

Weather Conditions: _____ Temp: _____

SAMPLE TYPE: Groundwater ☐ Surface Water ☐ Other (specify):_____

Sediment ☐ Leachate ☐ _____

WATER LEVEL DATA

Static Water Level (feet)*:	
Measured Well Depth (feet)*:	
Well Casing Diameter (inches):	
Volume in Well Casing (gallons):	

*depth from measuring point

Measuring Point: Top of Riser ☐
Other (specify): _____
Measured by:BJM
Time: Date

PURGING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐

Bladder Pump ☐ Foot Valve ☐ Peristaltic Pump ☐

Dedicated ☐ *Non-dedicated* ☐

Volume of Water Purged (gallons):

Did well purge dry? No ☐ Yes ☐

Did well recover? No ☐ Recovery time:

SAMPLING METHOD

Equipment: Bailer ☐ Submersible Pump ☐ Air Lift System ☐

Bladder Pump ☐ Foot Valve ☐ Peristaltic Pump ☐

Dedicated ☐ *Non-dedicated* ☐

Sampled by: Time: Date:

SAMPLING DATA

Sample Appearance

Color: Sediment:

Odor:

Field Measured Parameters

pH (Standard Units)		Sp. Conductivity (umhos/cm)	
Temperature (F)		Eh-Redox Potential (mV)	
Turbidity (NTUs)		Dissolved Oxygen (mg/L)	

Samples Collected (Number/Type) _____

Samples Delivered to: _____ Time:_____ Date:_____

COMMENTS:

Barton & Loguidice, P.C.
Consulting Engineers

AIR SAMPLING DATA SHEET

SITE: Tri-State Industrial Laundries Site **SAMPLE LOCATION:** _____

CLIENT: BRE **JOB #:** _____

Weather Conditions: -- Temp: _____

SAMPLE TYPE: Soil Vapor ☐ Indoor Air ☐ Other (specify):_____

Sub-Slab ☐ Outdoor Air ☐ _____

SAMPLE DATA

Sample Tubing Length (feet):	
Tubing Diameter (feet):	
Volume ft^3 = pi*$radius^2$*h, multiply by 28,317 to convert to milliliters	
Volume in Air Tubing (milliliters):	

(approximately 9ml/ft for 0.25" ID tubing)

Concrete Slab Thickness:
Noticeable Cracks:
Sub-Slab Moisture:
Soil Moisture:

PURGING METHOD

Equipment: Syringe ☐

Calibrated AirCheck ☐ ml/minute flow rate = ☐

Volume of Air Purged (ml): _____

Sampled By:

Date: ___ Time: _____

SAMPLING METHOD

Equipment: 400-cc MiniCan ☐ 4-Liter Summa ☐ Regulator Inflow Rate: _____

1-Liter Summa ☐ 6-Liter Summa ☐ Sample Duration (hrs): _____

1.4 Liter Summa ☐

Sampled by:____ Time: _____ Date:

Start - Stop -

SAMPLE PROBE CONSTRUCTION Reg #

Construction Method: Can#

Non-VOC Sealant Used:

Backfill Material (if necessary):

Probe Abandonment Method:

Field Observations/Interior Descriptions/Potential VOC sources

Samples Collected (Number/Type):

Samples Delivered to: _____ Time:_____ Date:_____

COMMENTS: _____

Appendix H

Sampling & Analyses Plan

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068

City of Utica, New York

Sampling and Analysis Plan

April 2013

Barton & Loguidice

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068

City of Utica

Sampling and Analysis Plan
BCP #C633068

April 2013

Prepared For:

BRE Lincoln Avenue, LLC and
Lincoln C/B Properties, Inc.
c/o Fitzgerald, Depietro and Wojnas
291 Genesee Street
Utica, New York 13501

Prepared by:

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Designers
290 Elwood Davis Road
P. O. Box 3107
Syracuse, New York 13220

This document is printed on recycled paper

Table of Contents

1.0 Introduction

This document presents the Sampling and Analysis Plan (SAP) for use in the event that soil disturbance activities become necessary on the referenced site. The SAP is intended to develop procedures for handling and sampling of potentially petroleum impacted soils and/or groundwater that may be encountered during future site work and/or development.

The SAP contains four sections including this Introduction (Section 1.0). Section 2.0 outlines the sampling objectives of the Site Investigation; Section 3.0 provides a description of the sampling program, including sample designation, sample handling, and analytical requirements. Finally, Section 4.0 details the sampling procedures.

2.0 Sampling Objectives

2.1 Chemical Characterization

Chemicals of concern include volatile organic compounds. Previous subsurface investigation included the installation of soil borings, soil gas survey probes, and overburden monitoring wells to determine the nature and extent of contamination. Surface and subsurface soil, sediment, soil gas, and groundwater media were also sampled and analyzed as part of the site investigation.

2.2 Data Quality Objectives

Data quality objectives (DQOs) are based on the concept that different data uses may require different levels of data quality. Data quality can be defined as the degree of uncertainty in the data with respect to precision, accuracy, and completeness. The five levels of data quality are:

- Screening (Level 1) - This provides the lowest level of data quality, but with the most rapid turnaround on results. It is often used for monitoring of health and safety conditions, preliminary comparison to Applicable or Relevant and Appropriate Requirements (ARARs), initial site characterization and location of areas designated for higher levels of sampling and analyses, and for screening of bench-scale remediation tests. These data are typically generated on-site using real-time measuring devices and include total organic vapor concentrations from PID readings, Draeger tube measurements, pH, specific conductance, dissolved oxygen, airborne particulates and any other data obtained using direct-reading instruments.
- Field Analyses (Level 2) - This level provides rapid results in the field and is generally of better quality than Level 1 data. Analyses

include mobile lab generated data and computer generated modeling of site data (i.e., geophysical data, hydraulic conductivity data).

- Engineering (Level 3) - These methods provide an intermediate level of data quality and are used for site characterization. Engineering analyses may include higher levels of mobile lab generated data or laboratory generated data using rapid turnaround methods. These types of methods provide useful site characterization data, but are generally considered for screening purposes since the results are generated without the benefit of full quality control documentation.
- Confirmational (Level 4) - This provides the highest level of data quality and is appropriate for use in risk assessments, engineering design and for cost evaluations. This level requires the analytical laboratory to be NYSDOH ELAP certified for ASP/CLP categories and to provide internal quality control documentation derived from such reporting protocols. Projects requiring the full ASP/CLP laboratory reporting will also be subject to independent third-party data validation or an internal Data Usability Summary Report (DUSR).
- Non-Standard (Level 5) - This refers to analyses by non-standard protocols; for example, when exacting detection limits or analysis of an unusual chemical compound is required. These analyses often require method development or adaptation. The level of data quality is usually similar to that of Level 4.

A NYSDOH ELAP certified laboratory will generate Level 4 data, as previously described, for all the samples collected following startup of the remedial systems. Level 1 and 2 data can be generated in the field by a qualified environmental professional to document health and safety monitoring, field

characterization of sampling media, demonstration of the adequacy of monitoring well development efforts, and to provide rationale for construction of groundwater monitoring wells and termination of contaminated soil excavation activities.

3.0 Sampling Program

3.1 General Sampling Program

All sample handling, record keeping, calibration, and other quality assurance/quality control matters will be handled in accordance with Appendix J of the Site Management Plan.

3.2 Sample Designation

Samples will be designated using an alphanumeric code to identify the location and media sampled. Sampling media will be identified by a two or three-letter code, for example: DPE (dual phase extraction), MW (monitoring well), etc. A two-digit number, beginning with 01 and increasing sequentially will also identify each sample location.

3.3 Sample Handling

3.3.1 Sample Container Requirements and Holding Times

Specific sample containers are required for each of the media types to be sampled, as well as the proposed analyses to be performed. Samples should be received by the laboratory within 48 hours of sample collection. In addition, there are specific holding time requirements for the type of analyses requested for each sample. These requirements are described below:

Soils:

EPA Method 8260 analysis requires samples to be collected in a 4 oz. glass container with a teflon-lined cap. The container must be completely filled with material to create a "zero head space"

condition. The holding time is limited to 7 days. These samples do not require preservation.

Groundwater

EPA Method 8260 analysis requires samples to be collected in two 40-ml., glass vials with a teflon-lined septum cap. The container must be completely filled with water to create a "zero head space" condition. The holding time is limited to 7 days for analysis.

Soil Vapors

EPA Method TO-15 analysis requires air samples to be collected in stainless steel SUMMA canisters with a minimum 400-cubic centimeter capacity. An EPA Method TO-15 detection limit of 1 part-per-billion (volume of air) will be required for the laboratory analysis. The holding time is limited to 14 days and there are no preservation requirements for this analysis.

Sample Collection Container Summary Chart

Matrix	Bottle	Preservative	Analytical Method [1]	Holding Time [2]
Soil[3]	4 oz. Glass w/teflon-lined cap	< 4ºC	8260	10 days
Ground Water/ Aqueous[3]	2-40 ml. Glass Vials with teflon-lined septum	< 4ºC, HCl	8260	10 days
Soil Vapor	Summa Canister (400-cc minimum)	None	TO-15	14 days

1 - USEPA SW-846 Methods
2 - All holding times from Validated Time of Sample Receipt (VTSR)
3 – Soil and water samples requiring off-site disposal may also be subject to TCLP analysis

3.3.2 Sample Packaging and Shipping

Samples will be packaged and shipped with consideration to preservative requirements and hold times. Samples will be delivered to the laboratory within 48 hours of sample collection.

3.3.3 Quality Assurance/Quality Control Samples

The proposed analytical program includes the collection and analysis of QA/QC samples. A trip blank will accompany each daily sample group delivered to the laboratory. The trip blank will consist of a pair of laboratory-prepared vials for VOC (i.e., EPA 8260) analysis only.

4.0 Field Investigation Procedures

4.1 Preparation for Field Entry

Prior to the initiation of field activities, the following tasks will be performed:

- Kick-off meeting with all involved personnel to review the scope of work to be performed and the Sampling and Analysis Plan;
- Review of the Health and Safety Plan by all on-site personnel;
- Operational checkout and pre-calibration of all equipment to be taken into the field;
- Location, flagging and labeling of all proposed soil probes and sampling locations;
- Identify and obtain clearance of all underground utilities associated with local utility companies and the Site;
- Arrange access for drill rig at proposed drilling locations;
- Designate decontamination area and identify water and power sources; and
- Mobilization of equipment and personnel to site.

4.2 Decontamination Procedures

4.2.1 Decontamination of Sampling Equipment

Only dedicated disposable sampling equipment will be utilized.

4.2.2 Decontamination of Drilling Equipment and Reusable Tools

All drilling and excavation equipment and reusable tools will be properly decontaminated prior to site use. The purpose of this activity is to ensure that all equipment utilized at the site is contaminant free; and as such, the introduction of contaminants into a test boring or monitoring well, or cross-contamination between borings or wells, will be eliminated.

A decontamination area will be constructed on-site to facilitate the steam cleaning of the drilling rig and equipment, and miscellaneous decontamination procedures (e.g., prior to sampling, during collection of field blank samples). Ideally, this area will be constructed on a gently sloping surface to aid in the collection of wash water used in the decontamination process. Polyethylene sheeting will be placed on the ground (overlapped, if necessary, in the downslope direction to avoid any loss of water between sheets) and bermed on three sides with timbers. The polyethylene will be draped over the timbers to provide lateral containment of the wash water. The height of the berms will be sufficient to contain twice the volume of water to be generated during any decontamination event. The depth of water in the containment area will be monitored to ensure that the level remains below the midway mark of the downslope berm. All decontamination water will be placed in storage drums for subsequent disposal before the close of each workday.

A staging area will be designated on-site for the storage of well construction materials and clean drilling equipment and tools. All materials and decontaminated equipment will be placed on clean surfaces or stored on pallets, sawhorses or plastic sheeting in the staging area.

Equipment Condition

1. All drilling and excavation equipment entering the site will be inspected for hydraulic fluid and oil leaks, and for general cleanliness. Leaking hoses, tanks, hydraulic lines, etc., will be replaced or repaired prior to entering the site.

2. All well casing and screens, and other construction materials must be new. Used materials will not be permitted for use during well construction.

3. All observations regarding the condition of equipment and materials entering or leaving the site will be recorded daily in a field book by the Site Operations Manager or Supervising Geologist.

Equipment Cleaning and Handling

Initial Cleaning

1. Following initial inspection, all drilling equipment and associated tools will be steam cleaned at the decontamination area. Typical tools and equipment to be cleaned include:

    - Drilling rods, bits
    - Augers (clips, pins and associated hardware)
    - Samplers (i.e., split-spoon, Denison, etc.)
    - Casing materials
    - Wrenches, hammers and miscellaneous hand tools
    - Mud tub/pan
    - Hoses, tanks
    - Cable clamps and other holding devices in direct contact with the drilling rods

- Drill rig and undercarriage, wheel wells, chassis, and any other items that may come in contact with the work area

2. During the cleaning operation, equipment will be handled only with clean gloves. A new set of gloves will be utilized between successive cleanings for each location.

3. Cleaned materials will be protected from contamination during transport to the staging area by such means as the Site Operations Manager or Supervising Geologist deems necessary.

4. The Site Operations Manager or Supervising Geologist will document equipment decontamination.

On-Site Cleaning Between Borings

1. Following each boring or well installation, all drilling equipment (listed above under "initial cleaning") will be steam cleaned before moving to the next location.

4.3 Drilling Program

In the unlikely event additional wells are needed to fully characterize separate (vertically isolated) water bearing horizons, the deepest boring will be completed first to identify the vertical extent of contamination and to determine the screening depth of subsequent shallower monitoring wells. It may also be necessary to seal off upper contaminated horizons through the use of multiple casings in which progressively smaller-diameter casings are telescoped through larger casings terminated at the depth of each encountered contaminant zone.

4.3.1 Geoprobe Borings

The following drilling procedures will be utilized if Geoprobe borings are installed:

1. The boreholes will be advanced using direct push methods until the required depth is encountered;
2. Drilling will proceed in a manner to permit continuous sampling through the overburden materials until the required depth has been achieved;
3. Pertinent drilling and sampling information will be recorded in the field log by the Supervising Engineer/Geologist.

4.3.2 Soil Sampling and Screening

The following procedures will be performed during the Geoprobe drilling program to collect, characterize and screen soil samples:

1. At each exploratory boring location, continuous samples will be taken through the overburden materials and the extent of contamination. Before each sample is taken, the supervising geologist will confirm the sample depth;
2. Soils will be classified in accordance with the Modified Burmister Classification System. Field classification will include color, grain size, lithology, relative density, moisture content, soil texture and structure, relative permeability and common term of geologic unit;
3. PID readings will be recorded from each split-spoon as the samples are opened. The PID instrument measures airborne vapors that are detectable by photoionization. The PID will be equipped with an 11.7 electron volt (eV)

ionization source, which will ionize any organic compound having an ionization potential below 11.7 eV. The ionized compounds are brought to an excited state from which their relative concentration in ppm (parts per million) can be read. The types of organic compounds most likely to be encountered at the site have ionization potentials below that of the 11.7 eV ionization source. The PID instrument is not designed to identify individual compounds, but is meant to quantify the concentration of total ionizable compounds present in an airborne state. The PID will be calibrated each day in order to maintain a degree of accuracy and to record the daily drifting of the instrument between calibrations;

4. If PID vapor concentrations are observed to be greater than 50 ppm, samples will be collected for laboratory analysis. Samples of the final two feet of each boring will also be taken for laboratory analysis to confirm conditions at the borehole termination depth;

5. Samples for volatile organic compound analysis will be transferred directly, and as soon as possible, into appropriately sized and preserved soil sample containers;

6. Follow record keeping and chain-of-custody procedures as detailed in Section 5.1 of this Appendix;

7. Soil samples not set aside for laboratory analysis will be placed in eight-ounce, wide-mouth, moisture-tight glass jars. The opening of the jar will be sealed with a foil liner and then a screw-on cap; alternatively these samples may be placed in Zip-Lock plastic bags and sealed;

8. Sample jars or bags will be labeled with the following information: project name, project number, location

identification, sample depth interval, blow counts and date. This information will also be recorded in the field log;

9. The organic vapor levels in the headspace above the soil sample in each jar or bag will be screened using a PID (samples placed in jars should allow for a minimum 1-inch headspace for screening) once the samples have had an opportunity to release vapors from contaminants present in the soil matrix (typically one hour). The jar's cap will be gently removed, and the tip of the PID will be inserted through the foil liner, taking care not to drive the tip into the soil. The Supervising Geologist will record peak and steady PID readings in the field log. Upon completion of the PID screening the soil will be emptied from the jars and properly disposed; and

10. Soil samplers will be decontaminated between sample intervals using the procedures outlined below:

    - Detergent wash with alconox
    - Deionized water rinse
    - Deionized water rinse
    - Air dry
    - Final deionized water rinse
    - Air dry

4.3.3 Boring Logs and Record Keeping

During the drilling of each borehole, an accurate log will be kept and will include the following information:

1. Date and time of construction/driller's and helper's name, and Supervising Geologist;

2. Drilling method used;
3. The reference point for all depth measurements (e.g., ground surface);
4. The depth to changes in the geologic formation(s);
5. The depth to the first water bearing zone;
6. The thickness of each stratum;
7. The description of the material comprising each stratum, including:
    - Depth and sample number;
    - Grain-size, as defined by the Modified Burmister System;
    - Color;
    - Degree of weathering, cementation and density;
    - Other physical characteristics.
8. The depth interval from which each formation sample was taken.
9. The depth at which borehole diameters (drill bit sizes) change, if applicable.
10. The depth to the static water level and changes in this level with borehole depth.
11. Total depth of completed boring (and well if not the same).
12. The depth and description of the well casing materials, screen and riser lengths, sand pack, bentonite seal, grout, and concrete surface seal.
13. The depth or location of any lost drilling materials or tools.
14. The amount of cement, bentonite and sand (number of bags) used for the installation of the well seals and sand pack.

15. Screen materials and design.
16. Casing and screen joint type.
17. Screen slot size and length.
18. Type of protective well casing and cap.
19. PID readings.

The Site's Site Management Plan presents a sample, boring log to be used during the drilling program.

4.4 Well Development

The purpose of well development is to remove fine materials from the area of the screen and prepare the monitoring well for future groundwater level measurement and sampling activities. This is achieved through various development methods until consistent water quality conditions are observed and recorded. Well development will be performed using the following outlined field procedures.

4.4.1 Well Development Procedures

1. Inspect locking casing and surface concrete seal for integrity.
2. Open the well.
3. Measure the static water level from the top of the well casing and then the well bottom depth; calculate the volume of water in the well from the formula:

$$V = \pi R^2 H$$

Where:

V = volume (ft3)
R = inside well radius (ft)
H = length of water column (ft)
π = ~3.14

4. Lower a pre-cleaned or disposable bailer connected to a new solid braid nylon rope to the bottom of the well.
5. Bail the well until all fines are removed from the well and there is no solid sediment on the well bottom.
6. Continue bailing or install a well pumping system to complete well development. Pumps should be equipped with a backflow prevention valve.
7. If a pumping system is used, activate the pump; record the time and flow rate.
8. The pump will be periodically raised and lowered throughout the water column to ensure the screened interval is completely developed.
9. If low yield and slow recovery do not permit continuous pumping, the well will be periodically pumped or bailed.
10. When the preceding conditions have been met, remove the pump, measure the water level, and secure and lock the well.
11. Record all pertinent information in the field log.

4.5 Groundwater Sampling

4.5.1 Monitoring Well Sampling Procedure

The primary objective of field personnel in obtaining groundwater samples is to collect and preserve representative samples, and adhere to proper chain-of-custody procedures in their prompt shipment to the certified laboratory for analysis within the specified holding times. Upgradient monitoring wells will be sampled before downgradient wells in the following manner:

1. Monitoring wells will be purged prior to sampling using disposable bailers or properly decontaminated pumping equipment. A minimum of three well volumes will be purged where possible. For wells that bail dry, purging will consist of complete evacuation.
2. Following adequate recovery (within 80% of static levels), obtain sample with a disposable bailer suspended on new, solid-braid nylon rope. Transfer sample directly from the bailer to the parameter-specific sample container labeled appropriately (sample ID Number and preservative), and place in coolers with ice or ice packs. Fill sample bottles in the following order: VOCs then any remaining parameters (if any).
3. Calibrate all field chemistry equipment every day.
4. Follow record keeping and chain-of-custody procedures as detailed in Appendix J of the SMP.
5. Replace all well caps, and lock protective well cover.
6. At the end of the sampling day, the coolers will be taped shut with the custodian's initials placed on the tape at the points

of entry. Samples will be delivered to the laboratory by field personnel upon departure from the site. Alternatively, an express carrier may be used to deliver the samples to the laboratory.

4.6 Water Level Monitoring

In order to determine the horizontal hydraulic gradient(s) exhibited by the surface of the water table and potential routes of contaminant migration, water level measurements will be made using the following procedures:

1. After noting the general conditions of the well (surface seal, lock, etc.) the bottom of the well will be sounded by lowering a decontaminated, weighted probe into the well.
2. Well bottom conditions will be noted (silty, blockages, etc.). The distance from the base of the screen to the top of the casing will be recorded to the nearest 1/100th of a foot.
3. The static water level will be measured and noted by sounding with an electronic tape or "popper" to the nearest 1/100th of a foot.
4. The water level readings will always be taken from a marked point on the well casing.
5. Other measurements to be taken are:
   - Stickup of well casing from ground surface or surface seal.
   - Depth to bottom of well from the top of the riser.
6. The date and time will be recorded for these measurements. Also, any pertinent weather conditions will be noted (i.e., significant recent precipitation or drought conditions).

7. Upon completion, the wells will be secured, and all downhole equipment will be decontaminated with methanol and deionized water.

8. As practicable, all water levels should be collected on the same day.

Appendix I

Site-wide Inspection Form

SITE MANAGEMENT PLAN
ANNUAL SITE-WIDE INSPECTION
TO BE COMPLETED BY OWNER ANNUALLY

Site Name: Tri-State Industrial Laundries Site
Site No.: BCP# C633068
Site Address: 1634 Lincoln Avenue, Utica, NY
Owner: BRE Lincoln Avenue, LLC and Lincoln C/B Properties, Inc.
c/o Fitzgerald, DePietro and Wojnas
Owner Address: 291 Genesee St, Utica, NY 13501

Date:
Inspected By:
Inspector's Signature:
Inspector's Address:

Site Management Plan (SMP) Compliance	YES	NO	N/A	COMMENTS
Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?				
Has the Environmental Easement been upheld?				
Have site-use restrictions been upheld (industrial)?				
Has the groundwater use restriction been upheld?				
Has all intrusive work been conducted in accordance with the SMP?				
Was the Excavation Work Plan followed?				
Was the Community Air Monitoring Plan followed?				
Are all records related to the site maintained and up-to-date?				
Document the general site conditions at the time of the site inspection:				

Appendix J

Quality Assurance Project Plan

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068

City of Utica, New York

Quality Assurance Project Plan

April 2013

Barton & Loguidice

Former Tri-State Industrial Laundries Site
Brownfield Cleanup Project
BCP #C633068
City of Utica

Quality Assurance Project Plan

April 2013

Prepared For:

BRE Lincoln Avenue, LLC and
Lincoln C/B Properties, Inc.
c/o Fitzgerald, Depietro and Wojnas
291 Genesee Street
Utica, New York 13501

Prepared By:

Barton & Loguidice, P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects
290 Elwood Davis Road
Box 3107
Syracuse, New York 13220

This document is printed on recycled paper

Table of Contents

1.0 Introduction

This document presents the Quality Assurance Project Plan (QAPP) for use in the event that soil disturbance and sampling activities become necessary on the Site. The QAPP outlines the field sampling quality assurance/quality control mechanisms.

2.0 Quality Assurance/Quality Control

2.1 Record Keeping and Chain-of-Custody Documentation

The sampler's field records will contain sufficient information such that someone else can reconstruct the sampling situation without reliance on the sampler's memory. Entries in the field records will include, at a minimum, the following:

- Site name and location
- Project number
- Name and affiliation of Project Manager and sampler involved
- Sampling point name and description
- Type of sample container(s) used
- Preservative(s) used
- Well purging procedures and equipment
- Well-specific data including water level, depth and volume purged
- Sample collection procedure and equipment
- Date and time of collection
- Sample identification number(s)
- Laboratory's sample identification number(s)
- References such as maps or photographs of the sampling site, if available
- Field observations
- Pertinent weather factors such as temperature, wind direction and precipitation
- Any field measurements made, including pH, Eh, temperature, turbidity and dissolved oxygen

The field sampling data sheet is presented as an Appendix to the Site's Site Management Plan.

Chain-of-custody records for all samples will be maintained. A sample will be considered to be "in custody" of any individual if said sample is either in direct view of or otherwise directly controlled by that individual. Storage of samples during custody will be accomplished according to established preservation techniques, in appropriately sealed and numbered containers. Chain-of-custody will be accomplished when the samples are directly transferred from one individual to the next, with the first individual witnessing the signature of the recipient on the chain-of-custody record.

The chain-of-custody records will contain the following information:

- Respective sample numbers of the laboratory and Qualified Environmental Professional, if available
- Signature of the collector
- Date and time of collection
- Sample type (e.g., groundwater, sediment)
- Identification of well or sampling point
- Number of containers
- Parameter requested for analysis
- Signature of person(s) involved in the chain of possession
- Description of sample bottles and their condition
- Problems associated with sample collection (i.e., breakage, preservatives missing), if any

A sample chain-of-custody form is presented as Figure A2-1.

All samples will be placed in a cooler on ice. If samples are to be hand delivered, no further measures are required. If samples are to be shipped via common carrier (e.g. Federal Express) bottle lids and labels are to be covered with clear tape, each sample bottle will be placed in a Ziploc plastic bag and individually wrapped in bubble wrap. Ice is to be double bagged. The cooler

drain and seams will be sealed with duct tape. The cooler will be sealed with strapping tape and custody seals shall be place on the front and back of the cooler lid.

2.2 Field Sample QA/QC Procedures

2.2.1 Field and Trip Blanks

To monitor the integrity of field sampling and equipment cleaning techniques, the following field quality assurance/quality control (QA/QC) procedures will be adhered to for this effort.

A field blank will be prepared on-site each day that surface samples are collected with non-dedicated or non-disposable sampling equipment. If more than one matrix is being sampled in a given day, field blanks will be prepared for each matrix. A trip blank for water samples and/or soil samples to be analyzed for VOCs will accompany sample containers through all phases of the sampling event to ensure proper bottle preparation and laboratory integrity. Trip blank and field blank samples will receive identical handling procedures as on-site samples.

Field and trip blanks are used as control or external QA/QC samples to detect contamination that may be introduced in the field (either atmospheric or from sampling equipment), in transit to or from the sampling site, or in the bottle preparation, sample login, or sample storage stages within the laboratory. The blanks will also show any contamination that may occur during the analytical process.

Trip blanks are samples of analyte-free water, prepared at the same location and time as the preparation of bottles that are to be used for sampling. They remain with the sample bottles while in transit to the site, during sampling, and during the return trip to the laboratory. At no

time during these procedures are they to be opened. Upon return to the laboratory, they are analyzed as if they were another sample, receiving the same QA/QC procedures as ordinary field samples. If these samples are accidentally opened, it will be noted on the chain-of-custody.

Field blanks are prepared in the field (at the sampling site) using empty bottles and analyte-free water supplied separately (prepared at the same time and place as the bottles used in the sampling). The preferred procedure for collection of field blanks for non-dedicated sampling equipment is to first decontaminate the sampling device (e.g., scoop, beaker), and then pour the analyte-free water over the device and collect the runoff into the empty bottles supplied with the sample bottles.

Field and trip blanks are not part of the laboratory QA/QC procedures. The latter, used to detect contamination during analytical steps, are only included as part of the laboratory service and assess the validity of the laboratory analytical procedures. Field and trip blanks are required as part of QA/QC procedures for the overall sampling and analytical program.

2.3 Field Instrument Calibration

The on-site personnel are responsible for assuring that a master calibration/maintenance log will be maintained for each measuring device. Each log will include at least the following information where applicable:

- Name of device and/or instrument calibrated
- Device/instrument serial and/or ID number
- Frequency of calibration
- Date of calibration
- Results of calibration
- Name of person performing the calibration

- Identification of the calibration gas for PID
- Buffer solutions (pH meter)

2.4 Sample Analysis QA/QC Procedures

2.4.1 Overview

The purpose of the laboratory QA/QC program is to establish and maintain laboratory practices that will ensure the scientific reliability and comparability of the data generated in support of the project.

Quality assurance (QA) is the system for ensuring that all information, data, and resulting decisions compiled under an investigation are technically sound, statistically valid, and properly documented. Quality control (QC) is the mechanism through which quality assurance achieves its goals. Quality control programs define the frequency and methods of checks, audits, and reviews necessary to identify problems and dictate corrective action, thus high quality data.

The laboratory QA/QC program will outline the purpose, policies, organizations and operations established to support the chemical analyses.

The laboratory QA/QC procedures will be submitted as part of the laboratory selection process. The QA/QC document submitted by the laboratory will be appended to this document as Attachment A. The laboratory selected will be certified under the NYSDOH ELAP program.

2.4.2 Laboratory Selection Criteria

A laboratory will be selected that is qualified to perform the work required for the site. Examples of selection criteria are as follows:

1. Capabilities (facilities, personnel, instrumentation):
   a. Previous use
   b. Certification
   c. References (recommendations by other users of the laboratory)
2. Services:
   a. Turnaround time
   b. Completeness of reports
   c. Compliance with holding times
3. QA/QC Programs – All laboratories must have a detailed written QA/QC program meeting the minimum requirements of the NYS Department of Environmental Conservation and the NYS Department of Health, and must be NYSDOH ELAP CLP certified for all analyses being performed.
4. Approvals – All laboratories used will be approved by the Environmental Professional prior to the analysis of samples. The selected analytical laboratory will be committed to providing analytical services for groundwater, soil, sediment and surface water that are commensurate with the required protocols and current state-of-the-art analytical procedures, laboratory practices and instrumentation.

2.4.3 Data Validator Selection Criteria

A data validator will be selected based on the required qualification presented in Attachment A, and must meet Department requirements for performing data validation.

Attachment A

Data Validation Scope of Work

Attachment A

Data Validation Scope of Work – NYSDEC RI/FS Program

Data validation is the systematic process by which the data quality is determined with respect to data quality criteria that are defined in project and laboratory quality control programs and in the referenced analytical methods. The data validation process consists of an assessment of the acceptability or validity of project data with respect to stated project goals and requirements for data usability. Ideally, data validation establishes the data quality in terms of project data quality objectives. Data validation consists of data editing, screening, checking, auditing, certification, review and interpretation. The purpose of data validation is to define and document analytical data quality and determine if the data quality is sufficient for the intended use(s) of the data. In accordance with DEC requirements, all project data must be of known and acceptable quality. Data validation is performed to establish the data quality for all data which are to be considered when making project decisions. Laboratories will be required to submit results which are supported by sufficient back-up data and QA/QC results to enable the reviewer to conclusively determine the quality of the data.

Qualifications of a Data Validator

In order to ensure an acceptable level of performance, the following qualifications and requirements are established for all consultants/contractors functioning as data validators. These qualifications and requirements shall apply whether the consultant/contractor is: a) retained directly through contracts executed by the State: b) retained as a subcontractor to a consultant functioning under contracts executed by the State; or c) retained by a responsible party functioning under the guidance and direction of an order on consent. Consultant/Contractor functioning as a data validator shall be independent of the laboratory generating the data.

The Consultant/Contractor functioning as a data validator shall provide evidence that all staff members involved in the data validation process have: a) a bachelor's degree in chemistry or natural sciences with a minimum of 20 hours in chemistry; and b) one (1) year experience in the implementation and application of the protocols used in generating the data for which they are responsible. The successful completion of the EPA Data Validation Training course may be substituted for the analytical experience requirement. In addition, these same staff members must have a minimum of one (1) year experience evaluating CLP data packages for contract protocol compliance.

Specific Tasks to be Completed by the Data Validator

Evaluated Completeness of Laboratory Data Package

The data validator shall review the data package to determine completeness. A complete data package will consist of the following components:

- All sample chain-of-custody forms;
- The case narrative(s) including all sample analysis summary forms*;
- Quality Assurance/Quality Control summaries including all supporting documentation;
- All relevant calibration data including all supporting documentation;
- Instrument and method performance data;
- Documentation showing the laboratory's ability to attain the contract specified method detection limits for all target analytes in all required matrices;
- All data report forms including examples of the calculations used in determining final concentrations; and
- All raw data used in the identification and quantification of the contract specified target compounds.

*These forms appear as an addendum to the NYSDEC CLP forms package and will be required for all data submissions regardless of the protocol requested.

All deficiencies in the requirement for completeness shall be reported to the consultant immediately. The laboratory shall be contacted by the consultants Quality Assurance Officer and shall be given ten calendar days to produce the documentation necessary to remove the deficiencies.

Compliance of Data Packages with Work Plan

The validator shall review the submitted data package to determine compliance with those portions of the Work Plan that pertain to the generation of laboratory data. Compliance is defined by the following critieria:

- The data package is complete as defined above;
- The data has been generated and reported in a manner consistent with the requirements of the Quality Assurance Program Plan and the laboratory subcontract;

- All protocol required QA/QC criteria have been met;
- All instrument tune and calibration requirements have been met for the time frame during which the analyses were completed;
- All protocol required initial and continuing calibration data is present and documented;
- All data reporting forms are complete for all samples submitted. This will include all requisite flags, all sample dilution/concentration factors and all pre-measurement sample cleanup procedures; and
- All problems encountered during the analytical process have been reported in the case narrative along with any and all actions taken by the laboratory to correct these problems.

The data validation task requires that the validator conduct a detailed comparison of the reported data with raw data submitted as part of the supporting documentation package. It is the responsibility of the validator to determine that the reported data can be completely substantiated by applying protocol defined procedures for the identification and quantification of the individual analytes. To assist the validator in this determination, the following documents are recommended; however, the EPA Functional Guidelines will be used for format only. The specific requirements noted in the project Work Plan are prerequisite, for example holding times or special analytical project needs, to those noted in the Functional Guidelines.

- The particular protocol(s) under which the data was generated (e.g., NYSDEC Contract Laboratory Protocol; EPA SW-846; EPA Series 500 Protocols).
- Data validation guidance documents such as;
  - "Functional Guidelines for Evaluation of Inorganic Data" (published by EPA Region 2);
  - "Functional Guidelines for Evaluation of Organic Analyses", Technical Directive Document No. HQ-8410-01 (published by EPA); and
  - "Functional Guidelines for Evaluating Pesticides/PCB's Analyses" Technical Directive Document No. HQ-8410-01 (published by EPA).

NOTE: These documents undergo periodic revision. It is assumed that the selected data validator will have access to the most current applicable documents and guidelines.

Reporting

The validator shall submit a final report covering the results of the data review process. This report shall be submitted to the Project Manager or his designee and shall include the following:

- A general assessment of the data package as determined by the degree to which the package is complete and complies with the protocols set forth in the Work Plan;

- A detailed description of any and all deviations from the required protocols. These descriptions must include references to the portions of the protocols involved in the alleged deviations;

- Any and all failures in the validator's attempt to reconcile the reported data with the raw data from which it was derived. Specific references must be included. Telephone logs should be included in the validation report.

- Detailed assessment by the validator of the degree to which the data has been compromised by any deviations from protocol, QA/QC breakdowns, lack of analytical control, etc., that occurred during the analytical process'

- The report shall include, as an attachment, a copy of the laboratory's case narrative, including the DEC required sample and analysis summary sheets;

- The report shall include an overall appraisal of the data package; and

- The validation report shall include a chart presented in a spreadsheet format, consisting of site name, sample numbers, data submitted to laboratory, year of CLP or analytical protocol used, matrix, fractions analyzed (e.g., volatiles, semi-volatiles, Pest/PCB, metals, CN). Space should be provided for a reference to the NYSDEC CLP when non-compliancy is involved and a column for an explanation of such violation.

Attachment B

Chain of Custody Form

CHAIN OF CUSTODY RECORD

Barton & Loguidice, P.C.
Consulting Engineers

Client:	Client Project/Project Name:					No. of Containers	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	Special Turn around Time_____ Remarks
Client Contact:	Telephone Number (Area Code)/Fax Number:																
Site Location (city/state):																	
Sample Location:	Date	Time	Matrix	Grab. or Comp	Internal use Only												

parameter and method	sample bottle:	type	size	pres.
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Sampled by: (Please Print) Company:

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)

Note: The numbered columns above cross-reference with the numbered columns in the upper right-hand corner.

Appendix K

SSD System Inspection Checklist

Former Tri-State Laundries Site
1634 Lincoln Avenue, Utica, New York
Vapor Intrusion Mitigation System Inspection Checklist

Address inspected: _____ Pompton Lakes, NJ

Person(s) interviewed: _____

Date of inspection: _____

Inspector(s): _____

Make and Model of Fan _____

Date System Installed_____

Suction Static Pressure **SSP#1** _____ **SSP#2** _____ **SSP#3** _____

1.0 Systems Installation and Interior Piping Requirements	**Yes**	**No**	**Unk / NA**
1.1 Are all manifold and suction point piping solid, rigid pipe not less than 3 in. inside diameter?	____	____	____
1.2 Are all pipe interior joints and connections in mitigation systems sealed permanently? (Exceptions include installation of fans and sump covers)	____	____	____
1.3 Does the system piping avoid attachment to or support by existing pipes, ducts, conduits or any kind of equipment?	____	____	____
1.4 Does the system piping avoid blocking window and doors or access to installed equipment?	____	____	____
1.5 Are supports for system piping installed at least every six (6) feet on horizontal runs?	____	____	____
1.6 Are vertical runs secured above or below the points of penetration through floors, ceilings and roofs, or at least every (8) feet on runs that do not penetrate floors, ceilings or roofs?	____	____	____
1.7 Are suction point pipes supported and secured in a permanent manner that prevents their downward movement to the bottom of suction pits or sump pits, or into the soil beneath a soil-gas-retarder membrane?	____	____	____
1.8 Are horizontal runs in system piping sloped to ensure that water from rain or condensation drains downward into the ground beneath the slab or soil-gas-retarder membrane?	____	____	____
1.9 Does the system piping pass the smoke stick check (no leaks)?	____	____	____
2.0 General Sealing Requirements			
2.1 Are openings around the suction point piping penetrations of the slab properly sealed using methods and materials that are permanent \ durable and pass the smoke stick check?	____	____	____
2.2 Are accessible openings around utility penetrations of the foundation walls and slab, test holes, wells and other openings in slabs properly sealed using methods and materials that are permanent / durable and pass the smoke stick check?	____	____	____
2.3 Are openings / cracks sealed where the slab meets the foundation wall (if appropriate)?	____	____	____

****This Inspection form was adapted from an existing checklist obtained from the New Jersey Department of Environmental Protection*

	Yes	No	Unk/NA
2.4 Is urethane caulk or equivalent material used, and when the joint is greater than ½ inch in width, is a foam backer rod or other comparable filler material inserted into the joint before the application of the sealant (principally from the outside)?	____	____	____
2.5 When installing baseboard-type suction systems, are all baseboard sealed to walls and floors with adhesives also designed and recommended for such installations?	____	____	____
2.6 Are all utility and other penetrations through a soil-gas-retarder membrane sealed?	____	____	____
2.7 Did all cracks or openings in the slab or wall pass the smoke test? If not, identify the location of failed cracks or openings in the Notes & Comments Section below.	____	____	____

3.0 Electrical Requirements

3.1 Is the plugged cord used to supply power to the fan no more than 6 feet in length?	____	____	____
3.2 Does the plugged cord avoid penetrating a wall or being sealed within a wall?	____	____	____
3.3 Is the power supply to the fan hard-wired with an electrical disconnect within line of sight and 4 feet of the fan?	____	____	____
3.4 Does the power supply have a seal to determine if access has occurred?	____	____	____
3.5 Is the access seal on the power supply intact?	____	____	____
3.6 Is the electrical service panel labeled to indicate the circuit breaker powering the SSDS fan?	____	____	____

4.0 Sub-Membrane Depressurization Requirements

4.1 Is a sub-membrane depressurization system part of the mitigation system?	____	____	____
4.2 If yes, did the sub-membrane depressurization system pass the smoke test?	____	____	____

5.0 Sump Pit Requirements

5.1 Is there a sump pit in basement?	____	____	____

If yes:

5.2 Is the sump pit installed with an impermeable cover and sealed with O-ring or silicone caulking?	____	____	____
5.3 Is the sump pit cover designed to facilitate removal for sump pit maintenance?	____	____	____
5.4 Is there a mitigation system designed to draw soil-gas from the sump pit?	____	____	____

6.0 Monitors and Labeling Requirements

6.1 Does each suction point have a mechanism to measure vacuum?	____	____	____
6.2 Is the mechanical mitigation system's monitor, such as manometer type pressure gauges, clearly marked to indicate the initial pressure readings?	____	____	____
6.3 Is the current vacuum reading within 0.25"water of the initial reading for low vacuum fans and within 5% of the commissioned vacuum for high vacuum fans?	____	____	____

	Yes	No	Unk/NA
6.4 Is a system description label placed on the mitigation system or other prominent location?	____	____	____
6.5 Is the label legible from a distance of at least three feet and does it display the following information: Purpose of the system ("Vapor Intrusion Mitigation"), name, address and phone number of the contact person.	____	____	____
6.6 Does the mitigation system prevent backdrafting of combustion products into the structure?	____	____	____
6.7 Does the mitigation system include an audible alarm to inform occupants of a system malfunction?	____	____	____

7.0 System Vent Discharge Point Requirements

7.1 Is the vent pipe vertical and upward, outside the structure, at least 10 feet above ground level, and above the edge of the roof ? **(Req. A)**	____	____	____
7.2 Is the discharge of the vent pipe ten feet or more away from any window, door, or other opening into conditioned or otherwise occupiable spaces of the structure, if the vapor discharge point is not at least 2 feet above the top of such openings? **(Req. B)**	____	____	____
7.3 Is the discharge of the vent pipe ten feet or more away from any opening into the conditioned or other occupiable spaces of an adjacent building? Chimney flues shall be considered openings. **(Req. C)**	____	____	____
7.4 For vent stack pipes that penetrate the roof, is the point of discharge at least 12 in. above the surface of the roof? **(Req. D)**	____	____	____
7.5 For vent stack pipes attached to or penetrating the sides of the buildings, is the point of discharge vertical and a minimum of 12 inches above the surface of the roof.	____	____	____
7.6 Does the horizontal run of vent stack pipe penetrate the gable end walls? **(Req. E)**	____	____	____
7.7 If yes, does the piping outside the structure routed to a vertical position so that the discharge point meets the requirements of (**A**), (**B**), (**C**), and (**D**)?	____	____	____
7.8 Do points of discharge that are not in a direct line of sight from openings into conditioned or otherwise occupiable space because of intervening objects, such as dormers, chimneys, windows around the corner, etc. meet the separation requirements of (**A**), (**B**), (**C**), (**D)** and (**E**)?	____	____	____
7.9 Is the outside vent piping fastened to the structure of the building with hangers, strapping or other supports that will secure it adequately (every 8 feet)?	____	____	____
7.10 Is vent stack piping's ID at least as large as the largest used in the manifold piping? Manifold piping to which two or more suction points are connected shall be at least 4 inch ID. (3x4 inch aluminum downspout is an acceptable deviation)	____	____	____
7.11 If system piping is installed on the exterior of a building, is piping sealed from the outside at point of entry to the building?	____	____	____

8.0 Fan Installation Requirements

8.1 Is the fan installed in a configuration that avoids condensation buildup in the fan housing?	____	____	____

	Yes	No	Unk/NA
8.2 Is the fan mounted on the exterior of buildings rated for outdoor use or installed in a weather proof protective housing?	____	____	____
8.3 Is the fan mounted and secured in a manner that minimizes transfer of vibration to the structural framing of the building?	____	____	____
8.4 Does the system operate without noise or vibration above normal conditions?	____	____	____

9.0 Design Drawing and As-Built Drawing Requirements

9.1 Was the system installed as per the design drawings submitted to the municipality?	____	____	____

10.0 Notes & Comments

Appendix L

Dual Phase Extraction (DPE) Monitoring Checklist

Dual Phase Extraction (DPE) Monitoring Checklist
Tri-State Industrial Laundries Site, Utica, New York

Event: _____

Date: _____ **Arrival Time:** _____

Personnel: _____ **Departure Time:** _____

Review Health & Safety Plan, Emergency Procedures (Y/N): _____

Main Control Panel

System Running (Y/N) _____

Warning Lights on (Y/N) _____

Run Time (duty hours) _____

Electric Meter (kw/h) _____

Misc: _____

DPE Treatment System

Ambient Room Temperature (degree F) _____

Water Cavity Pump Temperature (degree F) _____

Water Cavity Pump Backpressure (psi) _____

Water Cavity Pump Oil Level _____

Zone AOC-1 Pressure DPE Wells 1,2,3&4 (in Hg) _____

Zone AOC-2 Pressure DPE Wells 5&6 (in Hg) _____

Zone AOC-3 Pressure DPE Wells 7&8 (in Hg) _____

Misc: _____

Air Discharge

Air Pressure Pre Filter (in Hg) _____

Air Pressure Post Filter (in Hg) _____

Air Flow Totalizer (cf) _____

Air Flow Rate (cfs) _____

Particulate Filter Check _____

Water Discharge

Water Flow Totalizer (gal) _____

Water Flow Rate (gpm) _____

Carbon Pressure Pre Filter (in Hg) _____

Carbon Pressure Post Filter (in Hg) _____

DPE Well-head

Zone	**DPE**	Well	Expected	Expected	**On/Off**	**Vacuum**	**Intake Setting**	**Adjustments**
	Well	Depth (ft)	Vac (in Hg)	Flow Rate (cfm)		**(in Hg)**	**(ft BTOIC)**	
AOC-1	**1**	13	7-13	15-18				
AOC-1	**2**	13	7-13	15-18				
AOC-1	**3**	13	7-13	15-18				
AOC-1	**4**	13	7-13	15-18				
AOC-2	**5**	9.5	6.8-12	15-18				
AOC-2	**6**	9.5	6.8-12	15-18				
AOC-3	**7**	11	7-13	15-18				
AOC-3	**8**	10	7-13	15-18				

General Comments _____