

**Former ALCO Site
Brownfield Cleanup Project**

**City of Schenectady
Schenectady County, New York**

**Excavation Work Plan
(EXC-WP)**

**New York State
Brownfield Cleanup Program
Site Nos. C447042, C447043, and C447044**

**May 2014
Revised September 2015**

Former ALCO Site
Brownfield Cleanup Project

City of Schenectady

Excavation Work Plan
Site Nos. C447042, C447043, and C447044

May 2014
Revised September 2015

Prepared For:


Maxon ALCO Holdings, LLC
540 Broadway
Albany, New York 12207

Prepared By:

Barton & Loguidice, D.P.C.
Engineers • Environmental Scientists • Planners • Landscape Architects
10 Airline Drive, Suite 200
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I, the undersigned engineer, certify that I am currently a NYS registered professional engineer and that this Excavation Work Plan was prepared in accordance with all applicable statutes and regulations, and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).





Scott D. Nostrand, P.E.

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1.0 Introduction

Maxon ALCO Holdings, LLC (MAH) entered into Brownfield Cleanup Agreements (BCA) through the New York State Department of Environmental Conservation's (NYSDEC) Brownfield Cleanup Program (BCP) for the property located at 301 Nott Street in Schenectady, New York, identified as the ALCO Site (Property or Site) and historically known as the Nott Street Industrial Park (Park). In 2010, after purchasing the property, the Volunteer (Maxon-ALCO Holdings) divided the Property into three parcels: Parcel A, Parcel B and Parcel C (Site Nos. C447042, C447043, and C447044, see Figure 1) and each Parcel was deemed eligible for the BCP and subject to separate BCAs. In November of 2013, MAH proposed the reconfiguration of Parcels B and C to NYSDEC to more efficiently proceed with potential Interim Remedial Measures and redevelopment planning; the proposed reconfiguration was approved by NYSDEC by letter dated December 23, 2013.

The purpose of the BCP is to encourage voluntary remediation of brownfield sites for reuse and development. This Excavation Work Plan (Exc-WP) is preceded by Remedial Investigation (RI) and Supplemental Remedial Investigation (SRI) Reports, which characterized impacts at the site resulting from historical industrial usage, and a Remedial Work Plan (RWP) and Alternatives Analysis Report (AAR), which evaluated and recommended remedial alternatives for the site. These reports have been reviewed and approved by NYSDEC in accordance with the BCA and the applicable portions of 6 NYCRR Part 375.

The Exc-WP has been prepared to provide the procedures that will be followed when remedial and/or development activities require excavation into the existing site soils (prior to placement of cover soils) or that in the future will penetrate the cover soil system, prior to the adoption of the Site Management Plan. The Exc-WP is applicable to the three parcels that comprise the ALCO site: Parcel A, Parcel B and Parcel C (Site Nos. C447042, C447043, and C447044, see Figure 1)

2.0 Implementation of Excavation Work Plan

This section describes, in detail, how this Exc-WP will be implemented.

2.1 Notification

At least 10 days prior to the start of any intrusive work that will entail penetrating into the existing site soils (prior to placement of cover soils) or that in the future (prior to adoption of the Site Management Plan) will penetrate the cover soil system and expose underlying, residual contamination, the site owner, or their representative will notify NYSDEC. Currently, this notification will be made to:

John R. Strang
Regional Hazardous Waste Remediation Engineer
1130 North Westcott Road
Schenectady, New York 12306-2014

Notification will be made by the Qualified Environmental Professional (QEP), provided by Barton & Loguidice, whose role is to administer this Excavation Work Plan.

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 composite cover system, 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 Exc-WP (Simple excavations may only require compliance with a portion of the Exc-WP. 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 Exc-WP);
- A statement that the work will be performed in compliance with this Exc-WP, 29 CFR 1910.120 and applicable local, and federal requirements;
- A copy of the project-specific HASP, if different from the HASP provided in Appendix A of this document.
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results and clean fill certifications.

2.1.1 Harbor Soil Excavation

During active phase excavations of the Harbor soils, the QEP will notify NYSDEC within 1-hour when a change in soil character is encountered during the work. A change in soil character shall include the observation through soil screening methods defined herein, of areas of significantly stained and impacted soils, observation of free product and/or the presence of significant petroleum or chemical odors.

Harbor soil excavation is being conducted under NYSDEC Spill # 1505689. All notifications for the Harbor Soil Excavation will be made to the NYSDEC representative identified above.

A QEP provided by B&L will be on-site during Harbor excavation activities. Oversight of Harbor excavations and other areas of the site will be supplemented by environmental staff provided by Ambient, the firm contracted by the Owner to implement the Community Air Monitoring Plan. B&L will provide oversight of Ambient's personnel when they are conducting soil screening and monitoring in accordance with this plan.

For excavated areas outside of the Harbor Soil Excavation area, that do not fall within the defined criteria for remedial and development excavations into known or potentially contaminated materials, excavation oversight may be directly addressed by Ambient personnel, without a B&L QEP on site. These areas of the site will be identified with the DEC site representative, and B&L will coordinate with Ambient staff for the field oversight. Ambient will have electronic access to B&L QEP's, who will respond to the site if site conditions identify potential for the presence of significantly contaminated materials.

2.2 Soil Screening Methods

Visual, olfactory and instrument-based soil screening will be performed by the QEP 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. Soil screening will be defined and subject to the Site Management Plan upon its adoption.

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.

During Harbor excavations soil screening will be conducted continuously by the QEP or designated subcontractor (e.g. Ambient), such that excavation and area loads will be screened approximately every 15 minutes, as practical.

2.2.1 Stockpiled Harbor Soils as of 9/2/15

Stockpiled soils as of 9/2/15 will be screened by the soil screening methods, following a review by DEC and the QEP. Elevations of the existing pile will be obtained, and use of the pile would be resumed following soil screening, if surface conditions meeting the screening criteria. Should soil screening identify areas of concern, then a sampling protocol will be proposed for further pile evaluation.

Once approval to continue use of the Harbor soils excavate pile is obtained, newly excavated soils which meet the screening criteria will be placed on the pile, above the recorded elevations. The excavated soil will be amended for structural purposes for planned reuse as site subbase soils below the casino parking lot. Once the placement operation reaches the recorded elevations, then soil screening will be conducted on the staged soil pile during structural processing. The soil screening criteria will be applied to the remaining staged soils.

2.3 Stockpile Methods

Stockpile staging areas shall be prepared for excavated fill materials and imported off-site fill materials as discussed below.

Soil stockpiles will be managed in accordance with the site SWPPP.

Stockpiles of contaminated material identified by screening will be kept covered with appropriately anchored tarps, and will be placed on polyethylene sheeting. Uncontaminated soils will be maintained on the site working surface without tarping, and will be subject to the SWPPP soil stockpile requirements. Stockpiles of contaminated materials will be inspected and maintained on a daily basis. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection of NYSDEC. Other material stockpiles will be inspected and maintained in accordance with the SWPPP.

2.3.1 Excavated, Saturated Fill Material Stockpiles

If saturated fill material is excavated as part of the Work, a stockpile staging area will be constructed. The proposed stockpile staging area for excavated fill materials will be constructed so that it is large enough to accommodate anticipated stockpiles as well as stabilization reagent, equipment and operations, if required. Specific dewatering methods will be proposed by the site contractor, and discussed with DEC. The construction requirements for the excavated, saturated fill material stockpiles can be modified, with the NYSDEC's approval, depending on the actual scope of work to be performed.

2.3.2 Imported & On-site Fill Material Stockpiles

All approved on-site and off-site fill materials are required to be stockpiled and managed according to the prevailing Storm Water Pollution Prevention Plan (SWPPP) for the site, which is incorporated here by reference.

2.4 Materials Excavation and Load Out

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

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

When transporting contaminated soils or materials off of the site for disposal, 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).

The QEP will be responsible for ensuring that outbound trucks will be decontaminated, if needed before leaving the site until the activities performed under this section are complete. Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The QEP will be responsible for ensuring that 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.

2.5 Materials Transport Off-Site

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.

If necessary, trucks will be washed prior to leaving the site. Trucks loaded with site materials will exit the vicinity of the site using only an approved truck route. The most appropriate route will take 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; to the extent practicable, in order to minimize off-site disturbance. Every effort will be made to eliminate any off-site queuing.

2.6 Materials Disposal Off-Site

Soil/fill/solid waste/hazardous waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with local, State, 6 NYCRR Part 360 and 364, 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 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 Final Engineering Report (FER) 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 a minimum, as a Municipal Solid Waste per 6 NYCRR Part 360-1.2. Waste characterization sampling shall be performed in accordance with the requirements of each disposal facility.

2.7 Materials Re-Use On-Site

Excavated existing soils (or in the future, soils below the demarcation layer) proposed for on-site use shall be segregated in stockpiles and in accordance with the requirements of Section 2.3 of this EWP. The QEP will ensure that procedures defined for materials re-use are followed and that unacceptable material does not remain on-site. Excavated existing soils and/or soils removed below the future demarcation layer that are acceptable for re-use on-site will be placed below the final surface of the existing or modified (as approved by the NYSDEC) cover system and will not be re-used within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines. Demolition material proposed for re-use 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 re-used on-site.

2.8 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 may be recharged back to the land surface or subsurface of the site in the event that prior approval is obtained from the NYSDEC Case Manager. If this approval is not obtained, fluids will be managed via off-site disposal.

Discharge of water generated during large-scale construction activities if applicable, will be performed pursuant to City of Schenectady authorization. As noted in section 2.11 below, the current SWPPP will remain in effect during excavation activities. It is assumed that any local permits that might apply to the implementation of the NYSDEC approved work plans will be waived under provisions of the Brownfield Cleanup Agreement and applicable regulations and not be required as long as substantive requirements of any such permits are followed.

2.9 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 requirements approved of the Remedial Design. For all components of the composite cover system, any constructed demarcation layer will be replaced to provide a visual reference to the top of the existing site soils. If the type of composite cover system changes, with NYSDEC approval, 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 and the upper surface of the 'Remaining Contamination'. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the SMP.

2.10 Backfill from Off-Site Sources

Materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in the 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.

Imported fill materials proposed for on-site use shall be certified clean from each off-site source. The clean fill certification shall include information regarding past use of the site, confirmation that the source area background has been checked, and confirmation of its DOT certification, if applicable. Sampling of off-site fill material shall be performed in accordance with the requirements of DER-10 and 6 NYCRR Part 355-6.7(d). The Engineer, with the concurrence of the NYSDEC, will review results of pre- and post-qualification testing of off-site fill materials and shall be the sole judge as to acceptability of the material.

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.

2.11 Stormwater Pollution Prevention

A SWPPP will be in place and will be the governing document for stormwater pollution prevention. The prevailing SWPPP is incorporated here by reference.

2.12 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. NYSDEC will be notified within one hour, and a spill will be reported to the NYSDEC Spills Hot Line, unless otherwise directed by NYSDEC.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal methods. Chemical analysis will be performed according to discussions with NYSDEC.

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 released will also be reported to the NYSDEC spills hotline.

2.13 Community Air Monitoring Plan

A generic Community Air Monitoring Plan is provided in the HASP provided in Appendix A. The CAMP is being implemented and reporting monitored by Ambient Environmental. The QEP will coordinate the daily and weekly activities associated with excavation tasks with Ambient. Ambient will provide limited soil screening for small excavation areas not associated with the Harbor, or known contaminated zones.

Exceedances of action levels listed in the CAMP will be reported to the QEP who will report the information to NYSDEC and NYSDOH as indicated in section 2.1.

2.14 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 Qualified Professional, and any measures that are implemented will be discussed in the Period Review Report.

Appropriate and 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.

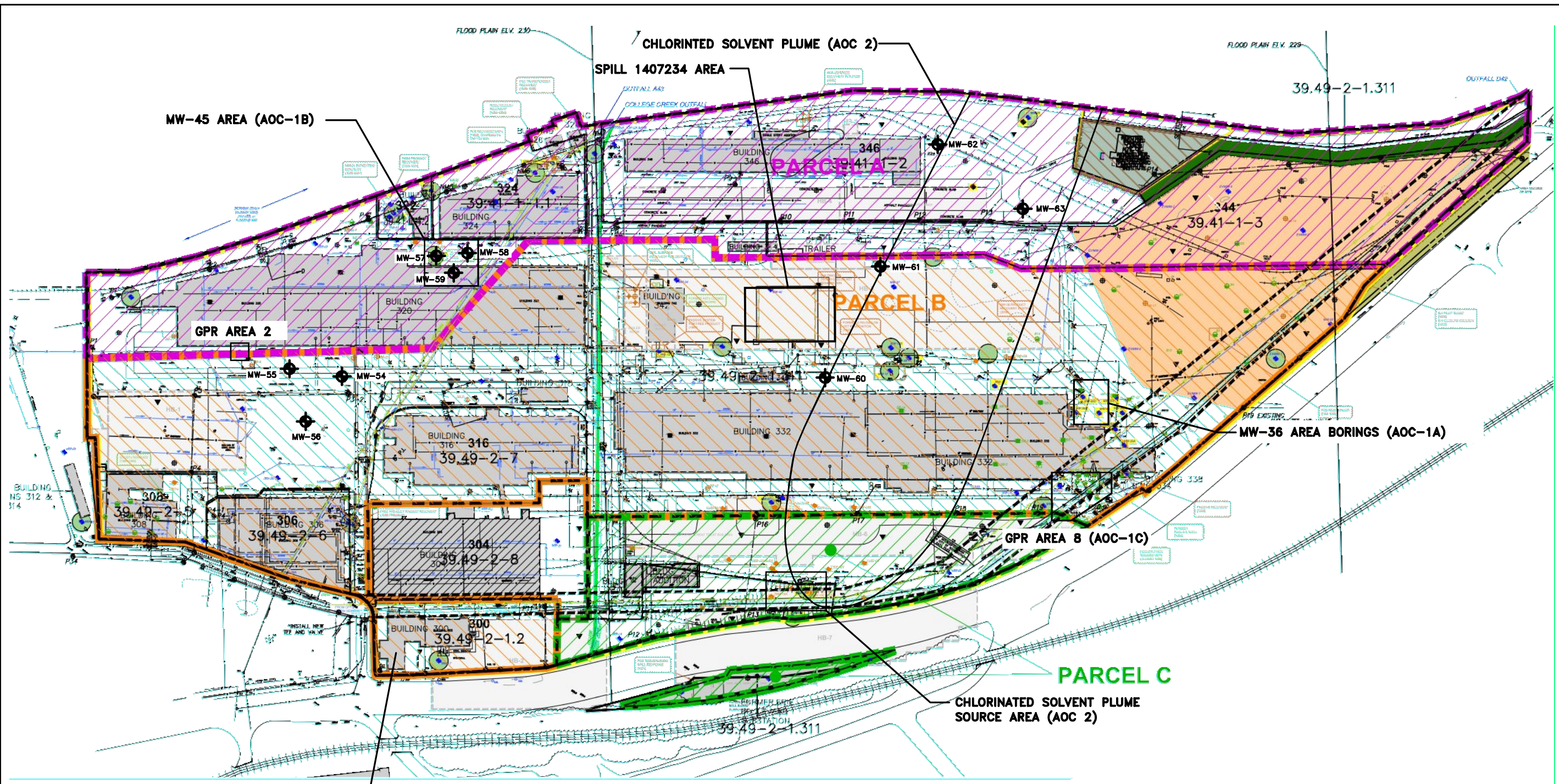
2.15 Dust Control Plan

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 through the use of a dedicated on-site water truck for road wetting.
- 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.

Figure 1
Site Location Map Showing Areas of Concern

Plotted: Mar 24, 2015 - 3:27PM SYR By: jgs
Z: \\BL-Vault\02\18217AD2-1C71-4823-8927-99D5C4054147\0\765000-765999\765084\1\1368001_IRM Work Plan-Figure 1 (ID 765084).dwg



MAP REFERENCE:

- 1) "SURVEY OF LANDS, ALCO LOCOMOTIVE, INC., CITY OF SCHENECTADY, COUNTY OF SCHENECTADY", DATED MARCH 1970, AS PREPARED BY C.T. MALE ASSOCIATES.
- 2) "A SUBDIVISION OF A PORTION OF LANDS OF SCHENECTADY INDUSTRIAL CORPORATION", DATED JUNE 30, 1988, AS PREPARED BY THE ENVIRONMENTAL DESIGN PARTNERSHIP.
- 3) "SITE PLAN, PROPOSED C & D RECYCLING FACILITY, NOTT STREET INDUSTRIAL PARK", DATED FEBRUARY 1995, AS PREPARED BY INGALLS SMART ASSOCIATES.

SOURCE:

- 1) ABD ENGINEERS AND SURVEYORS FEBRUARY 1988, REVISED NOVEMBER 1999.
- 2) HISTORIC BUILDING (HB) LOCATIONS BASED ON A "FUEL OIL PIPING" PLAN, PREPARED FOR AMERICAN LOCOMOTIVE CO., REVISED AUGUST 22, 195.

LEGEND

- PROPERTY BOUNDARY
- BCP SITE BOUNDARY
- MANHOLE WITH DRAINAGE STRUCTURE NUMBER
- CATCH BASIN WITH DRAINAGE STRUCTURE NUMBER
- LIFT STATION WITH DRAINAGE STRUCTURE NUMBER
- MANHOLE (M.H.)
- CATCH BASIN (C.B.)
- OW-2 MONITORING WELL (MW)
- TMW-6 TEMPORARY MONITORING WELL (TMW)
- RW-01 RECOVERY WELL
- P-2 PIEZOMETER
- DB-18 GEOPROBE BORING
- SS-5 SURFACE SOIL SAMPLE LOCATION (SS)
- SB-2 SOIL BORING LOCATION

--- MW-63 MONITORING WELL (SRI INVESTIGATION 2013)

AREA DEFINITIONS

- BUILDINGS/STRUCTURES
- HB FORMER BUILDINGS (PREVIOUSLY DEMOLISHED)
- "EVI" PARCEL
- "RPI" PARCEL
- OTHER PROPERTIES NO PART OF SITE
- REMEDIATION AREA
- FORMER UST/AST LOCATIONS

MAXON ALCO HOLDINGS, LLC

OVERALL SITE PLAN

CITY OF SCHENECTADY

NEW YORK



Date
MARCH, 2015

Scale
1" = 100'

Figure Number
1

Project Number
1368.001.001

Appendix A
Health and Safety Plan

**Former ALCO Site
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**City of Schenectady
Schenectady County, New York**

**Health and Safety Plan
(HASP)**

**New York State
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Prepared By:

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Attachment 1	Hospital Route
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1.0 General Information

1.1 Introduction

This Health and Safety Plan (HASP) was prepared by Barton & Loguidice, Inc. (B&L) for future excavation work at the former ALCO site where the existing soils will be penetrated. The existing soils contain residual impacts from historic activities at the site. The impacts were characterized by the Remedial Investigation and Supplemental Remedial Investigation that were conducted at the site. A summary of the impacts is provided in this HASP

Please note that this site falls within the definition of a hazardous waste sites for the purposes of 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response*. Plan. This was prepared in accordance with 29 CFR 1910.120. This plan was prepared, and will be implemented, by a qualified person as defined under 29 CFR 1910.120; this is also in accordance with NYSDEC DER-10, *Technical Guidance for Site Investigation and Remediation*.

The purpose of this Health and Safety Plan for the Steel Treaters contaminant source removal IRM is to provide specific guidelines and establish procedures for the protection of personnel during the field investigation and site remediation activities. 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 comply 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.

This HASP is not intended to be used by any subcontractors, but it may be used as the basis for contractors to prepare their own plans. This HASP may not address the specific health and safety needs or requirements of subcontractors and should be viewed as the minimum requirement.

2.0 Project Information

2.1 Comprehensive Work Plan

This HASP is appended to the Site Remedial Work Plan (RWP) prepared by Barton & Loguidice, Inc., which describes the proposed remedial activities for the site.

2.2 Scope of Work

Remedial and/or development activities at the site may entail excavation into the existing in-place soils at the site.

2.3 Organization Structure

Barton & Loguidice, P.C.:

Program Manager – Scott Nostrand, P.E.

Site Manager – Andy Barber

Maxon ALCO Holdings, LLC (MAH):

Project Contact – Steve Luciano

The Site Manager is responsible for the day-to-day activities of the project and for coordinating between office and field personnel. The Site Manager will oversee the remedial activities. The Barton & Loguidice on-site field personnel will serve as the Site Safety and Health Coordinator (SSHC). The SSHC will establish operating standards and coordinate overall project safety and health activities for the site. The SSHC will review project plans and revisions to determine that safety and health procedures are maintained throughout the project. Specifically the responsibilities of the SSHC include:

- a. Aiding the selection of protective clothing and equipment.
- b. Periodically inspecting protective clothing and equipment.
- c. Maintaining proper storage of protective clothing and equipment.
- d. Monitoring the workers for signs of heat stress, cold stress, and fatigue.
- e. Monitoring on-site hazards and conditions.
- f. Conducting periodic surveillance to evaluate effectiveness of the Site-specific Health and Safety Plan.
- g. Having knowledge of emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.

- h. Providing handouts to all on-site personnel that contain directions to the hospital and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.
- i. Notifying, when necessary, local public emergency officials.
- j. Coordinating emergency medical care.

The Site Manager will be responsible for ensuring that the field personnel are familiar with the contents of this plan and the roles of the SSHC.

3.0 Health and Safety Risk Analysis

Table B-1 breaks down the hazard types that may be encountered for the site activities.

Table B-1 Site Investigation Activity Hazard Evaluation						
Activity	Hazard Type					
	Mechanical	Electrical	Chemical	Physical	Biological	Temperature
Excavation of Impacted Soils	Accidental injury from excavation equipment. Accidental injury from contact with excavated materials.	Overhead power lines.	Accidental inhalation, ingestions, skin absorption or eye contact with contaminants. Inhalation of equipment exhaust gases.	Collapse of excavation structure. Puncture from buried objects/nails. Excessive noise. Fall hazards. Falling objects.	Rodents, Bees and wasps.	Heat stress and frost bite.

3.1 Chemical Hazards

Site soils have been impacted by historic industrial operations at the site. These impacts are largely related to the use of petroleum products and coal at the site. The contaminants that have been detected at the site are listed in Table B-2 and their properties are listed in Table B-3 (below).

Table B-2 – Contaminants Detected in Soil
Contaminants Detected in Surface Soils

	Part 375 Residential	Part 375 Restricted Residential	Part 375 Commercial	SS-A1	SS-A2	SS-A3	SS-A5	SS-A6	SS-A8	SS-A9
Parcel A										
2-Methylnaphthalene	410	NS	NS	57 J	410 J	130 J	700 J	3,500 U	890 J	11,000 J
Benzo(a)Anthracene	1,000	1,000	5,600	1,300	6,000	5,500	4,500	1,800 J	24,000	160,000
Benzo(a)Pyrene	1,000	1,000	1,000	1,700	6,700	6,800	4,200	2,100 J	21,000	140,000
Benzo(b)Fluoranthene	1,000	1,000	5,600	3,100	12,000	14,000	6,700	4,400	25,000	170,000
Benzo(G,H,I)Perylene	100,000	100,000	500,000	600 J	2,300	3,100	1,300	1,500 J	14,000	98,000
Benzo(k)Fluoranthene	1,000	3,900	56,000	1,400	4,000	5,100	3,000	2,100 J	11,000	71,000
Chrysene	1,000	3,900	56,000	1,700	6,600	6,700	4,400	2,600 J	23,000	150,000
Dibenzo(A,H)Anthracene	330	330	560	210 J	820 J	880 J	370 J	3,500 U	4,900 U	9,800 U
Dibenzofuran	14,000	59,000	350,000	31 J	710 J	260 J	1,100	3,500 U	2,300 J	22,000
Fluoranthene	100,000	100,000	500,000	1,800	11,000	8,700	9,900	2,700 J	44,000	330,000
Indeno(1,2,3-Cd)Pyrene	500	500	5,600	570 J	2,200	2,800	1,200	1,400 J	11,000	84,000
Phenanthrene	100,000	100,000	500,000	600 J	9,100	4,600	9,300	1,300 J	35,000	290,000
Pyrene	100,000	100,000	500,000	1,700	8,800	7,100	7,400	2,200 J	40,000	310,000

All units are in µg/Kg

Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective

Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective

U = The compound was not detected at the indicated concentration.

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

Table B-2 – Contaminants Detected in Soil – Continued
Contaminants Detected in Surface Soils

	Part 375 Residential	Part 375 Restricted Residential	Part 375 Commercial	SS-B3	SS-B4	SS-B5	SS-B6	SS-B8
Parcel B								
2-Methylnaphthalene	410	NS	NS	18,000 U	620 J	27 J	12 J	3,900 U
Benzo(a)Anthracene	1,000	1,000	5,600	960 J	13,000	850	1,400	2,900 J
Benzo(a)Pyrene	1,000	1,000	1,000	1,000 J	15,000	1,100	1,500	4,100
Benzo(b)Fluoranthene	1,000	1,000	5,600	18,000 U	20,000	1,300	3,900	5,000
Benzo(k)Fluoranthene	1,000	1,000	56,000	18,000 U	6,800	480	1,500	2,800 J
Chrysene	1,000	1,000	56,000	1,000 J	13,000	890	2,100	3,300 J
Indeno(1,2,3-Cd)Pyrene	500	500	5,600	18,000 U	7,700	550	1,600	2,100 J

All units are in µg/Kg

Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective

Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective

U = The compound was not detected at the indicated concentration.

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

Table B-2 – Contaminants Detected in Soil – Continued
Contaminants Detected in Surface Soils

	Part 375 Residential	Part 375 Restricted Residential	Part 375 Commercial	SS-C1	SS-C2	SS-C4	SS-C6	SS-C9
Parcel C								
2-Methylnaphthalene	410	NS	NS	6,900 U	7,000 U	440 J	65 J	2,000 U
Benzo(a)Anthracene	1,000	1,000	5,600	1,500 J	4,600 J	49,000	3,900	1,500 J
Benzo(a)Pyrene	1,000	1,000	1,000	1,700 J	6,400 J	43,000	3,700	1,600 J
Benzo(b)Fluoranthene	1,000	1,000	5,600	2,000 J	9,600 J	50,000	4,500	2,000
Benzo(k)Fluoranthene	1,000	1,000	56,000	2,100 J	3,500 J	29,000	1,700 J	1,100 J
Chrysene	1,000	1,000	56,000	1,500 J	4,900 J	46,000	3,900	1,600 J
Dibenzo(A,H)Anthracene	330	330	560	6,900 U	7,000 U	9,500 U	680 J	2,000 U
Indeno(1,2,3-Cd)Pyrene	500	500	5,600	880 J	3,600 J	22,000	2,100	800 J

All units are in µg/Kg

Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective

Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective

U = The compound was not detected at the indicated concentration.

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

Table B-2 – Contaminants Detected in Soil – Continued
Contaminants Detected in Surface Soils

	Arsenic	Copper	Lead
<i>Part 375 Residential</i>	16	270	400
<i>Part 375 Restricted Residential</i>	16	270	400
<i>Part 375 Commercial</i>	16	270	1,000
Sample Location			
SS-A2	18.8	723 J	1530
SS-A3 / DUP-03	32.1 / 19.6 J	92.3 J/ 317 J	897 / 298
SS-A9	15.6 J	67.3	95
SS-B3	79.7 J	15.7	16.4
SS-C7	24.5	37.9	8.8

J = Indicates an estimated value detected below the reporting limit.
 Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective
 Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective
 All units are in mg/Kg

Table B-2 – Contaminants Detected in Soil – Continued
Contaminants Detected in Subsurface Soils

	Part 375 Residential	Part 375 Restricted Residential	Part 375 Commercial	SB-A1	SB-A2 / DUP-03	SB-A3
Parcel A						
2-Methylnaphthalene	410	NS	NS	3,200 J	48 J / 36 J	150 J
Benzo(a)Anthracene	1,000	1,000	5,600	14,000	2,000 J / 1,300 J	1,800
Benzo(a)Pyrene	1,000	1,000	1,000	14,000	1,900 J / 1,300 J	1,600
Benzo(b)Fluoranthene	1,000	1,000	5,600	17,000	2,500 J / 1,400 J	1,800
Chrysene	1,000	1,000	56,000	15,000	2,000 J / 1,300 J	1,700
Dibenzo(A,H)Anthracene	330	330	560	2,800 J	370 J / 220	280
Indeno(1,2,3-Cd)Pyrene	500	500	5,600	8,400	1,100 J / 650 J	850

All units are in µg/Kg .

Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective

Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

Table B-2 – Contaminants Detected in Soil – Continued
Contaminants Detected in Subsurface Soils

	Part 375 Residential	Part 375 Restricted Residential	Part 375 Commercial	SB-B2 / DUP-02-SB	SB-B3
Parcel B					
2-Methylnaphthalene	410	NS	NS	860 J / 890 J	55 J
Benzo(a)Anthracene	1,000	1,000	5,600	13,000 / 13,000	3,800
Benzo(a)Pyrene	1,000	1,000	1,000	13,000 / 13,000	3,900
Benzo(b)Fluoranthene	1,000	1,000	5,600	14,000 / 15,000	5,600
Chrysene	1,000	1,000	56,000	12,000 / 13,000	5,000
Dibenzo(A,H)Anthracene	330	330	560	2,400 / 2,200	400 U
Indeno(1,2,3-Cd)Pyrene	500	500	5,600	7,000 / 6,400	2,700

All units are in µg/Kg .

Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective

Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective

U = The compound was not detected at the indicated concentration.

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

Table B-2 – Contaminants Detected in Soil – Continued
Contaminants Detected in Subsurface Soils

	Part 375 Residential	Part 375 Restricted Residential	Part 375 Commercial	SB-C3
Parcel C				
Benzo(a)Anthracene	1,000	1,000	5,600	1,200 J
Benzo(a)Pyrene	1,000	1,000	1,000	1,200 J
Benzo(b)Fluoranthene	1,000	1,000	5,600	1,300 J
Chrysene	1,000	1,000	56,000	1,200 J
Indeno(1,2,3-Cd)Pyrene	500	500	5,600	700 J

All units are in µg/Kg .

Values shown in BOLD exceed the 6 NYCRR Part 375 Residential Soil Cleanup Objective

Values that are highlighted exceeds the 6 NYCRR Part 375 Commercial Soil Cleanup Objective

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL.

Table B-3 - Assessment of Detected Chemicals

Chemical Name (or class)	REL/PEL/TLV	Other Pertinent Limits (Specify)	Warning Properties – Odor Threshold	Potential Exposure Pathways	Acute Health Effects	Chronic Health Effects
#1 Fuel Oil (Kerosene)	100 mg/m ³ (NIOSH)		Colorless to yellowish oily liquid with a strong characteristic odor	Inhalation, Ingestion, Contact	Eye, skin & respiratory irritation; dizziness, drowsiness, nausea, vomit, headache, abdominal pain	Eyes; skin; respiratory system; CNS
#2 Fuel Oil	5 mg/m ³ (OSHA)		Colorless to yellowish oily liquid with a strong characteristic odor	Inhalation, Ingestion, Contact	Eye, skin & respiratory irritation; dizziness, drowsiness, nausea, vomit, headache, abdominal pain	Eyes; skin; respiratory system; CNS
#4 Fuel Oil	5 mg/m ³ (OSHA)		Colorless to yellowish oily liquid with a strong characteristic odor	Inhalation, Ingestion, Contact	Eye, skin & respiratory irritation; dizziness, drowsiness, nausea, vomit, headache, abdominal pain	Eyes; skin; respiratory system; CNS
Polynuclear Aromatic Hydrocarbons (Coal components)	0.1 mg/m ³ (NIOSH) 0.2 mg/m ³ (OSHA)		Black, dark brown residue	Inhalation, Ingestion, Contact	Skin irritation	Respiratory system; skin, bladder; kidneys
Arsenic				Inhalation, Ingestion, Contact	Skin irritation	Eyes; skin; respiratory system; CNS; kidneys; GI tract; repro system
Copper	1 mg/m ³ (OSHA, NIOSH)		Reddish metal	Inhalation, Ingestion, Contact	Eye irritation	Eyes; skin; respiratory system; liver; kidneys;
Lead	0.050 mg/m ³ (OSHA, NIOSH)		Gray metal	Inhalation, Ingestion, Contact		Eyes; CNS; kidneys; GI tract; blood
PEL = OSHA Permissible Exposure Limit; represents the maximum allowable 8-hr. time weighted average (TWA) airborne exposure concentration. TLV = ACGIH Threshold Limit Value; represents the maximum recommended 8-hr. TWA exposure concentration. STEL = OSHA Short-term Exposure Limit; represents the maximum allowable 15 minute TWA exposure concentration. TLV-STEL = ACGIH Short-term Exposure Limit; represents the maximum recommended 15 minute TWA exposure concentration.						

3.2 Physical Hazards

Physical hazards associated with the site are:

1. *Slip, Trip, and Fall During All Activities (Uneven Terrain):* The site contains numerous potential safety hazards such as pits, broken glass, slippery surfaces and fire debris. The work itself may be a potential safety hazard. Site personnel should constantly look out for potential safety hazards and should immediately inform the SSHC of any new hazards.
2. *Excavation Debris:* Excavation projects pose potential safety hazards from materials falling from the excavator as they are removed from the working excavation. The excavation work is a potential safety hazard and the SSHC will provide oversight during demolition activities.
3. *Moving Parts of Heavy Equipment:* Heavy equipment poses dangers through moving parts. Where feasible, access to moving parts will be guarded and equipment will be equipped with backup alarms.
4. *Noise from Heavy Equipment:* Work around large equipment often creates excess noise. Engineering controls and personal protective equipment will be used to protect employees' hearing.
5. *Electrical Hazards:* As in all site work, overhead power lines, buried power lines, electrical wires and cables, site electrical equipment, and lightning also pose a potential hazard to site workers. Site personnel should constantly look out for potential safety hazards and should immediately inform the SSHC of any new hazards.
6. *Biological Hazards (Insects, Poison Ivy, etc.):* Other biological hazards that may be present at the site include rodents and insects. PPE can reduce the potential for exposure. The SSHC can assist in determining the correct PPE for the hazard present.

3.3 Heat and Cold Stress

Workers will be routinely observed by the SSHC for symptoms of heat stress or cold exposure, as dictated by the weather conditions and work being conducted. Heat stress and cold exposure can be avoided by periodic, regular rest breaks.

Heat stress may be a potential hazard for personnel wearing PPE, particularly working in hot and humid conditions. Workers should take regular rest breaks within a shaded area, removing their PPE, and drink electrolyte replacing liquids and/or water. The SSHC is responsible for scheduling the amount of time each individual can work under the existing site conditions, and how often and how long they will break. Workers will be required to take their breaks in the clean zone after going through the decontamination area, or they may undergo partial decontamination and rest in a clean area within the decontamination area. Please refer to Section 7.2 (Site Control) of this HASP for a detailed description of the above referenced clean zone and decontamination area.

3.4 Confined Space Entry

Excavations do pose a potential confined space entry area. When an excavation becomes a confined space entry area (greater than 4 feet deep), then permit-required confined space entry procedures will be followed should the excavation need to be entered. In addition, air monitoring for oxygen deficiency, LEL, and organic vapors will be performed should the excavation be greater than 4 feet deep. Attempts will be made to collect samples from the excavation without entering the excavation (i.e., from excavator bucket, sampling rods, etc.).

4.0 Medical Surveillance Program

4.1 General

OSHA in 29 CFR 1910.120, the Hazardous Waste Operations regulations and in 1910.134, the Respiratory Protection regulations, requires medical examinations. The examination may include the OSHA required Medical Questionnaire, Respirator Suitability Form, a Medical Examination, Audiology Test, Pulmonary Function Test, and testing for complete blood count and chemistry profile.

These medical examinations and procedures are performed by or under the supervision of a licensed physician. The medical monitoring is provided to workers free of cost, without loss of pay and at a reasonable time and place. In addition, the need to implement a more comprehensive medical surveillance program will be re-evaluated after an apparent over-exposure incident.

Employees who wear, or may wear, respiratory protection will be provided respirators as regulated by 29 CFR 1910.134 before performing designated duties. Prior to issuance of a respirator, a medical professional must have medically certified the individual's ability to wear respiratory protection. Where the medical requirements of 29 CFR 1910.120 overlap those of 29 CFR 1910.134, the more stringent of the two will be enforced. It is not anticipated the respirator use will be required at the site.

4.2 Frequency

1. *Baseline Examinations:* Individuals who are assigned temporarily or permanently to fieldwork at hazardous waste sites or the use of a respirator will receive a baseline examination prior to job assignment.
2. *Periodic Examinations:* Individuals who are assigned temporarily or permanently to fieldwork at hazardous waste sites or the use of a respirator will receive periodic examinations as required.
3. *Termination Examinations:* Field employees permanently leaving the company who were in the medical surveillance program will receive an exit examination.
4. *Possible Exposure Examinations:* As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that an employee has been injured or exposed above the permissible exposure limits in an emergency situation, that employee will be required to receive medical attention.

4.3 Examination Results

A letter must be received from the attending physician stating the parameters of the examination and whether or not the individual is able to work with or without restriction. This letter will be filed in the employee's file and a copy distributed to the employee. The examining physician makes a report to B&L of any medical condition that would place B&L employees at increased risk when wearing a respirator or other personal protective equipment. B&L maintains the medical records of personnel, as regulated by 29 CFR 1910.120 and 29 CFR 1910.1020, where applicable.

5.0 Training Program

5.1 Hazardous Waste Operations Health and Safety Training

Employees who are assigned to perform duties on hazardous waste sites will receive the OSHA initial 40-hour health and safety training prior to on-site activities, in accordance with 29 CFR 1910.120 (e). In addition, such personnel provide documentation of having received three (3) days of supervised field experience applicable to this site, or receive three (3) days of supervised field experience at this site. Applicable employees will receive yearly 8-hour refresher courses. On-site managers and supervisors who are directly responsible for or who supervise workers engaged in hazardous waste operations receive, in addition to the appropriate level of worker HAZWOPER training described above, 8 (eight) additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

Because this site is meets the definition of a hazardous waste site, employees who work during field activities are required to have completed HAZWOPER initial and refresher training.

5.2 Additional Training

As site activities change, supplemental training will be provided to employees to address changes in identified hazards, risks, operations procedures, emergency response, site control, and personal protective equipment. Specialty training will be provided as determined by task and responsibility.

Site-specific training will be provided to each employee and will be reviewed at safety briefings. Specialized training will be provided as dictated by the nature of site activities. Specialized training will be provided for activities such as the handling of unidentified substances. Employees involved in these types of activities will be given off-site instruction regarding the potential hazards involved with such activities and the appropriate health and safety procedures to be followed. Off-site instruction is meant to include any areas where employees will not be exposed to site hazards.

5.3 Other Required Training

Other training that may be required by workers that is in addition to required training described above is detailed below:

- Hazard communication, in accordance with 29 CFR 1910.1200
- Respirator use, in accordance with 29 CFR 1910.134
- Hearing conservation, in accordance with 29 CFR 1910.95
- Working safely around heavy equipment
- Heat and cold stress prevention
- Confined space entry, in accordance with 289 CFR 1910.146

5.4 Pre-Entry Briefing

A site-specific briefing will be provided to all individuals, including site visitors, who enter this site beyond the site entry point. For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

The SSHC will brief personnel as to the potential hazards likely to be encountered. Topics will include:

- Availability of this HASP.
- General site hazards and specific hazards in the work areas, including those attributable to the chemicals present.
- Selection, use, testing and care of the body, eye, hand and foot protection being worn, with the limitations of each.
- Decontamination procedures for personnel, their personal protective equipment, and other equipment used on the site.
- Emergency response procedures and requirements.
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed.
- Methods to obtain emergency assistance and medical attention.

5.5 Training Records

Written certification of the successful completion of applicable training requirements for each worker will be maintained on-site during the course of the investigation. Written certificates have been given to each person so certified. Additionally, an employee sign off sheet indicating that each worker has reviewed a copy of this HASP and understands its contents is stored at the same location.

6.0 Health and Safety Field Implementation

6.1 Personal Protective Equipment Requirements

The requirements for personal protective equipment (PPE) are outlined in Table B-4. Level D protection will initially be worn for excavation activities. Level C protection may be used, based upon a sustained (five (5) minutes or more) readings above five (5) parts per million (ppm) measured with the photoionization detector (PID). The emissions from gasoline or diesel-powered excavation equipment may affect PID readings. At the start of work (excavation equipment in operation, but prior to exposing contaminated soils), an ambient PID reading will be established. This ambient PID reading will be subtracted from subsequent readings to evaluate PPE usage.

Table B-4 Personal Protective Equipment (PPE) Requirements								
Job Tasks	Level of Protection	PPE						
		Suit	Gloves	Feet	Head	Eye	Ear	Respirator
Down-grade	Modified D	Std.	Neoprene or Nitrile	Steel + Booties	HH	Glasses/ Goggles	Plugs/ Muffs	N/A
All on-site	C	PE Tyvek	Neoprene or Nitrile	Steel + Booties	HH	N/A	Plugs/ Muffs	Full APR w/OV& N100
Personal Protective Equipment SUIT: Std = Standard Work Clothes PE Tyvek = Polyethylene-coated Tyvek FEET: Steel = Steel-toe Boots Booties = PVC or Latex Booties HEAD: HH = Hard Hat EYE: Glasses = Safety Glasses w/side shields Goggles = Safety Goggles				Personal Protective Equipment EAR: Plugs = Ear Plugs Muffs = Ear Muffs RESPIRATOR: APR = Air-purifying respirator Full APR = Full-face APR OV = Organic vapor cartridge N100 = N100 particulate filters				

6.2 Community Air Monitoring Plan

The Site 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 subsurface intrusive activities to be completed as part of the IRM. 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 subsurface intrusive excavation activities. The various field instruments that will be used by on-site personnel to perform the continuous air monitoring are listed in Table B-5 below. Subsurface intrusive activities include, but are not limited to, soil excavation and handling.

VOCs will be monitored at the downwind perimeter of the site, outside the existing building on a continuous basis with the use of a Photoionization detector (PID). 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 site 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 site persist at levels in excess of five (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 five (5) ppm over background for the 15-minute average.

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

All 15-minute readings will be recorded and made available for 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 during the performance of the IRM. 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/m³) 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/m³ 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/m³ 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/m³ of the upwind level and in preventing visible dust migration.

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

Table B-5 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 10.6 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

Table B-5 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***
Particulates	MiniRam or Dustrak or Equivalent	Continuously during intrusive activities that can generate dust, e.g. monitoring well installation, test pits		150 ug/m ³ at fence line (institute engineering controls to control dust) per NYSDEC TAGM 4031
<p>* 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.</p> <p>** Monitored levels will require the use of approved respiratory protection specified in Table B-3.</p> <p>*** Consult the Site manager.</p>				

6.3 Decontamination Procedures

Depending on the specific job task, decontamination may include personnel themselves, tools, and/or heavy equipment. The specified level of protection for a task (A, B, C, or D) does not itself define the extent of personal protection or equipment decontamination. For instance, Level C without dermal hazards will require less decontamination than Level C with dermal hazards. Heavy equipment will always require decontamination to prevent cross-contamination. The following sections summarize general decontamination protocols.

6.3.1 Heavy Equipment

Heavy equipment will be decontaminated prior to personnel decontamination. Heavy equipment, drilling rods, augers and/or buckets will be steam cleaned after use at the designated decontamination area. In addition, containment systems will be set-up at the designated decontamination area for collection of decon fluids and materials.

6.3.2 Personnel

In general, decontamination involves scrubbing with a non-phosphate soap/water solution followed by clean water rinses. Disposable items will be disposed of in a dry container.

Reusable protection will be washed with soap and clean potable water and air-dried prior to storage. Dirt, oil, grease or other foreign materials that are visible will be removed from surfaces. Scrubbing with a brush may be required to remove materials that adhere to the surfaces. Certain parts of contaminated respirators, such as harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may be discarded in a designated container. Rubber components can be soaked in soap and water and scrubbed with a brush.

The following decontamination protocol will be used, as appropriate to the level of PPE being used:

- Drop hand tools and equipment in the designated decontamination area.
- Either wash outer rubber boots or dispose of booties.
- Rinse outer boots.
- Wash and rinse outer gloves.
- Remove outer boots and gloves, dispose gloves if necessary in the container designated for PPE waste.
- Replace cartridges if required.
- Remove and dispose Tyvek coverall in the designated PPE waste container.
- Remove respirator, dispose cartridges as required in the container designated for PPE waste.
- Personnel should wash their respirator at the end of each workday.

6.3.3 Decontamination Wastes and Investigation Derived Wastes

Decontamination wash and rinse waters and investigation derived wastes (IDW) will be managed according to applicable regulatory guidelines.

- Spent decon solutions may be required to be drummed and disposed of as hazardous waste and/or solvent solutions may be required to be segregated from water rinses.
- Decontamination shall be performed in a manner that minimizes the amount of waste generated.
- IDW may be required to be drummed and disposed of as hazardous waste.

7.0 Site Operating Procedures

These following guidelines comply with the established guidelines of the Barton & Loguidice, P.C., Corporate Health and Safety Program:

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

During any activity conducted on-site in which a potential exists for exposure to hazardous materials, accident or injury, at least two (2) persons must be present who are in constant communication with each other. At least two (2) persons must also be present during all demolition or excavation activities.

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.

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.

7.1 Daily Operating Procedures

The following are the daily operating procedures that are to be followed by on-site personnel:

- Hold Tailgate Safety Meetings prior to work start and as needed thereafter (suggest daily; however, minimum of weekly).
- Use monitoring instruments and follow designated protocol and contaminant action levels.
- Use PPE as specified.
- Use hearing protection around heavy equipment.
- Remain upwind of operations and airborne contaminants, if possible.
- Establish a work/rest regimen when ambient temperatures and protective clothing create potential thermal hazards.
- Eating, drinking, applying cosmetics and smoking are prohibited in work areas.
- Refer to the SSHC for specific safety concerns for each individual site task.
- On-site personnel are encouraged to be alert to their own physical condition, as well as their co-workers.
- **All accidents, no matter how minor, must be immediately reported to the SSHC.**

7.2 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. At this time, there are no access restrictions to the site. During the field activities, Barton & Loguidice, P.C. (B&L), and Steel Treaters are requesting that personnel, subcontractors and visitors report to the on-site B&L supervisor prior to entering the work area.

Since there are no access restrictions to the Site, particular attention will be placed on the condition of the site regarding three (3) 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 passers-by and visitors of the site activity. In addition, the site supervisor will maintain communication with City personnel as the location of this zone (and the type of work being performed) changes throughout the project.

The required level of PPE in the activity zone can vary according to job assignment. This will allow a flexible, effective, and less costly operation, while still maintaining a high degree of safety.

This area will be limited to authorized personnel from B&L, regulatory agencies, and contractors/subcontractors to the B&L and/or Steel Treaters. Personnel entering this area will be required to comply with their own HASP that is at least as stringent as this HASP.

Decontamination Zone

In order to prevent incidental contact with contaminants on investigation equipment or in the wash water, activities within the decontamination area will be completed before subsequent site work or 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

Support Zone

The support zone is the location of the administrative and other support functions needed to keep the operations in the activity and decontamination zone running smoothly. Any function that need not or cannot be performed in a hazardous atmosphere is performed here. Personnel may wear normal work clothes within this zone. Any potentially contaminated clothing, equipment and samples must remain in the decontamination zone until decontaminated. All emergency telephone numbers, change for the telephone (if necessary), evacuation route maps, and vehicle keys should be kept in the support zone.

The SSHC will establish a decontamination system and decontamination procedures appropriate to the site and the work that will prevent potentially hazardous materials from leaving the site. All personnel exiting the activity zone will be decontaminated prior to entering the support zone. The decontamination procedures will be reviewed at each daily safety briefing.

Personal hygiene facilities meeting at least the minimum requirements of 29 CFR Part 1910.120 will be provided nearby.

Upon completion of the day's activities, heavy machinery and equipment will be stored securely within the site, or at a location selected by the SSHC.

7.3 Buddy System

Most activities in a contaminated or otherwise hazardous area should be conducted with a partner who is able to:

- Provide his or her partner with assistance.
- Observe his or her partner for signs of chemical or heat exposure.
- Periodically check the integrity of his or her partner's protective clothing.
- Notify the SSHC if emergency help is needed.

7.4 Engineering Controls

Engineering controls and work practices are primarily for limiting exposure through application of engineered barriers. They will be applied to this project when and where they are practicable. The following engineering controls may be applied on this project: water spray, covering of materials, site preparation to facilitate operations and remove obvious physical hazards, and warning alarms/devices.

8.0 Emergency Response Procedures

8.1 Pre-Emergency Planning

Planning for emergencies is a crucial part of emergency response. The SSHC is responsible for training all employees in potential site hazards and the emergency response procedures.

8.2 Personnel Roles

The SSHC is responsible for responding to, or coordinating the response of, off-site personnel to emergencies. In the event of an emergency, the SSHC will direct all notification, response and follow-up actions. Contacts with outside response personnel (hospital, fire department, etc.) will be done at the direction of the SSHC.

Prior to the start of work on the site, the SSHC will:

1. Notify emergency contacts, and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the activities performed on-site;
2. Confirm that the following safety equipment is available: eyewash and safety shower station, first aid supplies, air horn, and fire extinguishers;
3. Have a working knowledge of the safety equipment available; and
4. Confirm directions to the hospital are prominently posted with the emergency telephone numbers.

Employees who will respond to emergencies involving hazardous materials will be trained in how to respond to such emergencies.

The SSHC will check daily to see that the following safety equipment is available at the site: eyewash station, first aid supplies, and fire extinguisher.

The SSHC will be responsible for directing notification, response and follow-up actions and for contacting outside response personnel (ambulance, fire department or others) prior to and during an emergency. Upon notification of an exposure incident, the SSHC will call the Hospital and fire and police emergency response personnel for recommended medical diagnosis, treatment, if necessary, and transportation to the hospital.

The SSHC must conduct an investigation of the incident as soon as possible. The SSHC will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring. The resulting report must be accurate, objective, complete and signed and dated.

8.3 Safe Distances and Places of Refuge

In case of an emergency, a designated off-site area will serve as the immediate place of refuge. Personnel in the exclusion zone should evacuate through the decontamination zone to the refuge location, both for their own personal safety and to prevent hampering response/rescue efforts. Following an evacuation, the SSHC will account for on-site personnel. If evacuation from the work site is necessary, the project vehicles will be used to transport on-site personnel to a place of refuge.

8.4 Emergency Communications

There will be a cellular telephone located in either the Site Manager's and/or SSHC's vehicle for emergency use. Emergency telephone numbers are listed in Attachment 7 of this HASP. There will be air horns, walkie-talkies, and/or other audible emergency signals located within the exclusion zone and decontamination area to signal others of an emergency. The SSHC should brief all personnel regarding audible emergency signals to be used during the site activities prior to starting the work. Site personnel will use the following hand signals to inform others of emergencies:

- Hand gripping throat - out of air, cannot breathe.
- Grip partner's wrist or both hands around waist - leave area immediately.
- Hands on top of head - need assistance.
- Thumbs up - everything's OK, or I understand.
- Thumbs down - No.

8.5 Emergency Procedures

The nature of work at a contaminated or potentially contaminated work site makes emergencies a continual possibility. Although emergencies are unlikely and occur infrequently, a contingency plan is required to assure timely and appropriate response actions. The contingency plan is reviewed at tailgate safety meetings.

8.5.1 Incident Procedures

If an emergency incident occurs, the following actions will be taken:

1. Size-up the situation based upon available information.
2. Notify the SSHC.
3. Only respond to an emergency if personnel are sufficiently trained and properly equipped.
4. As appropriate, evacuate site personnel and notify emergency response agencies, e.g., police, fire, etc.

5. As necessary, request assistance from outside sources and/or allocate personnel and equipment resources for the response.
6. Consult the posted emergency telephone list and contact key project personnel.
7. Prepare an incident report.

All site personnel should be aware of the location of fire fighting equipment. Personnel shall only extinguish minor fires. Large fires will require contacting the local fire department and allowing them to handle the fire. The local fire department will be contacted prior to initiating site activities to inform them of the potential hazardous materials that could be encountered in an emergency.

8.5.2 Medical Emergencies

In the event of an accident or injury, workers will immediately implement emergency decontamination and isolation measures to assist those who have been injured or exposed and to protect others from the hazards. Upon notification of an exposure incident, the SSHC will contact the emergency response personnel who can provide medical diagnosis and treatment. If necessary, immediate medical care will be provided by trained personnel competent in first aid procedures. Trained personnel competent in such matters will only provide other on-site medical and/or first aid response to an injury or illness.

If an individual is transported to a hospital or doctor, a copy of this HASP will accompany the individual.

The SSHC will be notified when an accident or incident occurs and will respond according to the seriousness of the incident. The SSHC will investigate facility/site conditions to determine whether and at what levels exposure actually occurred, the cause of such exposure and the means to be taken to prevent the incident from recurring.

The SSHC and the exposed individual will complete an exposure-incident investigation. The SSHC will prepare a signed and dated report documenting the investigation. The SSHC and the exposed individual will also complete an exposure-incident reporting form. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

Emergency first aid may include taking care of minor scrapes to performing CPR. All site personnel should be familiar with the location of the site first aid kits. The site safety officer should be trained in first aid and CPR. Contacting hospital and/or emergency agencies shall be made on a case by case basis depending on the severity of the injury. If an off-site emergency agency is contacted, all the details relating to the injury should be relayed to that agency. All site injuries should be documented. The following actions should be taken if someone requires first aid:

1. Survey the scene to determine if it is safe to reach the injured person.

2. Ask the injured person what happened. If the person is unconscious, look for signs as to what may have occurred.
3. See if there are others injured.
4. Reassure the victim. Contact others for help; tell them to call the appropriate emergency agency.
5. If it is safe to move the victim, return them back to the field office.

Only trained personnel should perform CPR or rescue breathing on an unconscious victim.

Personnel who experience heat stress or frost bite should be attended to in the following manner:

Heat Stress - Symptoms include cool, pale and moist skin, heavy sweating, headache, and nausea. This person should be removed from the hot environment immediately, and allowed to lie on their back. Apply cold packs or make sure they are in an air-conditioned room. Give them plenty of water and/or electrolyte-replacing fluids. Should a victim experience heat stroke (high body temperature, red skin) the body must be cooled down quickly and receive medical attention immediately. Persons experiencing heat stress or heat stroke should be attended to until the situation has been remedied.

Frostbite - Symptoms include slightly flushed skin that becomes white, pain at extremities in early stages. Get a victim experiencing frostbite to a warm area and put the frostbitten parts in warm (100-105° F) water. Loosely bandage injured parts after soaking.

Hypothermia - Under conditions of cold temperatures and high winds, there is the potential for workers experiencing hypothermia. Signs of hypothermia include: shivering, dizziness, numbness, confusion, or drowsiness. Warm up this person's body with dry clothes and a blanket, if available. Call the appropriate emergency agency or take this person to the hospital.

8.6 Emergency Routes

Should an emergency signal be sounded, on-site personnel should immediately stop what they are doing, and return to the decontamination area. Personnel in the decontamination area and the support zone should evaluate the emergency and contact the appropriate off site emergency personnel. Once on site personnel return to the decontamination area, there will be someone there to direct them as to what to do. It is imperative that the SSHC or designated alternate account for all site personnel. The SSHC should direct all personnel to the nearest safe refuge.

The hospital route is included as an attachment.

If the emergency event threatens the surrounding community, it is important that the local police and fire departments be contacted immediately regarding the potential danger.

8.7 Spill Control

A major spill is not anticipated at the site. Should a spill of any type occur, the employee should report it immediately to the SSHC, 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 vermiculite or Speedi Dry. The emergency response personnel will be contacted immediately by SSHC in the event that on-site materials can not immediately contain the spill.

8.8 Personal Protective and Emergency Equipment

There will be suitable equipment on site for small emergency events such as additional PPE, fire extinguishers and first aid kits. In the event of a major emergency event, off-site personnel will be contacted immediately.

8.9 Decontamination Procedures

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Minimum decontamination will consist of detergent washing, rinsing, and removal of contaminated outer clothing and equipment. If time does not permit the completion of all of these actions, it is acceptable to remove the contaminated clothing without washing it. If the situation is such that the contaminated clothing cannot be removed, the person should be given required first aid treatment, and then wrapped in plastic or a blanket prior to transport to medical care. If heat stress is a factor in the victim's illness/injury, the outer protective garment will be removed immediately.

8.10 Evacuation Routes

Unless otherwise directed, evacuation will be made through the decon area to the designated refuge location for a head count.

8.11 Response Critique

Should an incident on-site occur, the SSHC will analyze the response efforts in order to continually improve on-site conditions and procedures. The SSHC must complete follow-up activities before on-site work is resumed following an emergency. Used emergency equipment must be recharged, refilled or replaced. Government agencies must be notified as required in their regulations.

Attachment 1

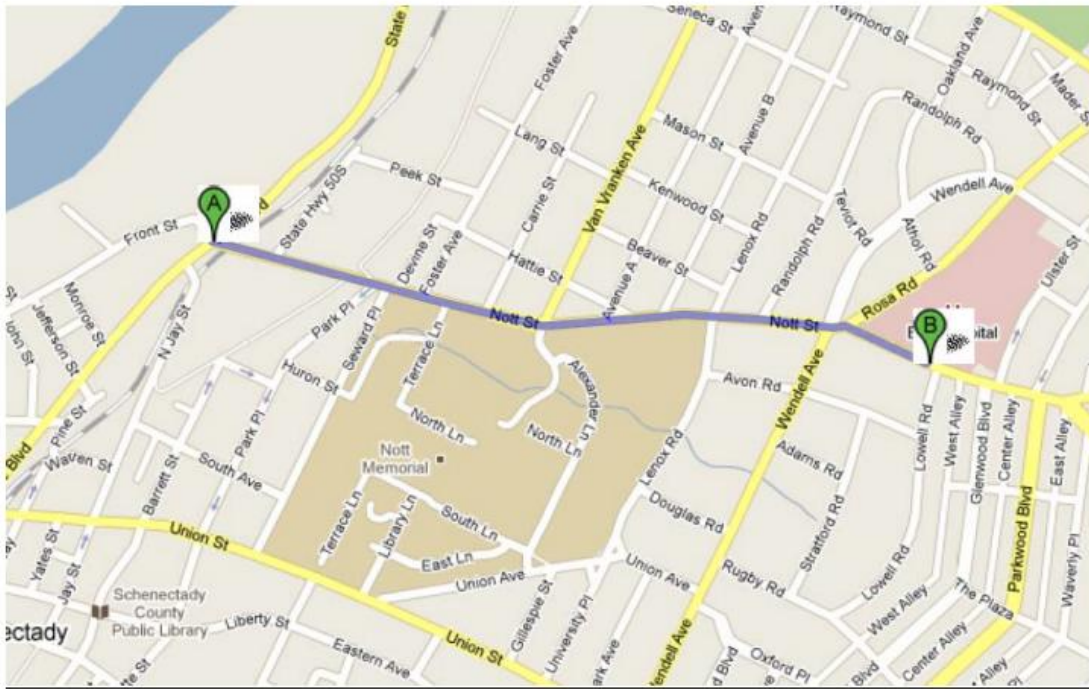
Driving directions to Ellis Hospital

1.0 mi – about 2 mins

A 301 Nott St
Schenectady, NY 12305

1. Head **east** on **Nott St** toward **Erie Blvd/Maxon Rd** 1.0 mi
Destination will be on the left

B Ellis Hospital
1101 Nott St
Schenectady, NY



(This should be posted at a conspicuous location at the site.)

Attachment 2

Emergency Contacts (To Be Posted)

Contact	Person or Agency	Phone Number
Maxon-ALCO Holdings LLC	Steve Luciano	(518) 356-4445
NYSDEC Region 4 Project Manager	John Strang	(518) 357-2390
Law Enforcement	(C) Schenectady PD	911
Fire Department	(C) Schenectady FD	911
Confined Space Rescue (Fire Department)	(C) Schenectady FD	911
Ambulance		911
Hospital - Emergency	Ellis Hospital	(518) 243-4000
B&L Site Manager/Site Safety Officer	Andrew J Barber	(518) 218-1801
B&L Officer-in-Charge	Scott D. Nostrand, P.E.	(315) 457-5200

Appendix B

Approved UST Addendum to Excavation WP (12/04/14)

Addendum to the Excavation Work Plan (EXC-WP) dated May 2014
Former ALCO Site
Site Nos. C447042, C447043, and C447044
New York State Brownfield Cleanup Program

November 2014

This addendum to the approved Excavation Work Plan (Exc-WP) for the ALCO site has been prepared to address the underground storage tanks (USTs) that have been uncovered as part of the site development work being performed under the (Exc-WP), as well as USTs that may be uncovered in the future.

The USTs will be removed in accordance with 6NYCRR Parts 611-612 and DER-10 Section 5.5. The following steps will be used for tank removal.

- Break up and remove the concrete pad overlying the tanks, if present.
- Excavate around the tanks to expose their full length and width. Screen soil as it is removed and place stockpiled soil on a plastic sheet.
- Measure vapor concentrations in the tank with a portable meter capable of measuring the specific petroleum vapors in the range of the Lower Explosive Limit (LEL). No cutting will begin until vapor concentrations are below 10% of the LEL. If needed, the tank will be ventilated to reach the necessary limit.
- Determine whether tanks have been filled with solids (e.g. – soil, flowfill). If tanks have been filled with solids, cut and remove the upper part of the tank to access contents. Remove free liquids by pumping or vacuum truck, and containerize the liquids. Remove solids from the tank using a backhoe or other appropriate means, and place the solids into lined roll-offs, bermed soil staging areas or other appropriate containers. Sample and analyze solids and liquids for analytical parameters required by the disposal facility.
- Cut tanks into workable sections.
- Remove tank sections from the excavation and clean as needed; contain rinseate.
- Transport tank sections to local scrap yard following NYSDEC inspection and approval.
- Inspect the excavation for indications of tank leakage.
- If impacted soils are encountered, excavate and stockpile impacted soils on a separate soil storage area that is lined with plastic sheeting and bermed to prohibit run-off.
- Excavation will be continued vertically and laterally until the impacted soils have been removed (with NYSDEC concurrence).
- Backfill the excavation with approved on-site fill.