TRACT I SITE, SITE MANAGEMENT PLAN

NYSDEC Site Number: C932157

Niagara County, New York

Prepared for:

Brightfields, Inc.
Buffalo, New York

Prepared by:

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December 15, 2014

Project No. 3410110832

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This report was prepared by the staff of AMEC Environment & Infrastructure, Inc. and MACTEC Engineering and Consulting, P.C. under the supervision of whose signatures appear hereon.

Robert E. Crowley
Senior Principal Scientist

Stuart C. Pearson, P.E.
Principal Engineer
(MACTEC Engineering and Consulting, P.C.)

CERTIFICATIONS

I, Stuart C. Pearson, certify that I am currently a registered professional engineer licensed by the State of New York, and that this Site Management Plan was prepared in general accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

088066	12/15/14	
NYS Professional Engineer #	Date	Signature

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ACRONYMS

AAR	Alternatives Analysis Report
ACL	Allowable Constituent Levels
ACM	Asbestos Containing Material
Amec	Amec Environment & Infrastructure, Inc.
BCP	Brownfield Cleanup Program
Brightfields	Brightfields, Inc.
CAMP	Community Air Monitoring Program
City	City of Niagara Falls, New York
CMP	Counts per Minute
CRIR	Consolidated Remedial Investigation Report
EA	EA Engineering, P.C.
EC	Engineering Controls
ECL	(New York) Environmental Conservation Law
E&E	Ecology & Environment, Inc.
ERP	Environmental Restoration Program
EWP	Excavation Work Plan
FER	Final Engineering Report
ft-amsl	Feet above mean sea level
ft-bgs	Feet below ground surface
ft/ft	Feet per foot
ft/sec	Feet per second
ft2	Square feet
HASP	Health and Safety Plan
IC	Institutional Control
IRM	Interim Remedial Measure
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
Na-I	Sodium Iodide
NYSDEC	New York State Department of Environmental Conservation
OSC	Ontario Specialty Contracting, Inc.
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PCW	Power City Warehouse
PRR	Periodic Review Report
ROD	Record of Decision
SCGs	Standards, Criteria, and Guidance
SCOs	Soil Cleanup Objectives
SI	Site Investigation
Site	Tract I Site
SMP	Site Management Plan
SRI	Supplemental Remedial Investigation
SRIR	Supplemental Remedial Investigation Report
SRIWP	Supplemental Remedial Investigation Work Plan
SVOCs	Semi volatile Organic Compounds
TCE	Trichloroethene
TCL	Target Compound List

ACRONYMS (cont'd)

TCLP	Toxicity Characteristic Leaching Procedure
TENORM	Technologically Enhanced Naturally Occurring Radioactive Material
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
WP	Work Plan

1.0 INTRODUCTION

1.1 INTRODUCTION

Amec Environment & Infrastructure, Inc. (Amec) has prepared this Site Management Plan (SMP) on behalf of Brightfields, Inc. (Brightfields) for the Tract I Site (Site) located at 3123 Highland Avenue in the City of Niagara Falls, Niagara County, New York. This document is required as an element of the remedial program at 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 Brownfield Cleanup Agreement (BCA) Index #C932157-03-12, Site # C932157, which was executed on April 5, 2012. The City of Niagara Falls (City) has endeavored to redevelop both the Site and the Tract II property since closure of the Power City Warehouse (PCW) in the early 1970's. In order to support a viable redevelopment on the adjacent Tract II property, Brightfields entered the Tract I Site into the BCP.

1.1.1 General

Brightfields, Inc. entered into a BCA with the NYSDEC to remediate a 5.9 acre property located in Niagara Falls, New York. This BCA required the Remedial Party, Brightfields, to investigate and remediate contaminated media at the Site. A map showing the location and boundaries of this 5.9 acre Site is provided on **Figure 1**. A Site plan map is provided as **Figure 2**. The boundaries of the Site are more fully described in the metes and bounds Site description that is part of the Environmental Easement (**Appendix A**).

After completion of the remedial work described in the Interim Remedial Measures Plan (Amec, June 2012) and Addendum (Amec, August 2013), contamination above New York State's unrestricted use standard was left in the subsurface at this Site, which is hereafter referred to as "remaining contamination."

The Site was remediated to meet the Restricted Use Soil Cleanup Objective (SCO) for Commercial use; as such, the "remaining contamination" refers to portions of the Site containing constituent concentrations between the Unrestricted Use SCOs and the Commercial Use SCOs as described in Part 375 of NYSDEC DER-10. This SMP was prepared to manage remaining contamination at the Site until the Environmental Easement is extinguished in accordance with Environmental Conservation Law (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 Amec on behalf of Brightfields 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) that are required by the Environmental Easement for the Site.

1.1.2 Purpose

ICs 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 Niagara County Clerk, will require compliance with this SMP and all ICs placed on the Site. The ICs place restrictions on Site use, and mandate monitoring and reporting measures. This SMP specifies the methods necessary to ensure compliance with all ICs required by the Environmental Easement for contamination that remains at the Site. This SMP has been approved by the NYSDEC, and compliance with this SMP is required by Brightfields (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 Institutional Controls; and (2) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports.

To address these needs, this SMP includes two plans: (1) an Institutional Control Plan for implementation and management of ICs; and (2) a Monitoring Plan for implementation of Site Monitoring. 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 (Index #C932157-03-12; Site #C932157) for the Site, and thereby subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan must be submitted 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 History

The Site is located in the City of Niagara Falls, County of Niagara, New York and is identified as Block 144.06-2-27 and Lot 34 on the City of Niagara Falls Tax Map. The Site is an approximately 5.9-acre area bounded by Tulip Corporation to the north, the Tract II Property to the south, the Tract II Property to the east, and Highland Avenue to the west (see **Figure 1**). The boundaries of the Site are more fully described in **Appendix A**, which contains the metes and bounds.

Site Layout on Aerial Photograph

The Site was the location of a lead/acid battery manufacturing plant from approximately 1910 through the 1950s. In the early 1960s, the plant was retooled to produce hard rubber battery casings and for the filling and charging of lead/acid batteries. Four characterization efforts were completed between 1999 and 2013 by the City, NYSDEC, and

Brightfields. Between 2009 and 2010, an emergency removal action was conducted by the United States Environmental Protection Agency (USEPA) to remove accessible lead-containing materials from inside of the PCW building.

The Site is located in a multi-use area of the City comprised of industrial, commercial, and residential properties. The Site was first developed in approximately 1910 as the Power City Warehouse (PCW), a battery manufacturing facility for U.S. Light and Heat Co., and later Autolite Co. The facility transitioned in the 1950s to the manufacture of hard rubber battery cases along with battery filling and charging. Manufacturing activities ceased in the 1970s and the Site was used as a warehouse and automotive body shop until the 1980s. By the late 1980s, the Site had been abandoned and various portions were in disrepair. At that time, the City of Niagara Falls (the City) acquired the property via tax foreclosure.

The demolished PCW building was a three-story masonry structure with a basement beneath one portion of the building. The building footprint covered approximately 3.3 acres of the 5.9 acre Site. A second, one-story building (approximately 462 square feet) was located in the northeast corner of the Site. The smaller building was constructed of brick with a concrete floor and may have been used for chemical storage (E&E, 2000). The Site buildings have been demolished.

1.2.2 Site Regulatory History

In early 1999, the City initiated investigations at the Site under the New York State Environmental Restoration Program (ERP) in order to redevelop the property. At that time, the Site was assigned the ERP number B00160. In May 1999, an initial Site characterization investigation was conducted by Ecology and Environment, Inc. (E&E) for the City under a monetary grant from the NYSDEC. Results from this investigation were presented in a May 2000 Site investigation report (E&E, 2000). In late 2007, the NYSDEC contracted EA Engineering, P.C. (EA) to perform additional Site characterization. Results of that investigation were presented in a May 2009 report (EA, 2009). Upon completion of the E&E and EA remedial investigations, the City withdrew the Site from the ERP.

In late 2009 and in 2010, at the request of the NYSDEC, the USEPA conducted an emergency removal action at the Site, which focused on the PCW.

These activities included:

- Fencing the Site;
- Removal and disposal of lead-containing building debris;
- Removal of asbestos containing building materials;
- Removal and disposal of non-hazardous debris including:
    - Paint-related materials;
    - Polychlorinated biphenyl (PCB) light ballasts;
    - Batteries; and
    - Mercury switches.

In July 2011, as part of the Tract II remediation, Amec implemented a NYSDEC-approved Pre-Design Study Work Plan (Mactec, 2011) that included sampling to refine the extent of lead impacted surface soil on the Site. The results of the Tract I pre-design investigation were incorporated into the Consolidated Remedial Investigation Report (CRIR; Amec, May 2012), which was prepared as a comprehensive report of the Tract I investigations to that time. The CRIR identified several data gaps in the remedial investigation.

In December 2011, Brightfields submitted an application to the NYSDEC to redevelop the Site under the BCP. The BCP application was submitted concurrently with a draft of the Interim Remedial Measures Work Plan (IRM WP; Amec, December 2011) for the demolition and decontamination of the building. As part of the Site redevelopment, the NYSDEC required a Supplemental Remedial Investigation Work Plan (SRIWP) be prepared and executed to fill data gaps identified in the CRIR.

In July and August 2012 and February 2013, Amec implemented the NYSDEC-approved SRIWP. Results of the SRI were presented in the Supplemental Remedial Investigation Report (SRIR; Amec, May 2013), which more completely defined the nature and extent of the impacted materials on the Site. The locations of constituents requiring remediation, a description of the remediation, and the confirmatory sample results are provided in the Alternatives Analysis Report (AAR; Amec, May 2014) and the Final Engineering Report (FER; Amec, December, 2014).

1.2.3 Site Description and History

This section provides a summary of the physical attributes of the Site as well as information regarding the data collected in the various phases of the Site investigation. A summary of the

data used in the development of the IRM WP were provided in the CRIR (Amec, May 2012) and SRIR (Amec, May 2013).

1.2.3.1 Current Site Description

The Site currently consists of a vacant lot. The buildings have been demolished, and the demolition and remedial activities removed the vegetation that was present. To complete cleanup, soil excavation and subsequent backfilling have occurred to remove soil, debris, and construction materials that contained concentrations of hazardous substances exceeding the Commercial SCOs.

1.2.3.2 Geologic Conditions

The Geologic Map of New York, Niagara Sheet published by the University of the State of New York, indicates that the Site lies within the Silurian-aged Lockport Group. The Lockport Group consists of Geulph, Oak Orchard, Eramosa, and Goat Island Dolostones and the Gasport Limestone. As a reference, the adjacent Tract II site investigation identified bedrock between 12.5 and 24.5 feet below ground surface (ft-bgs). The unconsolidated material at the Site consists of various fill materials between the surface and approximately eight feet deep (**Figure 3 & 4)**, underlain by silty clay that grades into a till unit. Dolostone bedrock is present below the till; however, bedrock was not encountered during the remedial investigation.

A groundwater characterization study conducted by Amec in 2012 through 2013 (Amec, May 2013) observed that a perched water bearing zone is present at the Site. Monitoring wells installed at the Site in the overburden soils and fill above the bedrock indicate that the perched groundwater is at an elevation of approximately 575 to 580 feet above mean sea level (ft-amsl). This perched groundwater does not represent a surficial aquifer. Groundwater flow at the Site was calculated to be toward the southwest at a hydraulic gradient of 0.01 feet per foot (ft/ft; **Figure 9**; however, groundwater studies on Tract II indicate that the perched groundwater in the area appears to flow to the southeast, toward the Niagara River. Slug testing of the monitoring wells indicated that the hydraulic conductivity of the silty clay at the Site is impermeable and ranged from 8.8x10-6 feet per second (ft/sec) to 8.5x10-5 ft/sec.

According to Section 6.3 of the Tract II Record of Decision (ROD), “Groundwater is not present at the Site and the area is serves by a public water supply that is not affected by the

contamination" (NYSDEC 2012). As such, the perched groundwater at the Site is not a source of potable water, nor is it likely to become one in the future. The 2003 Tract II ROD (NYSDEC, 2003) indicated that there is no groundwater aquifer in the overburden soils and fill above the bedrock, and that a public drinking water supply system is available throughout the area. As an institutional control, a local ordinance prohibits the use of groundwater as a potable water supply in the City and the hydraulic conductivity is such that extracting groundwater for potable use would be infeasible.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

The Site was investigated in four efforts between 1999 and 2013. These included the 1999-2000 E&E Site investigation, the 2007 - 2008 EA Site characterization, the July 2011 Amec pre-design study, and the 2012-2013 Amec SRI. Field activities and results from the initial three investigations are detailed in the CRIR (Amec, May 2012) and results from the SRI are detailed within the SRIR (Amec, May 2013). A brief summary of the results is provided below.

1.3.1 Site Investigation/Remediation History

The Site was investigated in four efforts between 1999 and 2013. These included the 1999-2000 E&E Site investigation, the 2007 - 2008 EA Site characterization, the July 2011 Amec pre-design study, and the 2012-2013 Amec SRI. Field activities and results from the initial three investigations are detailed in the CRIR (Amec, May 2012) and results from the SRI are detailed within the SRIR (Amec, May 2013). A brief summary of the results is provided below.

1.3.1.1 Building Debris

Some of the debris located in the Power City Warehouse building contained metals (arsenic, copper, lead, and mercury), SVOCs (mainly PAHs), and PCBs (Aroclor 1254 and Aroclor 1260) above the Commercial SCOs. Additionally, some of the debris in the eastern portion of the building was TCLP hazardous for lead. The debris that was present in the building was not characterized during the SRI, but was characterized as it was gathered for disposal. All of the building debris was sent off-site for disposal.

1.3.1.2 Surface Soil

Surface soil samples collected around the building perimeter contained metals (arsenic, barium, copper, and lead), TCLP lead, several PAHs (benzo(a)anthracene, benzo(a)pyrene,

benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene), and PCB Aroclor 1254 above their respective Commercial SCOs. **Table 1** provides a summary of the surface soil data; **Figures 5, 6 and 7** show the locations of the samples.

1.3.1.3 Subslab Soil

Nine subslab soil samples, two composite samples, and 13 shallow subsurface samples were collected from beneath the former Power City Warehouse Building floor slab. **Table 2** provides a summary of the subslab soil data; **Figures 5, 6 and 7** show the locations of the samples.

Lead and total chromium concentrations were found to exceed the Commercial SCOs. Lead was detected in the area along the north-central and northeastern portion of the slab (B-27, SB-08, SB-12, B-33, SS-PCW-07, and aliquots 9b and 9c of SS-PCW-09) as well as the south-central portion of the slab (aliquot 9a of SS-PCW-09). Chromium was only detected above its Commercial SCO in the sample collected at SB-11.

The subslab samples analyzed for TCLP lead all met the TCLP standard; however, three samples (B-33, SS-PCW-07, and SS-PCW-09), not analyzed for TCLP lead, contained total lead concentrations (25,000 mg/Kg, 178,000 mg/Kg, and 31,800 mg/Kg, respectively) that would have likely exceeded the TCLP standard. These sample locations were managed as hazardous (subjected to treatment and disposal) during the remediation.

PAHs and PCBs were detected at concentrations above the SCOs in one subslab soil sample. Composite soil sample SS-PCW-09 contained benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and PCB Aroclor-1254 at concentrations above their respective Commercial SCOs.

1.3.1.4 Subsurface Soil

Seven subsurface soil samples were collected on the Tract I Site. **Table 3** provides a summary of the subsurface soil data; **Figures 5, 6 and 7** show the locations of the samples. Samples containing elevated lead concentrations were collected in the southern and northeastern portions of the Site, and along the southeastern corner of the former Power City Warehouse building. In addition, samples collected from the northeastern portion of the Site also contained TCLP lead concentrations above the standard of 5.0 mg/l. Lead concentrations exceeded the

Commercial SCO in the southern portion of the Site and at the southeastern corner of the building at depths of 1.5 to 2.0 ft-bgs and 1.0-1.5 ft-bgs, respectively. Elevated concentrations of lead as well as TCLP lead in the northeastern portion of the Site were detected at depths of 5.5 to 6.0 ft-bgs (B-23) and 6.5 to 7.0 ft-bgs (B-22). The sample collected from 1.5 to 2.0 ft-bgs at T1-MW-03 located on the southern portion of the Site was not analyzed for TCLP lead; however, given the total lead concentration, was treated as if it exceeded the TCLP standard.

1.3.1.5 Brick Bedding Material

Seven brick bedding material samples were collected during the supplemental investigation. **Table 4** provides a summary of the brick bedding data; **Figure 8** shows the locations of the samples. Three of the samples contained lead and/or PCBs above their respective Commercial SCOs. PCB Aroclor 1254 was detected at concentrations above its Commercial SCO in samples collected at BB-4 and BB-7; PCB Aroclor 1260 was detected at concentrations above its Commercial SCO in the sample collected at BB-4. Lead and TCLP lead were detected above the Commercial SCO and TCLP standard in sample BB-4.

1.3.1.6 Groundwater

Groundwater characterization established water quality and flow direction of the perched groundwater in the shallow overburden soil. **Table 5** provides a summary of the groundwater data. Three groundwater samples (one from each of the temporary monitoring wells) were collected on-Site. Total sodium, combined total iron and manganese, dissolved sodium, and dissolved manganese were detected above the respective NYWQS values in samples collected from each of the wells. Total lead in samples collected at T1-MW-02 and T1-MW-03 exceeded the NYWQS value. The sample collected at T1-MW-01 contained concentrations of endrin and gamma chlordane above their respective NYWQS values, and the sample collected at T1-MW-03 contained concentrations of trichloroethylene (TCE), beta hexachlorocyclohexane, and total antimony above their respective NYWQS values.

Groundwater elevations recorded at monitoring wells screened in the shallow overburden soil and fill suggest a general flow toward the southwest (toward the Tract II site) at an approximate gradient of 0.01 ft/ft; however, given the calculated average hydraulic conductivity is 3.585x10-5 ft/sec, the water is likely perched at the top of bedrock. A groundwater flow map is provided as **Figure 9**.

1.3.1.7 TENORM

The Tract I Site was surveyed for the presence of Technologically Enhanced Naturally Occurring Radioactive (TENORM) Slag; however, the material was not identified prior to demolition. A radiological survey was performed as the slab was demolished and TENORM was detected below the foundation slab. Two areas were identified that contained TENORM Slag with activities exceeding the TENORM Slag cleanup value of 13,400 counts per minute (CPM) on a 2x2 sodium iodide (NaI) detector, as identified in the Radiological Addendum to the Tract II Remedial Design Work Plan. These areas are shown on **Figure 10**.

1.4 SUMMARY OF REMEDIAL ACTIONS

Remediation was completed in accordance with the IRM WP (June, 2012) and IRM WP Addendum (Amec, 2013) for the Site. Remediation was conducted between May and December 2013. A high percentage of Site soils that contained PAHs, PCBs and non-lead metals were co-located with soil that contained elevated levels of lead. The remedial approach for Site soil focused on elevated lead concentrations; however, areas that contained only PAHs, PCBs, or other metals were remediated. The remediation consisted of:

1. Demolition of the former PCW building;
2. Excavation and off-site disposal of soil throughout the soil column that exceeded the Restricted Commercial SCOs. Soils that exceeded the Toxicity Characteristic Leaching Procedure (TCLP) standard for lead were treated with Portland cement and disposed of off-site;
3. Excavation of approximately 500 cubic yards of Technology Enhanced Naturally Occurring Radioactive Material (TENORM);
4. Removal and off-site disposal of four underground storage tanks (USTs);
5. Preparation and recording of an environmental easement that restricts the future use of the Site to commercial or industrial and prohibits the use of groundwater;
6. Development of this Site Management Plan for long-term management of remaining constituents that exceed the 6 NYCRR Part 375 Track 1 Unrestricted Use values.

The following table provides a list of the Restricted Commercial Use Soil Cleanup Objectives (SCOs) for the primary constituents of concern at the Site.

Constituent	Restricted Commercial SCO (mg/kg)
Lead	1,000
Barium	400
Arsenic	16
Chromium	180
Copper	270
Acenaphthene	500
Acenaphthylene	500
Anthracene	500
Benz(a)anthracene	5.6
Benzo(a)pyrene	1.0
Benzo(b)fluoranthene	5.6
Benzo(g,h,i)perylene	500
Benzo(k)fluoranthene	56
Chrysens	56
Dibenz(a,h)anthracene	0.56
Fluoranthene	500
Fluorene	500
Indeno(1,2,3-cd)pyrene	5.6
Naphthalene	500
Phenenthrene	500
Pyrene	500

The following subsections summarize the IRMs implemented on the Site.

1.4.1 Former Power City Warehouse Demolition Debris, Concrete Pad, and Brick Bedding Material

The initial effort under the IRM was the demolition of the abandoned PCW ruins and associated concrete slab. Prior to demolition, asbestos containing materials (ACM) were removed and/or separated from the demolition materials. The ACM was appropriately packaged and disposed of at an off-Site landfill. The debris, process drain sediment, and sludge that remained in the building subsequent to the USEPA removal action was containerized and sampled for off-Site disposal. Scrap metal, including building structural members, rebar, etc., was separated and sent off-Site for recycling. The remaining demolition debris, including brick and concrete, was staged, crushed, and sampled for reuse on the Site. Seven debris and 13 concrete stockpiles were staged and subsequently sampled. The sample results were compared to the Allowable Constituent Levels for Imported Fill or Soil (ACLs; Appendix B of DER-10) as well as to the applicable SCOs. Materials that met the Commercial SCOs were approved for on-Site reuse as backfill; those meeting their respective Restricted Residential ACL were approved for reuse

without restriction on the Tract II site; and those below the Restricted Commercial ACL, but above the Restricted Residential ACL were approved for reuse only on the designated Commercial Areas of Tract II.

Two areas of brick bedding material in the floor of the PCW contained concentrations of PCBs exceeding the Commercial SCOs. The bedding in these areas consisted of a mastic-like material, which was removed and disposed of off-Site during the IRM. One area of approximately 3,800 square feet (ft^2) was disposed of off-Site as non-hazardous waste. The second area, consisting of approximately 100 ft^2 was disposed of off-Site as hazardous waste. These materials were present only in a thin layer beneath the brick flooring.

During removal of the PCW slab, a black, asphalt-like material was observed to have been used underlying the southern portion of the concrete slab. This material was chemically characterized at the request of the NYSDEC and did not contain concentrations of suspect constituents (PAHs, PCBs or metals) exceeding their respective Commercial SCOs. However, NYSDEC required, this material to be removed and disposed of off-Site as non-hazardous "nuisance material".

1.4.2 Radiological Material

Materials exhibiting characteristics similar to the TENORM Slag on the Tract II site were scanned to determine if the Site also contained TENORM. Two areas, shown on **Figure 10**, contained TENROM Slag with readings on the 2 inch x 2 inch sodium iodide (NaI) detector above the TENORM Slag cleanup criterion value of 13,400 counts per minute (CPM) as provided in the approved Radiological Addendum. One area consisted of friable TENORM interbedded with silty-clay soils (~100 cubic yards) and the second consisted of gravel-sized TENORM Slag beneath the concrete slab (~400 cubic yards). These materials were used as aggregate beneath the concrete slab, and were approximately 1 to 2 feet thick. Both materials were excavated and disposed of off-Site as non-hazardous waste. Small amounts of TENORM Slag were embedded in the concrete slab as it was removed. However, the embedded Slag and the concrete met the TENORM cleanup criterion. This material was sampled for chemical constituents; the results met all applicable ACLs and SCOs. As a result, this material was reused on the Site and on the adjacent Tract II site as backfill.

1.4.3 Underground Storage Tanks

The two USTs identified during the SRI were located at the southeastern corner of the PCW slab, and were constructed of riveted steel. The tanks were approximately 33 feet long and nine feet in diameter (approximately 15,700 gallons each). Both of these tanks contained water, which was characterized and discharged to the City of Niagara Falls' sanitary sewer. An additional two tanks were identified underlying the ancillary brick building in the eastern portion of the Site. These tanks were constructed of steel and were approximately four feet in diameter by five feet long (approximately 470 gallons each). The contents of these tanks were characterized and determined to be petroleum-based products. The product was pumped from the tanks and sampled for disposal. The contents of one tank (2 drums) were non-hazardous and were disposed of off-Site. The contents of the second tank (10 drums) were characteristically hazardous for ignitability, and were also disposed of off-Site at a facility licensed to accept the hazardous waste.

The tanks were removed, cleaned, and properly decommissioned for off-Site disposal in accordance with Section 5.5 of DER-10. The depth of the excavation around the two large tanks was approximately 14 feet deep, and around the smaller tanks was approximately six feet deep. Confirmatory samples were collected from bottoms and sidewalls of the resulting excavations. **Figure 11** shows the locations of the UST excavations.

1.4.4 Lead Impacted Soil Excavations

The IRM Work Plan identified four areas (**Figure 12**) of soil containing lead exceeding the Commercial SCO. Some of the soil in these areas also exceeded TCLP standard for lead. Additionally, during the removal of the PCW slab, a fifth area (Lead Excavation Area 10) was identified containing elevated lead concentrations. Each of these five areas (Lead Excavation Areas 1 through 4 and 10) were excavated, and the resulting waste was shipped offsite. **Figure 13** shows the locations of the excavated areas. The following table provides the depths of the excavation in each area.

Area Number	Excavation Depth
1	2 to 8 feet
2	2 feet deep
3	2 feet deep
4	2 feet deep
5	2 feet deep
6	2 feet deep
7	14 feet deep
8	2 feet deep
9	2 feet deep
10	2 feet deep

Approximately 13,036 cubic yards were removed and 18,008 tons of non-hazardous waste was shipped off-Site for disposal. The non-hazardous soil total includes approximately 6,578 tons of soil that was treated with Portland cement prior to shipment off-Site. Soils containing lead exceeding the Commercial SCO was sampled for TCLP lead either in-situ or following excavation. Soils found to meet the TCLP Standard for lead were shipped off-Site as non-hazardous. Soil that exceeded the TCLP standard was treated via the application and homogenization of five percent Portland cement. This soil was then re-sampled for TCLP lead and, once analytical data confirmed it met the standard, was shipped off-Site as non-hazardous waste. Confirmatory sidewall and base samples were collected to ensure each excavation area met the applicable Commercial SCOs.

In addition to lead, SVOCs, PCBs, and other metals were also remediated concurrently with remedial actions for lead. Five SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(a)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-C,D)pyrene) were remediated in Lead Excavation Areas 1 and 4. PCBs were addressed in Lead Excavation Areas 1, 2, and 4. Three metals (barium, arsenic, and copper) were remediated in Lead Excavation Area 1.

The Site excavations were backfilled to grade using borrow material mined from an area of Tract II. The borrow material was sampled for reuse, and the results were compared to the Allowable Constituent Levels for Imported Fill or Soil. The surface of the area was covered with

crushed brick and concrete that meets the Commercial SCOs. The remediation is further documented in the AAR and FER.

1.4.5 Remaining Contamination

The IRM remediated the Site to meet the Restricted Commercial Use SCOs. The excavations were backfilled with material that meet the Restricted Commercial Use SCOs or more stringent standards as applicable. The Site use will be restricted in the future to commercial and/or industrial activities. Based on the proposed future use of the Site, the IRM was successful in remediating the Site for its intended use. As such, no further active remediation is required on the Site. Because portions of the Site do not meet the Unrestricted Use SCOs, the AAR concluded that additional remedial measures, in the form of deed restrictions and this SMP, would be required. **Appendix B** summarizes the results of the soil samples remaining at the Site that exceed the Unrestricted Use SCOs. **Figures 14 through 18** show the current conditions of soil remaining at the Site, including areas that currently do not meet the Unrestricted Use SCOs.

2.0 INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated soil and groundwater exists beneath the site, Institutional Controls (ICs) are required to protect human health and the environment. This Institutional Control Plan describes the procedures for the implementation and management of all ICs at the Site. The 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 ICs on the Site;
- The basic implementation and intended role of each 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 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 ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

No engineering controls are necessary for the Site. The presence of constituents exceeding the Unrestricted Use SCOs will be managed in the form of institutional controls, described in the following section.

2.3 INSTITUTIONAL CONTROLS

A series of Institutional Controls are required by the Decision Document to: (1) implement, maintain and monitor the Environmental Easement for the Site; (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 commercial or industrial uses only. Adherence to

these ICs on the Site is required by the Environmental Easement and will be implemented under this SMP. These ICs are:

- Compliance with the Environmental Easement and this SMP by the Grantor and the Grantor's successors and assigns; and
- Data and information pertinent to Site Management of the Site 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 ICs in the form of Site restrictions. Adherence to these ICs is required by the Environmental Easement. Site restrictions that apply to the Site are:

- The remedial party (Brightfields) will complete and submit to the Department a periodic certification of institutional controls in accordance with Part 375-1.8(h)(3);
- Allows the use and development of the controlled property for commercial and industrial uses as 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 of County DOH;
- Requires compliance with this Department-approved SMP;
- The property may not be used for unrestricted use, residential use, and restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Vegetable gardens and farming on the Site are prohibited;
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that:

    1. Engineering and Institutional Controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and,
    2. Nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP.

NYSDEC retains the right to access such Site at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The Site has been remediated for restricted commercial or industrial use. Any future intrusive work that will encounter or disturb the remaining contamination will be performed in compliance with the Excavation Work Plan (EWP) that is attached as **Appendix C** 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 D** 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. A sample CAMP is attached as **Appendix E** to this SMP that is in compliance with the requirements of DER-10. 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 B-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 the parties acting on its behalf that prepare future remedial documents or plans submitted to the State, and the parties acting on the Site Owner's behalf that conduct the work, are responsible for the safe performance of intrusive work. Additionally, these parties will be responsible for 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).

2.4 INSPECTIONS AND NOTIFICATIONS

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 (PRR). The inspections will determine and document the following:

- Compliance with requirements of this SMP and the Environmental Easement;
- If Site records are complete and up to date; and
- New Construction

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).

2.4.1 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 (PRR). The inspections will determine and document the following:

- Compliance with requirements of this SMP and the Environmental Easement;
- If Site records are complete and up to date; and
- New Construction

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:

- Sixty day advance notice of any proposed changes in Site use that are required under the terms of the BCA, 6NYCRR Part 375, and/or ECL.

- Seven day advance notice of any proposed ground-intrusive activities pursuant to the EWP.

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 BCA, the Environmental Easement(s), 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. The contingency plan is outlined in the following section.

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 listed in the table below. These emergency contact lists must be maintained in an easily accessible location at the site.

Medical, Fire, and Police:	911
One Call Center:	811 (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
NYSDEC Region 9 Contacts Regional Hazardous Waste Remediation Engineer	(716) 851-7220

Non-emergency contact list:

Mr. Jon Williams, President Brightfields, Inc. (Site Owner)	(716) 856-3333

** Note: Contact numbers subject to change and should be updated as necessary*

2.5.2 Map and Directions to Nearest Hospital

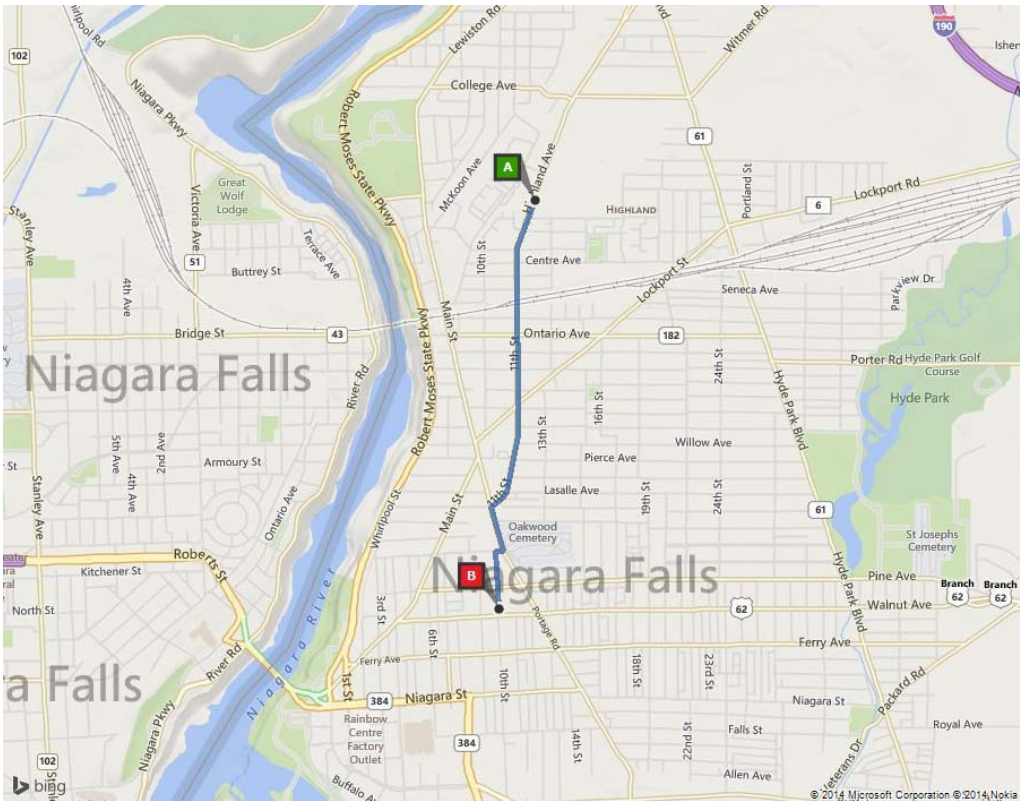
Site Location: 3123 Highland Ave, Niagara Falls, NY 14305

Nearest Hospital: Niagara Falls Medical Center
621 10th St., Niagara Falls, NY 14301
(716) 278-4000

Directions to Hospital:

- Head south on Highland Ave. toward Tennessee Ave. (0.5 mi)
- Continue onto 11th St. (0.8mi)
- Turn left onto Portage Rd (0.2mi)
- Take the 1st right onto Cedar Ave (157ft)
- Take the 1st left onto 10th St (0.2mi)

Total Distance: 1.7 Miles
Total Estimated Time: 6 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(s) will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan. The list will also be posted prominently at the Site and made readily available to all personnel at all times.

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. 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:

- 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:

- Reporting requirements; and
- Annual inspection and periodic certification.

Monitoring of the performance of the remedy will be conducted as described below. The frequency thereafter will be determined based on available data and must be approved by the NYSDEC. Monitoring will consist of annual inspections for compliance with Deed Restrictions; the frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

3.2 SITE WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. During these inspections, an inspection form will be completed (**Appendix F**). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including Site usage;
- General Site conditions at the time of the inspection;
- Confirm that Site records are up to date; and
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection.

3.3 MONITORING REPORTING REQUIREMENTS

Information generated during the annual monitoring events and inspections will be kept on file at Brightfields offices and/or on-site by future property owners. Forms, used during the annual monitoring/inspection events, will be subject to approval by the NYSDEC and submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP. The Periodic Review Report will be submitted annually until otherwise approved by the NYSDEC.

4.0 OPERATION AND MAINTENANCE PLAN

No engineering controls are implemented at the Site; as such, no operations and maintenance (O&M) plan is required.

5.0 SITE INSPECTIONS, REPORTING AND CERTIFICATIONS

The methodology of Site inspections is outlined in the following subsections.

5.1 INSPECTION FREQUENCY, FORMS AND REPORTING

Site-wide inspections will be conducted annually to ensure the Site remedy, including the institutional controls, continue to be protective of public health and the environment. This frequency will be maintained for at least three years unless otherwise specified by the NYSDEC. After the initial three year period, and assuming a record of compliance with the institutional controls is established, the Site owner may petition the NYSDEC to extend the inspection period to a longer interval. A general site-wide inspection form will be completed during the site-wide inspection (see **Appendix E**). These forms are subject to NYSDEC revision. The annual inspection and monitoring events, including all applicable inspection forms and other records, will be permanently recorded and provided in electronic format in the Periodic Review Report.

5.2 CERTIFICATION OF INSTITUTIONAL CONTROLS

After completion of the annual inspection, a Professional Engineer licensed to practice in the State of New York will prepare the following certification:

For each institutional control 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.

- 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

- 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] (and if the site consists of multiple properties): [and I have been authorized and designated by all site owners to sign this certification] for the Site.

- 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 eighteen 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** (Environmental Easement). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. 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;

- All 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;

- A Site evaluation, which includes the following:

    - The compliance of the remedy with the requirements of the site-specific Decision Document;

    - 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.

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 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. Conditions that will trigger the preparation of a corrective measures plan, which may include the requirements for additional characterization and remedial action, include those conditions that represent an immediate or imminent threat to human health or the environment.

6.0 REFERENCES

AMEC Environment & Infrastructure, Inc., March 2012, “Remedial Design Work Plan, Tract II Site, 3001 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. 932136”.

AMEC Environment & Infrastructure, Inc., May 2012, “Consolidated Remedial Investigation Report, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. 932131”.

AMEC Environment & Infrastructure, Inc., June 2012, “Supplemental Remedial Investigation Work Plan, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. C932157”

AMEC Environment & Infrastructure, Inc., June 2012, “Interim Remedial Measures Work Plan: Demolition and Decontamination Activities, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. C932157”

AMEC Environment & Infrastructure, Inc., May 2013, “Supplemental Remedial Investigation Report, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. 932131”.

AMEC Environment & Infrastructure, Inc., June 2013, Letter Report to Mr. Timothy Dieffenbach, NYSDEC, “Radiological Addendum to the Remedial Design Work Plan: Tract II Site”.

AMEC Environment & Infrastructure, Inc., August 2013, “Interim Remedial Measures Work Plan Addendum: Soil Remediation, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. 932131”.

AMEC Environment & Infrastructure, Inc., May 2014, “Alternatives Analysis Report, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. C932131”.

AMEC Environment & Infrastructure, Inc., December 2014, “Final Engineering Report, Tract I Site, 3123 Highland Avenue, Niagara Falls, Niagara County, New York, Site No. C932131”.

Ecology and Environment Engineering, P.C., May 31, 2000, “Site Investigation Report for the Power City Warehouse, Niagara Falls, New York”.

Ecology and Environment Engineering, P.C., August 2000, “Site Investigation and Remedial Alternatives Report, Tract II Site, Niagara Falls, New York”.

EA Engineering, P.C. and its affiliate EA Science and Technology, May 2009, “Final Site Characterization Report, Power City Warehouse Site (9-32-131), Niagara Falls, Niagara County, New York”.

New York State Department of Environmental Conservation (NYSDEC), March 2003, "Environmental Restoration Record of Decision: Tract II Site, Niagara Falls (C), Niagara County, Site Number B-0022-9".

New York State Department of Environmental Conservation (NYSDEC), 2007, DER-15 "Presumptive/Proven Remedial Technologies", DEC Program Policy

New York State Department of Environmental Conservation (NYSDEC), 2010, DER-10 Technical Guidance for Site Investigation and Remediation, DEC Program Policy

United States Environmental Protection Agency (USEPA), 1999, "Presumptive Remedy for Metals in Soil Sites", EPA 540-F-98-054.

TABLES

Table 1
Pre-Remediation Surface Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

Parameter	Units	Restricted Use Soil Cleanup Objectives - Commercial Standard[4]		Boring Location	B-22		B-23		B-24		B-25		B-26		B-35		B-36		B-38		B-39		T1-MW-02		T1-MW-03	
				Sample ID	B-22 (0-0.5)_07/17/12		B-23 (0-0.5)_07/17/12		B-24 (0-0.5)_07/17/12		B-25 (0-0.5)_07/17/12		B-26 (0-0.5)_07/18/12		B-35 (0-.5)_07/24/12		B-36 (0-.5)_07/24/12		B-38 (0-0.5)_07/18/12		B-39 (0-0.5)_07/18/12		TI-MW-02 (0-.5)_07/24/12		T1-MW-03 (0-0.5)	
				Sample Date	7/17/2012 11:00		7/17/2012 10:00		7/17/2012 13:00		7/17/2012 14:00		7/18/2012 13:45		7/24/2012 12:15		7/24/2012 13:45		7/18/2012 8:10		7/18/2012 7:45		7/24/2012 11:30		8/1/2012 10:30	
				Sample Depth (ft)	0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5	
Semivolatile Organic Compounds																										
2-Methylnaphthalene	µg/Kg				1900	U[12]	1800	U	**77**	**J**	3800	U	1800	U	**1700**	**J**	**3000**	**J**					3900	U	**260**	**J**
Acenaphthene	µg/Kg	500,000	b		**76**	**J**[13,14]	**57**	**J**	**180**	**J**	**140**	**J**	1800	U	**7800**		**7300**						3900	U	**480**	**J**
Acenaphthylene	µg/Kg	500,000	b		1900	U	1800	U	**1200**	**J**	3800	U	1800	U	4200	U	**3700**	**J**					3900	U	**1200**	**J**
Anthracene	µg/Kg	500,000	b		**250**	**J**	**190**	**J**	**2200**	**J**	**600**	**J**	1800	U	**13000**		**17000**						3900	U	**1700**	
Benzo(a)anthracene	µg/Kg	5,600			**1000**	**J**	**1000**	**J**	**9900**		**3200**	**J**	1800	U	**42000**		**57000**						**1500**	**J**	**7800**	
Benzo(a)pyrene	µg/Kg	1,000	f[6]		**1200**	**J**[15]	**1100**	**J**	**8200**		**3100**	**J**	1900	U	**46000**		**59000**						**2000**	**J**	**10000**	
Benzo(b)fluoranthene	µg/Kg	5,600			**2000**		**1300**	**J**	**12000**		**5100**		3000	U	**61000**		**84000**						**2800**	**J**	**16000**	
Benzo(g,h,i)perylene	µg/Kg	500,000	b		**760**	**J**	**410**	**J**	**2300**		**1000**	**J**	1800	U	**3400**	**J**	**16000**						**820**	**J**	**6700**	
Benzo(k)fluoranthene	µg/Kg	56,000			**850**	**J**	**690**	**J**	**5400**		**1600**	**J**	1800	U	**22000**		**29000**						**1200**	**J**	**5800**	
Biphenyl (Diphenyl)	µg/Kg				1900	U	1800	U	1800	U	3800	U	1800	U	**400**	**J**	**560**	**J**					3900	U	1700	U
Carbazole	µg/Kg				1900	U	1800	U	**330**	**J**	**250**	**J**	1800	U	**8900**		**12000**						3900	U	**950**	**J**
Chrysene	µg/Kg	56,000			**1400**	**J**	**980**	**J**	**9200**		**3400**	**J**	2000	U	**37000**		**56000**						**1800**	**J**	**9300**	
Dibenzo(a,h)anthracene	µg/Kg	560			**280**	**J**	**140**	**J**	**1100**	**J**	**420**	**J**	1800	U	**3300**	**J**	**2400**	**J**					3900	U	**680**	**J**
Dibenzofuran	µg/Kg	350,000			1900	U	1800	U	**210**	**J**	3800	U	1800	U	**3600**	**J**	**4000**	**J**					3900	U	**280**	**J**
Fluoranthene	µg/Kg	500,000	b		**1900**	**J**	**1700**	**J**	**16000**		**5200**		2900	U	**73000**		**100000**						**2300**	**J**	**12000**	
Fluorene	µg/Kg	500,000	b		1900	U	1800	U	**620**	**J**	3800	U	1800	U	**5100**		**6700**						3900	U	**340**	**J**
Indeno(1,2,3-cd)pyrene	µg/Kg	5,600			**710**	**J**	**420**	**J**	**2600**		**1000**	**J**	1800	U	**16000**		**20000**						**790**	**J**	**7200**	
Naphthalene	µg/Kg	500,000	b		**160**	**J**	**200**	**J**	1800	U	3800	U	**200**	**J**	**7300**		**9300**						3900	U	**530**	**J**
n-Nitrosodiphenylamine	µg/Kg				**190**	**J**	1800	U	1800	U	3800	U	1800	U^[16]	4200	U	4400	U					3900	U	1700	U
Phenanthrene	µg/Kg	500,000	b		**1300**	**J**	**900**	**J**	**7000**		**2400**	**J**	1800	U	**52000**		**74000**						**980**	**J**	**5300**	
Pyrene	µg/Kg	500,000	b		**1500**	**J**	**1500**	**J**	**12000**		**4000**		2400	U	**59000**		**81000**						**1900**	**J**	**11000**	
Target Compound List (TCL) Pesticides																										
4,4'-DDE (p,p'-DDE)	µg/Kg	62,000			91	U	90	U	87	U	**43**	**J**	87	U	**30**	**J**	**11**	**J**					96	U	29	J
4,4'-DDT (p,p'-DDT)	µg/Kg	47,000			**54**	**J**	**33**	**J**	**27**	**J**	**180**	**J**	**29**	**J**	**34**	**J**	**19**	**J**					**45**	**J**	**120**	
Endrin Aldehyde	µg/Kg				91	U	90	U	87	U	190	U	87	U	100	U	**20**	**J**					96	U	86	U
Methoxychlor	µg/Kg				91	U	90	U	87	U	**1600**	**J**	87	U	100	U	43	U					96	U	**160**	
TCL Polychlorinated Biphenyls																										
PCB-1254 (Aroclor 1254)	µg/Kg	1,000			240	U	240	U	240	U	**260**		**240**		280	U	240	U					280	U	240	U
PCB-1260 (Aroclor 1260)	µg/Kg	1,000			240	U	240	U	240	U	240	U	**320**		280	U	240	U					**100**	**J**	**330**	
Target Analyte List (TAL) Metals (Total)																										
Aluminum	mg/Kg[2]				**5680**	**J**	**1850**	**J**	**8120**	**J**	**9600**	**J**	**9390**		**5430**	**J**	**4540**	**J**					**1520**	**J**	**6300**	**J**
Antimony	mg/Kg				**177**	**J**	**31.1**	**J**	15.1	U	17.6	U	16.8	U	**86.6**	**J**	**153**	**J**					**90.7**	**J**	**166**	**J**
Arsenic	mg/Kg	16	f		**44.0**		**2.6**		**8.0**		**7.4**		**103.0**		**19.7**		**45.1**						**15.7**		**128**	
Barium	mg/Kg	400			**221**		**78.6**		**141**		**419**		**216**		**227**		**233**						**276**		**744**	
Beryllium	mg/Kg	590			**0.55**		0.23	U	**0.60**		**0.65**		**1.2**		**0.59**		**0.47**						0.23	U	**0.67**	
Cadmium	mg/Kg	9.3			**0.89**		**0.46**		**0.58**		**2.3**		**1.2**		**4.3**		**1.9**						**1.5**		**4.1**	
Calcium	mg/Kg				**9950**		**39700**		**71900**		**44300**		**24400**		**11200**		**31600**						**16600**		**25800**	
Chromium	mg/Kg	400	k[7]		**14.2**		**6.8**		**17.5**		**195**		**30.6**		**21.4**	**B7**[17]	**33.0**	**B7**					**16.5**	**B7**	**38.4**	
Cobalt	mg/Kg				**5.7**		**1.5**		**5.5**		**5.5**		**6.5**		**7.2**		**7.4**						**2.6**		**8.7**	
Copper	mg/Kg	270			**350**		**30.4**		**39.5**		**209**		**101**		**214**		**244**						**634**		**431**	
Iron	mg/Kg				**15500**	**J**	**5190**	**J**	**18200**	**J**	**15700**	**J**	**31400**		**32600**	**J**	**76800**	**J**					**26200**	**J**	**30200**	**J**
Lead	mg/Kg	1,000			**1420**		**9340**		**653**		**962**		**1260**		**4390**		**9550**		**362**		**1060**		**10100**		**11600**	
Magnesium	mg/Kg				**5090**		**11300**		**5940**		**14600**		**7070**		**2620**		**18100**						**6930**		**7520**	
Manganese	mg/Kg	10,000	d[8]		**394**		**157**		**411**		**1460**		**390**		**328**		**499**						**148**		**1030**	
Mercury	mg/Kg	2.8	f[9]		**0.49**		**0.27**		**0.94**		**1.7**		**2.6**		**1.7**		**0.74**						**2.0**		**1.0**	
Nickel	mg/Kg	310			**18.6**		**5.7**		**16.0**		**28.1**		**24.4**		**19.1**		**35.7**						**12.6**		**32.6**	
Potassium	mg/Kg				**1390**		**676**		**1400**		**1070**		**1160**		**800**		**635**						**916**		**1020**	
Selenium	mg/Kg	1,500			4.7	U	4.6	U	4.0	U	4.7	U	4.5	U	5.6	U	4.8	U					4.6	U	4.4	U
Silver	mg/Kg	1,500			**1.2**		**1.1**		0.50	U	0.59	U	0.56	U	0.70	U	0.60	U					**0.97**		**1.1**	
Sodium	mg/Kg				165	U	160	U	**222**		**387**		**389**		196	U	169	U					161	U	**172**	
Thallium	mg/Kg				7.1	U	6.9	U	6.0	U	7.0	U	6.7	U	8.4	U	7.2	U					6.9	U	6.7	U^[18]
Vanadium	mg/Kg				**14.3**		**5.1**		**20.5**		**16.3**		**22.0**		**16.8**		**24.5**						**8.2**		**17.2**	
Zinc	mg/Kg	10,000	d		**218**		**73.4**		**230**		**483**		**221**		**752**		**485**						**190**		**855**	
Toxicity Characteristic Leaching Procedure (TCLP) Metals																										
Lead	mg/L[3]	5.0	[10]		**300**		**69.1**						**0.48**		**8.5**		**20.4**				**0.073**		**62.4**			
Physical Parameters																										
Percent Moisture	Percent				**10.2**		**7.9**		**6.4**		**12.7**		**5.0**		**21.4**		**23.5**		**7.3**		**10.7**		**15.4**		**3.5**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"b"-denotes that the Site Cleanup Objectives (SCOs) for commercial use were capped at a maximum value of 500ppm.
(6)-"f"-denotes that calculated SCO was lower than the rural soil background concentration as determined by a rural soil survey; as such, the rural soil background concentration is used as the SCO for use at the Site.
(7)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(8)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(9)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(10)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(11)-Blank space indicates that respective parameter was not analyzed within sample.
(12)-"U" indicates that parameter was not detected above laboratory reporting limit.
(13)-**Bold**-indicates laboratory detection.
(14)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(15)-Yellow Shading indicates that concentration exceeds Standard.
(16)-"U^"-indicates that LCS or LCSD exceeds the control limits.
(17)-"B7"-Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above theconcentration found in the blank.
(18)-"U^"-indicates that instrument related QC exceeds the control limits.

Created By: SCC
Checked By: GSO

Table 2
Pre-Remediation Subslab Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

	Boring Location		**B-27**				**B-28**		**B-29**				**B-30**	
	Sample ID		B-27 (0.5-1.0)_2/21/13		B-27 (0.5-1.0) DUP_2/21/13		B-28 (0.5-1.0)_2/21/13		B-29 (0.5-1.0)_2/21/13		B-29 (0.5-1.0) DUP_2/21/13		B-30 (1.0-1.5)_2/21/13	
	Sample Date		2/21/2013 10:25		2/21/2013 10:25		2/21/2013 11:40		2/21/2013 13:05		2/21/2013 13:05		2/21/2013 9:40	
	Sample Location		Subslab		Subslab		Subslab		Subslab		Subslab		Subslab	
	Sample Depth (ft)		0.5-1.0		0.5-1.0		0.5-1.0		0.5-1.0		0.5-1.0		1.0-1.5	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[4]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
TCL Polychlorinated Biphenyls														
PCB-1260 (Aroclor 1260)	µg/Kg	1,000		[9]										
Target Analyte List (TAL) Metals (Total)														
Aluminum	mg/Kg[2]													
Arsenic	mg/Kg	16 f												
Barium	mg/Kg	400												
Beryllium	mg/Kg	590												
Cadmium	mg/Kg	9.3												
Calcium	mg/Kg													
Chromium	mg/Kg	400 k[5]												
Cobalt	mg/Kg													
Copper	mg/Kg	270												
Iron	mg/Kg													
Lead	mg/Kg	1,000	**3570**	**J[10,11,12]**	**12.1**	**J**	**48.7**		**27.6**		**17.3**		**47.0**	
Magnesium	mg/Kg													
Manganese	mg/Kg	10,000 d[6]												
Mercury	mg/Kg	2.8 j[7]												
Nickel	mg/Kg	310												
Potassium	mg/Kg													
Sodium	mg/Kg													
Vanadium	mg/Kg													
Zinc	mg/Kg	10,000 d												
Toxicity Characteristic Leaching Procedure (TCLP) Metals														
Lead	mg/L[3]	5.0 [8]	**1.3**	**J**	**0.11**	**J**								
Physical Parameters														
Percent Moisture	Percent		**21.5**		**21.2**		**27.6**		**12.2**		**17.8**		**18.0**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(6)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(7)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(8)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(9)-Blank space indicates that respective parameter was not analyzed within sample.
(10)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(11)-**Bold**-indicates laboratory detection.
(12)-Yellow Shading indicates that concentration exceeds Standard.

Table 2
Pre-Remediation Subslab Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

		Boring Location	B-31		B-32		B-33		B-34		T1-MW-01	
		Sample ID	B-31 (0.5-1.0)_2/21/13		B-32 (0.5-1.0)_2/21/13		B-33 (0.5-1.0)_2/21/13		B-34 (0.5-1.0)_2/21/13		T1-MW-01 (.5-1.0)_07/18/12	
		Sample Date	2/21/2013 10:40		2/21/2013 11:15		2/21/2013 13:40		2/21/2013 14:00		7/18/2012 9:00	
		Sample Location	Subslab		Subslab		Subslab		Subslab		Subslab	
		Sample Depth (ft)	0.5-1.0		0.5-1.0		0.5-1.0		0.5-1.0		0.5-1.0	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[4]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
TCL Polychlorinated Biphenyls												
PCB-1260 (Aroclor 1260)	µg/Kg	1,000									**280**	
Target Analyte List (TAL) Metals (Total)												
Aluminum	mg/Kg[2]										**17500**	
Arsenic	mg/Kg	16 f									**6.1**	
Barium	mg/Kg	400									**281**	
Beryllium	mg/Kg	590									**1.10**	
Cadmium	mg/Kg	9.3									**0.46**	
Calcium	mg/Kg										**33500**	
Chromium	mg/Kg	400 k[5]									**20.4**	
Cobalt	mg/Kg										**13.1**	
Copper	mg/Kg	270									**28.1**	
Iron	mg/Kg										**25200**	
Lead	mg/Kg	1,000	**9.0**		**165**		**25000**		**26.3**		**180**	
Magnesium	mg/Kg										**7900**	
Manganese	mg/Kg	10,000 d[6]									**795**	
Mercury	mg/Kg	2.8 j[7]									**0.037**	
Nickel	mg/Kg	310									**25.1**	
Potassium	mg/Kg										**2470**	
Sodium	mg/Kg										**247**	
Vanadium	mg/Kg										**29.9**	
Zinc	mg/Kg	10,000 d									**211**	
Toxicity Characteristic Leaching Procedure (TCLP) Metals												
Lead	mg/L[3]	5.0 [8]										
Physical Parameters												
Percent Moisture	Percent		**19.0**		**19.3**		**15.5**		**19.9**		**12.5**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(6)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(7)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(8)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(9)-Blank space indicates that respective parameter was not analyzed within sample.
(10)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(11)-**Bold-**indicates laboratory detection.
(12)-Yellow Shading indicates that concentration exceeds Standard.

Table 3
Pre-Remediation Subsurface Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

	Boring Location		B-22				B-23				B-24		B-25	
	Sample ID		B-22 (6.5-7.0)_07/17/12		B-22 (9.5-10.0)_07/17/12		B-23 (2-4)_07/17/12		B-23 (5.5-6.0)_07/17/12		B-24 (6.5-7.0)_07/17/12		B-25 (4.5-5.0)_07/17/12	
	Sample Date		7/17/2012 11:30		7/17/2012 11:45		7/17/2012 10:30		7/17/2012 10:45		7/17/2012 13:45		7/17/2012 14:15	
	Sample Depth (ft)		6.5-7.0		9.5-10.0		2.0-4.0		5.5-6.0		6.5-7.0		4.5-5.0	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[4]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Volatile Organic Compounds														
Acetone	µg/Kg[1]	500,000 b[5]	**23**	**J**	**34**		20	U						
Cyclohexane	µg/Kg		5.3	U	**34**		4.0	U						
Isopropylbenzene (Cumene)	µg/Kg		5.3	U	5.3	U	4.0	U						
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000 b	**4.3**	**J**	**4.4**	**J**	20	U						
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone, MIK)	µg/Kg		**27**	**U**	27	U	20	U						
Methylcyclohexane	µg/Kg		**0.82**	**J**	**64**	**J**	4.0	U						
Tetrachloroethylene (Tetrachloroethene, PCE)	µg/Kg	150,000	**1.2**	**J**	5.3	U	**0.61**	**J**						
Toluene	µg/Kg	500,000 b	**0.50**	**J**	5.3	U	4.0	U						
Xylene (Total)	µg/Kg	500,000 b	11	U	11	U	8.1	U						
Target Analyte List (TAL) Metals (Total)														
Lead	mg/Kg	1,000	**6710**						**1450**		**37.5**		**672**	
Toxicity Characteristic Leaching Procedure (TCLP) Metals														
Lead	mg/L[3]	5.0 [10]	**50.2**						**13.1**					
Physical Parameters														
Percent Moisture	Percent		**15.2**		**18.6**		**12.2**		**21.0**		**26.7**		**12.3**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"b"-denotes that the Site Cleanup Objectives (SCOs) for commercial use were capped at a maximum value of 500ppm.
(6)-"f"-denotes that calculated SCO was lower than the rural soil background concentration as determined by a rural soil survey; as such, the rural soil background concentration is used as the SCO for use at the Site.
(7)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(8)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(9)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(10)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(11)-Blank space indicates that respective parameter was not analyzed within sample.
(12)-"U" indicates that parameter was not detected above laboratory reporting limit.
(13)-**Bold**-indicates laboratory detection.
(14)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(15)-Yellow Shading indicates that concentration exceeds Standard.
(16)-"B"-Indicates that compound was found within method blank and sample.
(17)-"U*"-indicates that LCS or LCSD exceeds the control limits.
(18)-"B7"-Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above theconcentration found in the blank.
(19)-"U^"-indicates that instrument related QC exceeds the control limits.

Table 3
Pre-Remediation Subsurface Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

		Boring Location	B-26		B-28		B-29		B-30		B-32			
		Sample ID	B-26 (4-4.5)_07/18/12		B-28 (7.0-7.5)_2/21/13		B-29 (7.0-7.5)_2/21/13		B-30 (3.5-4.0)_2/21/13		B-32 (6.5-7.0)_2/21/13		B-32 (6.5-7.0) DUP_2/21/13	
		Sample Date	7/18/2012 13:50		2/21/2013 11:45		2/21/2013 13:10		2/21/2013 9:45		2/21/2013 11:20		2/21/2013 11:20	
		Sample Depth (ft)	4-4.5		7.0-7.5		7.0-7.5		3.5-4.0		6.5-7.0		6.5-7.0	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[4]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Volatile Organic Compounds														
Acetone	µg/Kg[1]	500,000 b[5]												
Cyclohexane	µg/Kg													
Isopropylbenzene (Cumene)	µg/Kg													
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000 b												
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone, MIK)	µg/Kg													
Methylcyclohexane	µg/Kg													
Tetrachloroethylene (Tetrachloroethene, PCE)	µg/Kg	150,000												
Toluene	µg/Kg	500,000 b												
Xylene (Total)	µg/Kg	500,000 b												
Target Analyte List (TAL) Metals (Total)														
Lead	mg/Kg	1,000	**347**		**8.6**		**9.7**		**15.6**		**12.8**		**10.4**	
Toxicity Characteristic Leaching Procedure (TCLP) Metals														
Lead	mg/L[3]	5.0 [10]												
Physical Parameters														
Percent Moisture	Percent		**12.8**		**22.2**		**19.0**		**20.8**		**23.7**		**20.6**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"b"-denotes that the Site Cleanup Objectives (SCOs) for commercial use were capped at a maximum value of 500ppm.
(6)-"f"-denotes that calculated SCO was lower than the rural soil background concentration as determined by a rural soil survey; as such, the rural soil background concentration is used as the SCO for use at the Site.
(7)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(8)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(9)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(10)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(11)-Blank space indicates that respective parameter was not analyzed within sample.
(12)-"U" indicates that parameter was not detected above laboratory reporting limit.
(13)-**Bold**-indicates laboratory detection.
(14)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(15)-Yellow Shading indicates that concentration exceeds Standard.
(16)-"B"-Indicates that compound was found within method blank and sample.
(17)-"U*"-indicates that LCS or LCSD exceeds the control limits.
(18)-"B7"-Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above theconcentration found in the blank.
(19)-"U^"-indicates that instrument related QC exceeds the control limits.

Table 3
Pre-Remediation Subsurface Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

		Boring Location	B-33		B-35		B-36		B-38		B-39	
		Sample ID	B-33 (5.0-5.5)_2/21/13		B-35 (1.5-2)_07/24/12		B-36 (1.5-2)_07/24/12		B-38 (3.5-4.0)_07/18/12		B-39 (2.5-3.0)_07/18/12	
		Sample Date	2/21/2013 13:45		7/24/2012 12:20		7/24/2012 13:50		7/18/2012 8:15		7/18/2012 7:50	
		Sample Depth (ft)	5.0-5.5		1.5-2.0		1.5-2.0		3.5-4.0		2.5-3.0	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[4]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Volatile Organic Compounds												
Acetone	µg/Kg[1]	500,000 b[5]										
Cyclohexane	µg/Kg											
Isopropylbenzene (Cumene)	µg/Kg											
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000 b										
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone, MIK)	µg/Kg											
Methylcyclohexane	µg/Kg											
Tetrachloroethylene (Tetrachloroethene, PCE)	µg/Kg	150,000										
Toluene	µg/Kg	500,000 b										
Xylene (Total)	µg/Kg	500,000 b										
Target Analyte List (TAL) Metals (Total)												
Lead	mg/Kg	1,000	**204**		**431**		**6490**		**17.6**		**20.2**	
Toxicity Characteristic Leaching Procedure (TCLP) Metals												
Lead	mg/L[3]	5.0 [10]					**0.23**					
Physical Parameters												
Percent Moisture	Percent		**21.7**		**19.2**		**17.6**		**15.5**		**14.6**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"b"-denotes that the Site Cleanup Objectives (SCOs) for commercial use were capped at a maximum value of 500ppm.
(6)-"f"-denotes that calculated SCO was lower than the rural soil background concentration as determined by a rural soil survey; as such, the rural soil background concentration is used as the SCO for use at the Site.
(7)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(8)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(9)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(10)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(11)-Blank space indicates that respective parameter was not analyzed within sample.
(12)-"U" indicates that parameter was not detected above laboratory reporting limit.
(13)-**Bold**-indicates laboratory detection.
(14)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(15)-Yellow Shading indicates that concentration exceeds Standard.
(16)-"B"-Indicates that compound was found within method blank and sample.
(17)-"U*"-indicates that LCS or LCSD exceeds the control limits.
(18)-"B7"-Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above theconcentration found in the blank.
(19)-"U^"-indicates that instrument related QC exceeds the control limits.

Table 3
Pre-Remediation Subsurface Soil Sample Results: Detections Only
Tract I Supplemental Site Investigation

	Boring Location		T1-MW-01				TI-MW-02				T1-MW-03	
	Sample ID		T1-MW-01 (4.5-5.0)_07/18/12		T1-MW-01 (8.5-9.0)_07/18/12		TI-MW-02 (1-1.5)_07/24/12		T1-MW-02 (5-6)		T1-MW-03 (1.5-2)	
	Sample Date		7/18/2012 9:15		7/18/2012 9:25		7/24/2012 11:40		8/1/2012 13:35:00 AM		8/1/2012 10:40	
	Sample Depth (ft)		4.5-5.0		8.5-9.0		1.0-1.5		5.0-6.0		1.5-2.0	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[4]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Volatile Organic Compounds												
Acetone	µg/Kg[1]	500,000 b[5]	**100**		**22**	**J**			31	U		
Cyclohexane	µg/Kg		**13**		**61**				6.2	U		
Isopropylbenzene (Cumene)	µg/Kg		**6.8**		**31**				6.2	U		
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000 b	**33**		**4.5**	**J**			31	U		
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone, MIK)	µg/Kg		27	U	**24**	**U**			31	U		
Methylcyclohexane	µg/Kg		**46**		**200**				6.2	U		
Tetrachloroethylene (Tetrachloroethene, PCE)	µg/Kg	150,000	5.4	U	**1.1**	**J**			6.2	U		
Toluene	µg/Kg	500,000 b	**0.48**	**J**	4.8	U			6.2	U		
Xylene (Total)	µg/Kg	500,000 b	**3.2**	**J**	9.6	U			12	U		
Target Analyte List (TAL) Metals (Total)												
Lead	mg/Kg	1,000					**4570**				**1340**	
Toxicity Characteristic Leaching Procedure (TCLP) Metals												
Lead	mg/L[3]	5.0 [10]					**1.3**					
Physical Parameters												
Percent Moisture	Percent		**23.1**		18.6		**14.4**		**21.3**		**11.0**	

Notes:
(1)-"µg/Kg"-micrograms per kilogram.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-"mg/L"-milligrams per liter.
(4)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(5)-"b"-denotes that the Site Cleanup Objectives (SCOs) for commercial use were capped at a maximum value of 500ppm.
(6)-"f"-denotes that calculated SCO was lower than the rural soil background concentration as determined by a rural soil survey; as such, the rural soil background concentration is used as the SCO for use at the Site.
(7)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(8)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 ppm.
(9)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(10)-denotes that TCLP Regulatory Levels i.e. Standards, were obtained from 40 CFR 261.24, Table 1.
(11)-Blank space indicates that respective parameter was not analyzed within sample.
(12)-"U" indicates that parameter was not detected above laboratory reporting limit.
(13)-**Bold**-indicates laboratory detection.
(14)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(15)-Yellow Shading indicates that concentration exceeds Standard.
(16)-"B"-Indicates that compound was found within method blank and sample.
(17)-"U*"-indicates that LCS or LCSD exceeds the control limits.
(18)-"B7"-Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above theconcentration found in the blank.
(19)-"U^"-indicates that instrument related QC exceeds the control limits.

Table 4
Pre-Remediation Brick Bedding Material Sample Results: Detections Only
Tract I Supplemental Site Investigation

Sample Location/Boring I.D.			BB-2		BB-2-DUP		BB-3		BB-3-DUP		BB-4		BB-4-DUP		BB-5		BB-7	
Laboratory Sample Number			480-33480-2		480-33480-3		480-33480-4		480-33480-5		480-33480-6		480-33480-7		480-33480-8		480-33480-10	
Sample Date			2/26/2013 11:00		2/26/2013 11:00		2/26/2013 11:25		2/26/2013 11:25		2/26/2013 12:20		2/26/2013 12:20		2/26/2013 12:50		2/26/2013 13:25	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Commercial Standard[1]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
VOCs																		
Acetone	ug/Kg	500,000 b	**31 J**[9,10]		**21 J**		43 U		**8.6 J**		**5.4 J**		**5.2 J**		**41 J**		**44**	
Carbon Disulfide	ug/Kg		14 U[11]		13 U		8.5 U		10 U		6.2 U		5.8 U		**5.1 J**		8.2 U	
Toluene	ug/Kg	500,000 b	14 U		**2.6 J**		8.5 U		10 U		6.2 U		5.8 U		**3.5 J**		**1.2 J**	
Xylene (Total)	ug/Kg	500,000 b	28 U		26 U		**1.8**	**J**	20 U		12 U		12 U		18 U		16 U	
Semivolatile Organic Compounds																		
Acenaphthene	µg/Kg[2]	500,000 b[4]	450000 U		370000 U		**110 J**				14000 U		39000 U		300000 U		300000 U	
Anthracene	µg/Kg	500,000 b	450000 U		370000 U		**260 J**				**430 J**		39000 U		300000 U		**8900 J**	
Benzo(a)anthracene	µg/Kg	5,600	450000 U		370000 U		**410 J**				14000 U		39000 U		300000 U		300000 U	
Benzo(a)pyrene	µg/Kg	1,000 f[5]	450000 U		370000 U		**350 J**				**600 J**		39000 U		300000 U		300000 U	
Benzo(b)fluoranthene	µg/Kg	5,600	450000 U		370000 U		**530 J**				**790 J**		**1400 J**		300000 U		300000 U	
Benzo(g,h,i)perylene	µg/Kg	500,000 b	450000 U		370000 U		**100 J**				14000 U		39000 U		300000 U		300000 U	
Benzo(k)fluoranthene	µg/Kg	56,000	450000 U		370000 U		**170 J**				**440 J**		39000 U		300000 U		300000 U	
Carbazole	µg/Kg		450000 U		370000 U		**130 J**				14000 U		39000 U		300000 U		300000 U	
Chrysene	µg/Kg	56,000	450000 U		370000 U		**350 J**				14000 U		39000 U		300000 U		300000 U	
Dibenzofuran	µg/Kg	350,000	450000 U		370000 U		**86 J**				14000 U		39000 U		300000 U		300000 U	
Fluoranthene	µg/Kg	500,000 b	450000 U		**7500 J**		**1000 J**				**1500 J**		**2500 J**		**9400 J**		**28000** J	
Fluorene	µg/Kg	500,000 b	450000 U		370000 U		**120 J**				14000 U		39000 U		300000 U		300000 U	
Indeno(1,2,3-cd)pyrene	µg/Kg	5,600	450000 U		370000 U		**92 J**				14000 U		39000 U		300000 U		300000 U	
Phenanthrene	µg/Kg	500,000 b	450000 U		370000 U		**990 J**				**1700 J**		**2700 J**		**9600 J**		**26000 J**	
Pyrene	µg/Kg	500,000 b	450000 U		**11000 J**		**710 J**				**1200 J**		**1800 J**		**12000 J**		**25000 J**	
Target Compound List Polychlorinated Biphenyls																		
PCB-1254 (Aroclor 1254)	µg/Kg	1,000	2400 U		2400 U		230 U				**1700 J**[14]		2800 U		2400 U		**1700 J**	
PCB-1260 (Aroclor 1260)	ug/Kg	1,000	2400 U		2400 U		230 U				**1300 J**		2800 U		2400 U		2700 U	
Target Analyte List Metals (Total)																		
Aluminum	mg/Kg[3]		**352 J**		**181 J**		**3750**				**758**		**926**		**428**		**240**	
Arsenic	mg/Kg	16 f	**6.9 J**		2.1 UJ		**3.4**				**2.4**		2.3 U		2.4 U		2.4 U	
Barium	mg/Kg	400	**24.1 J**		**9.8 J**		**292**				**49.6 J**		**27.3 J**		**18.0**		**39.5**	
Cadmium	mg/Kg	9.3	0.22 U		0.21 U		**0.35**				0.23 U		0.23 U		0.24 U		0.24 U	
Calcium	mg/Kg		**47600 J**		**9170 J**		**57200**				**11600**		**7550**		**3590**		**1940**	
Chromium	mg/Kg	400 k[6]	**2.8**		**1.8**		**4.0**				**2.6**		**2.3**		**5.2**		**2.2**	
Cobalt	mg/Kg		0.55 U		0.52 U		**2.2**				0.57 U		0.57 U		0.60 U		0.59 U	
Copper	mg/Kg	270	**32.0 J**		**8.2 J**		**13.5**				**30.3**		**24.3**		**28.3**		**2.6**	
Iron	mg/Kg		**28900 J**		**8480 J**		**6020 B7**[13]				**5700 B7**		**4540 B7**		**7140 B7**		**1930 B7**	
Lead	mg/Kg	1,000	**130**		**83.3**		**66.4**				**4090 J**		**1950 J**		**234**		**51.8**	
Magnesium	mg/Kg		**325 J**		**181 J**		**5310**				**541**		**747**		**73.3**		**167**	
Manganese	mg/Kg	10,000 d[7]	**27.8 J**		**11.1 J**		**347**				**32.3**		**33.6**		**13.9**		**21.8**	
Mercury	mg/Kg	2.8 j[8]	0.022 U		**0.060**		0.025 U				**0.12**		**0.17**		0.024 U		0.023 U	
Potassium	mg/Kg		**5220 J**		**1180 J**		**840**				**1280**		**967**		**1020**		**155**	
Vanadium	mg/Kg		**20.3**		**15.4**		**6.3**				**4.1**		**3.0**		**14.7**		**16.2**	
Zinc	mg/Kg	10,000 d	**38.1 J**		**14.0 J**		**158**				**14.3**		**12.2**		**22.5**		**19.4**	
TCLP Metals[2]																		
Lead	mg/L	5.0	[12]								**116 J**		**47.0 J**					

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-"mg/Kg"-milligrams per kilogram.
(4)-"b"-denotes that the Site Cleanup Objectives (SCOs) for commercial use were capped at a maximum value of 500 mg/kg.
(5)-"f"-denotes that calculated SCO was lower than the rural soil background concentration as determined by a rural soil survey; as such, the rural soil background concentration is used as the SCO for use at the Site.
(6)-"k"-denotes that standard for hexavalent chromium was used for total chromium.
(7)-"d" denotes that the SCOs for metals were capped at a maximum value of 10,000 mg/kg.
(8)-"j"-denotes that this SCO is the lower of the values between mercury (elemental) and mercury (inorganic salts).
(9)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(10)-**Bold-**indicates laboratory detection.
(11)-"U" indicates that parameter was not detected above laboratory reporting limit.
(12)-Blank Space indicates that compound was not analyzed.
(13)-"B7"-Denotes that target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above theconcentration found in the blank.
(14)-Yellow Shading indicates that concentration exceeds Standard.

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Table 5
Pre-Remediation Groundwater Analytical Results: Detections Only
Tract I Supplemental Site Investigation

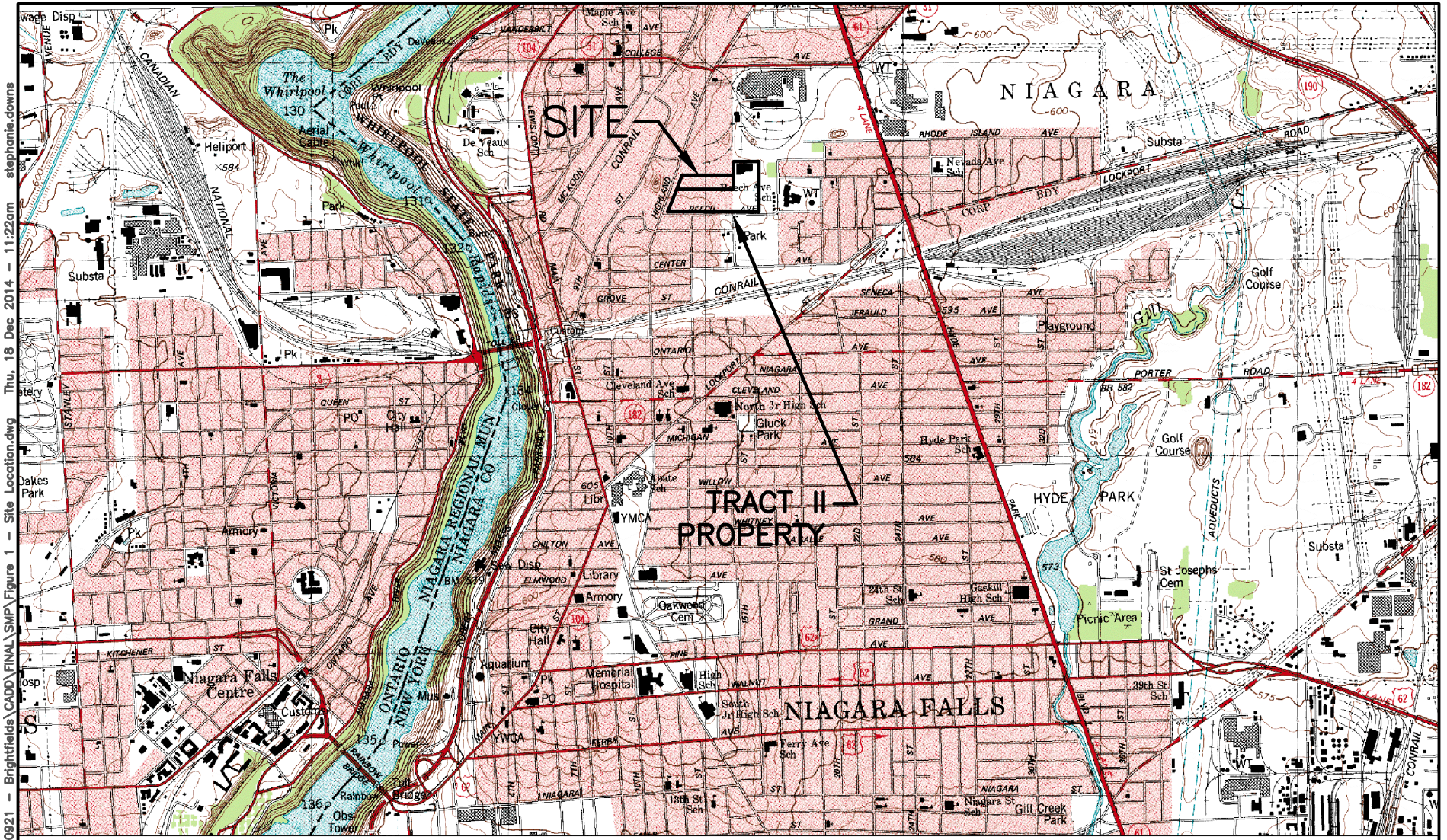
	Well ID	T1-MW-01		T1-MW-02				T1-MW-03	
	Sample ID	TI-MW01_08/09/12		TI-MW02_08/09/12		DUP_08/09/12		TI-MW03_08/09/12	
	Sample Date/Time	8/9/12 13:30		8/9/12 10:45		8/9/12 0:00		8/9/12 12:05	
Parameter	Units	NY Water Quality Standards Surface Waters and Groundwater - Class GA[3]	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds										
Acetone	µg/L[1]		**3.4**	**J**[6,7]	40	U	40	U	50	U
Carbon disulfide	µg/L	60	**0.51**	**J**	4.0	U	4.0	U	5.0	U
Trichloroethene (TCE)	µg/L	5	1.0	U[8]	4.0	U	4.0	U	**8.7**	
Semivolatile Organic Compounds										
2-Methylnaphthalene	µg/L		4.8	U	**1.9**	**J**	**2.0**	**J**	4.8	U
Acenaphthene	µg/L		4.8	U	**0.42**	**J**	**0.47**	**J**	4.8	U
Acetophenone	µg/L		4.8	U	**1.8**	**J**	4.7	U	4.8	U
Diethyl phthalate	µg/L		4.8	U	**0.31**	**J**	**0.41**	**J**	4.8	U
Di-n-butyl phthalate	µg/L	50	4.8	U	4.8	U	4.7	U	**0.40**	**J**
Fluorene	µg/L		4.8	U	**0.55**	**J**	**0.55**	**J**	4.8	U
Naphthalene	µg/L		4.8	U	**1.3**	**J**	**1.5**	**J**	4.8	U
Phenanthrene	µg/L		**0.83**	**J**	**0.77**	**J**	**0.82**	**J**	4.8	U
Pesticides										
4,4'-DDD (p,p'-DDD)	µg/L	0.3	0.047	U	0.047	U	0.047	U	**0.18**	
4,4'-DDE (p,p'-DDE)	µg/L	0.2	0.047	U	0.047	U	0.047	U	**0.042**	**J**
4,4'-DDT (p,p'-DDT)	µg/L	0.2	0.047	U	0.047	U	0.047	U	**0.16**	
beta-BHC (beta Hexachlorocyclohexane)	µg/L	0.04	0.047	U	0.047	U	0.047	U	**0.20**	
beta Endosulfan	µg/L		0.017	J	0.047	U	0.047	U	**0.064**	
Endrin	µg/L	Not Detectable	**0.018**	**J**[9]	0.047	U	0.047	U	0.048	U
gamma-Chlordane	µg/L	0.05[4]	**0.16**		0.047	U	0.047	U	0.048	U
Heptachlor Epoxide	µg/L	0.03	0.047	U	0.047	U	0.047	U	**0.020**	**J**
Methoxychlor	µg/L	35	**0.018**	**J**	0.047	U	0.047	U	0.048	U
Total Metals										
Aluminum	mg/L[2]		**0.20**		**1.1**		**1.2**		0.20	U
Antimony	mg/L	0.003	0.020	U	0.020	U	0.020	U	**0.021**	
Barium	mg/L	1.000	**0.028**		**0.16**		**0.14**		**0.072**	
Calcium	mg/L		**147**		**249**		**254**		**114**	
Iron	mg/L	0.3[5]	**0.21**		**6.1**		**6.5**		**0.13**	
Lead	mg/L	0.025	0.0050	U	**0.033**		**0.033**		**0.027**	
Magnesium	mg/L		**123**		**144**		**126**		**87.6**	
Manganese	mg/L	0.3[5]	**0.34**		**1.5**		**1.4**		**0.91**	
Potassium	mg/L		**4.0**		**4.6**		**4.8**		**8.7**	
Sodium	mg/L	20.000	**42.0**		**58.5**		**60.9**		**58.8**	
Vanadium	mg/L		0.0050	U	**0.0053**		**0.0050**		0.0050	U
Zinc	mg/L		0.010	U	**0.044**		**0.042**		**0.012**	
Dissolved Metals										
Antimony	mg/L	0.003	0.020	U	0.020	U	0.020	U	**0.020**	
Barium	mg/L	1.000	**0.027**		**0.14**		**0.14**		**0.077**	
Calcium	mg/L		**149**		**241**		**239**		**110**	
Magnesium	mg/L		**126**		**142**		**139**		**82.1**	
Manganese	mg/L	0.3[5]	**0.34**		**1.5**		**1.4**		**0.84**	
Potassium	mg/L		**4.2**		**4.3**		**4.3**		**8.1**	
Sodium	mg/L	20.000	**42.7**		**60.2**		**60.7**		**57.6**	
Zinc	mg/L		**0.011**		**0.033**	**J**	**0.053**		**0.030**	

Notes:
(1)-"µg/L" -micrograms per liter.
(2)-"mg/L"-milligrams per liter.
(3)-Standards taken from New York Water Quality Standards: Surface Waters and Groundwater (Table 1, cf. section 703.5);
blank space indicates that no standard is listed for respective parameter.
(4)-Standard not listed for gamma-Chlordane; standard for Chlordane presented.
(5)-The sum of Iron and Manganese must be less than 0.5 mg/L; samples with exceeding sums shaded gray.
(6)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(7)-**Bold**-indicates laboratory detection.
(8)-"U" indicates that parameter was not detected above laboratory reporting limit.
(9)-Yellow Shading indicates that concentration exceeds Standard.

Created By: SCC
Checked By: GSO

FIGURES

DRAWN BY: NEL 2-6-2012 APPROVED BY: ESW 4-11-2012



SCALE 1:24000

1 0.5 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0.5 0 1 KILOMETER

CONTOUR INTERVAL 20 FEET

NIAGARA FALLS QUADRANGLE

N

BRIGHTFIELDS, INC.
TRACT I SITE
NIAGARA FALLS, NEW YORK

Project No.: 3410130921

amec MACTEC Engineering & Consulting, P.C.

Environment & Infrastructure - Pittsburgh
800 North Bell Avenue
Carnegie, Pennsylvania 15106

SITE LOCATION MAP

Figure: 1

1

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 1 - Site Location.dwg Thu, 18 Dec 2014 - 11:22am stephanie.downs

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LEGEND

PROPERTY BOUNDARY

FORMER STRUCTURE

80 0 80

SCALE: 1"=80'

Ref.: Google Earth photo, October 5, 2011

BRIGHTFIELDS, INC.
TRACT I SITE
NIAGARA FALLS, NEW YORK

Project No.: 3410130921

amec MACTEC Engineering & Consulting, P.C.

Environment & Infrastructure - Pittsburgh
800 North Bell Avenue
Carnegie, Pennsylvania 15106

SITE PLAN

Figure: 2

2

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 2 - site plan.dwg Thu, 18 Dec 2014 - 11:23am stephanie.downs

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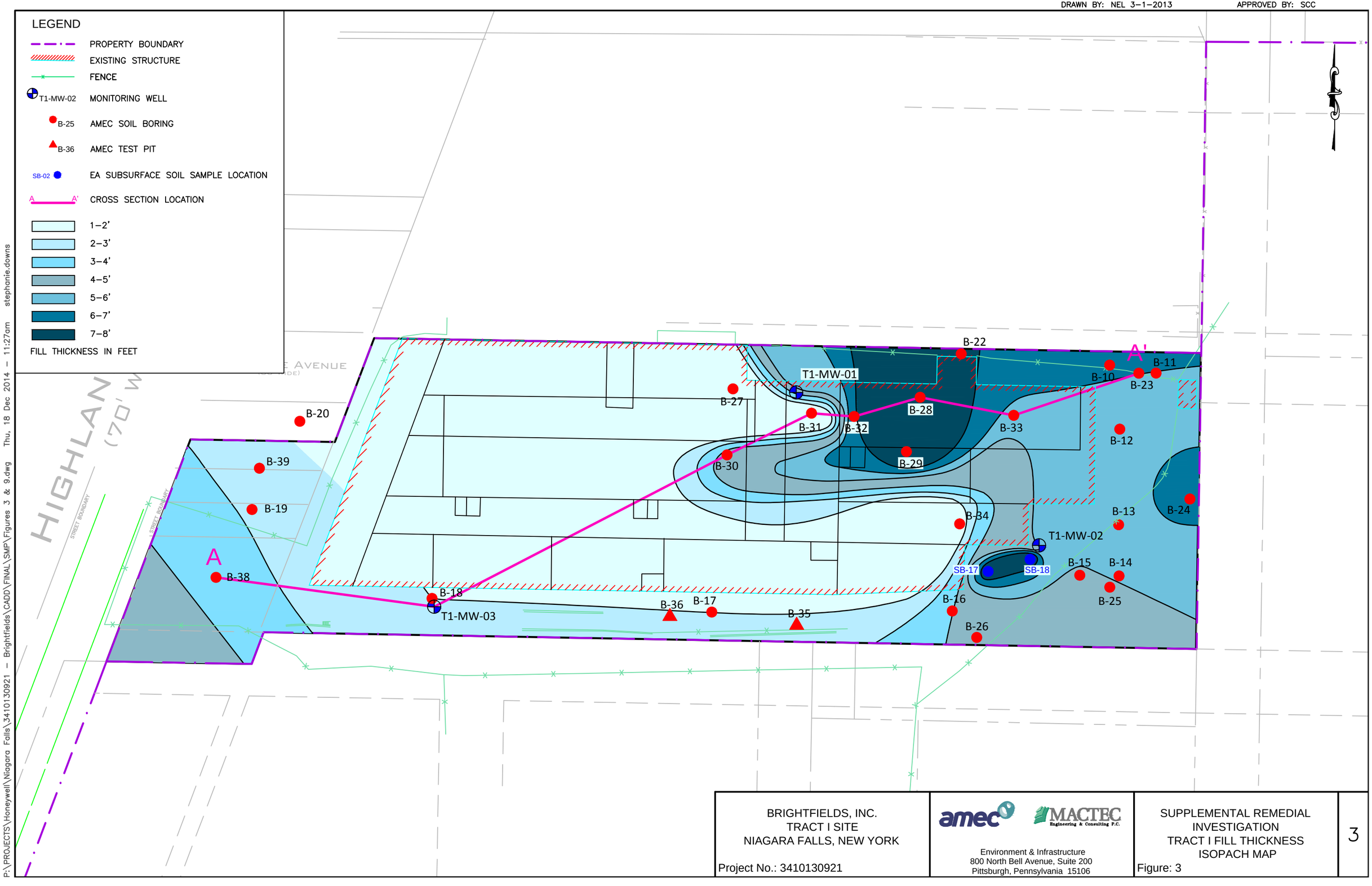
LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- T1-MW-02 MONITORING WELL
- B-25 AMEC SOIL BORING
- B-36 AMEC TEST PIT
- SB-02 EA SUBSURFACE SOIL SAMPLE LOCATION
- A A' CROSS SECTION LOCATION

- 1–2'
- 2–3'
- 3–4'
- 4–5'
- 5–6'
- 6–7'
- 7–8'

FILL THICKNESS IN FEET



BRIGHTFIELDS, INC. TRACT I SITE NIAGARA FALLS, NEW YORK Project No.: 3410130921	amec MACTEC Engineering & Consulting P.C. Environment & Infrastructure 800 North Bell Avenue, Suite 200 Pittsburgh, Pennsylvania 15106	SUPPLEMENTAL REMEDIAL INVESTIGATION TRACT I FILL THICKNESS ISOPACH MAP Figure: 3	3

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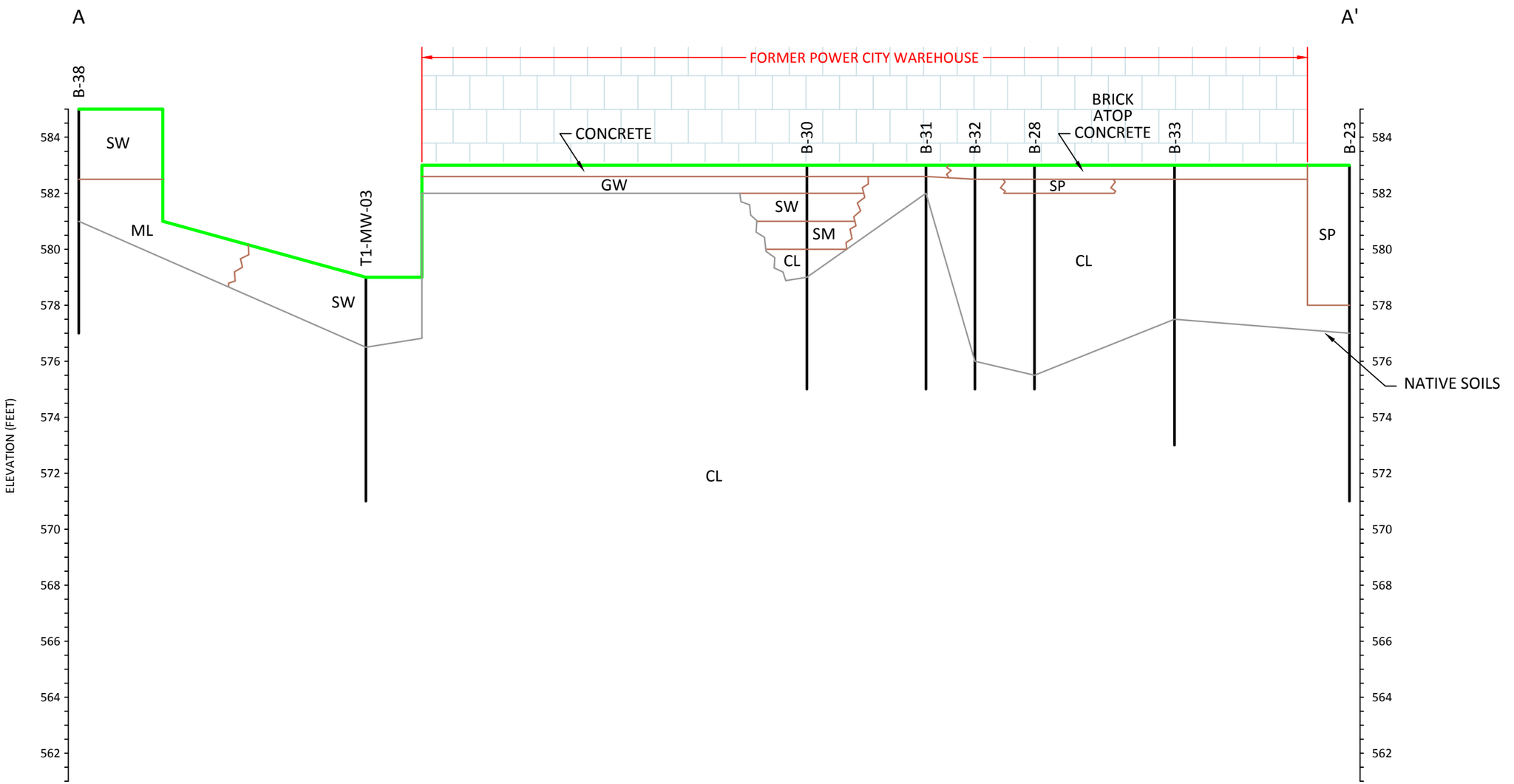
CROSS SECTION A-A'

HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=4'



LEGEND

B-38 — SOIL BORING LOCATION

NOTE

1. SOIL TYPES (SW,GW,ML, etc.) WERE CLASSIFIED USING THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS).

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Project No.: 3410130921

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SUPPLEMENTAL REMEDIAL INVESTIGATION
CROSS SECTION A-A'

Figure: 4

4

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 4 Cross Section AA.dwg Thu, 18 Dec 2014 - 11:27am stephanie.downs

DRAWN BY: NEL 1-24-2013 APPROVED BY: –

LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- TCLP LEAD <5 mg/L AND TOTAL LEAD >1000 mg/kg
- TCLP LEAD >5 mg/L OR ASSUMED >5 mg/L AND TOTAL LEAD >1000 mg/kg
- CHROMIUM >110 mg/kg
- EXCAVATION AREA 1
- EXCAVATION AREA 2
- EXCAVATION AREA 3
- EXCAVATION AREA 4
- TARGET EXCAVATION AREA

TOTAL LEAD REPORTED IN mg/kg
TCLP LEAD REPORTED IN mg/L

- T1-MW-02 MONITORING WELL LOCATION
- B-25 AMEC SOIL BORING LOCATION
- B-36 AMEC TEST PIT LOCATION
- 10b E&E COMPOSITE SOIL SAMPLE LOCATION
- LINE CONNECTING SUBSAMPLES OF A COMPOSITE SAMPLE
- SB-02 EA SUBSURFACE SOIL SAMPLE LOCATION

B-31	2/21/13
Subslab Soil	0.5-1.0'
Lead	9.0

T1-MW-01	7/18/2012
Subslab Soil	0.5-1.0'
Lead	180

SB-08	9/30/2008
Subsurface Soil	0-2.0'
Lead	9,410 J

B-27	2/21/13
Subslab Soil	0.5-1.0'
Lead	3,570 J
TCLP - Lead	1.3 J

SB-09	9/30/2008
Subsurface Soil	0-2.0'
Lead	9.90

B-30	2/21/13
Subslab Soil	1.0-1.5'
Lead	47.0

SB-10	9/30/2008
Subsurface Soil	0-2.0'
Lead	52.50

SB-07	9/30/2008
Subsurface Soil	0-2.0'
Lead	55.0

SS-PCW-07	5/1999
Composite, Surface Soil	0-0.5'
Sampled for: Lead	
Lead	178,000

SB-01	9/30/2008
Subsurface Soil	0-2.0'
Lead	34.0

SB-02	9/30/2008
Subsurface Soil	0-2.0'
Lead	6.0

SB-03	9/30/2008
Subsurface Soil	0-2.0'
Lead	45.0

SB-14	9/30/2008
Subsurface Soil	0-2.0'
Lead	15.70

B-20	7/14/2011
Surface Soil	0-0.5'
Lead	2,630
TCLP - Lead	1.8

B-39	7/18/2012
Surface Soil	0-0.5'
Lead	1,060
TCLP - Lead	0.073

B-19	7/14/2011
Surface Soil	0-0.5'
Lead	1,730
TCLP - Lead	0.6

B-38	7/18/2012
Surface Soil	0-0.5'
Lead	362

SB-15	9/30/2008
Subsurface Soil	0-2.0'
Lead	14.80

SB-16	9/30/2008
Subsurface Soil	0-2.0'
Lead	5.30

SB-04	9/30/2008
Subsurface Soil	0-2.0'
Lead	20.70

B-18	7/14/2011
Surface Soil	0-0.5'
Lead	16,900
TCLP - Lead	69.7

T1-MW-03	8/1/2012
Surface Soil	0-0.5'
Lead	11,600
Subsurface Soil	1.5-2.0'
Lead	1,340

SB-22	10/1/2008
Subsurface Soil	0-2.0'
Lead	2,160

SS-PCW-09	5/1999
Composite, Debris/Surface Soil	0-0.5'
Sampled for: SVOC, Pest/PCB, Lead	
Lead	31,800

SB-05	9/30/2008
Subsurface Soil	0-2.0'
Lead	5.60

B-36	7/24/2012
Surface Soil	0-0.5'
Lead	9,550
TCLP - Lead	20.4
Subsurface Soil	1.5-2.0'
Lead	6,490
TCLP - Lead	0.23

B-17	7/14/2011
Surface Soil	0-0.5'
Lead	2,280
TCLP - Lead	21

SB-06	9/30/2008
Subsurface Soil	0-2.0'
Lead	18.0

B-32	2/21/13
Subslab Soil	0.5-1.0'
Lead	165

SB-11	9/30/2008
Subsurface Soil	0-2.0'
Lead	0.48

SB-12	9/30/2008
Subsurface Soil	0-2.0'
Lead	1,160

B-29	2/21/13
Subslab Soil	0.5-1.0'
Lead	27.6

B-28	2/21/13
Subslab Soil	0.5-1.0'
Lead	48.7

B-22	7/17/2012
Surface Soil	0-0.5'
Lead	1,420
TCLP - Lead	300

SB-13	9/30/2008
Subsurface Soil	0-2.0'
Lead	24.0

B-33	2/21/13
Subslab Soil	0.5-1.0'
Lead	25,000

B-34	2/21/13
Subslab Soil	0.5-1.0'
Lead	26.3

B-35	7/24/2012
Surface Soil	0-0.5'
Lead	4,390
TCLP - Lead	8.5
Subsurface Soil	1.5-2.0'
Lead	431

SB-23	9/30/2008
Subsurface Soil	0-2.0'
Lead	8.80

B-16	7/14/2011
Surface Soil	0-0.5'
Lead	1,230
TCLP - Lead	1.3

SB-19	9/30/2008
Subsurface Soil	0-2.0'
Lead	ND

B-10	7/14/2011
Surface Soil	0-0.5'
Lead	7,940
TCLP - Lead	18.4

SS-PCW-12	5/1999
Composite, Surface Soil	0-0.5'
Lead	2,790

B-23	7/17/2012
Surface Soil	0-0.5'
Lead	9,340
TCLP - Lead	69.1

B-11	7/14/2011
Surface Soil	0-0.5'
Lead	6,430
TCLP - Lead	46.5

SS-PCW-11	5/1999
Composite, Surface Soil	0-05'
Sampled for: SVOC, Pest/PCB, Lead	
Lead	8,240

SB-21	9/30/2008
Subsurface Soil	0-2.0'
Lead	247

B-12	7/14/2011
Surface Soil	0-0.5'
Lead	3,130
TCLP - Lead	1.5

SB-20	9/30/2008
Subsurface Soil	0-2.0'
Lead	11.80

B-24	7/17/2012
Surface Soil	0-0.5'
Lead	653

B-13	7/14/2011
Surface Soil	0-0.5'
Lead	4,130
TCLP - Lead	2.7

B-14	7/14/2011
Surface Soil	0-0.5'
Lead	1,210
TCLP - Lead	1.0

B-15	7/14/2011
Surface Soil	0-0.5'
Lead	1,660
TCLP - Lead	1.9

B-25	7/17/2012
Surface Soil	0-0.5'
Lead	962

SB-18	9/30/2008
Subsurface Soil	0-2.0'
Lead	15.60

SB-17	9/30/2008
Subsurface Soil	0-2.0'
Lead	5.30

SS-PCW-04	5/1999
Grab, Surface Soil	0-0.5'
Lead	11,300

B-26	7/18/2012
Surface Soil	0-0.5'
Lead	1,260
TCLP - Lead	0.48

T1-MW-02	7/24/2012
Surface Soil	0-0.5'
Lead	10,100
TCLP - Lead	62.4
Subsurface Soil	1.0-1.5'
Lead	4,570
TCLP - Lead	1.3

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Pre-Remediation Surface Lead Sample Locations

Figure: 5

5

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LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- T1-MW-02 MONITORING WELL LOCATION
- B-25 AMEC SOIL BORING LOCATION
- 2-6' TCLP LEAD >5 mg/L AND TOTAL LEAD >1000 mg/kg
- 2-8' TCLP LEAD >5 mg/L AND TOTAL LEAD >1000 mg/kg
- EXCAVATION AREA 1

TOTAL LEAD REPORTED IN mg/kg
TCLP LEAD REPORTED IN mg/L

HIGHLAND AVE (70' WIDE)

TENNESSEE AVENUE (66' Wide)

STREET BOUNDARY

STREET BOUNDARY

B-39	7/18/2012
Subsurface Soil	2.5-3.0'
Lead	20.2

B-30	2/21//2013
Subsurface Soil	3.5-4.0'
Lead	15.6

B-32	2/21//2013
Subsurface Soil	6.5-7.0'
Lead	12.8

B-28	2/21//2013
Subsurface Soil	7.0-7.5'
Lead	8.6

B-29	2/21//2013
Subsurface Soil	7.0-7.5'
Lead	9.7

B-22	7/17/2012
Subsurface Soil	6.5-7.0'
Lead	6,710
TCLP - Lead	50.2

B-33	2/21//2013
Subsurface Soil	5.0-5.5'
Lead	204

B-23	7/17/2012
Subsurface Soil	5.5-6.0'
Lead	1,450
TCLP - Lead	13.1

B-24	7/17/2012
Subsurface Soil	6.5-7.0'
Lead	37.5

B-38	7/18/2012
Subsurface Soil	3.5-4.0'
Lead	17.61

B-26	7/18/2012
Subsurface Soil	4.0-4.5'
Lead	347

B-25	7/17/2012
Subsurface Soil	4.5-5.0'
Lead	672

B-39 B-30 T1-MW-01 B-32 B-28 B-29 B-22 B-33 B-23 B-24 T1-MW-02 B-38 T1-MW-03 B-26 B-25

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Pre-Remediation Subsurface Lead Sample Locations

Figure: 6

6

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LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- T1-MW-02 MONITORING WELL
- PAHs > RESPECTIVE COMMERCIAL SCO
- OTHER (NON-LEAD) METALS AND PAHs > RESPECTIVE COMMERCIAL SCO
- PAHs AND PCBs > RESPECTIVE COMMERCIAL SCO
- CHROMIUM > 110 mg/kg

RESULTS REPORTED IN mg/kg
TCLP RESULTS REPORT IN mg/L

- B-25 AMEC SOIL BORING
- B-36 AMEC TEST PIT
- 10b E&E COMPOSITE SOIL SAMPLE LOCATION
- LINE CONNECTING SUBSAMPLES OF A COMPOSITE SAMPLE
- SB-02 EA SUBSURFACE SOIL SAMPLE LOCATION
- J ESTIMATED VALUE
- B COMPOUND DETECTED IN METHOD BLANK
- D DILUTED SAMPLE ANALYSIS RESULT

TENNESSEE AVENUE (66' WIDE)

HIGHLAND AVENUE (70' WIDE)

STREET BOUNDARY

STREET BOUNDARY

B-20	7/14/2011
Surface Soil	0-0.5'
Lead	2,630

B-39	7/18/12
Surface Soil	0-0.5'
Lead	1,060

B-19	7/14/2011
Surface Soil	0-0.5'
Lead	1,730

B-18	7/14/2011
Surface Soil	0-0.5'
Lead	16,900
TCLP - Lead	69.7

T1-MW-03	8/1/12
Surface Soil	0-0.5'
Benzo(a)anthracene	7.8
Benzo(a)pyrene	10
Benzo(b)fluoranthene	16
Dibenzo(a,h)anthracene	0.680 J
Indeno(1,2,3-cd)pyrene	7.2
Arsenic	128
Barium	744
Copper	431
Lead	11,600

SS-PCW-07	5/1999
Composite, Surface Soil	0-0.5'
Sampled for: Lead	
Lead	178,000

SS-PCW-09	5/1999
Composite, Debris/Surface Soil	0-0.5'
Sampled for: SVOC, Pest/PCB, Lead	
Benzo(a)anthracene	29
Benzo(b)fluoranthene	35 J
Benzo(a)pyrene	31 J
Indeno(1,2,3-cd)pyrene	7.5 J
Dibenzo(a,h)anthracene	2.7 J
Aroclor-1254	17
Lead	31,800

SB-22	10/1/2008
Subsurface Soil	0-2'
Arsenic	40.40
Copper	421
Lead	2,160

B-27	2/21/13
Subslab Soil	0.5-1.0'
Lead	3,570 J

SB-08	9/30/2008
Subsurface Soil	0-2'
Lead	9,410 J

B-36	7/24/12
Surface Soil	0-0.5'
Benzo(a)anthracene	57
Benzo(a)pyrene	59
Benzo(b)fluoranthene	84
Dibenzo(a,h)anthracene	2.4 J
Indeno(1,2,3-cd)pyrene	20
Arsenic	45.1
Lead	9,550
TCLP Lead	20.4

B-17	7/14/2011
Surface Soil	0-0.5'
Lead	2,280
TCLP - Lead	21

B-22	7/17/12
Surface Soil	0-0.5'
Benzo(a)pyrene	1.2 J
Arsenic	44.0
Copper	350
Lead	1,420
TCLP Lead	300

SB-12	9/30/2008
Subsurface Soil	0-2'
Lead	1,160

B-35	7/24/12
Surface Soil	0-0.5'
Benzo(a)anthracene	42
Benzo(a)pyrene	46
Benzo(b)fluoranthene	61
Dibenzo(a,h)anthracene	3.3 J
Indeno(1,2,3-cd)pyrene	16
Arsenic	19.7
Lead	4,390
TCLP Lead	8.5

SB-11	9/30/2008
Subsurface Soil	0-2'
Chromium	2,060 J

B-33	2/21/13
Subslab Soil	0.5-1.0'
Lead	25,000

B-10	7/14/2011
Surface Soil	0-0.5'
Lead	7,940
TCLP - Lead	18.4

T1-MW-02	7/24/12
Surface Soil	0-0.5'
Benzo(a)pyrene	2.0 J
Copper	634
Lead	10,100
TCLP Lead	62.4

SS-PCW-12	5/1999
Composite, Surface Soil	0-0.5'
Sampled for: SVOC, Pest/PCB, Lead	
Benzo(a)anthracene	6.5 D
Benzo(b)fluoranthene	6.3 D
Benzo(a)pyrene	6.5 D
Dibenzo(a,h)anthracene	0.82 J
Lead	2,790

B-23	7/17/12
Surface Soil	0-0.5'
Benzo(a)pyrene	1.1 J
Lead	9,340
TCLP Lead	69.1

SS-PCW-11	5/1999
Composite, Surface Soil	0-05'
Sampled for: SVOC, Pest/PCB, Lead	
Benzo(a)pyrene	2 J
Aroclor-1260	3.8 J
Lead	8,240

B-11	7/14/2011
Surface Soil	0-0.5'
Lead	6,430
TCLP - Lead	46.5

B-12	7/14/2011
Surface Soil	0-0.5'
Lead	3,130

B-24	7/17/12
Surface Soil	0-0.5'
Benzo(a)anthracene	9.9
Benzo(a)pyrene	8.2
Benzo(b)fluoranthene	12
Dibenzo(a,h)anthracene	1.1 J

B-13	7/14/2011
Surface Soil	0-0.5'
Lead	4,130

B-14	7/14/2011
Surface Soil	0-0.5'
Lead	1,210

SS-PCW-04	5/1999
Grab, Surface Soil	0-0.5'
Sampled for: Lead	
Lead	11,300

B-26	7/18/12
Surface Soil	0-0.5'
Benzo(a)pyrene	1.9B
Arsenic	103.0
Lead	1,260

B-16	7/14/2011
Surface Soil	0-0.5'
Lead	1,230

B-25	7/17/12
Surface Soil	0-0.5'
Benzo(a)pyrene	3.1 J
Barium	419

B-15	7/14/2011
Surface Soil	0-0.5'
Lead	1,660

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Pre-Remediation Surface/ Subsurface Non-Lead Sample Locations

Figure: 7

7

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HIGHLAND AVENUE
(70' WIDE)

TENNESSEE AVENUE
(66' WIDE)

STREET BOUNDARY

STREET BOUNDARY

BB3

BB5

BB2

BB7

BB4

BB7	2/26/13
AROCLOR 1254	1.7 J

BB4	2/26/13
Lead	4,090 J
TCLP Lead	116 J
AROCLOR 1254	1.7 J
AROCLOR 1260	1.3 J

LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- BB4 BRICK BEDDING MATERIAL SAMPLE LOCATION
- AREA REPORTED BY EA(2009) TO CONTAIN BRICK FLOOR OVER CONCRETE SUBFLOOR
- AREA OBSERVED BY AMEC(2013) TO ACTUALLY CONTAIN BRICK FLOOR OVER CONCRETE SUBFLOOR
- J ESTIMATED VALUE

RESULTS REPORTED IN mg/kg
TCLP RESULTS REPORT IN mg/L

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Pre-Remediation Brick
Bedding Sample Locations

Figure: 8

8

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HIGHLAND AVENUE (70' WIDE)

TENNESSEE AVENUE (66' WIDE)

STREET BOUNDARY

STREET BOUNDARY

577

576

575

574

T1-MW-01 577.57

TI-MW-01	8/9/12
Endrin	0.018J
Gamma Chlordane	0.16
Total Sodium	42,000
Combined Total Iron and Total Manganese	550
Dissolved Sodium	42,700
Dissolved Manganese	340

T1-MW-02 576.31

TI-MW-02	8/9/12
Total Sodium	58,500
Combined Total Iron and Total Manganese	7,600
Total Lead	33
Dissolved Sodium	60,200
Dissolved Manganese	1,500

T1-MW-03 573.93

TI-MW-03	8/9/12
TCE	8.7
Beta Hexachlorocyclohexane	0.20
Total Antimony	21
Total Sodium	58,800
Combined Total Iron and Total Manganese	1,040
Total Lead	27
Dissolved Sodium	57,600
Dissolved Manganese	840
Dissolved Antimony	20

LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- T1-MW-02 576.31 — MONITORING WELL GROUNDWATER ELEVATION
- 574 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- J — ESTIMATED VALUE

RESULTS REPORT IN µg/L

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SRI
GROUNDWATER CONTOUR MAP
AUGUST 8, 2012
CONCENTRATIONS EXCEEDING
REFERENCE NYWQS VALUES

Figure: 9

9

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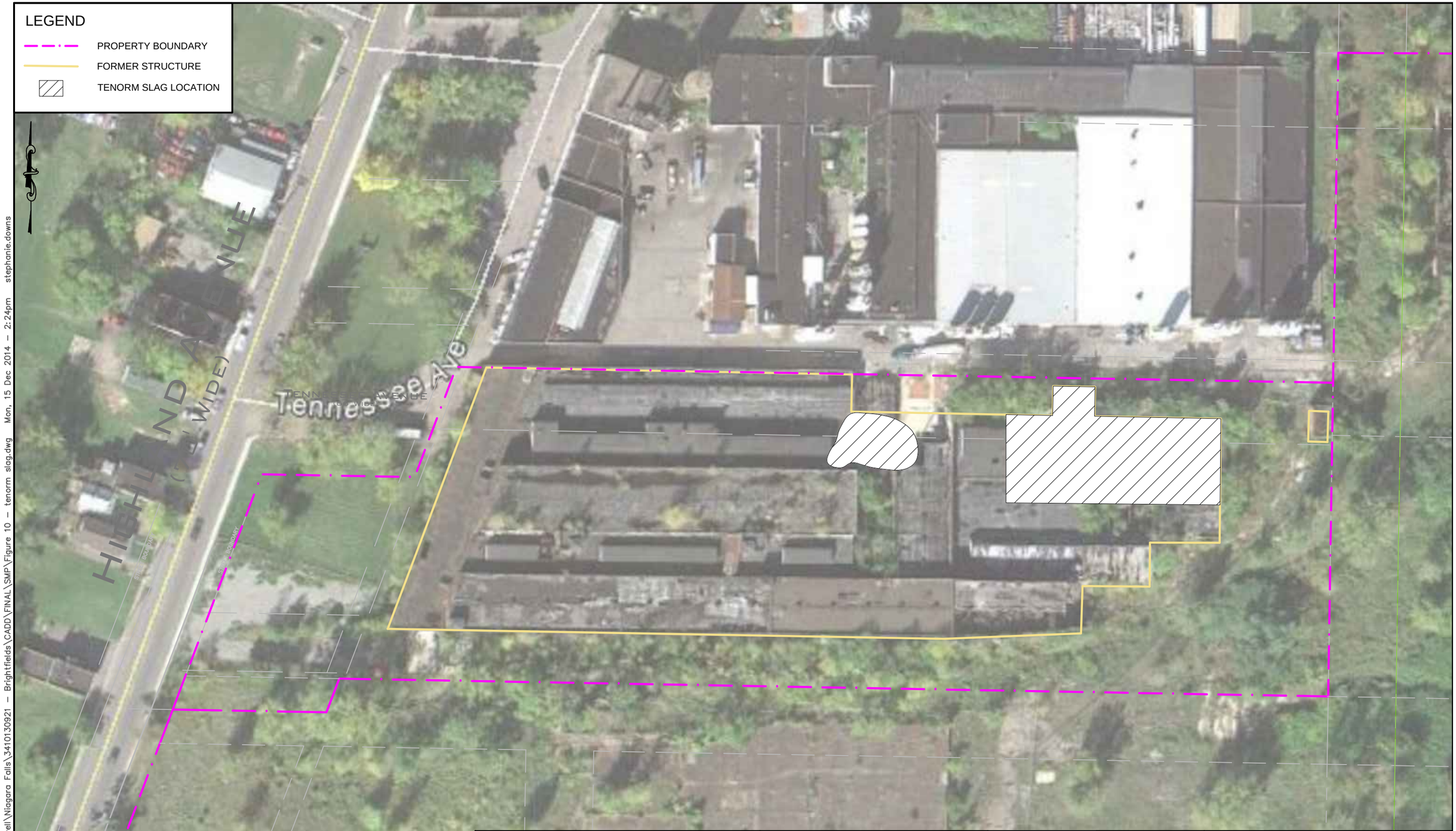
LEGEND

PROPERTY BOUNDARY

FORMER STRUCTURE

TENORM SLAG LOCATION



80 0 80

SCALE: 1"=80'

Ref.: Google Earth photo, October 5, 2011

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LOCATIONS OF TENORM SLAG

Figure: 10

10

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Tennessee Ave

Tennessee Avenue (Closed)

Carolina Avenue (Closed)

Fifteenth Street (Closed)

EXCAVATION AREA 10

EXCAVATION AREA 4

EXCAVATION AREA 2

EXCAVATION AREA 1

EXCAVATION AREA 5

EXCAVATION AREA 3

CONCRETE WALL

CONCRETE WALL

CONCRETE WALL

LEGEND

- Property Boundary
- Footprint of Demolished Structure
- Excavation Limits
- Portion of excavation completed for PAHs
- Portion of excavation completed for PCBs/Pesticides
- Portion of excavation completed for Non-lead Metals
- Portion of excavation completed for USTs

80 0 80

SCALE: 1"=80'

Ref.: Google Earth photo, May 4, 2013

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LIMITS OF EXCAVATION

Figure: 11

11

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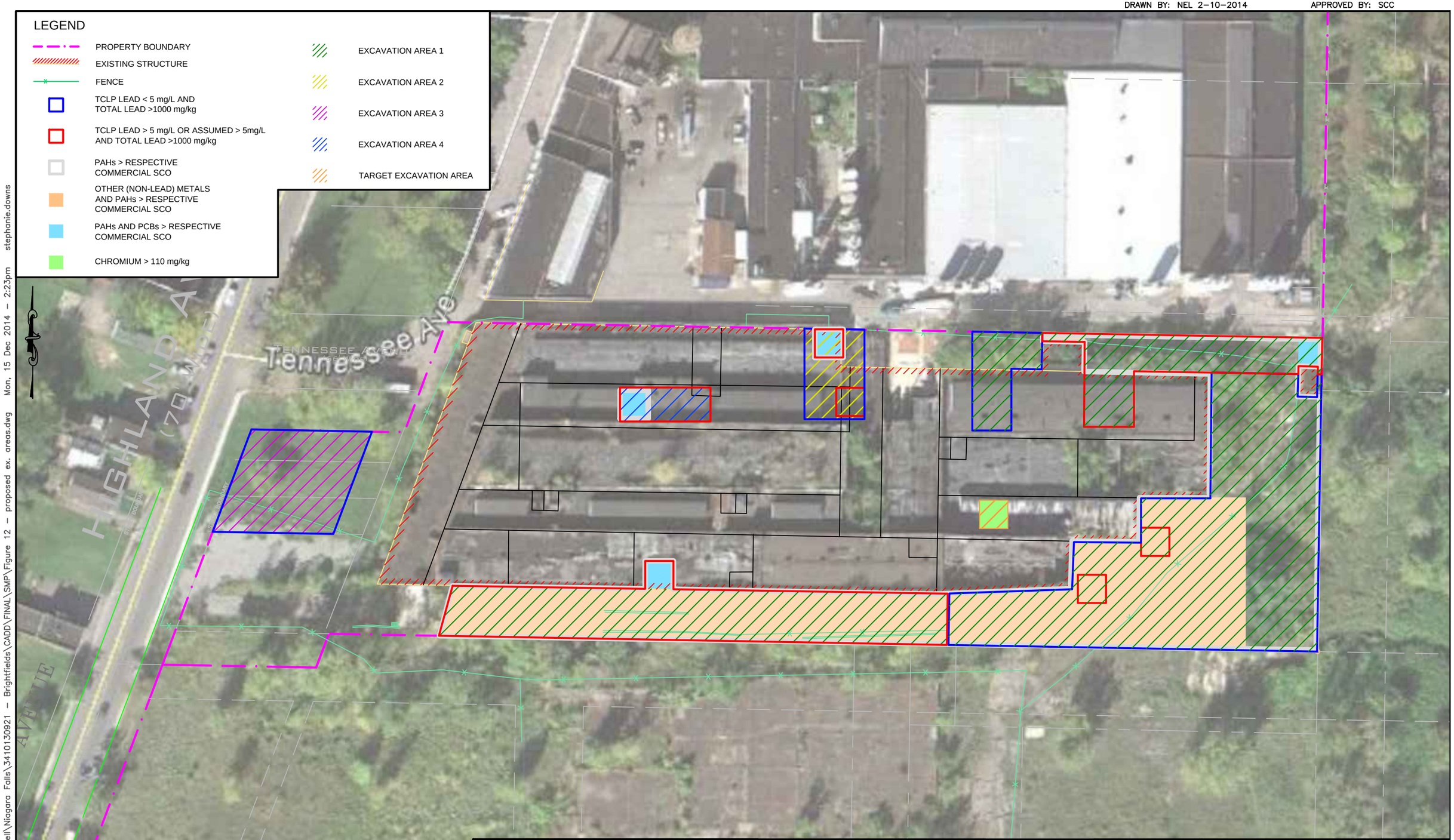
LEGEND

- PROPERTY BOUNDARY
- EXISTING STRUCTURE
- FENCE
- TCLP LEAD < 5 mg/L AND TOTAL LEAD >1000 mg/kg
- TCLP LEAD > 5 mg/L OR ASSUMED > 5mg/L AND TOTAL LEAD >1000 mg/kg
- PAHs > RESPECTIVE COMMERCIAL SCO
- OTHER (NON-LEAD) METALS AND PAHs > RESPECTIVE COMMERCIAL SCO
- PAHs AND PCBs > RESPECTIVE COMMERCIAL SCO
- CHROMIUM > 110 mg/kg
- EXCAVATION AREA 1
- EXCAVATION AREA 2
- EXCAVATION AREA 3
- EXCAVATION AREA 4
- TARGET EXCAVATION AREA



80 0 80
SCALE: 1"=80'

Ref.: Google Earth photo, October 5, 2011

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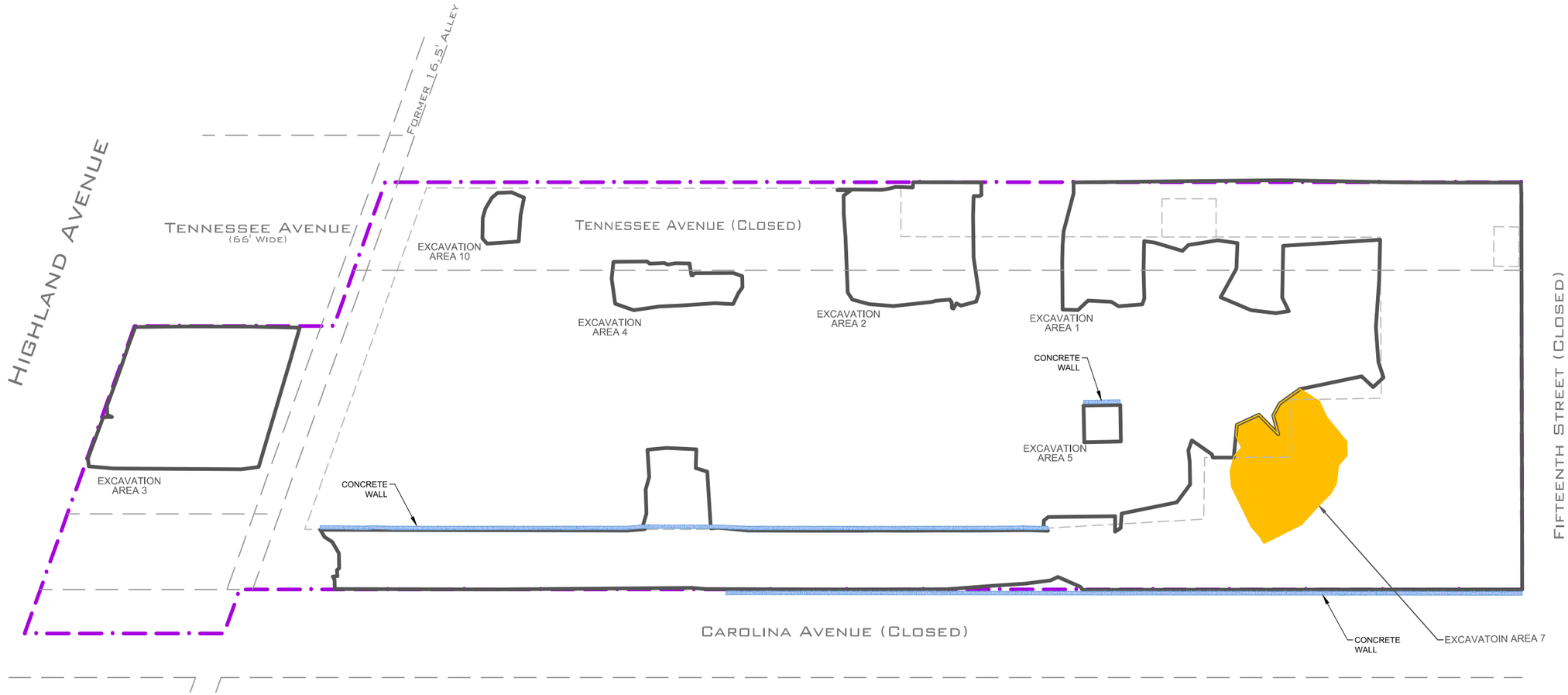
SUMMARY OF
PROPOSED EXCAVATION AREAS
AS IDENTIFIED IN IRM WP

Figure: 12

12

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 12 - proposed ex. areas.dwg Mon, 15 Dec 2014 - 2:23pm stephanie.downs

DRAWN BY: NEL 5-7-2014 APPROVED BY: SCC



LEGEND

- Property Boundary
- Footprint of Demolished Structure
- Limits of Excavation
- Excavation Area 7

80 0 80

SCALE: 1"=80'

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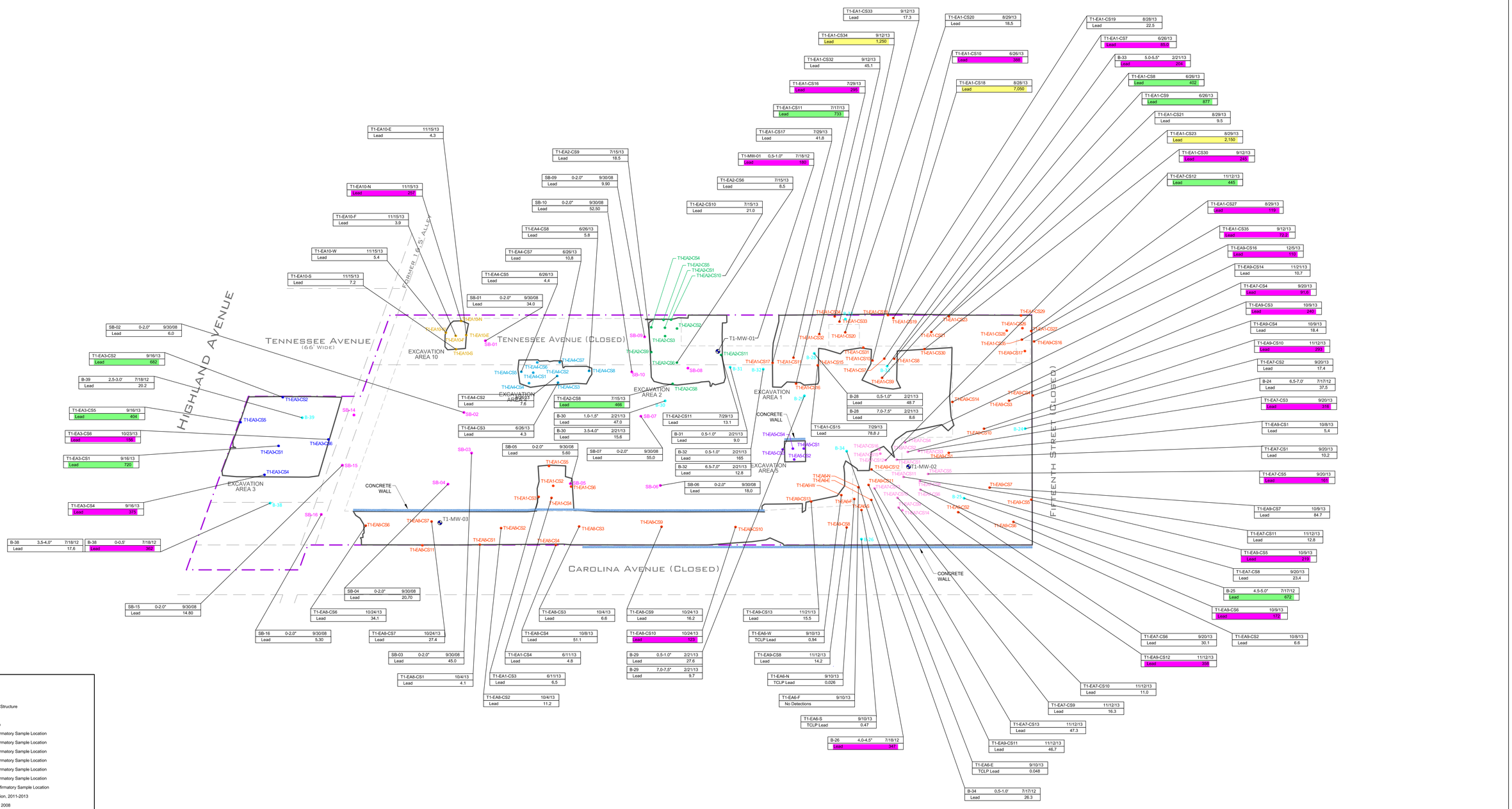
EXCAVATION AREA
REFERENCE NUMBER

Figure: 13

13

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 13 - Ex. Area REf. number.dwg Thu, 18 Dec 2014 - 11:47am stephanie.downs

DRAWN BY: NEL 5-30-2014 APPROVED BY: SCC



LEGEND

- Property Boundary
- Footprint of Demolished Structure
- Excavation Limits
- T1-MW-03 Monitoring Well Location
- T1-EA1-CS1 Excavation Area 1 Confirmatory Sample Location
- T1-EA2-CS1 Excavation Area 2 Confirmatory Sample Location
- T1-EA3-CS1 Excavation Area 3 Confirmatory Sample Location
- T1-EA4-CS1 Excavation Area 4 Confirmatory Sample Location
- T1-EA5-CS1 Excavation Area 5 Confirmatory Sample Location
- T1-EA7-CS1 Excavation Area 7 Confirmatory Sample Location
- T1-EA10-N Excavation Area 10 Confirmatory Sample Location
- B-30 AMEC Soil Boring Location, 2011-2013
- SB-15 EA Soil Boring Location, 2008

Soil Boring Sample Results Box

T1-EA9-CS6 10/9/13	Sample Name and Date
Lead 172	Soil Boring Sample Results
Lead 172	Concentration exceeds respective Restricted Commercial Soil Cleanup Objective.
Lead 172	Concentration exceeds respective Restricted Residential Soil Cleanup Objective.
Lead 172	Concentration exceeds respective Unrestricted Soil Cleanup objective.

J Denotes estimated concentration

B Denotes that compound was also detected in method blank.

NOTE

Lead results reported in mg/kg.
TCLP Lead results reported in mg/L.

60 0 60
SCALE: 1"=60'

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NIAGARA FALLS, NEW YORK

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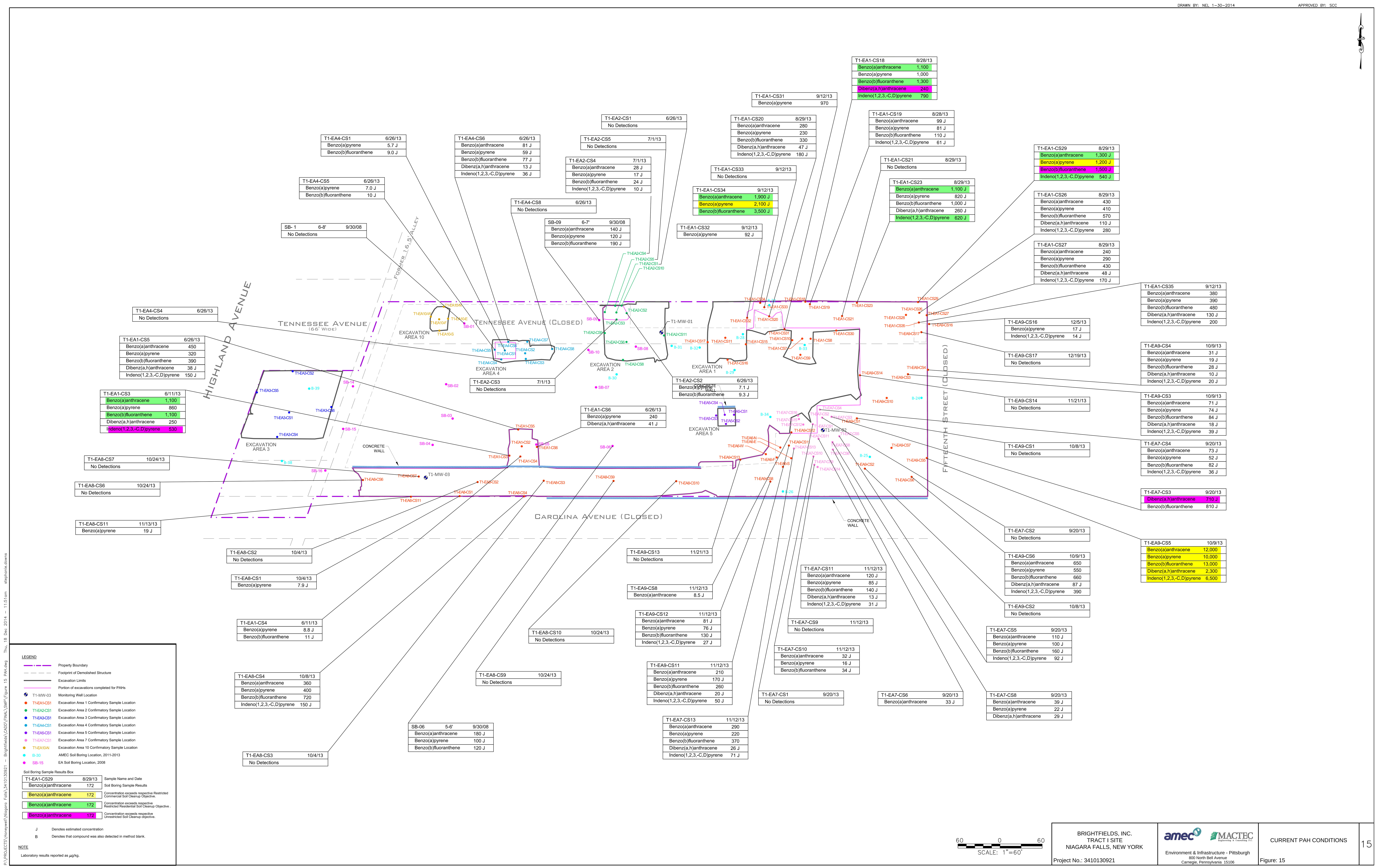
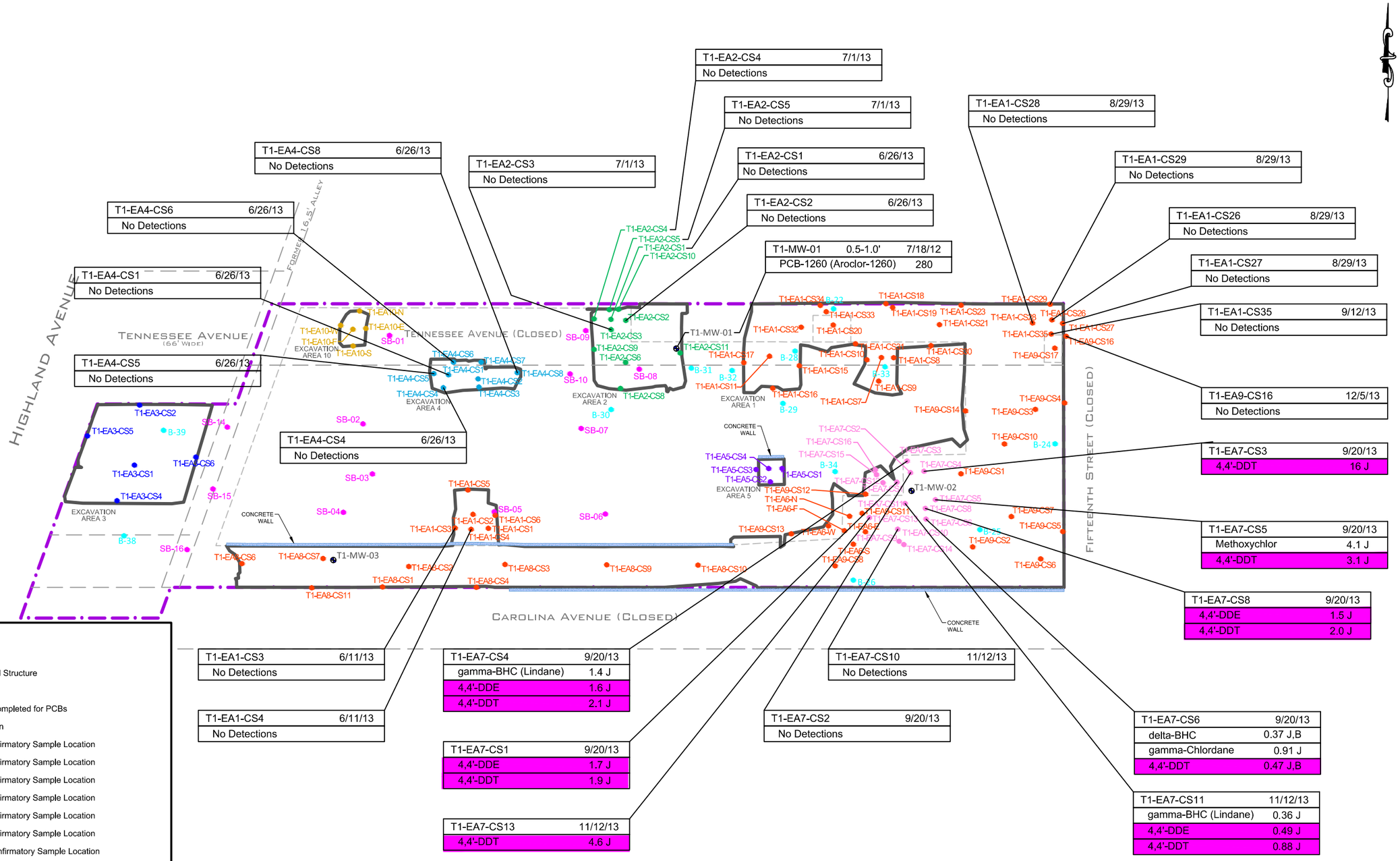
CURRENT LEAD CONDITIONS

Figure: 14

14

P:\PROJECTS\Vestal\Niagara Falls\3410130921 - Brightfields\CAD\FINAL\SMPT\Figure 14 - lead conditions.dwg Thu, 18 Dec 2014 - 11:49pm stephanie.downs


DRAWN BY: NEL 1-30-2014
APPROVED BY: SCC
TENNESSEE AVENUE (66' WIDE)
TENNESSEE AVENUE (CLOSED)
HIGHLAND AVENUE
FORMER 16.5' ALLEY
CAROLINA AVENUE (CLOSED)
FIFTEENTH STREET (CLOSED)
EXCAVATION AREA 1
EXCAVATION AREA 2
EXCAVATION AREA 3
EXCAVATION AREA 4
EXCAVATION AREA 5
EXCAVATION AREA 10
CONCRETE WALL
T1-MW-01
T1-MW-02
T1-MW-03
T1-EA1-CS18 8/28/13
Benzo(a)anthracene 1,100
Benzo(a)pyrene 1,000
Benzo(b)fluoranthene 1,300
Dibenz(a,h)anthracene 240
Indeno(1,2,3,-C,D)pyrene 790
T1-EA1-CS31 9/12/13
Benzo(a)pyrene 970
T1-EA1-CS19 8/28/13
Benzo(a)anthracene 99 J
Benzo(a)pyrene 81 J
Benzo(b)fluoranthene 110 J
Indeno(1,2,3,-C,D)pyrene 61 J
T1-EA2-CS1 6/26/13
No Detections
T1-EA1-CS20 8/29/13
Benzo(a)anthracene 280
Benzo(a)pyrene 230
Benzo(b)fluoranthene 330
Dibenz(a,h)anthracene 47 J
Indeno(1,2,3,-C,D)pyrene 180 J
T1-EA4-CS1 6/26/13
Benzo(a)pyrene 5.7 J
Benzo(b)fluoranthene 9.0 J
T1-EA4-CS6 6/26/13
Benzo(a)anthracene 81 J
Benzo(a)pyrene 59 J
Benzo(b)fluoranthene 77 J
Dibenz(a,h)anthracene 13 J
Indeno(1,2,3,-C,D)pyrene 36 J
T1-EA2-CS5 7/1/13
No Detections
T1-EA2-CS4 7/1/13
Benzo(a)anthracene 28 J
Benzo(a)pyrene 17 J
Benzo(b)fluoranthene 24 J
Indeno(1,2,3,-C,D)pyrene 10 J
T1-EA1-CS29 8/29/13
Benzo(a)anthracene 1,300 J
Benzo(a)pyrene 1,200 J
Benzo(b)fluoranthene 1,500 J
Indeno(1,2,3,-C,D)pyrene 540 J
T1-EA1-CS21 8/29/13
No Detections
T1-EA1-CS33 9/12/13
No Detections
T1-EA1-CS23 8/29/13
Benzo(a)anthracene 1,100 J
Benzo(a)pyrene 820 J
Benzo(b)fluoranthene 1,000 J
Dibenz(a,h)anthracene 260 J
Indeno(1,2,3,-C,D)pyrene 620 J
T1-EA4-CS5 6/26/13
Benzo(a)pyrene 7.0 J
Benzo(b)fluoranthene 10 J
T1-EA1-CS34 9/12/13
Benzo(a)anthracene 1,900 J
Benzo(a)pyrene 2,100 J
Benzo(b)fluoranthene 3,500 J
T1-EA1-CS26 8/29/13
Benzo(a)anthracene 430
Benzo(a)pyrene 410
Benzo(b)fluoranthene 570
Dibenz(a,h)anthracene 110 J
Indeno(1,2,3,-C,D)pyrene 280
T1-EA4-CS8 6/26/13
No Detections
SB-09 6-7' 9/30/08
Benzo(a)anthracene 140 J
Benzo(a)pyrene 120 J
Benzo(b)fluoranthene 190 J
SB- 1 6-8' 9/30/08
No Detections
T1-EA1-CS32 9/12/13
Benzo(a)pyrene 92 J
T1-EA1-CS27 8/29/13
Benzo(a)anthracene 240
Benzo(a)pyrene 290
Benzo(b)fluoranthene 430
Dibenz(a,h)anthracene 48 J
Indeno(1,2,3,-C,D)pyrene 170 J
T1-EA1-CS35 9/12/13
Benzo(a)anthracene 380
Benzo(a)pyrene 390
Benzo(b)fluoranthene 480
Dibenz(a,h)anthracene 130 J
Indeno(1,2,3,-C,D)pyrene 200
T1-EA4-CS4 6/26/13
No Detections
T1-EA9-CS16 12/5/13
Benzo(a)pyrene 17 J
Indeno(1,2,3,-C,D)pyrene 14 J
T1-EA1-CS5 6/26/13
Benzo(a)anthracene 450
Benzo(a)pyrene 320
Benzo(b)fluoranthene 390
Dibenz(a,h)anthracene 38 J
Indeno(1,2,3,-C,D)pyrene 150 J
T1-EA9-CS17 12/19/13
No Detections
T1-EA9-CS4 10/9/13
Benzo(a)anthracene 31 J
Benzo(a)pyrene 19 J
Benzo(b)fluoranthene 28 J
Dibenz(a,h)anthracene 10 J
Indeno(1,2,3,-C,D)pyrene 20 J
T1-EA2-CS3 7/1/13
No Detections
T1-EA2-CS2 6/26/13
Benzo(a)pyrene 7.1 J
Benzo(b)fluoranthene 9.3 J
T1-EA1-CS3 6/11/13
Benzo(a)anthracene 1,100
Benzo(a)pyrene 860
Benzo(b)fluoranthene 1,100
Dibenz(a,h)anthracene 250
Indeno(1,2,3,-C,D)pyrene 530
T1-EA9-CS14 11/21/13
No Detections
T1-EA9-CS3 10/9/13
Benzo(a)anthracene 71 J
Benzo(a)pyrene 74 J
Benzo(b)fluoranthene 84 J
Dibenz(a,h)anthracene 18 J
Indeno(1,2,3,-C,D)pyrene 39 J
T1-EA1-CS6 6/26/13
Benzo(a)pyrene 240
Dibenz(a,h)anthracene 41 J
T1-EA9-CS1 10/8/13
No Detections
T1-EA7-CS4 9/20/13
Benzo(a)anthracene 73 J
Benzo(a)pyrene 52 J
Benzo(b)fluoranthene 82 J
Indeno(1,2,3,-C,D)pyrene 36 J
T1-EA8-CS7 10/24/13
No Detections
T1-EA8-CS6 10/24/13
No Detections
T1-EA7-CS3 9/20/13
Dibenz(a,h)anthracene 710 J
Benzo(b)fluoranthene 810 J
T1-EA8-CS11 11/13/13
Benzo(a)pyrene 19 J
T1-EA7-CS2 9/20/13
No Detections
T1-EA9-CS5 10/9/13
Benzo(a)anthracene 12,000
Benzo(a)pyrene 10,000
Benzo(b)fluoranthene 13,000
Dibenz(a,h)anthracene 2,300
Indeno(1,2,3,-C,D)pyrene 6,500
T1-EA8-CS2 10/4/13
No Detections
T1-EA9-CS13 11/21/13
No Detections
T1-EA9-CS6 10/9/13
Benzo(a)anthracene 650
Benzo(a)pyrene 550
Benzo(b)fluoranthene 660
Dibenz(a,h)anthracene 87 J
Indeno(1,2,3,-C,D)pyrene 390
T1-EA7-CS11 11/12/13
Benzo(a)anthracene 120 J
Benzo(a)pyrene 85 J
Benzo(b)fluoranthene 140 J
Dibenz(a,h)anthracene 13 J
Indeno(1,2,3,-C,D)pyrene 31 J
T1-EA8-CS1 10/4/13
Benzo(a)pyrene 7.9 J
T1-EA9-CS8 11/12/13
Benzo(a)anthracene 8.5 J
T1-EA9-CS2 10/8/13
No Detections
T1-EA9-CS12 11/12/13
Benzo(a)anthracene 81 J
Benzo(a)pyrene 76 J
Benzo(b)fluoranthene 130 J
Indeno(1,2,3,-C,D)pyrene 27 J
T1-EA1-CS4 6/11/13
Benzo(a)pyrene 8.8 J
Benzo(b)fluoranthene 11 J
T1-EA7-CS9 11/12/13
No Detections
T1-EA8-CS10 10/24/13
No Detections
T1-EA7-CS5 9/20/13
Benzo(a)anthracene 110 J
Benzo(a)pyrene 100 J
Benzo(b)fluoranthene 160 J
Indeno(1,2,3,-C,D)pyrene 92 J
T1-EA7-CS10 11/12/13
Benzo(a)anthracene 32 J
Benzo(a)pyrene 16 J
Benzo(b)fluoranthene 34 J
T1-EA9-CS11 11/12/13
Benzo(a)anthracene 210
Benzo(a)pyrene 170 J
Benzo(b)fluoranthene 260
Dibenz(a,h)anthracene 20 J
Indeno(1,2,3,-C,D)pyrene 50 J
T1-EA8-CS4 10/8/13
Benzo(a)anthracene 360
Benzo(a)pyrene 400
Benzo(b)fluoranthene 720
Indeno(1,2,3,-C,D)pyrene 150 J
T1-EA8-CS9 10/24/13
No Detections
T1-EA7-CS1 9/20/13
No Detections
T1-EA7-CS6 9/20/13
Benzo(a)anthracene 33 J
T1-EA7-CS8 9/20/13
Benzo(a)anthracene 39 J
Benzo(a)pyrene 22 J
Dibenz(a,h)anthracene 29 J
SB-06 5-6' 9/30/08
Benzo(a)anthracene 180 J
Benzo(a)pyrene 100 J
Benzo(b)fluoranthene 120 J
T1-EA7-CS13 11/12/13
Benzo(a)anthracene 290
Benzo(a)pyrene 220
Benzo(b)fluoranthene 370
Dibenz(a,h)anthracene 26 J
Indeno(1,2,3,-C,D)pyrene 71 J
T1-EA8-CS3 10/4/13
No Detections
LEGEND
Property Boundary
Footprint of Demolished Structure
Excavation Limits
Portion of excavations completed for PAHs
T1-MW-03 Monitoring Well Location
T1-EA1-CS1 Excavation Area 1 Confirmatory Sample Location
T1-EA2-CS1 Excavation Area 2 Confirmatory Sample Location
T1-EA3-CS1 Excavation Area 3 Confirmatory Sample Location
T1-EA4-CS1 Excavation Area 4 Confirmatory Sample Location
T1-EA5-CS1 Excavation Area 5 Confirmatory Sample Location
T1-EA7-CS1 Excavation Area 7 Confirmatory Sample Location
T1-EA10-N Excavation Area 10 Confirmatory Sample Location
B-30 AMEC Soil Boring Location, 2011-2013
SB-15 EA Soil Boring Location, 2008
Soil Boring Sample Results Box
T1-EA1-CS29 8/29/13 Sample Name and Date
Benzo(a)anthracene 172 Soil Boring Sample Results
Benzo(a)anthracene 172 Concentration exceeds respective Restricted Commercial Soil Cleanup Objective.
Benzo(a)anthracene 172 Concentration exceeds respective Restricted Residential Soil Cleanup Objective .
Benzo(a)anthracene 172 Concentration exceeds respective Unrestricted Soil Cleanup objective.
J Denotes estimated concentration
B Denotes that compound was also detected in method blank.
NOTE
Laboratory results reported as μg/kg.
60 0 60
SCALE: 1"=60'
BRIGHTFIELDS, INC.
TRACT I SITE
NIAGARA FALLS, NEW YORK
Project No.: 3410130921
amec
MACTEC Engineering & Consulting P.C.
Environment & Infrastructure - Pittsburgh
800 North Bell Avenue
Carnegie, Pennsylvania 15106
CURRENT PAH CONDITIONS
Figure: 15
15
P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 15 PAH.dwg Thu, 18 Dec 2014 - 11:51am stephanie.downs



LEGEND

- Property Boundary
- Footprint of Demolished Structure
- Excavation Limits
- Portion of excavation completed for PCBs
- T1-MW-03 Monitoring Well Location
- T1-EA1-CS1 Excavation Area 1 Confirmatory Sample Location
- T1-EA2-CS1 Excavation Area 2 Confirmatory Sample Location
- T1-EA3-CS1 Excavation Area 3 Confirmatory Sample Location
- T1-EA4-CS1 Excavation Area 4 Confirmatory Sample Location
- T1-EA5-CS1 Excavation Area 5 Confirmatory Sample Location
- T1-EA7-CS1 Excavation Area 7 Confirmatory Sample Location
- T1-EA10-N Excavation Area 10 Confirmatory Sample Location
- B-30 AMEC Soil Boring Location, 2011-2013
- SB-15 EA Soil Boring Location, 2008

Soil Boring Sample Results Box

T1-EA1-CS29	8/29/13 — Sample Name and Date
Benzo(a)anthracene	172 — Soil Boring Sample Results
Benzo(a)anthracene	172 — Concentration Exceeds respective Unrestricted Soil Cleanup objective

J Denotes estimated concentration

B Denotes that compound was also detected in method blank.

NOTE

Laboratory results reported as µg/kg.

100 0 100

SCALE: 1"=100'

BRIGHTFIELDS, INC.
TRACT I SITE
NIAGARA FALLS, NEW YORK

Project No.: 3410130921

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Carnegie, Pennsylvania 15106

CURRENT PCB/PESTICIDES CONDITIONS

Figure: 16

16

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 16 - PCB.dwg Mon, 19 Jan 2015 - 9:57am stephanie.downs

DRAWN BY: NEL 1-31-2014 APPROVED BY: SCC

SB-01	6.0-8.0'	9/30/08
n-Butylbenzene		20 J
sec-Butylbenzene		4.6 J
1,2,4-Trimethylbenzene		100 J
1,3,5-Trimethylbenzene		74 J
m,p-Xylene		5.3 J
Xylene (Total)		5.3 J

SB-06	5.0-6.0'	9/30/08
Acetone		150 J
2-Butanone		28 J
n-Butylbenzene		22
sec-Butylbenzene		5.3 J
Isopropylbenzene		10 J
Naphthalene		48
n-Propylbenzene		13
1,2,4-Trimethylbenzene		100
1,3,5-Trimethylbenzene		62

SB-09	6.0-7.0'	9/30/08
Acetone		48 J
n-Butylbenzene		17
sec-Butylbenzene		8.1
Isopropylbenzene		3.7 J
Naphthalene		6.3
n-Propylbenzene		4.8 J
Toluene		5.5 J
Trichloroethene		12
1,2,4-Trimethylbenzene		83

T1-MW-01	4.5-5.0'	7/18/12
Acetone		100
Cyclohexane		13
Isopropylbenzene		6.8
Methyl Ethyl Ketone (MEK)		33
Methylcyclohexane		46
Toluene		0.48 J
Xylenes (Total)		3.2 J

T1-MW-01	8.5-9.0'	7/18/12
Acetone		22 J
Cyclohexane		61
Isopropylbenzene		31
Methyl Ethyl Ketone (MEK)		4.5 J
Methylcyclohexane		200
Tetrachloroethylene (PCE)		1.1 J

B-22	9.5-10.0'	7/17/12
Acetone		34
Cyclohexane		34
Methyl Ethyl Ketone (MEK)		4.4 J
Methylcyclohexane		64 J

T1-EA9-CS16	12/5/13
Acetone	63

T1-EA7-CS4	9/20/13
Acetone	16 J

T1-EA7-CS3	9/20/13
Acetone	91
Cyclohexane	27
Methyl Ethyl Ketone (MEK)	32
Methylcyclohexane	80
Xylenes (Total)	8.0 J

T1-EA7-CS2	9/20/13
Isopropylbenzene	4.5

T1-EA7-CS5	9/20/13
Acetone	26

T1-MW-02	5.0-6.0	8/1/12
No Detections		

T1-EA7-CS1	9/20/13
Acetone	17 J

T1-EA7-CS13	11/12/13
No Detections	

T1-EA7-CS10	11/12/13
Acetone	10 J

T1-EA7-CS6	9/20/13
No Detections	

T1-EA7-CS11	11/12/13
Isopropylbenzene	3.6 J
Methylcyclohexane	14

T1-EA7-CS8	9/20/13
Acetone	12 J

HIGHLAND AVENUE
TENNESSEE AVENUE (66' WIDE)
TENNESSEE AVENUE (CLOSED)
FORMER 16' 'S' ALLEY
FIFTEENTH STREET (CLOSED)
CAROLINA AVENUE (CLOSED)
EXCAVATION AREA 1
EXCAVATION AREA 2
EXCAVATION AREA 3
EXCAVATION AREA 4
EXCAVATION AREA 5
EXCAVATION AREA 10
CONCRETE WALL
T1-MW-01
T1-MW-02
T1-MW-03

LEGEND

- Property Boundary
- Footprint of Demolished Structure
- Excavation Limits
- T1-MW-03 Monitoring Well Location
- T1-EA1-CS1 Excavation Area 1 Confirmatory Sample Location
- T1-EA2-CS1 Excavation Area 2 Confirmatory Sample Location
- T1-EA3-CS1 Excavation Area 3 Confirmatory Sample Location
- T1-EA4-CS1 Excavation Area 4 Confirmatory Sample Location
- T1-EA5-CS1 Excavation Area 5 Confirmatory Sample Location
- T1-EA7-CS1 Excavation Area 7 Confirmatory Sample Location
- T1-EA10-N Excavation Area 10 Confirmatory Sample Location
- B-30 AMEC Soil Boring Location, 2011-2013
- SB-15 EA Soil Boring Location, 2008

Soil Boring Sample Results Box

T1-EA1-CS29	8/29/13	Sample Name and Date
Benzo(a)anthracene	172	Soil Boring Sample Results
Benzo(a)anthracene	172	Concentration Exceeds Respective Unrestricted Soil Cleanup Objective

J Denotes estimated concentration

B Denotes that compound was also detected in method blank.

NOTE

Laboratory results reported as µg/kg.

100 0 100
SCALE: 1"=100'

BRIGHTFIELDS, INC.
TRACT I SITE
NIAGARA FALLS, NEW YORK

Project No.: 3410130921

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Carnegie, Pennsylvania 15106

CURRENT VOCs CONDITIONS

Figure: 17

17

P:\PROJECTS\Honeywell\Niagara Falls\3410130921 - Brightfields\CADD\FINAL\SMP\Figure 17 - VOCs.dwg Mon, 19 Jan 2015 - 10:02am stephanie.downs

DRAWN BY: NEL 2-6-2014 APPROVED BY: SCC

SB-02	0.0-2.0'	9/30/08
Aluminium		11,100 J
Arsenic		3.3 J
Barium		90,8 J
Beryllium		0,5 J
Cadmium		0,13 J
Calcium		66,000
Chromium		16,3 J
Cobalt		8.8 J
Copper		19,3
Iron		27,100
Magnesium		9,090 J
Manganese		652 J
Nickel		19.9 J
Potassium		1,710 J
Sodium		137 J
Vanadium		20,7 J
Zinc		39 J

SB-01	0.0-2.0'	9/30/08
Aluminium		14,500 J
Arsenic		4,6 J
Barium		110 J
Beryllium		0,75 J
Cadmium		0,21 J
Calcium		74,200
Chromium		22,6 J
Cobalt		26,4 J
Copper		27,6
Iron		31,900
Magnesium		11,200 J
Manganese		606 J
Nickel		25,90 J
Potassium		2,620 J
Sodium		161 J
Vanadium		30,6 J
Zinc		52,5 J

SB-07	0.0-2.0'	9/30/08
Aluminium		13,500 J
Arsenic		5,4 J
Barium		141 J
Beryllium		0,6 J
Cadmium		0,29 J
Calcium		43,800
Chromium		32,2 J
Cobalt		8,3 J
Copper		28,3
Iron		25,100
Magnesium		7,930 J
Manganese		597 J
Nickel		19,7 J
Potassium		2,480 J
Sodium		131 J
Vanadium		23,5 J
Zinc		74,7 J

SB-10	0.0-2.0'	9/30/08
Aluminium		18,700 J
Antimony		2.2 J
Arsenic		4.9 J
Barium		151 J
Beryllium		0,92 J
Cadmium		0,24 J
Calcium		63,600
Chromium		28.3 J
Cobalt		12.4 J
Copper		27,4
Iron		38,000
Magnesium		11,400 J
Manganese		556 J
Mercury		0.094
Nickel		31.3 J
Potassium		4,040 J
Sodium		159 J
Vanadium		36.5 J
Zinc		65.4 J

SB-09	0.0-2.0'	9/30/08
Aluminium		18,200 J
Arsenic		5 J
Barium		133 J
Beryllium		1 J
Cadmium		0,13 J
Calcium		3,100
Chromium		24,7 J
Cobalt		11 J
Copper		27,2
Iron		34,600
Magnesium		5,840 J
Manganese		470 J
Nickel		28,3 J
Potassium		1,770 J
Sodium		96,1 J
Vanadium		33,9 J
Zinc		59.6 J

T1-MW-01	0,5-1,0'	7/18/12
Aluminium		17,500
Arsenic		6.1
Barium		281
Beryllium		1.1
Cadmium		0,46
Calcium		33,500
Chromium		20.4
Cobalt		13.1
Copper		28.1
Iron		25,200
Magnesium		7,900
Manganese		795
Mercury		0.037
Nickel		25.1
Potassium		2,470
Sodium		247
Vanadium		19,9
Zinc		211

T1-EA5-CS4	6/11/13
Chromium	33.4

T1-EA5-CS3	6/11/13
Chromium	22.6

T1-EA5-CS1	6/11/13
Chromium	79.8

T1-EA9-CS12	11/12/13
Arsenic	2.2
Barium	90.4
Copper	17.4

T1-EA7-CS1	9/20/13
Aluminium	14,200
Arsenic	3,6
Barium	104
Beryllium	0,68
Cadmium	0,44
Calcium	53,200
Chromium	19,9
Cobalt	12
Copper	22,6
Iron	22,400 J
Magnesium	10,400
Manganese	644
Nickel	28,6
Potassium	2,500
Sodium	243
Vanadium	24,4
Zinc	187

T1-EA7-CS4	9/20/13
Aluminium	12,000
Arsenic	4,5
Barium	83,4
Beryllium	0.60
Cadmium	0,27
Calcium	50,600
Chromium	16,4
Cobalt	9,8
Copper	27,7
Iron	21,000 J
Magnesium	11,400
Manganese	540
Nickel	24,1
Potassium	2,150
Sodium	255
Vanadium	21,8
Zinc	88,1

T1-EA9-CS16	12/5/13
Aluminium	15,300
Arsenic	4.9
Barium	160
Beryllium	0.75
Cadmium	0,61
Calcium	12,100
Chromium	16,5
Cobalt	5,7
Copper	37,7
Iron	14,000
Magnesium	3140
Manganese	158
Nickel	17,2
Potassium	1,370
Vanadium	19.3
Zinc	149
Mercury	0,13

SB-14	0.0-2.0'	9/30/08
Aluminium		24,500 J
Arsenic		5.9 J
Barium		174 J
Beryllium		1,8 J
Cadmium		0.26
Calcium		2,790
Chromium		32,2 J
Cobalt		15.5 J
Copper		36.5
Iron		46,200
Magnesium		7,960 J
Manganese		601 J
Nickel		38 J
Potassium		2,860 J
Sodium		77,9 J
Vanadium		40,6 J
Zinc		86,9 J

SB-03	0.0-2.0'	9/30/08
Aluminium		9,430 J
Arsenic		3,3 J
Barium		63,6 J
Beryllium		0,44 J
Cadmium		0,13 J
Calcium		55,500
Chromium		12,9 J
Cobalt		9 J
Copper		33,9
Iron		23,400
Magnesium		9,130 J
Manganese		682 J
Mercury		0,015 J
Nickel		17,7 J
Potassium		1,480 J
Sodium		125 J
Vanadium		19,4 J
Zinc		39,2 J

T1-EA5-CS2	6/11/13
Chromium	25.2

T1-EA7-CS3	9/20/13
Aluminium	13,700
Arsenic	6,1
Barium	124
Beryllium	0,71
Cadmium	0.89
Calcium	44,200
Chromium	19,2
Cobalt	11,1
Copper	40,4
Iron	26,500 J
Magnesium	9,390
Manganese	537
Nickel	27,4
Potassium	2,600
Sodium	687
Vanadium	25,2
Zinc	197
Mercury	0.079 J

T1-EA9-CS1	10/8/13
Arsenic	4.7
Barium	64.8
Copper	17.8

T1-EA9-CS7	10/9/13
Arsenic	3,1
Barium	131
Copper	44,1

T1-EA7-CS5	9/20/13
Aluminium	12,800
Arsenic	5.3
Barium	85,5
Beryllium	0.72
Cadmium	0.32
Calcium	51,400
Chromium	17,6
Cobalt	12,6
Copper	25,7
Iron	22,600 J
Magnesium	8,410
Manganese	528
Nickel	27,8
Potassium	2,340
Sodium	183
Vanadium	27,2
Zinc	103
Mercury	0,046 J

T1-EA7-CS2	9/20/13
Aluminium	6,660
Barium	58
Beryllium	0,34
Cadmium	0.4
Calcium	110,000
Chromium	9,3
Cobalt	4,7
Copper	101
Iron	14,000 J
Magnesium	29,000
Manganese	853
Nickel	13,6
Potassium	1,500
Vanadium	14,8
Zinc	117

SB-15	0.0-2.0'	9/30/08
Aluminium		22,300
Arsenic		2.4
Barium		72.4
Beryllium		0,9
Calcium		31,400
Chromium		28,3
Cobalt		8 J
Copper		24,1
Iron		32,400
Magnesium		12,500
Manganese		311 J
Nickel		25,8
Potassium		3,700 J
Sodium		230
Vanadium		33,6
Zinc		60,3 J

SB16	0.0-2.0'	9/30/08
Aluminium		11,300
Arsenic		5,40
Barium		70,1
Beryllium		0,49
Calcium		55,500
Chromium		15,1
Cobalt		9,6 J
Copper		22,2
Iron		24,500
Magnesium		8,620
Manganese		859
Nickel		20,9 J
Potassium		2,000
Sodium		140
Vanadium		22,4
Zinc		42,3 J

T1-EA8-CS6	10/24/13
Arsenic	3.9
Barium	110
Copper	25,9

T1-EA8-CS7	10/24/13
Arsenic	8
Barium	112
Copper	24,1

T1-EA8-CS1	10/4/13
Arsenic	4,5
Barium	52.3
Copper	18,5

T1-EA8-CS2	10/4/13
Arsenic	3.9
Barium	110
Copper	25,5

T1-EA8-CS4	10/8/13
Arsenic	6
Barium	121
Copper	28.5

T1-EA8-CS3	10/4/13
Arsenic	5.2
Barium	99,5
Copper	22,4

T1-EA8-CS9	10/24/13
Arsenic	4.8
Barium	131
Copper	22.9

T1-EA8-CS10	10/24/13
Arsenic	6,1
Barium	166
Copper	27.8

T1-EA9-CS8	11/12/13
Arsenic	4,3
Barium	125
Copper	22,8

T1-EA9-CS11	11/12/13
Arsenic	3.1
Barium	36,6
Copper	27,9

SB-04	0.0-2.0'	9/30/08
Aluminium		15,200 J
Arsenic		4.7 J
Barium		102 J
Beryllium		0,74 J
Cadmium		0.18 J
Calcium		77,700
Chromium		21,5 J
Cobalt		8,9 J
Copper		28,7
Iron		29,000
Magnesium		11,200 J
Manganese		449 J
Nickel		22,2 J
Potassium		2,530 J
Sodium		168 J
Vanadium		30,8 J
Zinc		48,2 J

SB-05	0.0-2.0'	9/30/08
Aluminium		9,460 J
Arsenic		4.4 J
Barium		61,40 J
Beryllium		0,48 J
Cadmium		0,13 J
Calcium		3,340
Chromium		13,4 J
Cobalt		10,2 J
Copper		20,8
Iron		22,400
Magnesium		4,540 J
Manganese		976 J
Nickel		21,4 J
Potassium		1,090 J
Sodium		91 J
Vanadium		19,9 J
Zinc		44,4 J

SB-06	0.0-2.0'	9/30/08
Aluminium		16,800
Arsenic		4,1 J
Barium		94,9 J
Beryllium		0,720 J
Cadmium		0,250
Calcium		45,500
Chromium		20,5 J
Cobalt		11,7 J
Copper		24,3
Iron		29,000
Magnesium		10,200 J
Manganese		661 J
Nickel		23,8 J
Potassium		2,280 J
Sodium		155 J
Vanadium		28.9 J
Zinc		65,8 J

T1-EA7-CS13	11/12/13
Aluminium	6,190
Arsenic	4,5
Barium	55.7
Beryllium	0,53
Calcium	34,700
Chromium	9,6
Copper	24,1
Iron	13,800
Magnesium	6,730
Manganese	579
Nickel	12,5
Potassium	1,060
Vanadium	15,4
Zinc	38,4

T1-EA7-CS10	11/12/13
Aluminium	14,600
Arsenic	2.8
Barium	110
Beryllium	1
Cadmium	6,4
Calcium	5,080
Chromium	20,2
Cobalt	9,1
Copper	33.5
Iron	21,900
Magnesium	6,270
Manganese	198
Nickel	25.8
Potassium	823
Vanadium	23.8
Zinc	3,220

T1-EA7-CS6	9/20/13
Aluminium	23,800
Arsenic	3.8
Barium	246
Beryllium	1,1
Calcium	7,470
Chromium	28,8
Cobalt	12.8
Copper	25.8
Iron	27,400 J
Magnesium	7,670
Manganese	356
Nickel	36.9
Potassium	2,510
Vanadium	32.3
Zinc	71.8

T1-EA9-CS2	10/8/13
Arsenic	3,5
Barium	87,8
Copper	15,4

T1-EA7-C11	11/12/13
Aluminium	11,800
Arsenic	4.7
Barium	83,7
Beryllium	0.75
Cadmium	0.88
Calcium	45,100
Chromium	18,1
Cobalt	8,9
Copper	22,7
Iron	20,400
Magnesium	8,840
Manganese	488
Nickel	21,6
Potassium	1,670
Vanadium	23,6
Zinc	173

T1-EA7-CS8	9/20/13
Aluminium	16,900
Arsenic	7,5
Barium	161
Beryllium	0.91
Cadmium	5,3
Calcium	31,400
Chromium	21,8
Cobalt	12.5
Copper	29
Iron	29,700 J
Magnesium	8,770
Manganese	531
Nickel	31,4
Potassium	3,090
Vanadium	32,4
Zinc	706

T1-EA9-CS12	11/12/13
Arsenic	2.2
Barium	90.4
Copper	17.4

T1-EA9-CS16	12/5/13
Aluminium	15,300
Arsenic	4.9
Barium	160
Beryllium	0.75
Cadmium	0,61
Calcium	12,100
Chromium	16,5
Cobalt	5,7
Copper	37.7
Iron	14,000
Magnesium	3140
Manganese	158
Nickel	17,2
Potassium	1,370
Vanadium	19.3
Zinc	149
Mercury	0,13

TENNESSEE AVENUE (66' WIDE)

TENNESSEE AVENUE (CLOSED)

HIGHLAND AVENUE

FORMER 14.5' ALLEY

FIFTEENTH STREET (CLOSED)

CAROLINA AVENUE (CLOSED)

EXCAVATION AREA 10

EXCAVATION AREA 4

EXCAVATION AREA 2

EXCAVATION AREA 1

EXCAVATION AREA 5

EXCAVATION AREA 3

CONCRETE WALL

T1-MW-01

T1-MW-02

T1-MW-03

LEGEND

- Property Boundary
- Footprint of Demolished Structure
- Excavation Limits
- Portion of excavation completed for Non-Lead Metals
- T1-MW-03 Monitoring Well Location
- T1-EA1-CS1 Excavation Area 1 Confirmatory Sample Location
- T1-EA2-CS1 Excavation Area 2 Confirmatory Sample Location
- T1-EA3-CS1 Excavation Area 3 Confirmatory Sample Location
- T1-EA4-CS1 Excavation Area 4 Confirmatory Sample Location
- T1-EA5-CS1 Excavation Area 5 Confirmatory Sample Location
- T1-EA7-CS1 Excavation Area 7 Confirmatory Sample Location
- T1-EA10N Excavation Area 10 Confirmatory Sample Location
- B-30 AMEC Soil Boring Location, 2011-2013
- SB-15 EA Soil Boring Location, 2008

Soil Boring Sample Results Box

T1-EA1-CS29	8/29/13	Sample Name and Date
Benzo(a)anthracene	172	Soil Boring Sample Results
Benzo(a)anthracene	172	Concentration exceeds respective Restricted Residential Soil Cleanup Objective ,
Benzo(a)anthracene	172	Concentration exceeds respective Unrestricted Soil Cleanup Objective ,

J Denotes estimated concentration

B Denotes that compound was also detected in method blank,

NOTE

Laboratory results reported as mg/kg.

60 0 60

SCALE: 1"=60'

BRIGHTFIELDS, INC.
TRACT I SITE
NIAGARA FALLS, NEW YORK

Project No.: 3410130921

amec MACTEC Engineering & Consulting P.C.

Environment & Infrastructure - Pittsburgh
800 North Bell Avenue
Carnegie, Pennsylvania 15106

NON-LEAD METALS
CURRENT CONDITIONS

Figure: 18

18

P:\PROJECTS\Honeywell\Walgreens Falls\3-3410130921 - Brightfields\CAD\3 FINAL\3MP\Figure 18 - Non-leads.dwg Mon, 19 Jan 2015 - 2:50pm stephonnie.downs

APPENDIX A

Environmental Easement

NIAGARA COUNTY CLERK
WAYNE F. JAGOW

RECEIPT

Receipt Date: 09/12/2014 02:58:33 PM
RECEIPT # 2014211454

Recording Clerk: MKS
Cash Drawer: CASH4
Rec'd Frm: PHILLIPS LYTLE LLP
Rec'd In Person

Instr#: 2014-15342
DOC: EASEMENT
DEED STAMP: 815
OR Party: BRIGHTFIELDS CORP
EE Party: PEOPLE OF THE STATE OF NEW YORK

Recording Fees	
Cover Page	$8.00
Recording Fee	$32.00
Cultural Ed	$14.25
Records Management - County	$1.00
Records Management - State	$4.75
TP584	$5.00

Transfer Tax	
Transfer Tax	$0.00

DOCUMENT TOTAL: ---->	$65.00

Receipt Summary

TOTAL RECEIPT: ---->	$65.00
TOTAL RECEIVED: ---->	$80.00
CASH BACK: ---->	$15.00

PAYMENTS

Cash ->	$80.00

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

THIS INDENTURE made this 8th day of September, 2014, between Owner(s) Brightfields Corporation, having an office at 333 Ganson Street Buffalo, County of Erie, 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 portion of 3123 Highland Avenue in the City of Niagara Falls, County of Niagara and State of New York, known and designated on the tax map of the County Clerk of Niagara as tax map parcel numbers: Section 144.06 Block 02 Lot 27.1, being the same as that property conveyed to Grantor by deed dated October 1, 2012 and recorded in the Niagara County Clerk's Office in Liber and Page Instrument No. 2012-20725. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 5.90 +/- acres, and is hereinafter more fully described in the Land Title Survey dated February 14, 2014 prepared by Niagara Boundary and Mapping Services, 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: C932157-03-12, 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:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(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 Niagara 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 or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), 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 by 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: C932157
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.

Brightfields Corporation:

By: _____

Print Name: Jon M. Williams

Title: President Date: 5/30/2014

Grantor's Acknowledgment

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

On the 30th day of MAY, in the year 2014, before me, the undersigned, personally appeared JON M. WILLIAMS, 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.

Nancy L Mazur
Notary Public - State of New York

NANCY L. MAZUR
Notary Public, State of New York
Qualified in Erie County No. 1765930
My Commission Expires 11 30, 2016

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 9th day of September, in the year 2014, before me, the undersigned, personally appeared Robert W. 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

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2016

SCHEDULE "A" PROPERTY DESCRIPTION

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Niagara Falls, County of Niagara and State of New York, being part of Lot 34 of the New York State Mile Reserve and being more particularly bounded and described as follows:

Commencing at a point on the easterly line of Highland Avenue at its intersection with the northerly line of Beech Avenue;

Thence N20°42' 42"E along the easterly line of Highland Avenue a distance of 273.97 feet to the Point or Place of Beginning;

Thence N88°58'03"W a distance of 135.93 feet to a point;

Thence N20°42' 42"E a distance of 31.86 feet to a point on the northerly line of Carolina Avenue (not opened);

Thence S88°58'03"E along said northerly line of Carolina Avenue a distance of 874.39 feet to a point on the westerly line of Fifteenth Street (not opened);

Thence N00°54'11"E along the westerly line of Fifteenth Street a distance of 277.38 feet a point;

Thence N88°58'03"W a distance of 774.56 feet to the center line of a former 16.5 foot wide alley;

Thence S20°42'42"W along the center line of the former alley a distance of 124.29 feet to a point;

Thence N88°58'03"W a distance of 135.93 feet to a point on the easterly line of Highland Avenue;

Thence S20°42'42"W along the easterly line of Highland Avenue a distance of 202.16 feet to the Point or Place of Beginning, containing 5.844 acres of land more or less.

Doc Id. 2775298

TP-584 (4/13)

New York State Department of Taxation and Finance

Combined Real Estate Transfer Tax Return, Credit Line Mortgage Certificate, and Certification of Exemption from the Payment of Estimated Personal Income Tax

Recording office time stamp

RECEIVED

SEP 12 2014

WAYNE F. JAGOW
NIAGARA COUNTY CLERK

See Form TP-584-I, Instructions for Form TP-584, *before completing this form. Print or type.*

Schedule A — Information relating to conveyance

Grantor/Transferor ☐ Individual ☐ Corporation ☐ Partnership ☐ Estate/Trust ☐ Single member LLC ☐ Other	Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantor*) Brightfields Corporation			Social security number
	Mailing address 333 Ganson Street			Social security number
	City Buffalo	State NY	ZIP code 14203	Federal EIN
	Single member's name if grantor is a single member LLC *(see instructions)*			Single member EIN or SSN 45-4038514
Grantee/Transferee ☐ Individual ☐ Corporation ☐ Partnership ☐ Estate/Trust ☐ Single member LLC ☒ Other	Name *(if individual, last, first, middle initial)* (☐ *check if more than one grantee*) New York State Department of Environmental Conservation			Social security number
	Mailing address 625 Broadway			Social security number
	City Albany	State NY	ZIP code 12233	Federal EIN 14-6013200
	Single member's name if grantee is a single member LLC *(see instructions)*			Single member EIN or SSN

Location and description of property conveyed

Tax map designation – Section, block & lot *(include dots and dashes)*	SWIS code (six digits)	Street address	City, town, or village	County
Sec. 144.00 Block 02 Lot 29.1		3123 Highland Ave.	Niagara Falls	Niagara

Type of property conveyed *(check applicable box)*

1 ☐ One- to three-family house
2 ☐ Residential cooperative
3 ☐ Residential condominium
4 ☐ Vacant land
5 ☒ Commercial/Industrial
6 ☐ Apartment building
7 ☐ Office building
8 ☐ Other _____

Date of conveyance: 09 (month) | 08 (day) | 2014 (year)

Percentage of real property conveyed which is residential real property 0 % *(see instructions)*

Condition of conveyance *(check all that apply)*

a. ☐ Conveyance of fee interest
b. ☐ Acquisition of a controlling interest (state percentage acquired _____ %)
c. ☐ Transfer of a controlling interest (state percentage transferred _____ %)
d. ☐ Conveyance to cooperative housing corporation
e. ☐ Conveyance pursuant to or in lieu of foreclosure or enforcement of security interest *(attach Form TP-584.1, Schedule E)*
f. ☐ Conveyance which consists of a mere change of identity or form of ownership or organization *(attach Form TP-584.1, Schedule F)*
g. ☐ Conveyance for which credit for tax previously paid will be claimed *(attach Form TP-584.1, Schedule G)*
h. ☐ Conveyance of cooperative apartment(s)
i. ☐ Syndication
j. ☐ Conveyance of air rights or development rights
k. ☐ Contract assignment
l. ☐ Option assignment or surrender
m. ☐ Leasehold assignment or surrender
n. ☐ Leasehold grant
o. ☐ Conveyance of an easement
p. ☐ Conveyance for which exemption from transfer tax claimed *(complete Schedule B, Part III)*
q. ☐ Conveyance of property partly within and partly outside the state
r. ☐ Conveyance pursuant to divorce or separation
s. ☒ Other *(describe)* Environmental Easemt

For recording officer's use	Amount received Schedule B., Part I $ Schedule B., Part II $	Date received	Transaction number

Schedule B — Real estate transfer tax return (Tax Law, Article 31)

Part I – Computation of tax due

1	Enter amount of consideration for the conveyance *(if you are claiming a total exemption from tax, check the exemption claimed box, enter consideration and proceed to Part III)* ☐ **Exemption claimed**	1.	0 00
2	Continuing lien deduction *(see instructions if property is taken subject to mortgage or lien)*	2.	0 00
3	Taxable consideration *(subtract line 2 from line 1)*	3.	0 00
4	Tax: $2 for each $500, or fractional part thereof, of consideration on line 3	4.	
5	Amount of credit claimed for tax previously paid *(see instructions and attach Form TP-584.1,* Schedule G*)*	5.	
6	Total tax due* *(subtract line 5 from line 4)*	6.	0 00

Part II – Computation of additional tax due on the conveyance of residential real property for $1 million or more

1	Enter amount of consideration for conveyance *(from* Part I*, line 1)*	1.	
2	Taxable consideration *(multiply line 1 by the percentage of the premises which is residential real property, as shown in* Schedule A*)*	2.	
3	Total additional transfer tax due* *(multiply line 2 by 1% (.01))*	3.	

Part III – Explanation of exemption claimed on Part I, line 1 *(check any boxes that apply)*

The conveyance of real property is exempt from the real estate transfer tax for the following reason:

a. Conveyance is to the United Nations, the United States of America, the state of New York, or any of their instrumentalities, agencies, or political subdivisions (or any public corporation, including a public corporation created pursuant to agreement or compact with another state or Canada) ..... a ☒

b. Conveyance is to secure a debt or other obligation ..... b ☐

c. Conveyance is without additional consideration to confirm, correct, modify, or supplement a prior conveyance ..... c ☐

d. Conveyance of real property is without consideration and not in connection with a sale, including conveyances conveying realty as bona fide gifts ..... d ☐

e. Conveyance is given in connection with a tax sale ..... e ☐

f. Conveyance is a mere change of identity or form of ownership or organization where there is no change in beneficial ownership. (This exemption cannot be claimed for a conveyance to a cooperative housing corporation of real property comprising the cooperative dwelling or dwellings.) Attach Form TP-584.1, Schedule F ..... f ☐

g. Conveyance consists of deed of partition ..... g ☐

h. Conveyance is given pursuant to the federal Bankruptcy Act ..... h ☐

i. Conveyance consists of the execution of a contract to sell real property, without the use or occupancy of such property, or the granting of an option to purchase real property, without the use or occupancy of such property ..... i ☐

j. Conveyance of an option or contract to purchase real property with the use or occupancy of such property where the consideration is less than $200,000 and such property was used solely by the grantor as the grantor's personal residence and consists of a one-, two-, or three-family house, an individual residential condominium unit, or the sale of stock in a cooperative housing corporation in connection with the grant or transfer of a proprietary leasehold covering an individual residential cooperative apartment ..... j ☐

k. Conveyance is not a conveyance within the meaning of Tax Law, Article 31, section 1401(e) *(attach documents supporting such claim)* ..... k ☐

*The total tax (from Part I, line 6 and Part II, line 3 above) is due within 15 days from the date conveyance. Please make check(s) payable to the county clerk where the recording is to take place. If the recording is to take place in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, make check(s) payable to the ***NYC Department of Finance.*** If a recording is not required, send this return and your check(s) made payable to the ***NYS Department of Taxation and Finance,*** directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

Schedule C — Credit Line Mortgage Certificate (Tax Law, Article 11)

Complete the following only if the interest being transferred is a fee simple interest.
I (we) certify that: *(check the appropriate box)*

1. ☐ The real property being sold or transferred is not subject to an outstanding credit line mortgage.

2. ☐ The real property being sold or transferred is subject to an outstanding credit line mortgage. However, an exemption from the tax is claimed for the following reason:
   - ☐ The transfer of real property is a transfer of a fee simple interest to a person or persons who held a fee simple interest in the real property (whether as a joint tenant, a tenant in common or otherwise) immediately before the transfer.
   - ☐ The transfer of real property is (A) to a person or persons related by blood, marriage or adoption to the original obligor or to one or more of the original obligors or (B) to a person or entity where 50% or more of the beneficial interest in such real property after the transfer is held by the transferor or such related person or persons (as in the case of a transfer to a trustee for the benefit of a minor or the transfer to a trust for the benefit of the transferor).
   - ☐ The transfer of real property is a transfer to a trustee in bankruptcy, a receiver, assignee, or other officer of a court.
   - ☐ The maximum principal amount secured by the credit line mortgage is $3,000,000 or more, and the real property being sold or transferred is **not** principally improved nor will it be improved by a one- to six-family owner-occupied residence or dwelling.

     Please note: for purposes of determining whether the maximum principal amount secured is $3,000,000 or more as described above, the amounts secured by two or more credit line mortgages may be aggregated under certain circumstances. See TSB-M-96(6)-R for more information regarding these aggregation requirements.
   - ☐ Other *(attach detailed explanation)*.

3. ☐ The real property being transferred is presently subject to an outstanding credit line mortgage. However, no tax is due for the following reason:
   - ☐ A certificate of discharge of the credit line mortgage is being offered at the time of recording the deed.
   - ☐ A check has been drawn payable for transmission to the credit line mortgagee or his agent for the balance due, and a satisfaction of such mortgage will be recorded as soon as it is available.

4. ☐ The real property being transferred is subject to an outstanding credit line mortgage recorded in _____ (insert liber and page or reel or other identification of the mortgage). The maximum principal amount of debt or obligation secured by the mortgage is _____. No exemption from tax is claimed and the tax of _____ is being paid herewith. *(Make check payable to county clerk where deed will be recorded or, if the recording is to take place in New York City but not in Richmond County, make check payable to the **NYC Department of Finance.**)*

Signature (both the grantor(s) and grantee(s) must sign)

The undersigned certify that the above information contained in schedules A, B, and C, including any return, certification, schedule, or attachment, is to the best of his/her knowledge, true and complete, and authorize the person(s) submitting such form on their behalf to receive a copy for purposes of recording the deed or other instrument effecting the conveyance.

Grantor signature	Title	Grantee signature	Title
Jon M. Williams	President	Robert W. Schick	Director
Grantor signature	Title	Grantee signature	Title
		Benjamin Conton	

Reminder: Did you complete all of the required information in Schedules A, B, and C? Are you required to complete Schedule D? If you checked *e*, *f*, or *g* in Schedule A, did you complete Form TP-584.1? Have you attached your check(s) made payable to the county clerk where recording will take place or, if the recording is in the New York City boroughs of Manhattan, Bronx, Brooklyn, or Queens, to the ***NYC Department of Finance***? If no recording is required, send your check(s), made payable to the ***Department of Taxation and Finance,*** directly to the NYS Tax Department, RETT Return Processing, PO Box 5045, Albany NY 12205-5045.

Schedule D - Certification of exemption from the payment of estimated personal income tax (Tax Law, Article 22, section 663)

Complete the following only if a fee simple interest or a cooperative unit is being transferred by an individual or estate or trust.

If the property is being conveyed by a referee pursuant to a foreclosure proceeding, proceed to Part II, and check the second box under *Exemptions for nonresident transferor(s)/seller(s)* and sign at bottom.

Part I - New York State residents

If you are a New York State resident transferor(s)/seller(s) listed in Schedule A of Form TP-584 (or an attachment to Form TP-584), you must sign the certification below. If one or more transferors/sellers of the real property or cooperative unit is a resident of New York State, **each** resident transferor/seller must sign in the space provided. If more space is needed, please photocopy this Schedule D and submit as many schedules as necessary to accommodate all resident transferors/sellers.

Certification of resident transferor(s)/seller(s)

This is to certify that at the time of the sale or transfer of the real property or cooperative unit, the transferor(s)/seller(s) as signed below was a resident of New York State, and therefore is not required to pay estimated personal income tax under Tax Law, section 663(a) upon the sale or transfer of this real property or cooperative unit.

Signature	Print full name	Date
	Jon M. Williams	9/12/2014
Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date

Note: A resident of New York State may still be required to pay estimated tax under Tax Law, section 685(c), but not as a condition of recording a deed.

Part II - Nonresidents of New York State

If you are a nonresident of New York State listed as a transferor/seller in Schedule A of Form TP-584 (or an attachment to Form TP-584) but are not required to pay estimated personal income tax because one of the exemptions below applies under Tax Law, section 663(c), check the box of the appropriate exemption below. If any one of the exemptions below applies to the transferor(s)/seller(s), that transferor(s)/seller(s) is not required to pay estimated personal income tax to New York State under Tax Law, section 663. **Each** nonresident transferor/seller who qualifies under one of the exemptions below must sign in the space provided. If more space is needed, please photocopy this Schedule D and submit as many schedules as necessary to accommodate all nonresident transferors/sellers.

If none of these exemption statements apply, you must complete Form IT-2663, *Nonresident Real Property Estimated Income Tax Payment Form*, or Form IT-2664, *Nonresident Cooperative Unit Estimated Income Tax Payment Form.* For more information, see *Payment of estimated personal income tax,* on page 1 of Form TP-584-I.

Exemption for nonresident transferor(s)/seller(s)

This is to certify that at the time of the sale or transfer of the real property or cooperative unit, the transferor(s)/seller(s) (grantor) of this real property or cooperative unit was a nonresident of New York State, but is not required to pay estimated personal income tax under Tax Law, section 663 due to one of the following exemptions:

☐ The real property or cooperative unit being sold or transferred qualifies in total as the transferor's/seller's principal residence (within the meaning of Internal Revenue Code, section 121) from _____ (Date) to _____ (Date) *(see instructions).*

☐ The transferor/seller is a mortgagor conveying the mortgaged property to a mortgagee in foreclosure, or in lieu of foreclosure with no additional consideration.

☐ The transferor or transferee is an agency or authority of the United States of America, an agency or authority of the state of New York, the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Government National Mortgage Association, or a private mortgage insurance company.

Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date
Signature	Print full name	Date

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 THE NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT DEC@GW.DEC.STATE.NY.US

Map references:

1. Tax Map 78 and 84 from the City of Niagara Falls Engineering Office.
2. ALTA / ACSM Land Title Survey by Prudent Engineering LLP, Project No. 109.001 54, dated July 17, 2009.
3. Boundary Survey of 3123 Highland Avenue by John H. Sciarabba, Project No. 11244, dated November 1, 2011.
4. Map by Julius Frehsee with changes by Porter, Jones and Schaeffer and filed November 18, 1899 under Cover No. 158, now in Book 18 of Microfilmed Maps at page 1736.
5. Map by Julius Frehsee and filed June 8, 1896 under Cover No. 161, now in Book 2 of Microfilmed Maps at page 180.0
6. Map by Wallace P. Keller January 5, 1960 and filed in Niagara County Clerk's Office in Map Book 65 at Page 159S, now in Book 40 of Microfilmed Maps at Page 4000.

60' 0 60' 120'
SCALE BAR IN FEET

Legal Description
Environmental Easement
Brightfields - Tract I Site No. C932157

Niagara Boundary Job No. 7928-14

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Niagara Falls, County of Niagara and State of New York, being part of Lot 34 of the New York State Mile Reserve and being more particularly bounded and described as follows:

Commencing at a point on the easterly line of Highland Avenue at its intersection with the northerly line of Beech Avenue;

Thence N20°42'42"E along the easterly line of Highland Avenue a distance of 273.97 feet to the Point or Place of Beginning;

Thence S88°58'03"E a distance of 135.93 feet to a point;

Thence N20°42'42"E a distance of 31.86 feet to a point on the northerly line of Carolina Avenue (not opened);

Thence S88°58'03"E along said northerly line of Carolina Avenue a distance of 874.39 feet to a point on the westerly line of Fifteenth Street (not opened);

Thence N00°54'11"E along the westerly line of Fifteenth Street a distance of 277.38 feet a point;

Thence N88°58'03"W a distance of 774.56 feet to the center line of a former 16.5 foot wide alley;

Thence S20°42'42"W along the center line of the former alley a distance of 124.29 feet to a point;

Thence N88°58'03"W a distance of 135.93 feet to a point on the easterly line of Highland Avenue;

Thence S20°42'42"W along the easterly line of Highland Avenue a distance of 202.16 feet to the Point or Place of Beginning, containing 5.844 acres of land more or less.

Said described parcel being Lot 253 as shown on Map prepared by Niagara Boundary and Mapping Services entitled "Highland Avenue Subdivision: dated February 14, 2014 filed on March 31, 2014 in the Niagara County Clerk's Office as Instrument No. M2014-00009.

ENGINEERING / INSTITUTIONAL CONTROLS

- Compliance with the Environmental Easement and the SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in the 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 the SMP;
- 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;
- The use and development of the site is limited to Commercial and Industrial uses only as described in 6NYCRR Part 375-1.8(g)(2) (iii) & (iv).
- The property may not be used for a higher level of use, such as Restricted Residential use without additional remediation and amendment of the Environmental Easement as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP.

Title Report by Chicago Title Insurance Company, Title No. 1315-25066, dated July 8, 2013.

Schedule B, Section 2 – Exceptions:

14. The easement granted to Niagara Mohawk Power Corporation by instrument dated July 10, 1953 and recorded April 1, 1954 in Liber 1132 of deeds at page 328. Plotted on Map of Survey.

15. The easement reserved by the City of Niagara Falls by Quit Claim Deed dated August 2, 1982 and recorded August 5, 1982 in Liber 1817 of Deeds at page 42. Plotted on Map of Survey.

16. Terms, Covenants and restrictions as set forth by deed to Brightfields Corporation recorded in Instrument N. 2012-20725 on October 1, 2012. Blanket in Nature. Covers entire premise and more.

17. Terms, Covenants and restrictions as set forth by Warranty deed recorded in Liber 349 of Deeds at page 443 on May 3, 1910. Document not provided.

18. Terms, Covenants and restrictions as set forth by Warranty deed recorded in Liber 465 of Deeds at page 570 on November 6, 1922. Document not provided.

19. Terms, Covenants and restrictions as set forth by Warranty deed recorded in Liber 657 of Deeds at page 369 on February 6, 1940. Document not provided.

20. Terms, Covenants and restrictions as set forth by Declaration of Covenant and Restrictions made by City of Niagara Falls recorded in Liber 3422 of Deeds at page 818 on December 7, 2007. Blanket in Nature. Covers entire premise and more.

Record Legal Description
Instrument 2012-20725

ALL THAT TRACT OR PARCEL OF LAND, situate in the City of Niagara Falls, County of Niagara and State of New York, being part of Lot 34 of the New York State Mile Reserve and being more particularly bounded and described as follows:

Commencing at a point on the easterly line of Highland Avenue at its intersection with the northerly line of Beech Avenue;

Thence N20°42'42"E along the easterly line of Highland Avenue a distance of 273.97 feet to the Point or Place of Beginning;

Thence N88°58'03"W a distance of 135.93 feet to a point;

Thence N20°42'42"E a distance of 31.86 feet to a point on the northerly line of Carolina Avenue (not opened);

Thence S88°58'03"E along said northerly line of Carolina Avenue a distance of 874.39 feet to a point on the westerly line of Fifteenth Street (not opened);

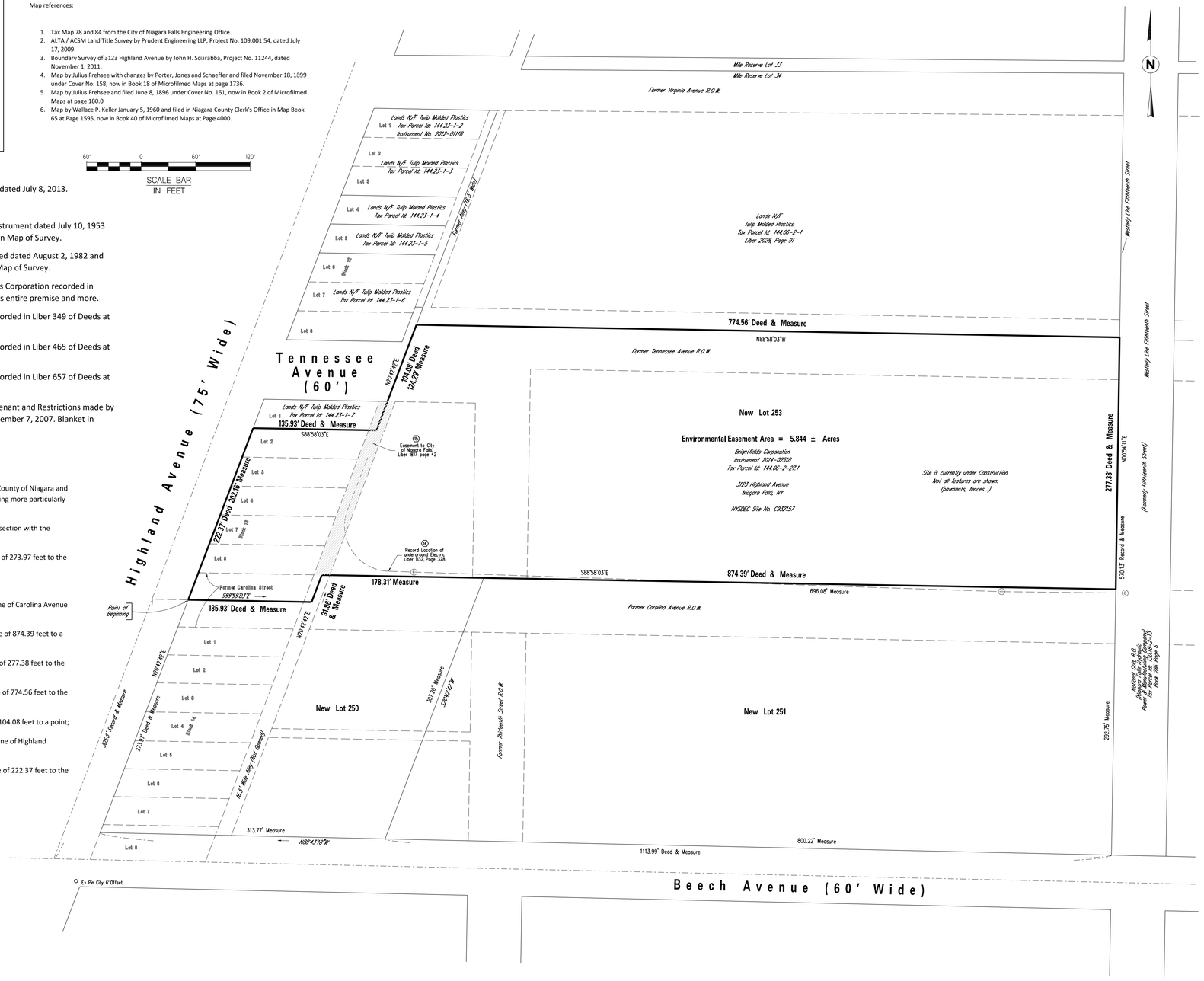
Thence N00°54'11"E along the westerly line of Fifteenth Street a distance of 277.38 feet to the north line of Tennessee Avenue (not opened);

Thence N88°58'03"W along the north line of Tennessee Avenue a distance of 774.56 feet to the west line of a former 16.5 foot wide alley;

Thence S20°42'42"W along the west line of the former alley a distance of 104.08 feet to a point;

Thence N88°58'03"W a distance of 135.93 feet to a point on the easterly line of Highland Avenue;

Thence S20°42'42"W along the easterly line of Highland Avenue a distance of 222.37 feet to the Point or Place of Beginning, containing 5.90 acres of land more or less.



Legend

Abbreviations

Ex - Existing
E - East
N - North
W - West
S - South
R.O.W. - Right of Way
A.K.A. - also known as

Symbols

- Sanitary Manhole
- Cleanout
- CB Catch Basin
- DI Drain Inlet
- SMH Storm Manhole
- YD Yard Drain
- CATV Cable TV
- Electric Riser
- Power Pole
- Guy Wire Anchor
- Telephone Riser
- Fire Hydrant
- Water Valve
- WSV Water Service Valve
- Gas Line Marker
- GV Gas Valve
- GSV Gas Service Valve
- Sign
- MB Mailbox
- MP Metal Post
- Mon Concrete R.O.W. Monument

Line Styles

- SA Sanitary Sewer
- ST Storm Sewer
- W Water Line
- G Gas Line
- T Telephone Wires or Cables
- E Electric Wires or Cables
- OH Overhead Wires
- 100 Contour Line
- Centerline of Ditch
- Crown of Pavement
- Centerline of Road
- Right of Way Line
- Building Setback Line
- Easement Line
- Property Line

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.

Surveyor's Certification:

Certified to: (1) The People of the State of New York acting through their Commissioner of the Department of Environmental Conservation. (2) Brightfields Corporation (3) Chicago Title Insurance Company.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes no Items of Table A thereof. Pursuant to the accuracy standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of New York, the relative positional accuracy of this survey does not exceed that which is specified therein.

The field work was completed on February 14, 2014. Map updated May 27, 2014.

Kenneth L. Slaugenhoupt New York State License Number 50349

Map
Showing Boundary Subdivision
of
Property Owned
by

Brightfields Corporation

Deed Reference: Instrument No. 2012-20725

Niagara Boundary and Mapping Services
761 Cayuga Street
Lewiston, NY 14092
(716) 297-9584
FAX (716) 297-9586
E-MAIL KLSNBMS@ACL.COM
Serving Western New York for over 35 years.

LOT 34 Mile Reserve	SECTION	TOWNSHIP	RANGE
City	Niagara Falls		
COUNTY	Niagara		
STATE	New York		
DATE	February 14, 2014		
SCALE	1" = 60'		
JOB NO.	7928 C932157 Brightfields Tract 1		
REVISIONS			

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Kenneth L. Slaugenhoupt Lic. No. 50349

APPENDIX B

Samples Exceeding Unrestricted SCOs

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA1-CS1		T1-EA1-CS2		T1-EA1-CS3		T1-EA1-CS4		T1-EA1-CS5		T1-EA1-CS6	
			Sampled Depth Range (ft)	0 - 2		0 - 2		0 - 2		2 - 2.3		0 - 2		0 - 2	
			Sample Date	6/11/2013		6/11/2013		6/11/2013		6/11/2013		6/26/2013		6/26/2013	
			Sample Type	Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]**	**Unrestricted Use Soil Cleanup Objectives[1]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000	**2,700** [3]		**19,000** [4]		**1,100** [5]		200	U[6]	**450**		[7]	
Benzo(a)pyrene	µg/Kg	1,000	1,000	**2,000** [10]		**14,000**		**860**		**8.8**	**J**	**320**		**240**	
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	**2,600**		**19,000**		**1,100**		**11**	**J**	**390**			
Dibenz(a,h)anthracene	µg/Kg	560	330	**830**	**J**[11]	**3,700**		**250**		200	U	**38**	**J**	**41**	**J**
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	**1,300**		**8,400**		**530**		200	U	**150**	**J**		
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100	270	U[12]	250	U	280	U	240	U				
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100	270	U	250	U	280	U	240	U				
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100	270	U	250	U	280	U	240	U				
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg[9]	16	13												
Barium	mg/Kg	400	350												
Copper	mg/Kg	270	50												
Lead	mg/Kg	1,000	63	**180**		**191**		**6.5**		**4.8**					

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA1-CS7		T1-EA1-CS8		T1-EA1-CS9		T1-EA1-CS10		T1-EA1-CS11		T1-EA1-CS12	
			Sampled Depth Range (ft)	2 - 2.3		0 - 2		0 - 2		0 - 2		2 - 2.3		0 - 2	
			Sample Date	6/26/2013		6/26/2013		6/26/2013		6/26/2013		7/17/2013		7/17/2013	
			Sample Type	Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory		Sidewall Confirmatory	
Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000												
Benzo(a)pyrene	µg/Kg	1,000	1,000												
Benzo(b)fluoranthene	µg/Kg	5,600	1,000												
Dibenz(a,h)anthracene	µg/Kg	560	330												
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500												
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100												
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100												
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100												
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg[9]	16	13												
Barium	mg/Kg	400	350												
Copper	mg/Kg	270	50												
Lead	mg/Kg	1,000	63	**85.0**		**402**		**877**		**388**		**733**		**2,450**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA1-CS13		T1-EA1-CS14		T1-EA1-CS15		T1-EA1-CS16		T1-EA1-CS17		T1-EA1-CS18	
			Sampled Depth Range (ft)	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0-3.5	
			Sample Date	7/17/2013		7/17/2013		7/29/2013		7/29/2013		7/29/2013		8/28/2013	
			Sample Type	Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Record Sidewall	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard(1)**	**Unrestricted Use Soil Cleanup Objectives(1)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg(2)	5,600	1,000											**1,100**	
Benzo(a)pyrene	µg/Kg	1,000	1,000											**1,000**	
Benzo(b)fluoranthene	µg/Kg	5,600	1,000											**1,300**	
Dibenz(a,h)anthracene	µg/Kg	560	330											**240**	
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500											**790**	
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100												
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100												
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100												
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg(9)	16	13												
Barium	mg/Kg	400	350												
Copper	mg/Kg	270	50												
Lead	mg/Kg	1,000	63	**1,280**		**1,010**		**78.8**	**J**	**295**		**41.8**		**7,050**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA1-CS19		T1-EA1-CS20		T1-EA1-CS21		T1-EA1-CS22		T1-EA1-CS23		T1-EA1-CS24	
			Sampled Depth Range (ft)	3.5 - 3.8		2 - 2.3		6 - 6.3		0 - 6		0 - 6		0 - 5	
			Sample Date	8/28/2013		8/29/2013		8/29/2013		8/29/2013		8/29/2013		8/29/2013	
			Sample Type	Base Confirmatory		Base Confirmatory		Base Confirmatory		Sidewall Confirmatory		Record Sidewall		Sidewall Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]**	**Unrestricted Use Soil Cleanup Objectives[1]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000	**99**	**J**[8]	**280**		210	U	**620**		**1,100**	**J**	**3,300**	
Benzo(a)pyrene	µg/Kg	1,000	1,000	**81**	**J**	**230**		210	U	**530**		**820**	**J**	**2,700**	
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	**110**	**J**	**330**		210	U	**720**		**1,000**	**J**	**4,200**	
Dibenz(a,h)anthracene	µg/Kg	560	330	210	U	**47**	**J**	210	U	**120**	**J**	**260**	**J**	**450**	**J**
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	**61**	**J**	**180**	**J**	210	U	**360**		**620**	**J**	**1,400**	
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100												
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100												
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100												
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg[9]	16	13												
Barium	mg/Kg	400	350												
Copper	mg/Kg	270	50												
Lead	mg/Kg	1,000	63	**22.5**		**18.5**		**9.5**		**1,420**		**2,150**		**940**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Sample ID	T1-EA1-CS25		T1-EA1-CS26		T1-EA1-CS27		T1-EA1-CS28		T1-EA1-CS29		T1-EA1-CS30	
				Sampled Depth Range (ft)	0 - 4		2 - 2.3		0 - 2		0 - 2		0 - 2		0 - 6	
				Sample Date	8/29/2013		8/29/2013		8/29/2013		8/29/2013		8/29/2013		9/12/2013	
				Sample Type	Sidewall Confirmatory		Base Confirmatory		Record Sidewall		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
					Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile Organic Compounds																
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000		**3,700**		**430**		**240**				**1,300**	**J**		
Benzo(a)pyrene	µg/Kg	1,000	1,000		**2,900**		**410**		**290**				**1,200**	**J**		
Benzo(b)fluoranthene	µg/Kg	5,600	1,000		**4,100**		**570**		**430**				**1,500**	**J**		
Dibenz(a,h)anthracene	µg/Kg	560	330		**620**	**J**	**110**	**J**	**48**	**J**			2100	U		
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500		**1,900**		**280**		**170**	**J**			**540**	**J**		
TCL PCBs																
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100				220	U	230	U	250	U	260	U		
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100				220	U	230	U	250	U	260	U		
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100				220	U	230	U	250	U	260	U		
Target Analyte List (TAL) Metals (Total)																
Arsenic	mg/Kg[9]	16	13													
Barium	mg/Kg	400	350													
Copper	mg/Kg	270	50													
Lead	mg/Kg	1,000	63		**2,740**				**119**						**245**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

				Sample ID	T1-EA1-CS31		T1-EA1-CS32		T1-EA1-CS33		T1-EA1-CS34		T1-EA1-CS35		T1-EA8-CS1	
				Sampled Depth Range (ft)	0 - 5		0 - 4		4 - 4.3		0 - 4		2 - 4		0 - 2	
				Sample Date	9/12/2013		9/12/2013		9/12/2013		9/12/2013		9/12/2013		10/4/2013	
				Sample Type	Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory		Record Sidewall		Record Sidewall		Record Sidewall	
Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile Organic Compounds																
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000						200	U	**1,900**	**J**	**380**		210	U
Benzo(a)pyrene	µg/Kg	1,000	1,000		**970**		**92**	**J**	200	U	**2,100**	**J**	**390**		**7.9**	**J**
Benzo(b)fluoranthene	µg/Kg	5,600	1,000						200	U	**3,500**	**J**	**480**		210	U
Dibenz(a,h)anthracene	µg/Kg	560	330				210	U	200	U	4,000	U	**130**	**J**	210	U
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500						200	U	4,000	U	**200**		210	U
TCL PCBs																
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100										230	U		
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100										230	U		
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100										230	U		
Target Analyte List (TAL) Metals (Total)																
Arsenic	mg/Kg[9]	16	13												**4.5**	
Barium	mg/Kg	400	350												**52.3**	
Copper	mg/Kg	270	50												**18.5**	
Lead	mg/Kg	1,000	63				**45.1**		**17.3**		**1,250**		**72.2**		**4.1**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA8-CS2		T1-EA8-CS3		T1-EA8-CS4		T1-EA8-CS5		T1-EA9-CS1		T1-EA9-CS2	
			Sampled Depth Range (ft)	2 - 2.3		2 - 2.3		0 - 3		3 - 3.3		0 - 2		0 - 3.5	
			Sample Date	10/4/2013		10/4/2013		10/8/2013		10/8/2013		10/8/2013		10/8/2013	
			Sample Type	Base Confirmatory		Base Confirmatory		Record Sidewall		Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard(1)**	**Unrestricted Use Soil Cleanup Objectives(1)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg(2)	5,600	1,000	220	U	210	U	**360**		**1,400**	**J**	180	U	180	U
Benzo(a)pyrene	µg/Kg	1,000	1,000	220	U	210	U	**400**		**1,300**	**J**	180	U	180	U
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	220	U	210	U	**720**		**2,000**		180	U	180	U
Dibenz(a,h)anthracene	µg/Kg	560	330	220	U	210	U	180	U	1,800	U	180	U	180	U
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	220	U	210	U	**150**	**J**	**400**	**J**	180	U	180	U
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100												
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100												
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100												
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg(9)	16	13	**3.9**		**5.2**		**6.0**		**7.3**		**4.7**		**3.5**	
Barium	mg/Kg	400	350	**110**		**99.5**		**121**		**93.7**		**64.8**		**87.8**	
Copper	mg/Kg	270	50	**25.5**		**22.4**		**28.5**		**40.8**		**17.8**		**15.4**	
Lead	mg/Kg	1,000	63	**11.2**		**6.6**		**51.1**		**154**		**5.4**		**6.6**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA9-CS3		T1-EA9-CS4		T1-EA9-CS5		T1-EA9-CS6		T1-EA9-CS7		T1-EA8-CS6	
			Sampled Depth Range (ft)	3 - 3.3		0 - 2		0 - 2		2 - 2.3		2 - 2.3		0 - 2.5	
			Sample Date	10/9/2013		10/9/2013		10/9/2013		10/9/2013		10/9/2013		10/24/2013	
			Sample Type	Base Confirmatory		Record Sidewall		Record Sidewall		Base Confirmatory		Base Confirmatory		Sidewall Confirmatory	
Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000	**71**	J	**31**	J	**12,000**		**650**				190	UJ
Benzo(a)pyrene	µg/Kg	1,000	1,000	**74**	J	**19**	J	**10,000**		**550**				190	UJ
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	**84**	J	**28**	J	**13,000**		**660**				190	UJ
Dibenz(a,h)anthracene	µg/Kg	560	330	**18**	J	**10**	J	**2,300**		**87**	J			190	UJ
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	**39**	J	**20**	J	**6,500**		**390**				190	UJ
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100												
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100												
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100												
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg[9]	16	13									**3.1**		**3.9**	
Barium	mg/Kg	400	350									**131**		**110**	
Copper	mg/Kg	270	50									**44.1**		**25.9**	
Lead	mg/Kg	1,000	63	**240**		**18.4**		**219**		**172**		**84.7**		**34.1**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA8-CS7		T1-EA8-CS8		T1-EA8-CS9		T1-EA8-CS10		T1-EA9-CS8		T1-EA9-CS9	
			Sampled Depth Range (ft)	2.5 - 2.8		0 - 4		2 - 2.3		2 - 2.3		2 - 2.3		0 - 2.5	
			Sample Date	10/24/2013		10/24/2013		10/24/2013		10/24/2013		11/12/2013		11/12/2013	
			Sample Type	Base Confirmatory		Sidewall Confirmatory		Base Confirmatory		Base Confirmatory		Base Confirmatory		Sidewall Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard(1)**	**Unrestricted Use Soil Cleanup Objectives(1)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg(2)	5,600	1,000	220	U	**2,500**		220	U	210	U	**8.5**	**J**	**10,000**	
Benzo(a)pyrene	µg/Kg	1,000	1,000	220	UJ	**3,300**		220	U	210	U	220	U	**8,100**	
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	220	UJ	**4,400**		220	U	210	U	220	U	**13,000**	
Dibenz(a,h)anthracene	µg/Kg	560	330	220	UJ	2,100	U	220	U	210	U	220	U	**630**	**J**
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	220	UJ	**1,600**	**J**	220	U	210	U	220	U	**2,200**	
TCL PCBs															
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100												
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100												
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100												
Target Analyte List (TAL) Metals (Total)															
Arsenic	mg/Kg(9)	16	13	**8.0**		**5.9**		**4.8**		**6.1**		**4.3**		**6.6**	
Barium	mg/Kg	400	350	**112**		**55.3**		**131**		**166**		**125**		**136**	
Copper	mg/Kg	270	50	**24.1**		**34.6**		**22.9**		**27.8**		**22.8**		**45.0**	
Lead	mg/Kg	1,000	63	**27.4**		**388**		**16.2**		**123**		**14.2**		**1,040**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 8
Tract I Power City Warehouse Excavation Area 1 Confirmatory Samples
Detections Only

			Sample ID	T1-EA9-CS10		T1-EA9-CS11		T1-EA9-CS12		T1-EA8-CS11		T1-EA9-CS13		T1-EA9-CS14		T1-EA9-CS17	
			Sampled Depth Range (ft)	2 - 2.3		0 - 2.5		0 - 2.5		0 - 4		0 - 2.5		0 - 2		6 - 6.3	
			Sample Date	11/12/2013		11/12/2013		11/12/2013		11/13/2013		11/21/2013		11/21/2013		12/19/2013	
			Sample Type	Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Record Sidewall		Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory	
Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile Organic Compounds																	
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000	**810**		**210**		**81**	**J**			220	U	210	U		
Benzo(a)pyrene	µg/Kg	1,000	1,000	**750**		**170**	**J**	**76**	**J**	**19**	**J**	220	UJ	210	UJ	190	U
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	**1,100**		**260**		**130**	**J**			220	UJ	210	UJ		
Dibenz(a,h)anthracene	µg/Kg	560	330	**88**	**J**	**20**	**J**	210	U			220	UJ	210	UJ		
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	**240**		**50**	**J**	**27**	**J**					210	UJ		
TCL PCBs																	
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100														
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100														
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100														
Target Analyte List (TAL) Metals (Total)																	
Arsenic	mg/Kg[9]	16	13			**3.1**		**2.2**									
Barium	mg/Kg	400	350			**36.6**		**90.4**									
Copper	mg/Kg	270	50			**27.9**		**17.4**									
Lead	mg/Kg	1,000	63	**293**		**46.7**		**358**				**15.5**		**10.7**			

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(5)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(6)-"U" indicates that parameter was not detected above laboratory reporting limit.
(7)-Blank space denotes parameter was not analyzed.
(8)-"J"-indicates estimated value.
(9)-"mg/Kg"-milligrams per kilogram.

Table 9
Tract I Excavation Area 6 Confirmatory Samples
Detections Only

		Sample ID	T1-EA6-F		T1-EA6-E		T1-EA6-N		T1-EA6-W		T1-EA6-S	
		Sample Depth Range (ft)	2 - 2.3		0 - 2		0 - 2		0 - 2		0 - 2	
		Sample Date	9/10/2013		9/10/2013		9/10/2013		9/10/2013		9/10/2013	
		Sample Type	Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
Parameter	**Units**	**Concentration of Contaminants for Characteristics of TCLP Toxicity(1)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
TCLP Lead												
Lead	mg/L(2)	5.0	0.005	U(3)	**0.048**(4)		**0.026**		**0.94**		**0.47**	

Notes:
(1)-Standards taken from 40 CFR Part 261.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-"U" indicates that parameter was not detected above laboratory reporting limit.
(4)-**Bold**-indicates laboratory detection.

Created By: JRK
Checked By: SCC

Table 10
Tract I Power City Warehouse Excavation Area 2 Confirmatory Samples
Detections Only

			Sample ID	T1-EA2-CS1		T1-EA2-CS2		T1-EA2-CS3		T1-EA2-CS4		T1-EA2-CS5		T1-EA2-CS6	
			Sample Depth Range (ft)	2 - 2.3		0 - 2		0 - 2		0 - 2		0 - 2		2 - 2.3	
			Sample Date	6/26/2013		6/26/2013		7/1/2013		7/1/2013		7/1/2013		7/15/2013	
			Sample Type	Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Record Sidewall		Base Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard(1)**	**Unrestricted Use Soil Cleanup Objectives(1)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds															
Benzo(a)anthracene	µg/Kg(2)	5,600	1,000	190	U(3)	200	U	220	U	**28**	**J(4,5)**	200	U		(6)
Benzo(a)pyrene	µg/Kg	1,000	1,000	190	U	**7.1**	**J**	220	U	**17**	**J**	200	U		
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	190	U	**9.3**	**J**	220	U	**24**	**J**	200	U		
Dibenz(a,h)anthracene	µg/Kg	560	330	190	U	200	U	220	U	220	U	200	U		
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500	190	U	200	U	220	U	**10**	**J**	200	U		
TCL PCBs															
PCB-1016 (AROCLOR 1016)	µg/Kg	1,000(7)	100	260	U	260	U	270	U	260	U	230	U		
PCB-1221 (AROCLOR 1221)	µg/Kg	1,000	100	260	U	260	U	270	U	260	U	230	U		
PCB-1232 (AROCLOR 1232)	µg/Kg	1,000	100	260	U	260	U	270	U	260	U	230	U		
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100	260	U	260	U	270	U	260	U	230	U		
PCB-1248 (AROCLOR 1248)	µg/Kg	1,000	100	260	U	260	U	270	U	260	U	230	U		
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100	260	U	260	U	270	U	260	U	230	U		
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100	260	U	260	U	270	U	260	U	230	U		
Target Analyte List (TAL) Metals (Total)															
Lead	mg/Kg(8)	1,000	63											**8.5**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-"U" indicates that parameter was not detected above laboratory reporting limit.
(4)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(5)-**Bold-**indicates laboratory detection.
(6)-Blank space denotes parameter was not analyzed.
(7)-Standard for PCBs is total of all Aroclors.
(8)-"mg/Kg"-milligrams per kilogram.
(9)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(10)-Green Shading indicates that concentration exceeds the Unrestricted SCO.

Table 10
Tract I Power City Warehouse Excavation Area 2 Confirmatory Samples
Detections Only

			Sample ID	T1-EA2-CS7		T1-EA2-CS8		T1-EA2-CS9		T1-EA2-CS10		T1-EA2-CS11	
			Sample Depth Range (ft)	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
			Sample Date	7/15/2013		7/15/2013		7/15/2013		7/15/2013		7/29/2013	
			Sample Type	Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Record Sidewall		Sidewall Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard(1)**	**Unrestricted Use Soil Cleanup Objectives(1)**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Semivolatile Organic Compounds													
Benzo(a)anthracene	µg/Kg(2)	5,600	1,000										
Benzo(a)pyrene	µg/Kg	1,000	1,000										
Benzo(b)fluoranthene	µg/Kg	5,600	1,000										
Dibenz(a,h)anthracene	µg/Kg	560	330										
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500										
TCL PCBs													
PCB-1016 (AROCLOR 1016)	µg/Kg	1,000(7)	100										
PCB-1221 (AROCLOR 1221)	µg/Kg	1,000	100										
PCB-1232 (AROCLOR 1232)	µg/Kg	1,000	100										
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100										
PCB-1248 (AROCLOR 1248)	µg/Kg	1,000	100										
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100										
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100										
Target Analyte List (TAL) Metals (Total)													
Lead	mg/Kg(8)	1,000	63	**1130**	(9)	**466**	(10)	**18.5**		**21.0**		**13.1**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-"U" indicates that parameter was not detected above laboratory reporting limit.
(4)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(5)-**Bold-**indicates laboratory detection.
(6)-Blank space denotes parameter was not analyzed.
(7)-Standard for PCBs is total of all Aroclors.
(8)-"mg/Kg"-milligrams per kilogram.
(9)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(10)-Green Shading indicates that concentration exceeds the Unrestricted SCO.

Table 11
Tract I Excavation Area 3 Confirmatory Samples
Detections Only

			Sample ID	T1-EA3-CS1		T1-EA3-CS2		T1-EA3-CS3		T1-EA3-CS4		T1-EA3-CS5		T1-EA3-CS6	
			Sample Depth Range (ft)	2 - 2.3		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
			Sample Date	9/16/2013		9/16/2013		9/16/2013		9/16/2013		9/16/2013		10/23/2013	
			Sample Type	Base Confirmatory		Record Sidewall		Record Sidewall		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
Parameter	**Units**	**Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]**	**Unrestricted Use Soil Cleanup Objectives[1]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Target Analyte List (TAL) Metals (Total)															
Lead	mg/Kg[2]	1,000	63	**720**	[3,4]	**682**		**1,140**	[5]	**375**		**404**		**156**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-**Bold**-indicates laboratory detection.
(4)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(5)-Yellow Shading indicates that concentration exceeds Restricted Commercial SCO.

Created By: SCC
Checked By: JK

Table 12
Tract I Excavation Area 4 Confirmatory Samples
Detections Only

Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Sample ID	T1-EA4-CS1		T1-EA4-CS2		T1-EA4-CS3		T1-EA4-CS4		T1-EA4-CS5		T1-EA4-CS6		T1-EA4-CS7		T1-EA4-CS8	
				Sample Depth Range (FT)	3 - 3.3		2.5 - 2.8		0 - 2.5		0 - 3		0 - 3		0 - 3		0 - 2.5		0 - 3	
				Sample Date	6/26/2013		6/26/2013		6/26/2013		6/26/2013		6/26/2013		6/26/2013		6/26/2013		6/26/2013	
				Sample Type	Base Confirmatory		Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
					Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatile Organic Compounds																				
Benzo(a)anthracene	µg/Kg[2]	5,600	1,000		190	U[3]		[4]			190	U	200	U	**81**	**J**[5,6]			190	U
Benzo(a)pyrene	µg/Kg	1,000	1,000		**5.7**	**J**					190	U	**7.0**	**J**	**59**	**J**			190	U
Benzo(b)fluoranthene	µg/Kg	5,600	1,000		**9.0**	**J**					190	U	**10**	**J**	**77**	**J**			190	U
Dibenz(a,h)anthracene	µg/Kg	560	330		190	U					190	U	200	U	**13**	**J**			190	U
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500		190	U					190	U	200	U	**36**	**J**			190	U
TCL PCBs																				
PCB-1016 (AROCLOR 1016)	µg/Kg	1,000[7]	100		260	U					240	U	270	U	250	U			260	U
PCB-1221 (AROCLOR 1221)	µg/Kg	1,000	100		260	U					240	U	270	U	250	U			260	U
PCB-1232 (AROCLOR 1232)	µg/Kg	1,000	100		260	U					240	U	270	U	250	U			260	U
PCB-1242 (AROCLOR 1242)	µg/Kg	1,000	100		260	U					240	U	270	U	250	U			260	U
PCB-1248 (AROCLOR 1248)	µg/Kg	1,000	100		260	U					240	U	270	U	250	U			260	U
PCB-1254 (AROCLOR 1254)	µg/Kg	1,000	100		260	U					240	U	270	U	250	U			260	U
PCB-1260 (AROCLOR 1260)	µg/Kg	1,000	100		260	U					240	U	270	U	250	U			260	U
Target Analyte List (TAL) Metals (Total)																				
Lead	mg/Kg[8]	1,000	63				**7.6**		**4.3**				**4.4**				**10.8**		**5.8**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-"U" indicates that parameter was not detected above laboratory reporting limit.
(4)-Blank space denotes parameter was not analyzed.
(5)-"J"-indicates estimated value.
(6)-**Bold-**indicates laboratory detection.
(7)-Standard for PCBs is total of all Aroclors.
(8)-"mg/Kg"-milligrams per kilogram.

Created By: SCC
Checked By: JK

Table 13
Tract I General Samples
Detections Only

Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Result	Qualifier
		Stockpile		T1-G2	
		Sample ID		T1-G2	
		Sample Date		6/4/2013	
Volatile Organic Compounds					
Acetone	ug/Kg[2]	500,000	50	**25**	J[3,4]
Benzene	ug/Kg	44,000	60	**1.4**	J
Cyclohexane	µg/Kg			**6.5**	J
Ethylbenzene	µg/Kg	390,000	1,000	**1.6**	J
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000	120	**4.1**	J
Methylcyclohexane	µg/Kg			**13**	
Toluene	µg/Kg	500,000	700	**1.5**	J,B[5]
Xylenes	µg/Kg	500,000	260	**6.5**	J
Semivolatile Organic Compounds					
2-Methylnaphthalene	µg/Kg			**10000**	
Benzo(a)anthracene	µg/Kg	5,600	1,000	**940**	J
Benzo(a)pyrene	µg/Kg	1,000	1,000	**280**	J
Benzo(b)fluoranthene	µg/Kg	5,600	1,000	**1100**	J[7]
Benzo(K)fluoranthene	µg/Kg	56,000	800	**320**	J
Chrysene	µg/Kg	56,000	1,000	**1700**	J
Fluoranthene	µg/Kg	500,000	100,000	**2300**	J
Fluorene	µg/Kg	500,000	30,000	**4400**	
Naphthalene	µg/Kg	500,000	120,000	**3600**	J
Phenanthrene	µg/Kg	500,000	100,000	**11000**	
Pyrene	µg/Kg	500,000	100,000	**4200**	
Target Analyte List (TAL) Metals (Total)					
Aluminum	mg/Kg[6]			**8,720**	J
Antimony	mg/kg			**1,550**	J
Arsenic	mg/Kg	16	13	**11.6**	
Barium	mg/Kg	400	350	**70.1**	
Beryllium	mg/Kg	590	7.2	**0.51**	
Cadmium	mg/Kg	9.3	2.5	**0.50**	
Calcium	mg/Kg			**45,800**	
Chromium	mg/Kg	400	1	**13.3**	
Cobalt	mg/Kg			**8.1**	
Copper	mg/Kg	270	50	**37.1**	
Iron	mg/Kg			**16,000**	J
Lead	mg/Kg	1,000	63	**26,400**	[8]
Magnesium	mg/Kg			**8,000**	
Manganese	mg/Kg	10,000	1,600	**508**	
Nickel	mg/Kg	310	30	**21.5**	
Potassium	mg/Kg			**1,250**	
Silver	mg/Kg			**0.88**	
Sodium	mg/Kg			**194**	
Vanadium	mg/Kg			**15.4**	
Zinc	mg/Kg	10,000	109	**91.0**	
Mercury	mg/Kg	2.8	0.18	**0.059**	J

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold**-indicates laboratory detection.
(4)-"J"-indicates estimated value.
(5)-"B" denotes that parameter was also detected in the method blank.
(6)-"mg/Kg"-milligrams per kilogram.
(7) -Green Shading indicates that concentration exceeds the Unrestricted SCO.
(8)-Yellow Shading indicates that concentration exceeds Restricted Commercial SCO.

Created By: SCC
Checked By: GSO

Table 14
Tract I Excavation Area 10 Confirmatory Samples
Detections Only

			Sample ID	T1-EA10-N		T1-EA10-S		T1-EA10-E		T1-EA10-W		T1-EA10-F	
			Sample Depth Range (ft)	0 - 3		0 - 5		0 - 5		0 - 5		5 - 5.3	
			Sample Date	11/15/2013		11/15/2013		11/15/2013		11/15/2013		11/15/2013	
			Sample Type	Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory	
Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Target Analyte List (TAL) Metals (Total)													
Lead	mg/Kg[2]	1,000	63	**257**	[3, 4]	**7.2**		**4.3**		**5.4**		**3.9**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-**Bold**-indicates laboratory detection.
(5)-Green shading indicates that concentration exceeds the Unrestricted SCO.

Table 15
Tract I Excavation Area 5 Confirmatory Samples
Detections Only

			Sample ID	T1-EA5-CS1		T1-EA5-CS2		T1-EA5-CS3		T1-EA5-CS4	
			Sample Depth Range (ft)	0 - 2		0 - 2		0 - 2		0 - 2	
			Sample Date	6/11/2013		6/11/2013		6/11/2013		6/11/2013	
			Sample Type	Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory	
Parameter	**Units**	**Cleanup Objectives - Restricted Commercial Standard[1]**	**Unrestricted Use Soil Cleanup Objectives[1]**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Target Analyte List (TAL) Metals (Total)											
Chromium	mg/Kg[2]	400	1	**79.8**	[3, 4]	**25.2**		**22.6**		**33.4**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"mg/Kg"-milligrams per kilogram.
(3)-**Bold-**indicates laboratory detection.
(4)-Green shading indicates that concentration exceeds Unrestricted Standard.

Created By: SCC
Checked By: JK

Table 16
Tract I Excavation Area 7 Confirmatory Samples
USTs Removal
Detections Only

Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Sample ID	T1-EA7-CS1		T1-EA7-CS2		T1-EA7-CS3		T1-EA7-CS4		T1-EA7-CS5		T1-EA7-CS6		T1-EA7-CS7		T1-EA7-CS8		T1-EA7-CS9	
				Sample Depth Range (ft)	6 - 6.5		13 - 13.5		10.5 - 11		10.5 - 11		3 - 3.5		2.5 - 3		3.5 - 4		6 - 6.5		0 - 2	
				Sample Date	9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		9/20/2013		11/12/2013	
				Sample Type	Sidewall Confirmatory		Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Base Confirmatory		Sidewall Confirmatory	
					Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds																						
Acetone	ug/Kg[2]	500,000	50		**17**	**J**[3,4]	22	U[5]	**91**		**16**	**J**	**26**		23	U	**32**	**J**	**12**	**J**	48	U
Cyclohexane	µg/Kg				4.8	U	4.5	U	**27**		4.5	U	4.3	U	4.7	U	8.3	U	4.4	U	9.6	U
Isopropylbenzene (Cumene)	µg/Kg				4.8	U	4.5		5.1	U	4.5	U	4.3	U	4.7	U	8.3	U	4.4	U	9.6	U
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000	120		24	U	22	U	**32**		23	U	22	U	23	U	41	U	22	U	48	U
Methylcyclohexane	µg/Kg				4.8	U	4.5	U	**80**		4.5	U	4.3	U	4.7	U	8.3	U	4.4	U	9.6	U
Xylenes, Total	µg/Kg	500,000	260		9.6	U	9.0	U	**8.0**	**J**	9.1	U	8.7	U	9.3	U	17	U	8.8	U	19	U
Semivolatile Organic Compounds																						
2-Methylnaphthalene	µg/Kg				200	U	190	U	**820**	**J**	**18**	**J**	**60**	**J**	210	U	6,200	U	210	U	340	U
3-Nitroaniline	µg/Kg				380	U	360	U	4,300	U	390	U	410	U	420	U	12,000	U	400	U	660	U
Acenaphthene	µg/Kg	500,000	20,000		200	U	190	U	2,200	U	**21**	**J**	**82**	**J**	210	U	6,200	U	**90**	**J**	340	U
Acenaphthylene	µg/Kg	500,000	100,000		200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Acetophenone	µg/Kg	500,000			200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Anthracene	µg/Kg	500,000	100,000		200	U	190	U	**570**	**J**	**50**	**J**	**110**	**J**	210	U	6,200	U	**33**	**J**	340	U
Benzo(a)anthracene	µg/Kg	5,600	1,000		200	U	190	U	**710**	**J**	**73**	**J**	**110**	**J**	**33**	**J**	6,200	U	**39**	**J**	**11**	**J**
Benzo(a)pyrene	µg/Kg	1,000	1,000		200	U	190	U	2,200	U	**52**	**J**	**100**	**J**	210	U	6,200	U	**22**	**J**	340	U
Benzo(b)fluoranthene	µg/Kg	5,600	1,000		200	U	190	U	**810**	**J**	**82**	**J**	**160**	**J**	210	U	6,200	U	**29**	**J**	340	U
Benzo(g,h,i)perylene	µg/Kg	500,000	100,000		200	U	190	U	2,200	U	200	U	**74**	**J**	210	U	6,200	U	210	U	340	U
Benzo(K)fluoranthene	µg/Kg	56,000	800		200	U	190	U	**370**	**J**	**36**	**J**	**57**	**J**	210	U	6,200	U	**13**	**J**	340	U
Biphenyl (Diphenyl)	µg/Kg				200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Carbazole	µg/Kg				200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Chrysene	µg/Kg	56,000	1,000		200	U	190	U	**710**	**J**	**62**	**J**	**120**	**J**	**29**	**J**	6,200	U	**36**	**J**	340	U
Dibenz(a,h)anthracene	µg/Kg	560	330		200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Dibenzofuran	µg/Kg	350,000	7,000		200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Fluoranthene	µg/Kg	500,000	100,000		200	U	190	U	**1,600**	**J**	**140**	**J**	**170**	**J**	**47**	**J**	6,200	U	**62**	**J**	340	U
Fluorene	µg/Kg	500,000	30,000		**38**	**J**	190	U	**590**	**J**	200	U	210	U	210	U	6,200	U	**13**	**J**	340	U
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500		200	U	190	U	2,200	U	**36**	**J**	**92**	**J**	210	U	6,200	U	210	U	340	U
Isophorone	µg/Kg				200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Naphthalene	µg/Kg	500,000	12,000		200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
N-Nitrosodiphenylamine	µg/Kg				200	U	190	U	2,200	U	200	U	210	U	210	U	6,200	U	210	U	340	U
Phenanthrene	µg/Kg	500,000	100,000		200	U	**21**	**J**	**2,600**		**110**	**J**	**81**	**J**	**29**	**J**	6,200	U	**27**	**J**	340	U
Pyrene	µg/Kg	500,000	100,000		200	U	190	U	**1,500**	**J**	**130**	**J**	**270**		**50**	**J**	6,200	U	**71**	**J**	340	U
Target Compound List (TCL) Pesticides																						
alpha-BHC (alpha Hexachlorocyclohexane)	µg/Kg	3,400	20		9.8	U	1.8	U	110	U	9.9	U	21	U	2.1	U	61	U	9.9	U	**0.68**	**J**
beta-BHC (beta Hexachlorocyclohexane)	µg/Kg	3,000	36		9.8	U	1.8	U	110	U	9.9	U	21	U	2.1	U	61	U	9.9	U	3.3	U
delta-BHC (delta Hexachlorocyclohexane)	µg/Kg	500,000	40		9.8	U	1.8	U	110	U	9.9	U	21	U	2.1	U	61	U	9.9	U	3.3	U
Gamma BHC (Lindane)	µg/Kg	9,200	100		9.8	U	1.8	U	110	U	**1.4**	**J**	21	U	2.1	U	61	U	9.9	U	3.3	U
Gamma Chlordane	µg/Kg				9.8	U	1.8	U	110	U	9.9	U	21	U	2.1	U	61	U	9.9	U	3.3	U
Methoxychlor	µg/Kg				9.8	U	1.8	U	110	U	9.9	U	21	U	2.1	U	61	U	9.9	U	**2.3**	**J**
4,4'-DDD (p,p'-DDD)	µg/Kg	92,000	3		9.8	U	1.8	U	110	U	9.9	U	21	U	2.1	U	61	U	9.9	U	3.3	U
4,4'-DDE (p,p'-DDE)	µg/Kg	62,000	3		**1.7**	**J**	1.8	U	110	U	**1.6**	**J**	21	U	2.1	U	61	U	**1.5**	**J**	3.3	U
4,4'-DDT (p,p'-DDT)	µg/Kg	47,000	3		**1.9**	**J**	1.8	U	**16**	**J**	**2.1**	**J**	**3.1**	**J**	2.1	U	**8.0**	**J**	**2.0**	**J**	3.3	U
Target Analyte List (TAL) Metals (Total)																						
Aluminum	mg/Kg[8]				**14,200**		**6,660**		**13,700**		**12,000**		**12,800**		**23,800**		**21,900**		**16,900**		**21,800**	
Arsenic	mg/Kg	16	13		**3.6**		2.5	U	**6.1**		**4.5**		**5.3**		**3.8**		**5.8**		**7.5**		**2.8**	
Barium	mg/Kg	400	350		**104**		**58.0**		**124**		**83.4**		**85.5**		**246**		**281**		**161**		**203**	
Beryllium	mg/Kg	590	7.2		**0.68**		**0.34**		**0.71**		**0.60**		**0.72**		**1.1**		**1.40**		**0.91**		**1.6**	
Cadmium	mg/Kg	9.3	2.5		**0.44**		**0.40**		**0.89**		**0.27**		**0.32**		0.28	U	**57.7**		**5.3**[9]		**43.3**	
Calcium	mg/Kg				**53,200**		**110,000**		**44,200**		**50,600**		**51,400**		**7,470**		**23,300**		**31,400**		**7,340**	
Chromium	mg/Kg	400	1		**19.9**		**9.3**		**19.2**		**16.4**		**17.6**		**28.8**		**25.3**		**21.8**		**28.0**	
Cobalt	mg/Kg				**12**		**4.7**		**11.1**		**9.8**		**12.6**		**12.8**		**9.0**		**12.5**		**10.5**	
Copper	mg/Kg	270	50		**22.6**		**191**		**40.4**		**27.7**		**25.7**		**25.8**		**92.6**		**29.0**		**90.4**	
Iron	mg/Kg				**22,400**	**J**	**14,000**	**J**	**26,500**	**J**	**21,000**	**J**	**22,600**	**J**	**27,400**	**J**	**28,700**	**J**	**29,700**	**J**	**23,800**	
Lead	mg/Kg	1,000	63		**10.2**		**17.4**		**316**		**91.6**		**161**		**30.1**		**38.9**		**23.4**		**16.3**	
Magnesium	mg/Kg				**10,400**		**29,000**		**9,390**		**11,400**		**8,410**		**7,670**		**6,210**		**8,770**		**8,320**	
Manganese	mg/Kg	10,000	1,600		**644**		**853**		**537**		**540**		**528**		**356**		**383**		**531**		**247**	
Nickel	mg/Kg	310	30		**28.6**		**13.6**		**27.4**		**24.1**		**27.8**		**36.9**		**31.8**		**31.4**		**33.2**	
Potassium	mg/Kg				**2,500**		**1,500**		**2,600**		**2,150**		**2,340**		**2,510**		**2,580**		**3,090**		**1,370**	
Sodium	mg/Kg				**243**		173	U	**687**		**255**		**183**		194	U	280	U	174	U	1,950	U
Vanadium	mg/Kg				**24.4**		**14.8**		**25.2**		**21.8**		**27.2**		**32.3**		**35.1**		**32.4**		**35.3**	
Zinc	mg/Kg	10,000	109		**187**		**117**		**197**		**88.1**		**103**		**71.8**		**3,450**		**706**		**6,590**	
Mercury	mg/Kg	2.8	0.18		0.022	UJ	0.021	UJ	**0.079**	**J**	0.024	UJ	**0.046**	**J**	0.025	UJ	**0.11**	**J**	0.024	UJ	**0.10**	

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold**-indicates laboratory detection.
(4)-"J"-indicates estimated value.
(5)-"U" indicates that parameter was not detected above laboratory reporting limit.
(6)-Blank space indicates that parameter was not analyzed.
(7)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(8)-"mg/Kg"-milligrams per kilogram.
(9)-Green shading indicates that concentration exceeds the Unrestricted SCO.

Created By: SCC
Checked By: JRK

Table 16
Tract I Excavation Area 7 Confirmatory Samples
USTs Removal
Detections Only

Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Sample ID	T1-EA7-CS10		T1-EA7-CS11		T1-EA7-CS12		T1-EA7-CS13		T1-EA7-CS14		T1-EA7-CS15		T1-EA7-CS16	
				Sample Depth Range (ft)	2.5 - 2.8		3.5-4		0 - 3		0 - 2.5		0 - 2		0 - 3		0 - 3	
				Sample Date	11/12/2013		11/12/2013		11/12/2013		11/12/2013		11/21/2013		11/21/2013		12/5/2013	
				Sample Type	Base Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory		Sidewall Confirmatory	
					Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds																		
Acetone	ug/Kg[2]	500,000	50		**10**	**J**	23	U	24	U	21	U		[6]				
Cyclohexane	µg/Kg				4.8	U	4.6	U	4.8	U	4.2	U						
Isopropylbenzene (Cumene)	µg/Kg				4.8	U	**3.6**	**J**	4.8	U	4.2	U						
Methyl Ethyl Ketone (2-Butanone, MEK)	µg/Kg	500,000	120		24	U	23	U	24	U	21	U						
Methylcyclohexane	µg/Kg				4.8	U	**14**		4.8	U	4.2	U						
Xylenes, Total	µg/Kg	500,000	260		9.7	U	9.2	U	9.7	U	8.4	U						
Semivolatile Organic Compounds																		
2-Methylnaphthalene	µg/Kg				230	U	**120**	**J**	**3,700**		**220**							
3-Nitroaniline	µg/Kg				440	U	**90**	**J**	1,000	U	220	U						
Acenaphthene	µg/Kg	500,000	20,000		230	U	**93**	**J**	**10,000**		**56**	**J**						
Acenaphthylene	µg/Kg	500,000	100,000		230	U	**33**	**J**	1,000	U	220	U						
Acetophenone	µg/Kg	500,000			230	U	**37**	**J**	1,000	U	**51**	**J**						
Anthracene	µg/Kg	500,000	100,000		230	U	**82**	**J**	**2,700**		**110**	**J**						
Benzo(a)anthracene	µg/Kg	5,600	1,000		**32**	**J**	**120**	**J**	**4,300**		**290**							
Benzo(a)pyrene	µg/Kg	1,000	1,000		**16**	**J**	**85**	**J**	**2,700** [7]		**220**				**5,100**		**210**	
Benzo(b)fluoranthene	µg/Kg	5,600	1,000		**34**	**J**	**140**	**J**	**4,600**		**370**							
Benzo(g,h,i)perylene	µg/Kg	500,000	100,000		230	U	**33**	**J**	**580**	**J**	**67**	**J**						
Benzo(K)fluoranthene	µg/Kg	56,000	800		**18**	**J**	**69**	**J**	**1,900**		**140**	**J**						
Biphenyl (Diphenyl)	µg/Kg				230	U	200	U	**1,400**		220	U						
Carbazole	µg/Kg				230	U	200	U	**1,300**		**34**	**J**						
Chrysene	µg/Kg	56,000	1,000		**24**	**J**	**110**	**J**	**2,900**		**240**							
Dibenz(a,h)anthracene	µg/Kg	560	330		230	U	**13**	**J**	**220**	**J**	**26**	**J**						
Dibenzofuran	µg/Kg	350,000	7,000		230	U	200	U	**6,100**		**37**	**J**						
Fluoranthene	µg/Kg	500,000	100,000		**53**	**J**	**240**		**19,000**		**610**							
Fluorene	µg/Kg	500,000	30,000		230	U	**150**	**J**	**7,800**		**49**	**J**						
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500		230	U	**31**	**J**	**590**	**J**	**71**	**J**						
Isophorone	µg/Kg				230	U	**230**		1,000	U	220	U						
Naphthalene	µg/Kg	500,000	12,000		230	U	200	U	1,000	U	**120**	**J**						
N-Nitrosodiphenylamine	µg/Kg				230	U	200	U	**280**	**J**	220	U						
Phenanthrene	µg/Kg	500,000	100,000		**17**	**J**	**410**		**29,000**		**350**							
Pyrene	µg/Kg	500,000	100,000		**31**	**J**	**170**	**J**	**11,000**		**390**							
Target Compound List (TCL) Pesticides																		
alpha-BHC (alpha Hexachlorocyclohexane)	µg/Kg	3,400	20		2.2	U	2.0	U	**3.9**	**J**	11	U						
beta-BHC (beta Hexachlorocyclohexane)	µg/Kg	3,000	36		2.2	U	2.0	U	20	U	11	U						
delta-BHC (delta Hexachlorocyclohexane)	µg/Kg	500,000	40		2.2	U	2.0	U	20	U	11	U						
Gamma BHC (Lindane)	µg/Kg	9,200	100		2.2	U	**0.36**	**J**	20	U	11	U						
Gamma Chlordane	µg/Kg				2.2	U	2.0	U	20	U	11	U						
Methoxychlor	µg/Kg				2.2	U	2.0	U	20	U	11	U						
4,4'-DDD (p,p'-DDD)	µg/Kg	92,000	3		2.2	U	2.0	U	20	U	11	U						
4,4'-DDE (p,p'-DDE)	µg/Kg	62,000	3		2.2	U	**0.49**	**J**	20	U	11	U						
4,4'-DDT (p,p'-DDT)	µg/Kg	47,000	3		2.2	U	**0.88**	**J**	**10**	**J**	**4.6**	**J**						
Target Analyte List (TAL) Metals (Total)																		
Aluminum	mg/Kg[8]				**14,600**		**11,800**		**11,300**		**6,190**							
Arsenic	mg/Kg	16	13		**2.8**		**4.7**		**3.8**		**4.5**							
Barium	mg/Kg	400	350		**110**		**83.7**		**81.0**		**55.7**							
Beryllium	mg/Kg	590	7.2		**1.0**		**0.75**		**0.72**		**0.53**							
Cadmium	mg/Kg	9.3	2.5		**6.4**		**0.88**		**2.9**		0.63	U	0.62	U	0.62	U		
Calcium	mg/Kg				**5,080**		**45,100**		**36,800**		**34,700**							
Chromium	mg/Kg	400	1		**20.2**		**18.1**		**17.6**		**9.6**							
Cobalt	mg/Kg				**9.1**		**8.9**		**8.7**		6.3	U						
Copper	mg/Kg	270	50		**33.5**		**22.7**		**25.4**		**24.1**							
Iron	mg/Kg				**21,900**		**20,400**		**19,500**		**13,800**							
Lead	mg/Kg	1,000	63		**11.0**		**12.8**		**445**		**47.3**							
Magnesium	mg/Kg				**6,270**		**8,840**		**7,950**		**6,730**							
Manganese	mg/Kg	10,000	1,600		**198**		**488**		**509**		**579**							
Nickel	mg/Kg	310	30		**25.8**		**21.6**		**22.1**		**12.5**							
Potassium	mg/Kg				**823**		**1,670**		**1,760**		**1,060**							
Sodium	mg/Kg				1,350	U	611	U	609	U	635	U						
Vanadium	mg/Kg				**23.8**		**23.6**		**22.3**		**15.4**							
Zinc	mg/Kg	10,000	109		**3,220**		**173**		**606**		**38.4**							
Mercury	mg/Kg	2.8	0.18		0.037	U	0.037	U	**0.046**		0.037	U						

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold**-indicates laboratory detection.
(4)-"J"-indicates estimated value.
(5)-"U" indicates that parameter was not detected above laboratory reporting limit.
(6)-Blank space indicates that parameter was not analyzed.
(7)-Yellow Shading indicates that concentration exceeds the Restricted Commercial SCO.
(8)-"mg/Kg"-milligrams per kilogram.
(9)-Green shading indicates that concentration exceeds the Unrestricted SCO.

Table 18
Tract I Excavation Area 1 Confirmatory Samples
USTs Removal
Detections Only

Parameter	Units	Restricted Use Soil Cleanup Objectives - Restricted Commercial Standard[1]	Unrestricted Use Soil Cleanup Objectives[1]	Sample ID	T1-EA9-CS15		T1-EA9-CS16		T1-EA9-CS17	
				Sample Depth Range (ft)	5 - 5.3		0 - 5		6 - 6.3	
				Sample Date	12/5/2013		12/5/2013		12/19/2013	
				Sample Type	Base Confirmatory		Sidewall Confirmatory		Base Confirmatory	
					Result	Qualifier	Result	Qualifier	Result	Qualifier
Volatile Organic Compounds										
Acetone	ug/Kg[2]	500,000	50		**39**	[3]	**63**			[4]
Benzene	ug/Kg	44,000	60		**20**		9.2	U[5]		
Cyclohexane	µg/Kg				**120**		9.2	U		
Ethylbenzene	µg/Kg	390,000	1,000		**8.9**		9.2	U		
Isopropylbenzene (Cumene)	µg/Kg				**2.9**	J[6]	9.2	U		
Methylcyclohexane	µg/Kg				**150**		9.2	U		
Toluene	µg/Kg	500,000	700		**0.75**	J	9.2	U		
Xylenes, Total	µg/Kg	500,000	260		**9.6**	J	18	U		
Semivolatile Organic Compounds										
2-Methylnaphthalene	µg/Kg				**150**	J	**58**	J		
Acenaphthene	µg/Kg	500,000	20,000		**470**		300	U		
Acenaphthylene	µg/Kg	500,000	100,000		**26**	J	300	U		
Anthracene	µg/Kg	500,000	100,000		**1,200**		300	U		
Benzo(a)anthracene	µg/Kg	5,600	1,000		**1,900**	[7]	300	U		
Benzo(a)pyrene	µg/Kg	1,000	1,000		**1,600**	[8]	**17**	J	190	U
Benzo(b)fluoranthene	µg/Kg	5,600	1,000		**1,900**		300	U		
Benzo(g,h,i)perylene	µg/Kg	500,000	100,000		**740**		300	U		
Benzo(K)fluoranthene	µg/Kg	56,000	800		**860**		300	U		
Biphenyl (Diphenyl)	µg/Kg				**61**	J	300	U		
Carbazole	µg/Kg				**440**		300	U		
Chrysene	µg/Kg	56,000	1,000		**1,800**		**16**	J		
Dibenz(a,h)anthracene	µg/Kg	560	330		**220**		300	U		
Dibenzofuran	µg/Kg	350,000	7,000		**430**		300	U		
Fluoranthene	µg/Kg	500,000	100,000		**4,200**		**11**	J		
Fluorene	µg/Kg	500,000	30,000		**660**		300	U		
Indeno(1,2,3-C,D)pyrene	µg/Kg	5,600	500		**660**		**14**	J		
Naphthalene	µg/Kg	500,000	12,000		**400**		**72**	J		
Phenanthrene	µg/Kg	500,000	100,000		**4,400**		300	U		
Pyrene	µg/Kg	500,000	100,000		**3,200**		**29**	J		
Target Compound List (TCL) Pesticides										
delta-BHC (delta Hexachlorocyclohexane)	µg/Kg	500,000	40		22	U	30	U		
Methoxychlor	µg/Kg				22	U	30	U		
4,4'-DDT (p,p'-DDT)	µg/Kg	47,000	3.3		**4.4**	J	30	U		
Target Analyte List (TAL) Metals (Total)										
Aluminum	mg/Kg[9]				**20,300**		**15,300**			
Arsenic	mg/Kg	16	13		**4.7**	^[10]	**4.9**	^		
Barium	mg/Kg	400	350		**123**		**160**			
Beryllium	mg/Kg	590	7.2		**1.0**		**0.75**			
Cadmium	mg/Kg	9.3	2.5		0.25	U	**0.61**			
Calcium	mg/Kg				**9,430**	^	**12,100**	^		
Chromium	mg/Kg	400	1		**24.5**		**16.5**			
Cobalt	mg/Kg				**14.7**		**5.7**			
Copper	mg/Kg	270	50		**26.5**		**37.7**			
Iron	mg/Kg				**29,400**	^	**14,000**	^		
Lead	mg/Kg	1,000	63		**63.1**		**110**			
Magnesium	mg/Kg				**6,260**	^	**3,140**	^		
Manganese	mg/Kg	10,000	1,600		**578**	^	**158**	^		
Nickel	mg/Kg	310	30		**27.1**		**17.2**			
Potassium	mg/Kg				**1,650**		**1,370**			
Vanadium	mg/Kg				**34.5**		**19.3**			
Zinc	mg/Kg	10,000	109		**78.3**		**149**			
Mercury	mg/Kg	2.8	0.18		**0.029**		**0.13**			

Notes:
(1)-Standards taken from New York Code of Rules and Regulations (NYCRR) Part 375. Blank Space indicates that no Standard is listed.
(2)-"µg/Kg"-micrograms per kilogram.
(3)-**Bold**-indicates laboratory detection.
(4)-Blank space denotes parameter was not analyzed.
(5)-"U" indicates that parameter was not detected above laboratory reporting limit.
(6)-"J"-indicates that parameter was detected at a value less than laboratory reporting limit; as such, the concentration is estimated.
(7)-Green Shading indicates that concentration exceeds the Unrestricted SCO.
(8)-Yellow Shading indicates that concentration exceeds the Commercial SCO.
(9)-"mg/Kg"-milligrams per kilogram.
(10)-"^"-denotes that ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Created By: SCC
Checked By: JRK

APPENDIX C

Excavation Work Plan

This Excavation Work Plan (EWP) specifies requirements for excavation and grading activities, stockpiling and soil staging, on-site reuse criteria, waste characterization sampling, soil loading and transportation, and requirements for off-site disposal. The plan also addresses steps that will be taken in the event that buried drums, underground storage tanks, pipes, or sewers are encountered during future construction activities.

The Tract I Site (Site) is located at 3123 Highland Avenue in the City of Niagara Falls, Niagara County, New York. The Site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index #C932157-03-12, Site # C932157, which was executed in April of 2012. The Site was remediated throughout the soil column to meet the Restricted Use Soil Cleanup Objectives (SCOs) for Commercial use. Backfill material used on the Site meets either the Allowable Constituent Levels for Imported Fill or Soil (ACLs; Appendix B of DER-10) if it was obtained from an off-site source, or the Restricted Commercial SCOs if it was obtained from on-site sources such as crushed construction debris (brick, concrete, etc.).

The Tract I on-site soil, at a minimum, meets the Commercial SCOs, future excavation at the Site will not require the use of personnel trained under the Occupational Safety and Health Administration's (OSHA) Hazardous Waste Operations (HAZWOPER) regulations at 29CFR 1910.120, nor would any of the other HAZWOPER requirements apply. The Commercial SCOs for PAHs are at least 30 times lower (Risk Assessment Information System, Oak Ridge National Laboratories) than the acceptable exposure concentrations for an excavation worker, and the Commercial lead SCO is a minimum of 50% lower than the acceptable limit for an excavation worker. Furthermore, any excavated soil on the Site can be placed back on the Site at any depth (surface or subsurface) without restriction.

The only restriction on excavated soil is that, should off-site disposal of soils exceeding the 6 NCYRR Part 375-6.3 and 6.8(a) Unrestricted SCOs become necessary, the soil must be staged, loaded out, transported, and disposed of in accordance with the requirements of this EWP and all State and Federal regulations. The following sections provide the specific requirements for excavation and off-site disposal of Site soils.

C-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to require off-site disposal of soils exceeding the Unrestricted SCOs, the Site owner or their representative will notify the Department. As of 2014, this notification will be made to:

Mr. Gregory Sutton
Regional Hazardous Waste Engineer
NYSDEC Region 9
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, NY 14203

This notification will include:

- A description of the work to be performed;
- 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 **Appendix C** of the SMP;
- A schedule for the work;
- A summary of the applicable components of this EWP;
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

C-2 SOIL SCREENING METHODS

For soil that will be disposed of off-site, visual, olfactory, and instrument-based screening will be performed by a qualified environmental professional under the oversight of a New York State licensed professional engineer, during excavation on the Tract I property. Where possible, soils will be segregated based on previous environmental data and screening results, into material that requires landfill disposal and material that must be tested for other potential off-site uses. Material that will be reused on the Site does not require testing.

C-3 STOCKPILE METHODS

Excavated soils that will be disposed of off-site will be stockpiled on the property for characterization when direct load-out of soil for off-site disposal is not feasible. Specific locations for the stockpile areas will be determined during construction.

Soil stockpiles will be completely encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters, and other discharge points. Existing concrete curbs and slabs may also be used as runoff control as part of the stockpile system. As an alternative to temporary stockpiles, roll-off boxes may be used for on-site accumulation of excavated materials.

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. Spray-on dust suppression agents may be applied when soil is not being added or removed to reduce the infiltration of precipitation and the migration of dust.

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.

Soils that require off-Site disposal will not be stockpiled for more than 90 days after completion of the specific excavation. Characterization samples of the stockpiled material will be collected within two weeks (14 calendar days) after completion of an excavation; standard laboratory turnaround (approximately 3 weeks) will be used for all laboratory testing unless an expedited turnaround time is required.

C-4 MATERIALS EXCAVATION AND LOAD OUT

For excavation work, a Professional Engineer's (P.E.) representative with construction/remediation experience, representing the property owner or developer, will monitor excavations or disturbances. The Site owner at the time of intrusive work must provide a P.E. stamped/signed certification with the annual inspection report that excavation work into the remaining contamination and subsequent backfilling was conducted in a manner consistent with this Plan. 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. 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.

Vehicles leaving the Site loaded with soil for off-site disposal 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.

C-5 MATERIALS TRANSPORT OFF-SITE

All transport of contaminated 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.

All trucks will be inspected prior to leaving the Site. Should soil on the tires or truck body be identified on the trucks, the trucks will be washed prior to departure. Truck wash waters will be collected and disposed of off-site in an appropriate manner. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development.

Truck transport routes will be developed to 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; (g) community input. A map and description of truck transport routes will be provided in the pre-excavation work plan. Trucks will be prohibited from stopping and idling in the neighborhood outside the project Site. Off-site queuing will be prohibited. 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.

C-6 MATERIALS DISPOSAL OFF-SITE

All soil, fill, and 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 contaminated 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. solid waste landfill, C/D debris 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 I unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

C-7 MATERIALS REUSE ON-SITE

The qualified environmental professional under the supervision of a NY State licensed professional engineer, will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Any materials reused on-site must meet the Restricted Commercial SCOs as identified in 6NYCRR Part 375-6: Remedial Program Soil Cleanup Objectives (Table 375-6.8 (b)).

C-8 FLUIDS MANAGEMENT

Pumping of water (i.e., perched groundwater and/or storm water) that has accumulated in an excavation, if necessary, will be done in such a manner as to prevent the migration of particulates, soil, or unsolidified concrete materials and prevent damage to the existing subgrade. Water pumped from the excavations may be discharged to the Niagara Falls sewer system, after approval from the Niagara Falls Water Board (NFWB) has been obtained. If the water quality is such that the NFWB will not approve the discharge to a sewer, or if the water cannot be sufficiently treated so that NFWB approval is obtained, it will be stored in temporary storage tanks, characterized, and transported off-Site for proper disposal. Runoff from the surface will be limited to control discharges to storm sewers.

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.

C-9 COVER SYSTEM RESTORATION

No cover system has been installed at the Site; therefore, cover system restoration will not be necessary subsequent to excavation activities.

C-10 BACKFILL FROM OFF-SITE SOURCES

Soil 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. Soil or other materials from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the Site.

Imported materials will meet the applicable Allowable Constituent Levels for Imported Fill or Soil as presented in Appendix 5 of DER-10 for Commercial or Industrial Use. Soils that meet ‘exempt’ fill requirements under 6 NYCRR Part 360, but do not meet backfill requirements for this Site, will not be imported onto the Site without prior approval by NYSDEC. Solid waste will not be imported onto the Site without a Beneficial Use Determination and a prior NYSDEC approval.

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.

C-10.1 Structural Fill

Excavated material, crushed asphalt or concrete from building demolition, and clean fill/borrow material brought on Site for use as structural fill must meet the following criteria:

- All materials from on-Site sources must be shown through testing to have concentrations of constituents that are less than the Restricted Commercial SCOs; and
- Material from off-Site sources intended for use as Site backfill shall meet the Allowable Constituent Levels for Imported Fill or Soil as presented in Appendix 5 of DER-10 for Commercial or Industrial Use.

Rock or stone, consisting of virgin material from a permitted mine or quarry may be imported for use as backfill, without chemical testing provided it contains less than 10% by weight of material which would pass through a size 200 sieve.

Sampling of off-site materials intended for use on the Site, which require chemical testing, will be conducted in accordance DER-10 Table 5.4(e)10, Recommended Number of Soil Samples for Soil Imported To or Exported From a Site. Samples will be analyzed for TCL VOCs, TCL SVOCs, PCBs and Pesticides, and TAL metals.

C-11 STORMWATER POLLUTION PREVENTION

For excavations that will exceed 1-acre in surface area, coverage will be obtained under the NYSDEC SPDES General Permit for Storm Water Discharges from Construction Activities that are classified as "Associated with Industrial Activity", Permit #GP-93-06 (Construction Storm Water General Permit). Requirements for coverage under the Construction Storm Water General Permit include the submittal of a Notice of Intent (NOI) form and the development of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will fulfill all permit requirements and will be prepared in accordance with the latest NYSDEC guidance for preparing SWPPP and with latest version of the New York State Stormwater Management Design Manual. This SWPPP, in accordance with permit requirements, will provide the following information:

- A background discussion of the scope of the construction project.
- A statement of the storm water management objectives.
- An evaluation of post-development runoff conditions.
- A description of proposed storm water control measures.
- A description of the type and frequency of maintenance activities required to support the control measure.

The SWPPP will address issues such as erosion prevention, sedimentation control, hydraulic loading, pollutant loading, ecological protection, physical Site characteristics that impact design, and Site management planning. All descriptions of proposed features and structures at the Site will include a description of structure placement, supporting engineering data and calculations, construction scheduling, and references to established detailed design criteria. The SWPPP will conform to all requirements as established by applicable regulatory agencies.

Proven soil conservation practices, including Best Management Practices such as those described in the latest version of the New York State Stormwater Management Design Manual, will be incorporated in construction and development plans to mitigate soil erosion, off-site sediment migration, and water pollution from erosion. Temporary erosion control measures such as silt fencing and/or hay bales will be placed around soil stockpiles and bare surface soil during demolition activities, as specified by the local soil conservation district. Stockpiles will be graded and compacted as necessary for positive surface water runoff and dust control. Stockpiles of soil will be placed a minimum of 50 feet from the property boundaries.

Silt fencing or hay bales will be installed around the entire perimeter of the construction area. The perimeter silt fences will remain in place until demolition/ construction activities in the area are completed and vegetative cover or other erosion control measures are adequately established. Silt fences will be provided and installed in accordance with the New York Guidelines for Urban Erosion and Sediment Control.

Temporary erosion and sedimentation control measures will be used during active demolition/construction stages. The following temporary measures will be incorporated into demolition/construction activities:

- Silt fences will be placed around active demolition/construction areas that result in soil disturbance;

- Hay bales will be placed and staked around stockpiled soil under the plastic to create a berm; and
- Plastic covers will be placed on stockpiled soil to reduce rain water infiltration and dust.

Barriers and hay bale checks will be inspected once a week and after every storm event. Results of inspections will be recorded in a logbook, maintained at the Site, and available for inspection by NYSDEC. All necessary repairs shall be made immediately.

Erosion and sediment control measures 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 significant impacts to receiving waters. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Removed sediment will be stockpiled and characterized as specified for excavated soil. 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 damaged due to weathering.

C-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.

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 full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, and PCBs), 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 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 also be included in the periodic reports prepared pursuant to Section 5 of the SMP.

C-12.1 Buried Drums or Underground Storage Tanks

If buried drums or underground storage tanks (USTs) are encountered during excavation activities, NYSDEC will be notified. USTs will be registered with NYSDEC as required per 6 NYCRR Part 375-1.8. Any buried drums and/or USTs encountered will be evaluated within the excavation via visual assessment and photoionization detector (PID) readings, provided that worker health and safety is protected. Subsequently, a Removal Plan will be prepared for NYSDEC approval. Drums and/or USTs will be excavated and removed in accordance with a site-specific Health and Safety Plan while following all applicable Federal, State, and local regulations. Removed drums and underground storage tanks will be properly characterized and disposed off-site. The soil surrounding the buried drums or underground storage tanks will be considered as potentially contaminated and will be characterized in accordance with methods prescribed in this Plan.

C-12.2 Underground Pipes and Sewers

Within the limits of the excavation, inactive storm or sanitary sewer pipes that are encountered will be removed, and the exposed ends will be plugged/capped at the walls of the excavation. If pipes are large, the use of flowable fill may be considered. Based on Site knowledge, no underground chemical/process pipes are expected; if any are encountered during grading or excavation activities, they will be cut, drained, and removed from within the excavation limits. Drained materials will be collected and properly disposed off-Site. Pipe sections left in the ground (if any) which will not be reused will be capped/plugged after draining and the potential for migration of contaminants along the pipe bedding will be assessed and mitigated via placement of impermeable collars or other barriers, as appropriate.

C-13 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) has been prepared for future soil disturbance work at the Site. The CAMP is included as Appendix E of the SMP. Given that the primary contaminants on the Site are lead and PAHs, the CAMP is focused on monitoring of particulate matter emanating from the soil disturbance. The CAMP requires that real-time perimeter air monitoring:

- Establish a background (upwind) location for comparison of results;
- Be performed in a minimum of three, and up to six locations around the area of soil disturbance (including the background location);

- Be capable of monitoring particulate matter smaller than 10 micrometers in diameter (PM-10); and
- Be capable of averaging over a 15-minute time period for comparison to the action levels;

Furthermore, the CAMP establishes action levels and and actions to be taken should the action levels be exceeded.
A figure showing the location of air sampling stations based on generally prevailing wind conditions will be developed during preparation of the excavation work plan. . Monitoring 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. If a sensitive receptor, such as a school, daycare, or residential area is adjacent to the work area, a fixed monitoring station will be located at that perimeter, regardless of wind direction. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

C-14 ODOR CONTROL PLAN

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 environmental professional, 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 dust and odor, nuisances associated with the Site. 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.

C-15 DUST CONTROL PLAN

Dust suppression techniques will be used at the Site in accordance with applicable NYSDEC guidance to control fugitive dust. The surface of unvegetated earthen or disturbed soil/fill areas will be wetted with water or other dust suppressive agents to control dust during demolition/construction. Particulate and VOC monitoring will be performed along the downwind occupied perimeter during subgrade excavation, grading, and handling activities in accordance with the CAMP to be provided as part of the project Health and Safety Plan.

Dust suppression techniques that may be used at the Site include applying water on roadways, wetting equipment, spraying water on buckets during excavation and dumping, hauling materials in properly covered or watertight containers, covering excavated areas and material after excavation activity ceases, establishing vegetative cover immediately after placement of cover soil, and reducing the excavation size and/or number of excavations. The use of atomizing sprays is recommended, where practical, so that excessively wet areas will not be created, but fugitive dust will be suppressed.

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. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger areas will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- 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.

C-16 OTHER NUISANCES

If necessary, a plan for rodent control will be developed and utilized by the contractor prior to and during Site clearing and grubbing, and during 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 D

Sample HASP

Tract I
Site Management Plan
Sample Health and Safety Plan

3123 Highland Avenue

Niagara Falls, Niagara County, New York

Submitted by

Ontario Specialty Contracting

333 Ganson Street

Buffalo, NY 14203

December 12, 2014

(Revision 0)

SITE HEALTH AND SAFETY PLAN REVISIONS

Revision	Date	Description of Change

Authorization Signatures

This Site Health, Safety and Environment Plan (HASP) has been reviewed and approved by the individuals below. By their signatures, the undersigned certify that this HASP meets the requirements of 29 CFR 1910.120 and all other applicable regulations for the protection of all personnel entering the project site.

John Yensan , President ***OSC***	Date
Alen Trpevski, Senior Project Manager ***OSC***	Date
Ryan McCann, Project Manager ***OSC***	Date
William Fleck, Corporate HSE Director ***OSC***	Date
David Sweeney, Site Health and Safety Officer ***OSC***	Date
Justin Romanow, Senior Site Superintendent ***OSC***	Date
	Date
	Date
	Date

Conformance Signatures

All Individuals working on this Project, including subcontractors must read and sign.

The following personnel have read and fully understand the contents of this Site Health, Safety and Environment Plan and further agree to all requirements contained herein.

Name	Affiliation	Date	Signature

Project Contact List

PROJECT EMERGENCY CONTACTS		
Organization	**Contact**	**Phone Number**
In Emergency ***FIRST CALL to 911*** ***Then Site Safety***	Site Emergencies (Police, Fire, Hospital, Ambulance)	**911**
Brightfields	John Yensan Corporate Vice President	716-583-4400
	William Fleck Corporate HSE Director	716-560-7542
	Alen Trpevski Senior Project Manager.	716-818-3390
	Ryan McCann Project Manager	716-200-9555
	Site Health and Safety Officer Dave Sweeney	716-289-6115
(see pg. 4 Hospital Directions)	**Niagara Falls Medical Center**	**716-278-4000**

Other Agency Contacts

Agency	Contact	Phone Number
All Site Emergencies	**Police, Fire, Hospital, Ambulance**	**911**
Niagara County Soil & Water	Soil & Water	716-434-4949
Niagara County Public Works	Streets, Sidewalks & Lights	716- 439-7242
Poison Control	American Association of Poison Controls	1-800-222-1222
NYS DEC Region 9	DEC Buffalo Office	716-851-7226
US EPA Release Report Number	National Response Center	1-800-424-8802
US Coast Guard Hazardous Materials Spills	National Response Center	1-800-424-8802
Chemical Emergency Center	CHEMTREC	1-800-424-9300

Directions to Niagara Falls Memorial Medical Center (See Map - Hospital is 6 Minutes from site, 1.6 miles)

A From Job Site (Highland Ave & Beach Ave towards Jordan Gardens)

1. Head South on Highland Ave toward Jordan Gardens	0.3 mi
2. Continue on to 11th St	0.8 mi
3. Turn left onto Portage Road	0.5 mi
Destination will be on the right	
4. Take the 3rd right onto Walnut Ave	479 ft

Niagara Falls Memorial Medical Center
B 621 10th Street, Niagara Falls, NY 14301
(716) 278 - 4000

1.0 INTRODUCTION

1.1 APPLICABILE REFERENCES

This Health and Safety Plan (HASP) has been developed in accordance with all Federal, State and Local regulations. All operations and equipment used in conjunction with this Contract shall as a minimum comply with the following:

- AMEC Interim Remedial Measures Work Plan Tract I Site
- AMEC Site-Specific Health and Safety Plan Tract I
- OSC Corporate Health, Safety and Environmental Manual
- Site Storm Water Pollution Prevention Plan (SWPPP)
- NYS DEC Approved Site Management Plan
- OSHA 29 CFR 1910: Occupational Safety and Health Standards – General Industry
- OSHA 29 CFR 1926: Safety and Health Regulations for Construction
- EPA 9285.1-03: Office of Emergency and Remedial Response – Standard Operating Safety Guides
- New York State Department of Environmental Conservation – Applicable Regulations
- NIOSH 85-115: Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities.
- New York State Applicable Right-to-Know Laws

All personnel involved in this project will:

- Receive site orientation training regarding the Project requirements contained in this HASP. Site orientation will be conducted by the Site Health and Safety Officer (SHSO) named in Section 2.0 of this HASP.
- Acknowledge in writing, on page 8 of this HASP (See "Conformance Signatures") that they have received the site specific orientation and; therefore, have been trained in and understand the contents of this HASP.

The health and safety protocol established in this HASP are based upon the known site conditions and/or conditions anticipated to be present from current site data. This HASP will be updated and/or revised as necessary to address changes to the actual site conditions encountered and/or as required by modifications to scope of work.

A copy of this approved HASP shall be maintained at the Project site for review.

1.2 DEFINITIONS

A. The Owner: BRIGHTFIELDS Inc.
B. The Contractor: *OSC* – The company retained or hired by the Owner to conduct the Project.
C. The Project: Niagara Tract I and Tract II Demolition and Remediation
D. The Project Site: The area designated as the Contractor work area.
E. Contractor Work Area: An area of the Project site which includes the support zone, access road, staging area, contamination reduction zone and exclusion zone.

F. Project Personnel: Project personnel include, but are not limited to, the Owner, Owner's Onsite Representative, the Contractor, Contractor's employees and subcontractors; as well as Federal, State and Local authority that have jurisdictional Representative(s) working or having official business at the Project site.

G. Qualified Person: A person with a recognized degree, professional certificate or extensive knowledge and experience in the subject field who is capable of doing design, analysis, evaluation and specifications.

H. Competent Person: A person who is capable of identifying existing any predictable hazards in their surroundings/working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

I. Authorized Personnel: A person that is approved or assigned by their employer to perform a specific type of duty/duties, or to be at a specific location(s) at the Project site.

J. Stop Work Authority: HSE personnel, qualified and competent persons, Owner's Representatives and all employees **will have the authority to stop work in situations of imminent danger, in any situation deemed unsafe or un-healthful to those working on the Project site, or in any situation that poses a risk to the environment**. Work will remain stopped until the involved parties correct their impact or conditions as per the requirements of this HASP.

1.3 SITE VISTIOR REQUIREMENTS

A safe location, where all visitors can observe the site activity of interest, will be established by the SHSO. Anyone visiting the site will receive site-specific instructions from the SHSO. Visitor training will include, at a minimum:

- Hazard identification;
- PPE requirements;
- Decontamination procedures;
- Emergency procedures, and
- Any other site-specific information that the SHSO deems necessary.

Any visitor wishing to enter the contamination reduction zone (CRZ) or exclusion zone will be required to provide the SHSO with documentation of medical monitoring and training equivalent to the requirements of this HASP. Only authorized visitors with written proof that they have been medically certified and trained in accordance with OSHA 29 CFR 1910.120 will be permitted to enter the CRZ and/or exclusion area.

** Emergency personnel may enter the work area without fully complying with the requirements of this subsection. Emergency crews will be quickly briefed as to site conditions and hazards by the SHSO.

2.0 HEALTH and SAFETY ORGANIZATION

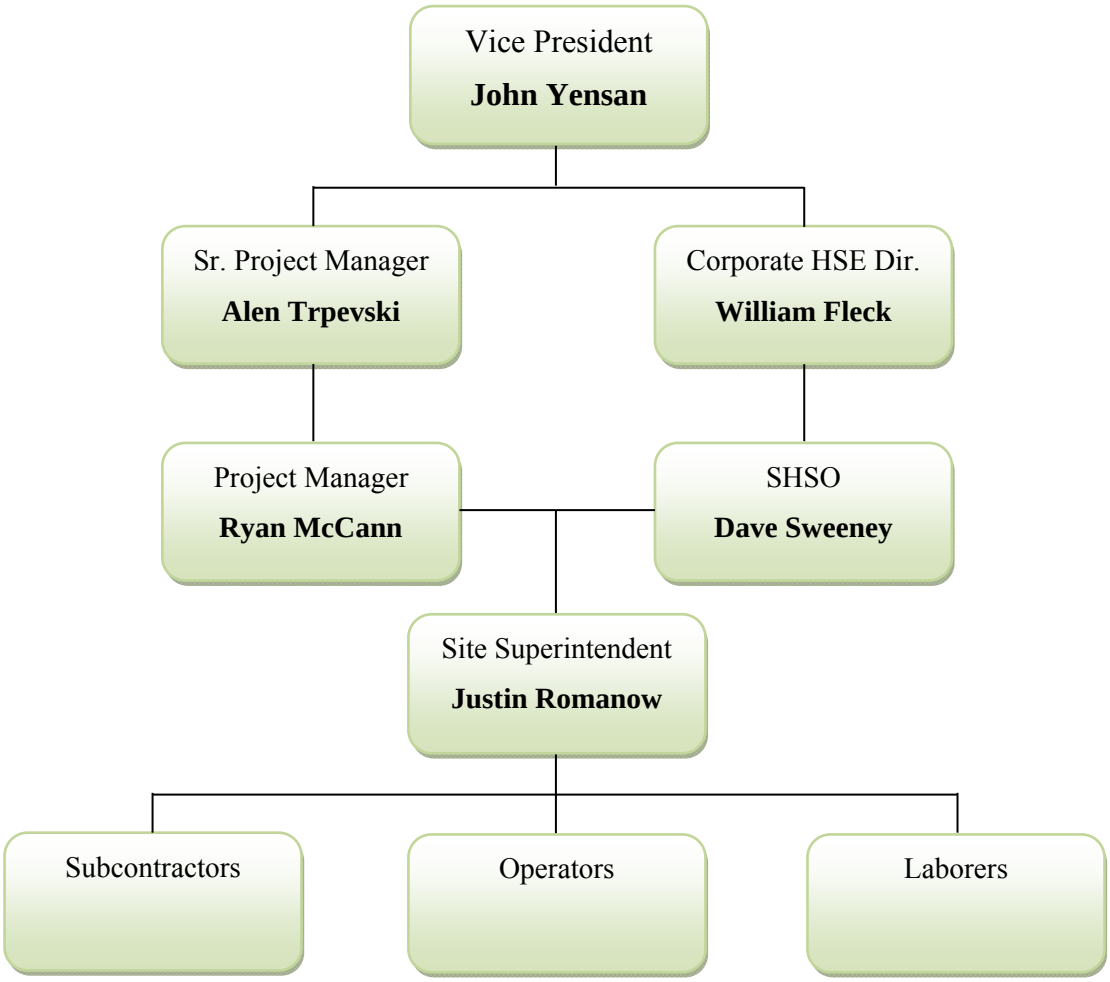
The following ***OSC*** management personnel will be assigned to this Project:

- Corporate Vice President – **John Yensan**
- Corporate HSE Director – **William Fleck**
- Senior Project Manager – **Alen Trpevski**
- Project Manager – **Ryan McCann**
- Site Superintendent – **Justin Romanow**
- Site HSE Officer – **Dave Sweeney**

In addition to the above listed management, ***OSC*** will provide the appropriate number of operators and laborers; as well as the required subcontractors for this project.

Any personnel assigned to this project will have been 40 hour HAZWOPER trained and medically monitored in accordance with OSHA 29 CFR 1910.120 as required in Sections 3.0 and 9.0 (Training and Orientation / Medical Surveillance) of this HASP. All documentation regarding personnel training, fit testing and medical monitoring will be maintained onsite site for review by the owner, owner's representative and/or oversight personnel.

2.1 ORGANIZATION CHART



2.2 PERSONNEL RESPONSIBILITIES

2.2.1 PROJECT MANAGERS AND SUPERINTENDENTS

The Project Manager will be responsible for the overall direction and completion of this contract. The Project Manager will report to the Senior Project Manager and will be responsible for managing and coordinating all project related activities; as well as serving as ***OSC***'s primary contact with the Owner and/or Owner's Representative. The Site Superintendent will be responsible for overseeing Contractor and subcontractor operations in the field. The Site Superintendent will report directly to the Project Manager.

Project Managers and Superintendents will be responsible for the following:

- Assure compliance with the Corporate HSE Manual and this HASP during the proposal and initial stages of this Project.
- Implement the procedures and guidelines outlines in this HASP throughout the duration of the Project.
- Perform accident investigations (***OSC*** employee injuries only). In cases where subcontractors are involved, the Site Superintendent will notify the Corporate HSE Director (CHSED) immediately. The CHSED will collect the appropriate injury and/or accident documentation with help from the Superintendent. If the CHSED is unavailable, the SHSO will conduct the accident investigation.
- Perform and support site safety audits and address all errors.
- Provide incentive and motivation for safe work practices; as well as discipline for unsafe work practices as per the OSC and CLIENT progressive disciplinary policies.
- Ensuring a copy of this HASP; as well as the Corporate HSE Manual is onsite at all times.
- Conduction, along with the SHSO, initial site orientation meetings.

2.2.2 SITE HEALTH AND SAFETY OFFICER (SHSO)

The SHSO will handle health and safety management on the project level and will report to the CHSED. Specific duties of the SHSO include:

- Overall implementation, enforcement and maintenance of this HASP.
- Act as a point of contact for all Project site health and safety concerns.
- Conduct initial training of the contents of this HASP; as well periodic training for when rules/regulations change, new equipment or procedures are introduced, additional skills are needed and new hazards are presented. Project initial training requirements include potential hazards, personal hygiene principles, PPE, respiratory protection equipment usage, fit testing and emergency procedures dealing with fire and medical situations.
- Conduct daily meetings regarding health and safety.

- Maintain separation of the exclusion zone (dirty) from the support zone (clean) areas.
- Supervising any additional HSE requirements that are required for this Project.
- The SHSO will monitor the jobsite health and safety via inspection at the start and completion of each day's work; as well as monitoring the jobsite for this purpose throughout the day. Any HSE violations will be promptly corrected and reported to the Project Manager. All observed violations will be explained to the perpetrator and reviewed at the following HSE meeting. Violations of the site HSE regulations will be grounds for disciplinary action, which could lead to termination of personnel and/or expulsion of vendor/subcontractor personnel from the site.

2.2.3 MEDICAL CONSULTANT

The Medical Consultant will be available to provide the required physicals and to conduct additional medical evaluations of ***OSC*** personnel, when necessary. OSC's Medical Consultant is:

Company Health Medicine, PLLC
1173 Sheridan Drive
Tonawanda, NY 14150
Phone: 716-875-5495
Fax: 716-875-5498

2.3 SUBCONTRACTORS

All subcontractors are required to obtain a copy of this HASP prior to site admittance and to follow its guidelines while on the job. Subcontractors can provide suggestions of changes and/or insertions to this HASP as necessary to adequately address their intended project operations. Subcontractors are responsible for health and safety as it pertains to their operations at the project site and shall provide the required OSC HSE documentation.

Subcontractors will be a part of the project's initial orientation and training based upon this HASP. Proof must be provided of the subcontractor's employees' training pertaining to the work they're contracted to perform. All subcontractors are responsible for providing their employees with the proper PPE required by this HASP; as well as ensuring that all equipment use is properly monitored and maintained. All subcontractors shall be required to develop an Activity Hazard Analysis (AHA) for every definable feature of work. Subcontractors work shall not begin until the AHA is approved by OSC and AMEC Safety. Likewise, AHA's shall be reviewed by all performing and affected workers prior to starting each task or as updated and warranted do to process changes, improvement measures and audit/incident findings. Subcontractors are responsible for ensuring that their employees conform to all applicable site HSE regulations.

3.0 TRAINING and ORIENTATION

3.1 SITE TRAINING

All personnel, including subcontractors, will be provided with the training required to comply with this HASP. All training documentation (training certificates and attendance rosters) will be stored and maintained onsite by the SHSO and will be made available for inspection upon request. Training documentation will be kept in an organized manner that shows that each individual worker has the proper training as required.

3.1.1 HSE TRAINING

Prior to performing field work the site. All personnel working onsite must have successfully completed initial 40 hour hazardous waste site training and if the initial 40 is more than 1 year old then an 8 hour HAZWOPER refresher training prior to performing field work at the Project site. In addition to HAZWOPER training all project core workers shall have successfully completed an OSHA 10 hour in Construction or equivalent within the last 5 years. Likewise, all Project Management personnel shall have successfully completed an OSHA 30 Hour in Construction or equivalent within the last 5 years. Personnel involved in the supervision of SWPPP installations, maintenance or repair shall have successfully completed 4 hours of DEC certified SWPPP training.

3.1.2 SITE SPECIFIC TRAINING

Documented site orientation training will be provided by the SHSO with the following topics being discussed:

- Identified potential job site hazards and protective measures which includes but is not limited to:
  - Review of this HASP
  - AHA & Personal STAC Card (Safety Task Analysis Card) review
  - Safe work procedures, including Decontamination Procedures
  - Dust, Erosion and Noise Control Measures
  - Controlled Work Zones, Material Segregation & Cross Contamination Prevention
  - Trenching, Excavating, Filling and Rolling
  - Loading, Tarping and Transporting
  - Hoisting and Rigging
  - Heavy Equipment & Industrial Forklift Operation
  - General House Keeping, Walking Working Surfaces - slips, trips, falls
  - Potential Respiratory Hazards (Dust, Silica, Lead)
  - Respirator use, maintenance and inspection (when required)
  - Struck by Hazards (Traffic, Heavy Equipment & Flying Debris)
  - Fall Protection (Barricades, Guards, Rails, PFAS and Nets)
  - Confined Space Entry Operations and Procedures (when required)
  - Electrical Safety Related Work Practices, Assured Grounding & GFCI's
  - Fire Protection and Flammable Storage
  - Hazard Communication (MSDS & Proper Container Labeling)

  - Material Handling, Ergonomics (Good Body Mechanics), Back Safety and CTD's.
  - Control of Hazardous Energy (Lockout/Tagout/Tryout)
  - Ladder Safety
  - PPE Use & Care (Eye, Face, Head, Hand, Foot and Hearing Protection as well as protective clothing)
  - Cold Stress/Heat Stress Monitoring
- Site layout/Location of; Controlled Work Zones, Porta-Jons, Washing Stations, Break Areas, Office/First Aid, Parking and Traffic Flow, Equipment/Truck Wash Station
- Site Security Requirements;
- Incident Reporting;
- Emergency Signals;
- Emergency response actions (evacuation, fire, medical, storm procedures)
- Available Emergency Services (Emergency Contact List, First Aid & CPR Trained Site Personnel)

3.2 MEETINGS

Attendance at all HSE meetings will be documented and filed onsite.

3.2.1 "Daily Safety Brief/Tool Box Talk" SAFETY MEETINGS

Prior to the beginning of each day or work task, **all** involved **workers will be required to attend a Daily Safety Brief HSE meeting** to review task-specific health and safety requirements.

3.2.2 WEEKLY HSE MEETINGS

All onsite Supervisory personnel will be required to **attend a weekly HSE meeting,** conducted by the SHSO, to review Project and/or task specific procedures. Topics to be discussed at these weekly meetings include, but are not limited to:

- STAC card (See STAC card Overview) and AHA development and review
- Necessary training requirements and site work rules;
- Changes in work practices and/or work conditions;
- Precautions and work practices related to scheduled site activities;
- New or modified site wide procedures or requirements;
- Incident alerts;
- Discussion of potential hazards or hazardous operations;
- Procedures on restricted areas;
- Equipment rules and requirements;
- Restrictions on the handling of materials;
- PPE requirements, and
- Delegation of responsibility (emergency backup personnel, competent persons, etc.).

4.0 PROJECT OVERVIEW (Site Location and Summary of Work)

The Tract 1 and site consists of approximately 5.9 acres of property located in the City of Niagara Falls, New York. The Tract 1 site is located northeast of the intersection of Highland Avenue and Beech Street at 3123 Highland Ave. The Tract 1 site which was also the location of the former Power City Warehouse and commonly referred to as the Power City site is relatively flat level land and historically used for the manufacture of lead/acid batteries. Adjacent to the Tract 1 site to the East and South is the Tract II site, which is located at 3001 Highland Avenue.

Scope of Work – Tract 1 work may involve soil disturbance activities such as excavation of footers, utilities and other site appurtenances. In soil where lead exists in concentrations above the commercial standard of 1,000 milligrams per kilogram (mg/kg), or contaminants including metals or organic compounds exceed their respective applicable health based regulatory criteria, this HASP will be implemented to protect workers and the community from exposure.

4.1 PRE-MOBILIZATION

Pre-Mobilization Activities include all preparatory activities necessary for the execution of work. Preparatory activities may include, but are not limited to, the submittal of the Site Specific Plans, including a detailed execution plan, EH&S plan, permitting, regulatory notifications and UFPO notification (NY DIG Safety).

4.2 PROJECT ENVIRONMENTAL HEALTH and SAFETY PLAN

This HASP has been developed to advance policy and practices that are designed to provide all project personnel a work place free from recognized hazards that eliminates and controls exposure to physical and chemical hazards as well as protect the public and property from loss. Additionally, the plan provides for appropriate response to foreseeable site emergencies. The procedures found in this plan include:

- Activity Hazard Analysis;
- Medical Surveillance;
- Protective Equipment;
- Exposure Assessment;
- Decontamination Procedures;
- Training and Emergency Response

These procedures are used in conjunction with the Ontario Specialty Contracting, Inc. Corporate Health and Safety Procedures Manual and are intended to conform to All State and Local requirements. All asbestos abatement shall be performed according to NYS Code Rule 56. The Asbestos Abatement Plan shall be developed and submitted under separate cover.

4.3 Mobilization

Moving "Heavy Equipment" onsite, delineating parking areas for site personnel, setting up porta-jons, wash stations, delineating work areas, designating project access points and traffic flow.

4.3.2 PROJECT SUPPORT AREA[S]

OSC will require a project office for the duration of the project and a lay down area large enough to accommodate the proposed equipment for the project and tool storage. The space required for the storage of materials is anticipated to be relatively minimal. Since sanitary facilities are not available in the project work area, room for portable units will be required.

A site map indicating staging of office and decontamination trailers shall be developed and provided under separate cover.

4.3.3 ACCESS ROUTES and ROADS

A site map will be produced which defines the required truck routes through the site. Speed limit, exit, entry and traffic flow signs, will be posted along the routes. This plan will designate the available gates, times, path of travel to be used for all trucking and security requirements for site access and egress to controlled work areas. Note – the intent is to limit and control access to the site for safety and security as well as clearly define and delineate work areas in order to prevent equipment from accidentally crossing and contaminating other work areas.

4.3.4 UTILITIES

OSC will contact DIG Safety New York a minimum of 3 days prior to commencing any earth work (excavation, hammering and removal) to assure all known utilities are properly identified and marked. Likewise, an approved independent surveyor may need to be secured by OSC to identify any private utilities within the site. Marked utilities shall be maintained with the same color as originally marked until work is completed. The utilities identified and marked will include but not be limited to:

- Electric
- Gas
- Communications
- Water
- Sewer
- Process Lines

4.3.4 SURVEYS

In addition to the lead impacted soils "…several small surface target areas are present that exceed the SCO's for either metals or PAHs (polynuclear aromatic hydrocarbons); See AMEC Tract 1 Work Plan "Ecology and Environmental Site Investigation Reports".

An exposure assessment (initial and routine) shall be conducted to assure negative exposure below PEL for any activities which may have potential hazard exposure above the established PEL (Lead – PEL 50 ug/m3, TWA 8 hrs, PAH - 0.2 milligram/cubic meter (mg/m^3), PCB's 500 µg/m^3, arsenic PEL 10 ug/m^3, 1,1,1 TCA – PEL 55 mg/m3). Activity Hazard Analyses (AHAs) and personal protective equipment (PPE) requirements shall be developed and modified based on exposure assessment results (See section 4.4, 6.1 and Attachment 10).

Prior to excavation, a competent person will conduct pre-work survey. The survey will include a review of available drawings and analytical data, a visual inspection of the work area and

assessment of the site conditions to assure all hazards are identified and the necessary steps are developed to assure that an unplanned event does not occur. A formal report documenting the survey will be submitted to the client representative prior to the onset of work.

4.3.5 PROTECTION OF EXISTING ADJACENT STRUCTURES OR UTILITIES

It is OSC's responsibility to ensure that all adjacent, sidewalks, structures, pipe lines, and buried utilities not scheduled for removal or termination (see contract plans and specifications) are adequately protected during the progression of the work.

4.3.6 DUST CONTROL

Dust shall primarily be controlled by wet methods; pre-misting and active spray misting of the immediate work area utilizing a fire hose and spray nozzle or water truck. In some cases an oscillating water canon (mechanical dust buster) shall be used to create a wall of mist to control the dust. In every case when excessive visible emissions occurs or if dust monitoring the activity generating the dust shall be ceased until corrective measures are in place. OSC will make every reasonable effort to ensure that every employee works in a safe and clean environment. All of OSC's employees who notice or generate dust must report it to their Superintendent. OSC's Superintendent will take steps to control excessive amounts of dust by using water, and/or provide dust mask or respirators to workers for their protection.

OSC's objective is to reduce the amount of dust from demolition activities to acceptable levels.

4.3.7 PROCEDURES

The following are standard controls used in typical demolition and redevelopment projects; all options are available to the project manager and project superintendent for implementation to control fugitive dust at the project. They will base their decision to use one or any combination of these controls based on the daily weather conditions, work task being performed, and overall effectiveness of the chosen control.

- Each morning a weather report will be generated to determine the day's weather conditions, the humidity, wind speed and wind direction will be noted. These conditions will be communicated at the daily morning safety meetings prior to work beginning.
- All vehicles and equipment are to maintain a slow speed while driving on site, if there is dust generated from vehicle movement, speed must be reduced to minimum requirements to prevent dust being spread. Periodic wetting of roadways should keep this type of occurrence to a minimum.
- A water hose will be available to trucks to wet down the load prior to leaving the site. Each truck driver will inspect each load prior to leaving the site and can use the water to eliminate dust from the load at their discretion.
- The pre-wetting and misting of material prior to intrusive activities and crushing/processing operations.

4.3.8 SECURITY

OSC will take steps to secure the perimeter of the work area to prevent unauthorized persons from entering the work zone. Appropriate signage (Safety Signs) shall be installed.

4.3.9 INSPECTIONS

The Site Supervisor, H&S Officer, and Client representative will complete a pre-work inspection immediately prior to the start of activities. This inspection will identify any changes to the equipment, concrete, or piping since the completion of the initial survey, which could cause the equipment, concrete, or piping to be susceptible to premature collapse or create an unanticipated hazard. The inspection will also be used to verify that current hazardous materials abatement by others is complete. The Site Supervisor and the H&S Officer will perform an inspection prior to the commencement of work and routinely on a daily basis.

4.4 TASK/RISK ANALYSIS

A general assessment and analysis of the work task hazards associated with this project are provided in Table 1.0 of this section. More specific information relating to the potential chemical, physical, and biological hazards at this Project site shall be provided under separate cover as developed; See Attachment 10 Reserved for Site Initial Exposure Assessments (Lead, Silica, PHA's, PCB's, Asbestos, 1,1,1, TCA and Petroleum Residue Exposure Assessments and Associated AHA / Personal STAC Cards).

TABLE 1.0
WORK TASK HAZARD ANALYSIS

Task	Potential Exposure to Risk
Mobilization/Demobilization	Low
Site Setup	Slight to Moderate
Clearing and Grubbing (If necessary)	Moderate to Moderately High
Hazardous Materials Removal [Ex: Universal Wastes, Liquids, Solids, etc.]	High
Concrete Removal	Moderate
Grading and Backfill	Moderate
General Site Cleanup/Work Area Restoration	Low

Anticipated Exposure Risk Definitions:
Low: Non-intrusive work – No chance of exposure.
Slight: Non-intrusive work / Possible HSE hazards with tools. – Little to no chance of exposure.
Moderate: Non-intrusive work / Possible HSE hazards with powered tools, heavy equipment and/or working near or in water – Little to no chance of exposure to contaminants.
Moderately High: Intrusive work / Possible HSE hazards with equipment – Exposure to contaminants is possible.
High: Intrusive work / Possible HSE hazards with equipment – Exposure to contaminants is probable.

4.4.1 CHEMICAL HAZARDS

The use of chemicals onsite will be in compliance with the requirements set forth in OSHA 29 CFR 1910.1200 (OSHA's Hazard Communication Standard), all applicable Federal, State

and Local regulations and the Project Containment Plan. The potential hazards associated with these products will be mitigated through site specific training, administrative controls (e.g. proper labeling and storage) and proper use of the prescribed PPE.

Material Safety Data Sheets (MSDS), for all chemicals brought onsite, will be available for review in ***OSC***'s field office at the Project site.

The following table provides exposure guidelines for common hazardous chemicals that may be brought to the site, if required, for use during this Project. The SHSO will be notified before any new chemicals (chemicals not listed on the below table) are brought onsite.

HAZARD SUMMARY FOR SITE CHEMICALS ONSITE					
Substance	**Route of Entry**	**Exposure Symptoms**	**Treatment**	**8 Hour TWA**	**STEL and IDLH**
Diesel Fuel	•Skin contact •Eye contact •Inhalation •Ingestion	•Harmful if comes in contact with or is absorbed throughout the skin. •Contact may cause skin and eyes irritation. •Prolonged or repeated exposure may cause liver or blood forming organ damage. •May cause skin irritation or dermatitis.	•Eyes: Irrigate immediately. •Skin: Flush with soap and water. •Inhalation: Remove victim to fresh air and provide respiratory support if needed. •Ingestion: Seek medical attention.	300 ppm	STEL: 500 ppm
Grease, Oil and Hydraulic Fluids	•Skin contact •Eye contact •Inhalation •Ingestion	•May be slightly irritating to skin and eyes. •Inhalation may cause headaches. •Ingestion could result in nausea and vomiting.	•Eyes: Irrigate immediately. •Skin: Flush with soap and water. •Inhalation: Remove victim to fresh air and provide respiratory support if needed. •Ingestion: Seek medical attention.	N/A	N/A
Gasoline Petroleum Distillates	•Skin contact •Eye contact •Inhalation •Ingestion	•Acute: Central nervous system effects. Chemical pneumonitis if aspirated into the lungs. •Chronic: Benzene is a confirmed carcinogen. Long term exposure caused kidney and liver cancer in rats/mice.	•Eyes: Irrigate immediately. •Skin: Flush with soap and water. •Inhalation: Remove victim to fresh air and provide respiratory support if needed. •Ingestion: Seek medical attention.		

4.4.2 HAZARDS and PROTECTIVE MEASURES

The following physical and ergonomic hazards may be associated with this project.

1. Heavy Equipment Hazards and Protective Measures:
Before use, any machinery or mechanized equipment will be tested be tested by a competent person and certified to be in safe operating condition. ***OSC*** will designate a competent person to be responsible for the inspection of all machinery and equipment, daily and during use, to ensure its safe operating condition.

2. Excavation Hazards and Protective Measures:
Per OSHA requirements, provide adequate sloping to both sides of the excavation. Inspect the excavations regularly for changing conditions. Ensure that the material from the excavations is being placed away from the edge, to prevent cave-ins and pit instability. Backfill the excavations as require by the Engineer approved Contract Drawings, to minimize the number of open excavations.

Any excavation deeper than four feet will be supervised by a competent person who shall determine when subsidence control measures are required, what those controls will be and how they will be implemented. The competent person will inspect the excavations and controls to ensure reinforced structures are barricaded or marked, with barricade tape or traffic cones, during active excavations. If an excavation must remain open prior to backfill, those excavations must be fenced or barricaded. Compliance with OSHA 29 CFR 1926 Subpart P will be maintained.

3. Utility Hazards and Protective Measures (Control of Hazardous Energy)**:**
Prior to commencing work request a utility mark out, notify DIG SAFETY of New York a minimum of three days prior to performing any excavation activities. Maintain utility mark out until work is completed (remark with same colors). Prior to work beginning, ensure and verify all affected utilities are de-energized (disconnected, air gapped, locked out).

4. Confined Space Hazards (Excavations, Manholes, Crawl Spaces, Vaults, Tanks):
Confined space entries can present many HSE hazards if not performed properly. ***OSC*** will comply with all OSHA requirements concerning confined spaces, including monitoring and supervising spaces. ***OSC***'s confined space entry program is provided in later Sections of this HASP (See OSC Confined Space Procedures).

5. Noise, Sound/Hearing Hazards and Protective Measures: Possible exposure to continuous sound pressure levels in excess of 85 dBA of continuous noise or 140 dBA impact or impulse noise (i.e. split-spoon hammer) during heavy equipment operation. Anytime that noise is determined a hazard by the SHSO, wear disposable earplugs or ear muffs with a NRR rating of 20 or greater. Adhere to ***OSC***'s Hearing Protection Standard Operating Procedures provided in section 6.3 of this HASP.

In the absence of proper instrumentation, the appropriate rule of thumb is that hearing protection is required when normal conversation is difficult at a distance of two to three feet.

6. **Potential Hazard:** Uncontrolled release of hazardous energy (kinetic and/or potential)
Procedures to Mitigate Hazard: The LOCKOUT/TAGOUT/TRYOUT procedure provided in this HASP will be followed when working on machines and equipment in which the unexpected energizing / start-up of the machines or equipment, or release of stored energy could cause injury to employees.

7. **Potential Hazard:** Slips, trips and falls
Procedures to Mitigate Hazard: (1) Practice extreme caution in all work areas. (2) Watch your footing during equipment access/egress and when moving through the work area. (3) avoid stepping or standing on uneven or unsteady surfaces. (4) Clearly label open pits, wells and other fall hazards with caution tape. Securely cover these hazards as appropriate.

8. **Potential Hazard:** Lifting / Carrying
Procedures to Mitigate Hazard: (1) Personnel will limit lifting to low weight. (2) Lift objects with your legs and not your back. (3) Utilize the forklift, drum cart or other appropriate equipment whenever it is possible. (4) Get assistance if it is needed.

9. **Potential Hazard:** Possible traffic hazards
Procedures to Mitigate Hazard: Personnel will coordinate all site operations to avoid impeding, interfering with, or in any way restricting normal traffic flow. Flagmen, signs and other measure will be provided if deemed necessary.

10. **Potential Hazard:** Site maintenance
Procedures to Mitigate Hazard: (1) Personnel will properly store all equipment. (2) Remove all scrap material from the work area.

11. **Potential Hazard:** Hazardous materials storage
Procedures to Mitigate Hazard: (1) All flammable/combustible liquid will be segregated from the ignition source. (2) Store all hazardous materials in approved containers. (3) Keep all solvent wastes, oily rags and liquids in fire resistant containers.

12. **Potential Hazard:** Operation of hand and/or power tools
Procedures to Mitigate Hazard: (1) Personnel will verify that guards and safety devices are in place before, during and after operation. (2) Tag and remove all defective tools from service. (3) Maintain and inspect the tools per the manufacturer's recommendations. (4) All personnel will utilize the proper eye protection.

13. **Potential Hazard:** Electrical
Procedures to Mitigate Hazard: (1) All personnel will use approved grounding and bonding procedures. (2) Guard and maintain all electrical lines/cords. (3) Tag and remove all damaged equipment from service.

    All temporary electrical power used for this project will conform to NFPA 70 and ANSI C2. When possible, motorized vehicles will be grounded. Air monitoring and sampling equipment will be rated intrinsically safe for Class I, Division 1, Grounds A, B, C and D areas. All portable electrical equipment will be protected by ground fault circuit interrupters (GFCI). Clearances to adjacent overhead transmission and distribution electrical lines will be sufficient for the movement of vehicles and operation of equipment.

14. **Potential Hazard:** Exposure to extremely hot, humid and/or extremely cold, windy weather
Procedures to Mitigate Hazard: All personnel will adhere to the Heat and Cold Stress Monitoring Program provided in Section 16.0 of this HASP.

5.0 SITE SECURITY AND SITE CONTROL

SITE SECURITY

OSC will provide and maintain site security within the Project site, during all working hours from Project mobilization though substantial completion.

All onsite personnel and visitors will be required to sign-in and sign-out, at the Project support area, before entering or leaving the site. ***OSC*** will maintain, onsite, all records of site access and security incidents. Visitors will be required to read and conform to this HASP, prior to accessing controlled work zones. Vehicular traffic will be permitted in the designated parking areas within the Project support area; however, access to the exclusion and contamination zones is restricted to authorized vehicles only. Use of onsite parking areas will be restricted to the **Owner, Owner's representative**, ***OSC***, subcontractors; service vehicles related to the Project and authorized visitors.

5.1 SITE CONTROL

5.1.1 BUDDY SYSTEM

All field personnel will be assigned a buddy who will watch for hazards or problems his/her buddy might encounter. Communication between buddies must be maintained at all times. Buddies will pre-determine hand signals, or other means of emergency signals, for communication when respiratory protection or distance makes communication difficult. Visual contact must remain between the two buddies; they must remain in close proximity to each other in order to assist in case of an emergency.

5.1.2 SITE COMMUNICATIONS PLAN

In the event of an emergency situation, and cell phones or two-way radio communication is not available, oral/alarm (runner/intermittent air horn) and visual safety signals have been established to protect Project personnel. These signals will be made available to personnel for all phases of operation before going onsite. These safety signals will ensure quick communication during adverse or emergency situations. Examples of established signals, and their meanings, are provided below.

Visual Signal	Indication
Hand gripping throat	Out of air; can't breathe
Wave hands over head from side to side	Attention: stand by for next signal
Swing hands from the direction of person receiving the signal to directly overhead and through a circle	Come here
Pointed finger with extended arm	Look in that direction
Grip partner's wrist with one or both hands	Leave the area immediately
Hand on top of head	Need assistance
Thumbs up	Ok, I'm alright, I understand
Thumbs down	No, negative
Audio Signal	**Indication**
Short blast of air or vehicle horn	Caution, look here

5.1.3 SAFE WORK PRACTICES

Project personnel will observe the standard operating HSE procedures that are explained in this HASP. The standard HSE regulation notices are posted within the Project support area and at other locations onsite, as deemed appropriate.

5.2 WORK AREAS & CONTROLLED WORK ZONES

Where applicable as determined by field testing and lab sampling data, the project site will be divided into the following zones during site removal activities.

1. Exclusion Zone: The exclusion zone will encompass identified areas of concern; as well as any areas being utilized for the temporary storage of segregated waste materials. The minimum level of protection in the exclusion zone will be a modified Level D. Level C PPE will be available onsite, in the event an upgrade of protection is needed as determined by the exposure assessment.
2. Contamination Reduction Zone (CRZ): The CRZ will be the transitional area between the identified contaminated and clean areas. The CRZ will be provided for the transfer of equipment and materials to and from the exclusion zone; the decontamination of personnel and equipment existing in the exclusion zone; and the physical segregation of the clean and contaminated work areas. The CRZ will include an equipment decontamination pad and personnel decontamination station which will be located in a preapproved area.

   Personnel and equipment decontamination will be conducted in accordance with this approved HASP. Any disposable, single-use sampling equipment will be collected and properly disposed of in accordance with the transportation plan. Non-disposable sampling equipment (i.e. split-spoon samplers, trowels, augers, etc.) will be decontaminated at the portable decontamination stations that will be adjacent to the exclusion zone, or at the decontamination pad.

   Water for the decontamination operation will be supplied by local approved permitted and back flow protected city hydrant or imported from an approved source stored onsite. Water from the decontamination operations will be collected, filtered per the contract requirements and tested. Handling and deposal shall be dependent on test results.
3. Support Zone: Office and storage trailers that will be located in the Project support area, East end of the site where the current office trailer is located (Corner of East Tioga and Steuben).

   The SHSO will be responsible for establishing, delineating, maintaining and controlling access to the established work areas and support zones in accordance with this HASP.

6.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE will be selected based initial hazard and exposure assessment. PPE shall be used, maintained and stored in accordance with OSHA 29 CFR Subpart I, 29 CFR 1926 Subpart E and the manufacturer's recommendations. Engineering, administrative and/or work practice controls will be implemented where feasible, rather than relying exclusively on PPE.

6.1 MINIMUM LEVELS OF PROTECTION

Minimum personal protective equipment (i.e. general safety attire) that is to be worn at all times by Project personnel at the site includes:

- Safety glasses with permanently mounted side shields (mono-goggles in chemical areas);
- Approved footwear;
- Hardhat, and

High visibility traffic vest. *exceptions will be made on vests based on work activity*

The following table describes the minimum levels of protection that have been established for this project which includes initial exposure assessments.

Minimum Site Specific PPE Levels		
Work Activity	**Level of Protection See Attachment 10**	**Action Level for PPE Upgrade**
Mobilization/Site preparation and general site operations	Level D	Upgrade to Level C if sustained readings of ≥50% TWA are recorded or if an IDLH condition is probable.
Clearing and Grubbing		
Initial Excavation, Demolition, Material Handling and Decontamination Activities.	Initial Exposure Assessment - Level D PPE to include work clothes, hardhat and safety glasses.	PPE downgrade is not permitted for initial exposure assessments unless similar historical data is available to justify downgrade.
Initial Intrusive Activities (Excavation and Demolition)	Level Dependent on initial exposure assessment	Minimum requirement is Modified Level D as long as exposure levels are known to be below any defined action levels. Level defined by conditions, activity and exposure assessment.
Material Handling - sorting, sizing, loading, placing & stabilizing.	Level Dependent on initial exposure assessment	
Equipment Decontamination	Level Dependent on initial exposure assessment	
Backfill Installation	Level D / Modified Level D	Minimum requirement is Modified Level D as long as exposure levels are known to be below any defined action levels. Level defined by conditions, activity and exposure assessment.
Site Utility Removal	Level D PPE/Modified Level D	Minimum requirement is Modified Level D as long as exposure levels are known to be below any defined action levels. Level defined by conditions, activity and exposure assessment.
Cover & Stabilization		
Site Restoration		
Permit Required Confined Space Entry Operations (Not Anticipated)	Level dependent on initial exposure assessment	PPE downgrade is not permitted
Project Support Area Operations/Activities	Non-hazardous, general construction safety attire	Not applicable

NOTES:

A. A sustained reading is defined as a consistent reading, on a real-time monitoring instrument, which does not vary substantially from a peak or a result which is averaged over a period of time (i.e. 5 minutes). This avoids down grading PPE based on a single "hit" or "miss" instead of the average concentration present. Unless a chemical has a ceiling value, the TWA and STEL values are averages for exposure over 8 hours or 15 minutes and not single peaks. The values for the above action levels are based on TWA and STEL values.
B. The levels of PPE identified have been assigned by task, known or anticipated chemical toxicity and potential exposure risks.
C. The SHSO will be responsible for determining the need for PPE upgrade or down grading based on actual conditions encountered in the field.
D. Specific requirements of protection levels (i.e. B, C, D, and Modified) are detailed below.

The minimum levels of protection are to be considered preliminary and may change based upon the physical hazards and air monitoring information collected during Project work. **No changes to the specified level of protection will be made without the approval of the SHSO.

6.2 DESCRIPTION OF PROTECTION LEVELS

PPE will be used when project and support activities involve known, or suspected, atmospheric contamination; when vapors, gases or particulates may be generated by Project site activities; or when direct contact with skin-affecting substances may occur. Full face piece respirators protect the lungs, gastrointestinal tract and eyes against airborne toxicants. Chemical resistant clothing protects skin from contact with skin destructive and absorbable chemicals.

The specific levels of protection and necessary components for each have been divided into four categories according to the degree of protection that is afforded.

A. **Level D**: Protection that will be provided when no airborne contaminant is present and job functions do not require the use of respiratory equipment or chemical resistive clothing. The equipment for this level of protection will include a minimum of the following:

- Safety Glasses
- Leather work gloves for general site work
- Steel-toe work boots
- Hardhat

B. **Level D Modified**: Protection that will be modified when airborne contaminants have been identified, which do not require the use of air purifying respiratory equipment but require the use of chemical resistive clothing. The PPE for this level of protection will include a minimum of the following:

- Disposable protective clothing, boot covers and gloves
- Safety Glasses
- Chemical resistant gloves with liners
- Steel toe work boots with chemical resistant over-boots (as needed)
- Hardhat

C. **Level C**: Protection that will be provided when airborne contaminants have been identified and which mandate the use of air purifying respiratory equipment and protective clothing. Equipment for this level of protection will include a minimum of the following:

- Half or full-face air purifying respirators with P-100/VOC combination cartridges (PAPR with initial exposure assessments)
- Chemical resistant protective clothing
- Chemical resistant gloves with liners
- Chemical resistant safety shoes or boot covers
- Hardhat or helmet
- Safety glasses

D. **Level B**: ***(not anticipated for this Project based on known hazards).*** Protection that will be provided when the highest level of respiratory equipment is needed with minimal need for body or skin protection. Equipment for this level of protection will include a minimum of the following:

- SCBA or airline respirator with 5 minute escape SCBA

- Chemical resistant protective clothing
- Hardhat or helmet
- Chemical resistant gloves with liners
- Chemical resistant safety shoes or boot covers

E. **Level A (*(not anticipated for this Project based on known hazards)*)**: Protection that will be provided when the highest level of skin, eye and respiratory protection is needed due to the high levels/potential high levels of vapors, gases or particulates; as well as when skin contact with harmful materials is expected. Equipment for Level A protection includes a minimum of the following:

- SCBA or airline respirator with escape SCBA
- Totally encapsulating chemical protective suit
- Hardhat or helmet
- Chemical resistant gloves with liners
- Chemical resistant safety shoes or boot covers
- Hearing protection

6.3 HEARING PROTECTION

The best method of hearing protection is to eliminate or reduce the potential hazard. Whenever it is not possible to reduce the noise levels or duration of exposure, to those specified below, Project personnel will be supplied with hearing protection.

Duration per day (in hours)	Sound level dBA – Slow Response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
.5	110
.25 or less	115

Hearing protection will be evaluated for attenuation according to OSHA 29 CFR 1910.95, Appendix B. The protection must attenuate personnel exposure to at least an eight (8) hour time weighted average (TWA) of 85 decibels, A-weighted average of 85 dBA for workers with known permanent hearing threshold shifts.

Numerous hearing protectors will be available, at the Project site, for employees exposed to an eight (8) hour TWA of 85 decibels, A-weighted or greater. Hearing protection may be obtained from the SHSO or any HSE staff. Each employee is responsible for bringing their hearing protector to the jobsite, and wearing it when required. Replacements may be obtained from the SHSO, if necessary. There are four types of hearing protection offered:

1. Formable Plugs should be rolled and compressed into a very thin cylinder. While compressed, insert the plug well into the ear canal. Reach around the head to pull the ear outward and upward during insertion. Keep formable plugs clean and free from

material that can irritate the ear canal. To clean, wash them in a mild detergent and warm water. Squeeze the excess water from the plugs and air dry. Discard the plugs if they harden, or do not return to their original size and shape.

2. Pre-molded Plugs should be inserted by reaching around the back of the head, to pull the ear outward and upward, while inserting the plug until it feels like it is sealed. To clean, wash them in a mild detergent and warm water. Squeeze the excess water from the plugs and air dry. Discard the plugs if they harden, or do not return to their original size and shape.
3. Earmuffs must fully enclose the ears to be sealed against the head. Adjust the headband so the cushions exert even pressure around the ears. Pull the hair back and out from beneath the cushions. Keep earmuff cushions clean and free from material that can irritate the ear canal. Earmuff cushions can be cleaned using mild detergent and warm water. Squeeze the excess water from them and let them dry. Earmuff cushions normally need replacing twice a year; as well as whenever they become stiff, cracked or no longer seal.
4. Fit earplugs can be checked for proper fit by pressing firmly cupped hands over your ears, while listening to a steady noise. With properly fitted plugs, the noise levels should be about the same whether or not the ears are covered.

6.4 RESPIRATORY PROTECTION

Project personnel will be required, when necessary, to use respiratory protection to reduce their exposure to airborne hazardous substances. The standard requirements that determine the selection and use of respirators depend on the hazards present. Respirators will always be made available, at the Project work area, if emergency use is needed.

Personnel must only use respirators that are approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupation Safety and Health (NIOSH), and follow the regulatory requirements set forth by OSHA 29 CFR 1910.134 and OSHA 29 CFR 1926.103.

6.4.1 MEDICAL CLEARANCE / FIT TESTING

All Project personnel, which are assigned to tasks where a respirator is needed, must have prior medical clearance. Medical evaluations and fit testing will be provided by ***OSC***'s Medical Consultant, Company Health (716-875-5495). Fit test records and all Project personnel medical documentation will be filed and maintained onsite, by the SHSO.

Medical limitations and restrictions will be strictly enforced. No employee will be permitted to use a respirator if he/she has any facial abnormality or facial hair that may affect the fit or seal of their respirator.

6.4.2 TRAINING

All project personnel who are required to wear a respirator will receive training from the SHSO on the use, maintenance, proper care and inspection of their respirators. Attendance at all training will be documented. Attendance records will be maintained onsite by the SHSO and will be available for inspection upon request.

6.4.3 INSPECTION

All respirators to be used at the jobsite will be inspected for damage by the employee, prior to use. After they are trained, every employee will be responsible for inspection of their own respirator. The following elements will be inspected:

- Tightness of the connections
- Face piece
- Headbands
- Inhalation valve
- Cartridge or filter fittings
- Pliability of the rubber or elastic parts
- Signs of deterioration

Any malformation, distortion, missing parts, cracks, etc. in the respirator will cause the equipment to be deemed useless until a qualified technician can properly repair the respirator. If necessary, a new respirator will be issued.

6.4.4 TYPES OF RESPIRATORS

The type of respirator, and who is required to wear them, will be identified on a task specific level by the SHSO, in consultation with the CHSED, based on the type of work that will be performed and the potential for exposure to airborne contaminants. All Project personnel will be required to follow the strict instructions for their respirator use set forth in this HASP, or they will become ineligible to wear them.

6.4.5 STANDARD PROCEDURES FOR RESPIRATOR USE

All Project personnel will adhere to the following standard operating procedure for respirator use.

- Carefully inspect the respirator using the procedures, established in Section 6.4.3, prior to entering potentially contaminated work areas.
- Remove duct tape from cartridge, prior to entering potentially contaminated work areas (if applicable).
- Conduct positive and negative pressure leak tests each time the respirator is to be used. Positive Pressure Leak Test: Close off the exhalation valve with your hand. Breathe into the mask. The face-to-face piece seal is cleared for use if some pressure can be built up inside the mask, and sustained. Negative Pressure Leak Test: Close off the inlet opening of the cartridge with the palm of the hand. Gently inhale causing a vacuum to occur inside the mask. Hold the breath for 10 seconds. If the vacuum is sustained, and no inward leakage is detected, the respirator fits properly.
- Do not remove the respirator in contaminated work areas. In the event of a medical emergency, or if breathing becomes difficult, remove the respirator and immediately leave or remove the injured person from the contaminated work area.

- Wear a respirator with straps while working inside disposable garments. This will maintain respiratory protection during personnel decontamination/contaminated garment removal.

6.4.6 CLEANING and DISINFECTION

Any reusable respirator must be cleaned after each use by the employee assigned to use it. The steps required to clean a respirator after use includes:

- Remove the cartridges and headbands
- Disassemble all respirator parts
- Wash all respiratory parts, with the exception of the cartridges and headband, in a cleaner-disinfectant solution or use soap and hot water (100+ degrees)
- Rinse all parts completely in clean, warm water. This will remove all traces of detergent and disinfectant.
- Air dry in a clean, sanitary area
- Re-assemble the respirator
- Store the cleaned respirator in a sealed bag. This will provide protection against dust, sunlight, extreme temperatures, moisture and abrasives
- Apply the proper maintenance to your respirator.

6.4.7 STORAGE

Respirators will be stored in a sealed bag to protect against dust, sunlight, extreme temperature, moisture and abrasives. Inhalation holes will be covered with duct tape immediately after leaving a contaminated area. The tape will be left on until the respirator is donned for the next entry into a contaminated area. This tape will prevent any contaminants from being dislodged from the cartridge. Respirators should be stored so that the face piece and exhalation valve will rest in a normal position and function will not be impaired by the elastic setting in an abnormal position. The respirator should not be hung to store or air dried by its straps.

7.0 STANDARD OPERATING PROCEDURES (SOPs)

7.1 SOPs

A. Ensure that all safety equipment and protective clothing is kept clean and well maintained.

B. Ensure that all prescription eyeglasses in use on this Project are safety glasses and are compatible with respirators. No contact lenses are allowed at this Project site.

C. Ensure that all disposable or reusable gloves worn on the Project site are approved by the SHSO

D. Change respirator filters during periods of prolonged respirator usage in contaminated areas. Respirator filters will be changed daily.

E. Cover all footwear used onsite with rubber over boots or booties when entering or working in the exclusion zone area or the contamination reduction zone. Boots/booties shall be washed with water and detergent, to remove the dirt and contaminated sediment, before leaving the exclusion zone or contamination reduction zone.

F. At the end of each day, decontaminate or dispose of all PPE used onsite. The SHSO is responsible for ensuring decontamination before PPE reuse.

G. The SHSO will individually assign all respirators. The respirators will not be interchanged between workers without cleaning and sanitation. Any OSC personnel, subcontractor and/or service personnel unable to pass a fit test, as a result of facial hair or facial abnormality, will not enter or work in an area that require respiratory protection.

H. All Project personnel will have vision or corrected vision to at least 20/40 in one eye.

I. Onsite personnel that are found to be disregarding any provision of this HASP, at the request of the SHSO, will be barred from this Project.

J. Do not reuse disposable outerwear such as coveralls, gloves and boots. Used disposable outerwear will be removed upon leaving the exclusion zone and placed inside disposable containers that are provided for this sole purpose. The containers will be stored at the Project site, at the designated staging area, and ***OSC*** will be responsible for the proper disposal of these materials at the completion of the Project.

K. When working, immediately replace protective coveralls that have become torn or badly soiled.

L. There will be NO eating, drinking, smoking, chewing gum or tobacco in the exclusion zone or contamination reduction zone.

M. All Project personnel must thoroughly wash their hands, face and forearms prior to using the facilities, eating, drinking and smoking.

N. Personnel who have worked in the exclusion zone must shower at the end of the work day.

O. NO alcohol, drugs (without prescriptions) or firearms will be allowed onsite at any time.

P. All Project personnel who are on medication will report it to the SHSO, prior to work start-up, who will make the determination whether or not the individual will be allowed to work and in what capacity. The SHSO may require a letter from the individual's personal physician stating what limitations, if any; the medication may impose on the individual.

7.2 EXCAVATION SAFETY

OSC maintains strict procedure for soil excavations. The safety of all employees during these operations depends on the soil structure and stability, weather conditions, buried utilities and structures and superimposed loads. All excavations are treated as type C for the purpose of cave in protection; shoring, benching and sloping. Note – Although possible, occupied excavations greater than 5 feet are not anticipated for this project.

If excavating within a wet, sandy area, or if the area has been backfilled at any time, it is likely to be very unstable. All personnel working in these conditions must be cautious and provide extra sloping, if possible. A change in weather conditions, such has heavy rain or snow, can loosen the soil and increase the risk of a collapse. If the area of excavation is prone to collapse precautions, such as covering the area, should be taken. Heavy equipment or materials should be kept as far away as possible from the excavation area because they can also increase the risk of collapse. All excavated soil should be removed from the rim of the area and contained if possible.

7.2.1 HIDDEN PRECAUTIONS

In order to eliminate the discovery of hidden pipelines or cables, before any excavation begins OSC personnel will notify all utility companies to locate their lines. If such a hazard exists, the lines will be carefully marked prior to the start of the excavation activities.

When deeper than five feet, to prevent collapsing soil the excavation must be sloped, shored or somehow contained before any Project personnel can enter. A ladder will be provided onsite, for employees who are working in depths for more than four feet. The ladder will not be removed from until all employees have exited the excavation site.

All excavation sites will be inspected daily for precautions. All activity will cease if the Site Superintendant, Project Manager and/or the SHSO label the site hazardous. A competent person will make daily inspections of any excavation employee's entrance.

7.2.2 EXTERIOR PRECAUTIONS

For the protection of all Project employees, ***OSC*** requires that all exterior structures (sidewalks, etc.) be protected and clear of excavated materials. Sidewalks will be shored to carry a load of at least 125 pounds/sf. Planks, which are being used for temporary walkways, will be laid parallel to the length of the walkway and will be fastened together. If possible, guard rails or fences will be erected to protect employees and vehicle traffic from the edge of excavation sites.

7.3 LOCKOUT/TAGOUT/TRYOUT POLICY

When excavation activity ceases, either for repairs or at the end of a shift/day, all equipment will be removed from service by being either locked out or tagged out. This procedure ensures the health and safety of all Project personnel by deactivating any movable, electrical or pressurized equipment. This policy applies to all machinery or equipment that can be moved either by the use of electrical power, hydraulic power,

compressed air, steam or energy stored in springs/suspension devices. Danger tags will be placed on all movable equipment and machinery.

Only Project personnel, or his/her supervisor, are authorized to lockout or tag out machinery/equipment. Every employee is responsible for his/her own equipment and nobody else is permitted to remove a lock or tag except the authorized employee or his/her supervisor. Any violation of this policy is cause for severe disciplinary action.

7.4 LOCKOUT/TAGOUT/TRYOUT PROCEDURES

Lockout and tag out devices are used to control stored energy prevent the accidental energizing of equipment.

De-energizing Circuits and Equipment: Disconnect the circuits and equipment, to be worked on, from all electrical sources and release stored energy that could accidentally re-energize equipment.

Application of Locks and Tags: Only authorized Project personnel are allowed to place a lock and tag on each disconnecting – means used to de-energize the circuits or equipment before the work begins. A lock prevents unauthorized personnel from re-energizing the equipment or circuits. A tag prohibits unauthorized operation of the disconnecting device. **LOCKS and TAGS WILL BE PLACED BY AUTHORIZED PERSONNEL ONLY**

Verification of De-energized Condition of Circuits/Equipment: Prior to work on equipment, OSC requires that a "qualified" employee verify that the equipment is de-energized and cannot be restarted.

Re-energizing Circuits and Equipment: Before circuits or equipment are re-energized, the following steps must be taken in the following order:

- A "qualified" employee conducts tests and verified that all tools and devices have been removed.
- All exposed employees are warned to stay clear of the circuits and equipment.
- Authorized personnel will remove their own locks and tags.
- The SHSO will conduct a visual inspection of the area to be sure all employees are clear of the circuits and equipment.

7.5 SYSTEM MAITENANCE & REPAIR

Only authorized and trained personnel may perform any repair or maintenance on electrical or pressurized equipment. Any work performed on this type of equipment may not be done until all lockout or tag out procedures has been completed to the satisfaction of the SHSO.

7.6 ELECTRICAL GROUNDING (Assured Grounding & GFCI's)

Only qualified Project personnel may work on or around electrical equipment. ***OSC*** follows the standards, set by OSHA and the National Electrical Code, for the purchase and maintenance of electrical equipment and systems.

The working space around all electrical equipment will be large enough to permit access to all parts of the equipment. The working space will never be used for the storage of other materials so that immediate access can be gained.

- Only authorized electrical tools may be used at the Project Site.

- A ground fault circuit interrupter (GFCI) shall be used with all 120 volt corded tools. GFCI plugged in at the source and tested before use for appropriate operation.
- Portable electrical tools must have grounding protection and be insulated against shock.
- Single phase electrical tools must be plugged into properly grounded receptacles.
- The use of extension cords traffic areas should be avoided. If required cords should be protected or guarded from damage. All extension cords shall be properly grounded.
- Any energized electrical equipment, operating at 50 volts or higher, must be protected by a cabinet or other approved enclosure with warning signs that are immediately visible.

8.0 INCIDENT PREVENTION PROCEDURES

8.1 HSE MEETINGS

Daily tailgate meetings will be conducted as stated in Section 3.2.1 of this HASP

8.2 FIRE PREVENTION and PROTECTION

The following guidelines apply when dealing with fire prevention and protection:

- The Emergency Response and Contingency Plan, provided in this HASP, will be in effect at all times throughout all phases of work. All firefighting equipment will be inspected on a regular basis, maintained in proper working condition and will be located in an accessible place, at the Project site, at all times.
- A fire extinguisher, rated 10 ABC or greater shall be located in the immediate work area. Adequate extinguisher coverage shall be provided for every 3,000 sf of occupied work area.

8.3 WALKING and WORKING SURFACES

The following guidelines apply:

- Concrete and blacktop pad openings will be covered or guarded on all exposed sides by a standard guard rail or appropriate continuous barricade.
- Stairs with 4 or more steps to concrete pads shall either properly railed for use or barricaded from entry
- All open excavations shall be properly barricaded (Soft barricades 6 back from edge, hard barricades 2 feet back from edge)

8.4 SITE HOUSEKEEPING

The following housekeeping guidelines apply at this Project site:

- All excess material and debris will be kept clear from all working areas.
- Combustible materials will be removed at regular intervals and all wastes will be properly disposed of at frequent intervals.
- Containers will be provided for the collection and separation of all discarded materials and refuse. Covers and identification will be provided for all containers used for flammable or harmful substances.

8.5 MECHANICAL EQUIPMENT

The following guidelines apply when dealing with the inspection and operation of all mechanical equipment.

- All vehicles and equipment, used on the Project site, must be checked at the beginning of each shift to assure that all parts that affect safe operation are in proper working condition and are free from defects.
- No Project personnel will be permitted to use any vehicle or equipment that has an obstructed view to the rear, unless there is a reverse signal alarm or a signal man is assigned to help.
- Employees will not work or walk under or between any equipment that had parts which are suspended or held aloft unless/until the parts are substantially blocked to prevent falling and/or shifting.

8.6 HIGH PRESSURE WASHERS

OSC requires that only trained and authorized Project personnel operated high pressure washers onsite. This policy is intended to protect both ***OSC*** employees; as well as any property where the equipment will be used. The following guidelines apply at this Project site:

- The lance must always be pointed at the specific work area.
- All Project personnel will remain at least 25 feet away from the washer; as well as the structure being washed.
- Care should be taken to ensure the proper footing of the operator.
- The operator and his assistant will wear the following personal protective equipment: Hard hat with face shield, goggles, safety boots with metal foot and shin guards, hearing protection, PVC rain or acid suit and heavy gloves; as well as any additional equipment to protect against chemicals, as needed.
- ***OSC*** requires that all operators and assistants be trained in the emergency shutdown procedures and general equipment maintenance of high pressure washers.
- Under no circumstances will an operator be allowed to make modifications to a power washer while on a job.

8.7 VEHICLE and EQUIPMENT SAFETY

On ***OSC*** jobsites, only completely trained and qualified Project personnel may operated equipment and vehicles. This policy is intended to protect all employees and CLIENT properties. It is effect at all times. The guidelines for this policy are as follows:

- Each unit is to be inspected prior to its use on the Project site and then inspected periodically depending on the equipment involved and the manufacturer's specifications.
- No repair work, or refueling, will be done while the vehicles or equipment are in operation. The engine is to be turned off and all buckets, blades, gates or booms must be lowered to the ground, or a substantial support.
- Equipment backup alarms must be operational and audible over the surrounding noise levels. If this is not the case, an assistant must be assigned to the operator and he/she will be required to clear the way.
- Only authorized Project personnel are permitted to ride in company vehicles and equipment.
- Under no circumstances will an employee be permitted to get on or get off a moving vehicle.
- Operators must wear the following PPE: Sturdy Steel Toed Work Boots/Shoes, ear protection devices when the noise level is in excess of 90dBA, heavy work gloves and a hardhat.
- Any vehicle and equipment, which are not in use, will be parked off roads and major access routes with their wheels blocked. The vehicle will be turned off and the keys will be given to the Site Supervisor.
- The operator and assistant must wear seatbelts at all times, if the unit is equipped.

- To ensure the proper visibility all windshields, side windows, mirrors and lights will be cleaned as often as necessary.

8.7.1 TRUCKS

The following guidelines apply to the operators of ***OSC***'s trucks:

- A current driver's license must be carried at all times.
- The driver will check the loaded material to ensure against material loss or shifting during transit.
- All DOT regulations will be followed.
- When towing trailers, safety chains must be in use.

8.7.2 HEAVY EQUIPMENT

OSC has the following guidelines for the operation of front end loaders, scrapers, dozers and tractors:

- Prior to their use onsite, the equipment's brakes, cables and hoses must be checked and in good working order.
- When the equipment is moving, all blades, buckets and bowls will be carried close to the ground but high enough to avoid any obstacles on the ground. If not in motion, they must be lowered to the ground or to a substantial support.
- No employees are permitted to ride on a boom, bucket, bowl or any other heavy equipment extension.
- All safety equipment must be properly installed, and in good working condition, before a piece of equipment will be used on this Project.

8.8 SANITATION

With the exception of mobile crews having transportation readily available, all work sites will have toilets provided that adhere to the following requirements: One toilet for 20 or less employees; one toilet seat and one urinal per 40 employees; if there are 200+ employees, on toilet seat and one urinal per 50 workers.

Adequate washing facilities will be provided on the Project site where there are harmful substances, and they will be in close proximity to the site. An acceptable supply of portable water will be provided onsite, and it will be clearly marked as such. Portable water containers will have tightly sealed tops and a tap.

8.9 DAILY INSPECTIONS

The SHSO will monitor jobsite HSE through inspections at the start and completion of each work day. Results of these daily inspections will be recorded on a daily safety Audit form (see Attachment 1).

Any safety violations will be recorded and corrected by the Project Manager. All observed safety violations will be immediately corrected, explained to the person responsible, and reviewed at the next safety meeting. If an employee has excessive violations of the site safety rules, it will be grounds for disciplinary action which could lead to termination if ***OSC*** personnel or expulsion if an onsite subcontractor personnel.

8.10 INCIDENT REPORTING

- ***OSC*** will maintain an OSHA 300 Form of all recordable occupational injuries and illnesses. The annual OSHA 300 and 300A logs will be posted onsite from February 1st until May 1st every year.
- All records and OSHA forms will be maintained by ***OSC*** for at least five years, following the end of the year to which they relate. These Logs will be made available upon request to authorized personnel.
- **All Incidents, accidents, near misses must be reported to the Project Manager or his/her designee immediately.**
  Likewis an immediate call to the OSC Corporate Health, Safety and Environmental Manager shall also be made (Bill Fleck, 716 560 7542).
- Any occupational incident, which results in the death of one or more employees or the hospitalization of five or more employees, will be reported by ***OSC*** to the nearest OSHA Area Director within 8 hours of its occurrence.

9.0 MEDICAL SURVEILLANCE

Medical monitoring is required by OSHA as a means of monitoring worker exposure to certain toxic substances under OSHA 29 CFR 1910.120(f), OSHA's Hazardous Waste Operations and Emergency Response Standard.

9.1 MEDICAL EXAMINATIONS

All ***OSC*** field personnel will be provided with a thorough, initial medical examination to assess fitness for the Project and to provide baseline health data for subsequent reference. Examinations will be repeated every other year, unless abnormal test results, annual "questionnaire" answers or other problems dictate more frequent observation. A Medical Authorization Form is provided in Attachment 1. A copy of the physician's statement certifying each employee's ability to work at task specific operations will be maintained in the Project filed by the SHSO.

During the medical examination employees will be evaluated for their ability to wear respiratory protection, and other protective equipment, such as extensive clothing ensembles. This evaluation will include, at a minimum, an examination of the cardiopulmonary system; including forced vital capacity (FVC) and forced expiratory volume C 1 second (FEV 1.0). When indicated by the physician, other tests of the respiratory and cardiovascular systems will be performed on the basis of an individual's past history, findings of the above below evaluation, and/or the type of equipment the individual may be required to use.

The following protocol is an example of a baseline yearly medical examination:

Medical Monitoring Protocol				
Exam Components	**Baseline[1]**	**Annual[2]**	**Interim**	**Exit**
Blood and Urine Specimen	Yes	Yes	Yes	Yes
Vital Signs	Yes	Yes	Yes	Yes
Vision Screening (Includes Peripheral and Color)	Yes	Yes	Yes	Yes
Dipstick Urine Analysis	Yes	Yes	Yes	Yes
Audiometer	Yes	Yes	No	Yes
Spirometry	Yes	Yes	Yes	Yes
EKG	3	3	No	3
Chest X-Ray	Yes	3	No	3
Review of History	Yes	Yes	Yes	Yes
Physical Exam	Yes	Yes	Yes	Yes

Notes:

1. Only do an X-ray if not done within the last 12 months
2. Only do an X-ray if not done within the last 3 years
3. For medical indications only

Medical examinations will be performed on each individual who will enter the contaminated reduction zone or exclusion zone or are performing work that requires respiratory protection:

- At least once every 12 months.

- At the termination of employment or reassignment to an area where the individual would not be covered if that individual has not had an examination within the last six months.
- As soon as possible upon notification by an individual having developed signs or symptoms indicating possible overexposure to any hazardous material, health hazards, or that the individual has been injured or extensively exposed above the PEL (published exposure levels) in an emergency situation. NOTE: Any employee who develops a lost time injury or illness, during the period of his contract, as a result of work in the exclusion zone will be evaluated by the Medical Consultant. The Project Supervisor will be provided with a written statement that indicated the employee's fitness and ability to return to work, signed by the Medical Consultant prior to allowing the employee to re-enter the exclusion zone.
- At more frequent intervals if the examining physician determines that an increase frequency of examinations is required.

9.2 NON-CONTRACTOR PERSONNEL MEDICAL MONITORING

Onsite personnel entering the contaminated reduction zone or exclusion zone, and not employed by OSC, will be required to provide documentation that he/she meets the medical surveillance requirements of this HASP; has been certified fit to enter contaminated area; has the require PPE for this project; and has received their 40 hour OSHA training pursuant to OSHA 29 CFR 1926.65. Documentation will be submitted to the SHSO and maintained onsite. Truck drivers for the off-site transportation subcontractors are exempt from this requirement, but will be required to maintain in their cabs at all times when not in support zones.

10.0 AIR MONITORING PROCEDURES

The purpose of this air monitoring program is to:

- Identify and quantify airborne contaminants (lead, silica) and total dust particles in order to determine initial exposure assessment as well as verify that established engineering controls and protective measures are effective.
- Document that the level of worker protection is adequate; and
- Access the migration of contaminants to offsite receptors, as a result of site work.

The air monitoring program incorporates both real-time and documentation air monitoring. Real-time air monitoring will be conducted to determine if an upgrade, or an upgrade, of PPE is required while performing onsite work; as well as to implement engineering controls, protocols or emergency procedures if the established action levels are encountered. Documentation from monitoring will be used to ensure that controls are adequate including PPE used is appropriate; as well as assure there is no migration of contamination off site.

The levels of protection site action levels, for each task and operation, are defined in Section 6.1 (Minimum Levels of Protection) of this HASP. If the minimum action levels, defined in this HASP, are exceeded at half the distance to the work zone perimeter location, work must be suspended and engineering controls will be implemented to bring concentrations back down to acceptable levels.

The SHSO will be responsible for implementing this air monitoring program. He/she will have the authority to determine when and if operations should be shut down.

10.1 SAMPLING EQUIPMENT

OSC will provide all the necessary sampling devices, pumps, collection media and support equipment to perform the sampling program. The sampling devices and pumps used will be approved for use in combustible and/or flammable atmospheres. Air monitoring equipment will be operated only by Project personnel that are trained in the use of the specific equipment provided and will be under the control of the SHSO.

OSC will utilize the following (or similar) air monitoring equipment, in support of this air monitoring program:

- Particulate monitor (PDR 1000 or Equivalent) for total particulates
- Photo ionization detector (PID) for organic vapor levels
- A 4-gas meter (Co, O2, LEL, and H2S) will be used if a confined space entry if required.

10.2 METEROLOGICAL STATION

If necessary a meteorological station will be installed onsite in a location selected by the SHSO and approved by the Owner or Owner's Representative. The meteorological station will be capable of recording, at a minimum, outside air temperatures, wind velocity and wind direction.

10.3 CALIBRATION

The calibration methods to be used will follow the manufacturer's recommendations. All calibration data will be recorded on the Air Monitoring Report Form (see Attachment 1).

Any monitoring equipment that is failing to take the proper calibration, or failing to hold a calibration, will be replaced. Work will not be allowed until the malfunctioning piece of equipment has been replaced.

At a minimum, the portable monitors and PID will be calibrated at the beginning of each workday, in accordance with the manufacturer's recommendations. The units will be programmed to measure levels over a 15 minute average time. The monitor will then be carried to each sampling location, in turn, according to the predetermined schedule. Likewise fixed data recording dust monitors shall be placed around the perimeter of the site (upwind, cross and downwind). At each location the unit will be activated to measure a 15 minute average time. The value obtained from the digital read-out will be recorded on the Air Monitoring Report Form.

10.4 SAMPLING PARAMETERS and ACTION LEVELS

10.4.1 REAL-TIME AIR MONITORING

Sampling at the worksite will be conducted at required. Real-time air monitoring will be conducted during excavation of contaminated soils or sediments, during abatement activities and during other intrusive activities that have the potential to generate dust. Monitor the air, using the same equipment for 10-15 minutes upwind of the work to establish a background level.

Real-time monitoring for airborne dust is deemed appropriate; it will be performed using a PDR 1000 or equivalent meter. Monitoring will be conducted in or near the breathing zones of project personnel, at the perimeter of the work zone and at the perimeter of the property (North South, based on airborne dust concentrations exceeding work zone perimeter action limits. Dust monitoring surveys outside of the work zone will be conducted as necessary during the initial phase of excavation, if visible dust is present and after that, at a frequency based on site conditions.

- During the progress of active remedial work, the air monitoring technician will monitor the quality of the air in and around each active hazardous operation with real-time instrumentation, prior to personnel entering these areas and while work is ongoing.
- Any departures, from the established background level, will be reported to the SHSO prior to entering the area, if initiating work.
- Real-time monitoring will also be conducted at site perimeter locations, including upwind (background level), and three downwind locations. Downwind readings, at the perimeter, will be made when the established action levels have been exceeded at the work zone or at a minimum of twice a day.

The action levels for PPE upgrades are:

- < 1mg/m^3 dust – Level D
- > 1mg/m^3 dust* sustained for one minute – Level C
- > 2mg/m^3 dust sustained for one minute – Stop work, apply water to that materials being handled and/or hauled or haul roads. When the dust levels

drop below the action level, re-start work and continuously monitor for 30 minutes. If the dust levels remain below 2mg/m^3, monitoring frequency and dust control methods will return to normal.

The action levels for the work zone perimeter are:

- < 1mg/m^3 dust – Continue routine application of the dust control methods.
- > 2mg/m^3 dust sustained for one minute – **Stop work and apply water to the materials being handled and/or the haul roads**. Move to the project perimeter and make measurements upwind and downwind. Continue monitoring the Project perimeter until the dust levels have fallen below 1mg/m^3 and then return to the work zone perimeter. **When dust levels drop below the action level of 1mg/m^3at the work zone perimeter, re-start work and continuously monitor for 30 minutes.** If the dust levels remain below 1mg/m^3, monitoring frequency and dust control methods will return to normal. **If it is discovered that the work zone perimeter action limit does not protect against dust excursions at the Project perimeter, reduce the work zone action limit by 25%.**

NOTE: Construction activities generate dust which could potentially transport contaminants offsite. There may be situations when visible dust is being generated and leaving the Project site and the monitoring equipment does not measure PM_{10} at or above the action level. Therefore, if the dust is observed leaving the Project site, ***OSC*** will employ additional dust suppression techniques as required.

10.4.2 **AIR MONITORING DOCUMENTATION** (see air monitoring program to be submitted under separate cover)

Air monitoring will be conducted as required by OSHA 29 CFR 1910, at the perimeter, at a minimum of four locations (one upwind, cross wind and downwind). Documentation monitoring will be conducted only during intrusive activities; excavation, consolidation, staging, removal, loading, placing and or any activity which could produce visible emissions.

The four locations will be chosen by the SHSO, according to site activities and the expected wind direction. The perimeter locations will be established and marked with high visibility paint or flagging at approximately equidistant points around the Project site. Samples will be collected daily at regularly scheduled intervals and at the initiation of a new phase of onsite work. Samples will be collected during normal working hours when activities are occurring onsite. At the end of the week, meteorological data will be reviewed; one upwind sample and two downwind samples will be chosen an analyzed.

In addition to perimeter monitoring, documentation samples will be collected to assess worker exposure. Samples will be collected by choosing high risk workers to wear appropriate collection media for pesticides, metals and particulates. High risk workers are those workers who are most likely to encounter contamination on

a particular task. At a minimum, two high risk workers will be chosen to wear collection media for a particular day each week. The media will be analyzed with the documentation air monitoring samples.

CONFINED SPACE ENTRY AIR MONITORING

If required, confined space entry air monitoring will be conducted as specified in Section11.0 of this HASP.

REPORTING and RECORD KEEPING

The SHSO will maintain a daily sampling record as part of the air monitoring program (personal, work and perimeter air monitoring). This sample will be recorded on the Air Monitoring Report Form (Attachment 1 of this HASP). Copies of the Air Monitoring Report will be made available upon request.

A written copy of real-time air monitoring results will be submitted at the beginning of the week for the previous week. These results will include an appropriately scaled map of the work area depicting sample location, wind direction and other relevant meteorological data; date, time, analytical results, applicable standards and implemented engineering controls (if necessary).

Documentation samples, chosen for analysis, will be submitted to the laboratory at the end of each work week. Within seven days of shipment, the SHSO will submit a written copy of the documentation air monitoring results for the previous week. These results will include an appropriately scaled map of the work area depicting sample locations, wind direction and any other relevant meteorological data; date, time, and analytical results. The documentation sampling results that are submitted will identify the high risk workers that were chose to wear the appropriate collection media for contaminants, what data media was worn, the task involved, analytical results and any applicable standards.

OSC will retain all Project personnel exposure sampling results in accordance with the requirements set forth in OSHA, Subpart C of 29 CFR 1910.20.

11.0 CONFINED SPACE ENTRY PROCEDURES

The following guidelines outline the minimum acceptable criteria that will be utilized by ***OSC*** Project personnel for all confined space entry operations. Note – project permit required confined space work is not anticipated but is included in this HASP if it is encountered.

Project specific confined space entries will be thoroughly reviewed by the SHSO. Personnel entering and working in confined spaces will be required to adhere to the OSHA Permit-Required Confined Space Standard 29 CFR 1910.146 (Publications 58-FR-4549 and 58-FR-34845); the OSHA Construction Standard 1926.21 (B)(6); and the OSHA General Duty Clause. Project personnel are instructed in these OSHA regulations as part of the employee training program, outline in Section 3.0 of this HASP.
The SHSO will be responsible for reviewing the applicable OSHA Protocol will the field team, prior to confined space entry.

11.1 DEFINITIONS

11.1.1 CONFINED SPACE

OSHA defined a confined space as having the following characteristics:

- The space is large enough that a body can enter it;
- The space has restricted means of entry and exit, and
- The space is not designed for continuous occupancy.

Examples of confined spaces include tanks, underground vaults and excavations that are greater than four feet deep.

There are two types of confined spaces: permit required and non-permit required. The "PRCS Evaluation Procedures and Decision Flow Chart", provided in Figure 2 of this HASP, will be used to evaluate the potential for permit require confined space.

11.1.2 PERMIT REQUIRED CONFINED SPACE (PRCS)

OSHA defines a permit required confined space (PRCS) as having one or more of the following hazards:

- The space contains, or has the potential to contain, a hazardous atmosphere. A hazardous atmosphere is defined as any space where the oxygen is below 19.5% or above 23.5%, combustible vapors are above 10% LEL, or high toxic concentrations are present which may cause death, incapacitation or an impaired ability to self rescue.
- The space contains a material that may engulf an entrant.
- The space has an internal configuration that may trap or asphyxiate entrants.
- The space contains any other serious heal, safety or environmental hazard.

All PRCS areas will be identified with a sign reading:

DANGER
PERMIT-REQUIRED CONFINED SPACE
DO NOT ENTER

The above sign will be prominently posted onsite by the SHSO in the immediate vicinity of the PRCS, to inform all Project personnel of the existence, location and the danger posed by the PRCS.

Personnel who will enter a PRCS will have specialized training and a confined space entry permit.

11.1.3 NON-PERMIT REQUIRED CONFINED SPACES

OSHA defined a non-permit required confined space as a PRCS in which all serious hazards have been eliminated. Non-permit required confined spaces will be re-evaluated by the SHSO using the "PRCS Evaluation Procedure and Decision Flow Chart" (Figure 2) whenever they or their characteristics change in a way that could lead to reclassification as a PRCS.

11.2 PERSONNEL RESPONSIBILITIES

11.2.1 ENTRY SUPERVISORS

OSC will designate an entry supervisor to oversee the confined space entry and ensure that personnel engaged in PRCS entry operations will comply with this procedure. Entry supervisors will:

- Verify that all tests, specified by the permit, have been conducted and that all procedure and equipment specified by the permit are in place before endorsing the permit and allowing the entry to begin.
- Terminate the entry and cancel the permit when the entry operations covered by the entry permit have been completed, or whenever a condition that is not allowed under the entry permit arises in or near the PRCS.
- Verify that rescue services are available and that the means for summoning them are operable.
- Remove all unauthorized individuals who enter, or attempt to enter, the PRCS during entry operations.
- Determine that the entry operations are consistent with the terms of the entry permit and that acceptable entry conditions are maintained.

11.2.2 ATTENDANTS

The entry supervisor will designate a qualified attendant for each PRCS operation. To be qualified, an attendant must know the hazards that authorized entrants may encounter during an entry (including information on the mode, signs and symptoms, and consequences of exposure) and must be aware of the behavioral symptoms of hazard exposure. Attendants will

- Remain outside the PRCS during entry operations until relieved by another attendant.
- Warn all unauthorized entrants that they must stay clear of the PRCS, or that they must immediately exit if they have entered the PRCS.
- Inform authorized persons, and the entry supervisor, if unauthorized personnel have entered the PRCS.

- Continuously maintain an accurate count of entrants in the PRCS and ensure that the means used to identify authorized entrants accurately identifies the entrants.
- Communicate with authorized entrants, as necessary, to monitor entrant status and to alert entrants of the need to evacuate the PRCS.
- Monitor the activities both inside and outside the PRCS, to determine if it is safe for entrants to remain in the PRCS.
- Immediately order evacuation of the PRCS if a prohibited condition is detected, the behavioral effects of hazard exposure in an authorized entrant are observed, or a situation outside the PRCS is found that could endanger the authorized entrants; or if the attendant cannot effectively and safely perform his/her duties and responsibilities.
- Perform non-entry rescues, as specified by the Confined Space Entry Permit; summon rescue and other emergency services as soon as it is determined that authorized entrants may need assistance to escape from PRCS hazards.

Attendants will NOT, under any circumstances:

- Monitor more than one occupied PRCS at any given time;
- Perform any duty that might interfere with their primary duty to monitor and protect the authorized entrant; or
- Enter the PRCS for rescue purposes.

11.2.3 AUTHORIZED ENTRANTS

Authorized PRCS entrants will be identified on each Confined Space Entry Permit. Authorized entrants will:

- Know the hazards, including information on the mode, signs or symptoms, and consequences of exposure.
- Properly use the PPE provided for the PRCS entry.
- Communicate with the attendant, as necessary, so the attendant can monitor entrant status and alert entrants of any need to evacuate the PRCS.
- Evacuate the PRCS and alert the attendant whenever they recognize any warning signs or symptoms of exposure to a dangerous situation; or they detect a prohibited condition; or whenever the attendant or entry supervisor orders the evacuation; or when an evacuation alarm is activated.

11.3 TRAINING

All Project personnel will be instructed not to enter PRCSs without the proper permit and without following the procedure and practices outline in this SOP and in the Confined Space Entry Permit. Personnel, who are required to enter a PRCS, or act as an attendant or entry supervisor, will be trained to acquire the understanding, knowledge and skills necessary for the safe performance of their assigned responsibilities and duties. These employees must also be familiar with the kinds of hazards that they may face during an entry and understand the modes, signs, symptoms and consequences of exposure.

Entrants will receive training on:

- The means and methods used to communicate with attendants; as well as the means attendants will use to notify them of emergencies.
- The operation of any specialized equipment that is expected to be used, including monitoring and rescue equipment.
- Evacuation signals and procedures; as well as the need for entrants to notify the attendant and evacuate the PRCS if they detect any dangerous conditions.

Attendants will receive training on:

- The procedures for monitoring inside and outside the PRCS and recognizing the conditions that might be hazardous to entrants;
- Procedures for communicating with entrants;
- Procedures for evacuating entrants from the PRCS and under what conditions evacuation is required;
- Procedures for controlling access to the PRCS and to warn unauthorized people away from the space;
- Their responsibility to remain outside the PRCS during entry, unless they are relieved by another attendant, and
- Non-entry rescue procedures.

Entry Supervisors will receive training on:

- Verifying that the Confined Space Entry Permit has been completed properly;
- Procedures for verifying that all tests specified by the Permit have been conducted;
- Requirements for verifying that all the procedures and equipment specified by the Permit are in place before allowing entry to begin;
- Procedures for determining if conditions are acceptable for entry;
- Authorizing entry operations, and
- Terminating entry.

The above training will be conducted:

- Before the employee is first assigned confined space duties (initial training);
- Before a change in assigned duties;
- Whenever there is a change in permit space operations that presents a hazard about which employee has not previously been trained, and
- Whenever project management, involved regulatory officials, or the project engineer has reason to believe that there are inadequacies in the knowledge or use of these procedures.

When complete, training will be certified by the instructor. The certification will list the names of the personnel presenting and receiving training and the dates of training. Training certification documentation will be maintained as part of the Project file kept at the Project site and in the individual's personnel files in the home office.

11.4 PRCS ENTRY PROCEDURE

11.4.1 ATMOSPHERIC TESTING

Before any employee enters any confined space, the entry supervisor will test the internal atmosphere with a calibrated, direct reading instrument to determine if acceptable entry conditions exist for the following conditions, in the given order:

	Condition	Acceptable Parameter(s)
A.	Oxygen Content	Above 19.5% and Below 23.5%
B.	Flammable Gases and Vapors	Less than 10% LEL
C.	Potential Toxic Air Contaminants	Below Action Levels for Selected PPE

Continuous systems which cannot be isolated (i.e. sewers) or activities which generate significant airborne contaminants (i.e. welding) will be continuously monitored during entry, unless forced mechanical ventilation is used and has been shown to maintain an acceptable atmosphere.

11.4.2 PRCS ENTRY

The SHSO will use the "PRCS Evaluation Procedures and Decision Flow Chart" (Figure 2) to verify the presence of a PRCS. If it is determined that a PRCS does exist, the SHSO will review the confined space entry procedures with entry personnel; post OSHA required danger signs at the entrances to the PRCS and notify Project personnel of the PRCS location(s); notify offsite emergency response services of the PRCS; and prepare a Confined Space Entry Permit.

11.4.2.1 HAZARD ELIMINATION and CONTROL

The SHSO will determine if hazards can be controlled with continuous forced mechanical ventilation or eliminated through removing potential sources of air contaminants, using proper shoring or sloping, installing guardrails, locking out electrical systems, etc. If potential hazards can be eliminated, then the PRCS will be reclassified as a non-permit confined space. If potential hazards are controlled with continuous forced mechanical ventilation, the non-PRCS entry procedure provided in Section 11.5 of this HASP will be used.

11.4.2.2 CONFINED SPACE ENTRY PERMIT

The entry supervisor will be responsible for completing the Confined Space Entry Permit (sample provided in Attachment 1). All items on the Permit must be completed. The entry supervisor will verify that all entry personnel are aware of the specific hazards that are associated with the PRCS; that all necessary safety equipment and materials are in place; that all emergency response procedures are in place; and that the pre-entry air monitoring results indicate acceptable entry conditions, before signing the permit.

NOTE: Only one permit at a time can be used for PRCS Entry.

11.4.2.3 PRE-ENTRY BRIEFING

The entry supervisor will conduct a pre-entry briefing with the attendants and authorized entrants to discuss the requirements of the Permit and to ensure that all involved personnel understand their responsibilities and the specific hazards associated with the PRCS. A pre-entry briefing will be conducted, for each attendant and authorized entrant, prior to entry and whenever new hazards are identified.

11.4.2.4 ENTRY AUTHORIZATION

The entry supervisor will sign the Confined Space Entry Permit after the Permit has been completed, all safety equipment is in place, air monitoring results are acceptable, the pre-entry briefing has been conducted and the rescue procedures have been established. Once the permit has been signed:

- Entrants will wear all necessary safety and rescue equipment;
- The Permit will be posted at , or near, the PRCS entrance, and
- Entry procedures will begin.

11.4.2.5 PERMIT EXPIRATION and CANCELLATION

Each Entry Permit will be valid for one shift only. Expired and canceled Permits will be returned to the Site Superintendant who will file them with the Project documents. Permits will be canceled if:

- A new hazard is identified or encountered;
- An entrant is seriously injured and requires evacuation and/or rescue; or if
- A change in the scope of work required new activities which may create previously unanticipated hazards that could cause serious death or injury.

11.5 NON-PRCS ENTRY PROCEDURE

The following procedure may be utilized only if the following conditions have been met:

- The only serious hazard that cannot be eliminated is an actual or potential hazardous atmosphere;
- Continuous forced ventilation is sufficient to prevent a hazardous atmosphere, and
- Monitoring data is available to support the adequacy of ventilation.

If the above conditions of this non-PRCS can be met, then the Entry Permit, attendant and rescue procedures specified in this Section are not required. However, it is still necessary to complete a Confined Space Entry Permit, prior to entry. The Permit will document that the space has been classified as a non-PRCS. **Air monitoring is required during non-PRCS entry**.

All non-PRCS entrants will be required to have completed PRCS training comply with all other applicable HSE regulations and adhere to the procedure below.

- Prior to removing the entrance cover, eliminate the conditions that are making it unsafe to remove an entrance cover (i.e. use non-sparking tools).
- Setup barriers around the opening, to prevent adjacent work activities from endangering the entrants.
- Conduct pre-entry air monitoring, per Section 11.4.1 of this HASP.

- If a hazardous atmosphere is encountered or anticipated, setup force ventilation. Continue the ventilation for as long as the entrants are in the space.
- Evacuate the entrants if a hazardous atmosphere develops and implement corrective actions to prevent reoccurrence.
- Check the non-PRCS box of the Confined Space Entry Permit and document the following data: date of entry, location of the space, description of the work to be conducted within the space and pre-entry monitoring results. The person authorizing the non-PRCS procedure will sign the Permit in the space provided.

11.6 RESCUE/EMERGENCY RESPONSE

11.6.1 ONSITE RESCUE/EMERGENCY RESPONSE TEAMS

Each member of the onsite rescue/emergency response teams will be provided with, and trained in the proper use of, PPE and the equipment necessary for making rescues from PRCSs. Each member of the onsite rescue/emergency response team will receive the same level of training as the authorized entrants and will be trained in basic first aid and CPR. A provision will be made whenever the team is on call; at least two members of the team will have current certification in first aid and CPR.

At least once every 12 months, personnel on the rescue team will practice making PRCS rescues. Practice drills will simulate emergencies and rescue operations; as well as involve the removal of dummies, manikins or people from the simulated PRCSs. The simulated PRCS will mock the configuration and hazards of the PRCS from which the rescue is to be performed.

11.6.2 OFFSITE RESCUE and EMERGENCY SERVICES

Offsite rescue and emergency service personnel will be informed by the SHSO of the hazards they may confront when called to the jobsite to perform services. The rescue/emergency service personnel will be provided access to all Permit spaces from which the rescue may be necessary, so that the emergency responders can develop appropriate rescue plans and conduct rescue operations.

11.6.3 NON-ENTRY PROCEDURES

For facility non-entry rescues, retrieval systems or methods will be used whenever an authorized entrant enters a PRCS, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

Each authorized entrant will use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level or above the entrant's head. Retrieval lines will be attached to a mechanical device or a fixed point outside the Permit space, in such a manner that rescues can begin as soon as the rescuer becomes aware of the necessity. The mechanical device will be ready to retrieve personnel from vertical PRCSs more than five feet deep.

12.0 DECONTAMINATION PROCEDURES (As required for indentified regulated areas)

As required, decontamination of equipment and personnel will be performed to limit the potential migration of contaminants outside the Project limits (the estimated waste/excavation boundary). All equipment and personnel will be decontaminated before leaving the property.

Personnel and equipment decontamination procedures to be employed when exiting contaminated work areas at this Project site are detailed in the following subsections.

12.1 PERSONNEL HYGENE and DECONTAMINATION

All Project personnel will minimize contact with contaminants in order to minimize the need for extensive decontamination. All personnel will be made aware of any personal habit that may allow contaminants into or onto their body. All personnel will check that regularly worn PPE (i.e. hardhats and liners, eye protection, etc.) is clean and in good condition. Any products used for personal consumption are prohibited in any work area. Break areas will be limited to specific areas where eating, drinking, smoking, etc. and the storage of these materials will be allowed.

No PPE will be removed from the designated contaminated work area without proper decontamination or disposal. All personnel leaving the contaminated work area will pass through a contamination reduction zoned where they will remove their PPE and thoroughly wash/rinse any exposed skin with water and biodegradable soap before leaving the Project site. A personnel decontamination trailer will be provided for use by al, Project personnel exiting the exclusion zone.

Personnel decontamination equipment consists of two wash tubs (boot wash), trash cans with liners (for disposable PPE), 5 gallon buckets (glove wash/rinse and respirator wash/sanitize/rinse), brushes, water supply and detergent. Boot, glove and respirator cleaning and rinsing solutions will be changed at least daily.

A standard, typical personnel decontamination sequence is presented below.

Step 1: Scrape the gross contamination from boots and outer gloves. Wash them using soap in a water solution and rinse with water into a designated container in the contamination reduction zone.
Step 2: Remove the tap from and around boots an outer gloves and deposit in a collection drum (if disposable) or store on a rack (if reusable). Remove the over boots and outer gloves and place in a collection drum (if disposable) or wash and place on a rack (if reusable).
Step 3: Remove respiratory cartridges and place in a collection drum.
Step 4: Remove disposable coveralls and place in a collection drum. Remove boots and store in an appropriate location. Remove disposable inner gloves and dispose of them in a collection drum.
Step 5: Remove hardhat and safety glasses: Decontaminate as necessary (wash with sanitizing solution [MSA sanitizing solution or equivalent], rinse with potable water and allow to dry at the end of each day).

Step 6: Remove respirator, if used, and deposit in a plastic liner. Avoid touching face with fingers. Respirators will be washed in a sanitizing solution (MSA sanitizer or equivalent), rinsed with portable water and allowed to air dry at the end of each day.
Step 7: Thoroughly wash and rinse any exposed skin with water and biodegradable soap using bucket 1. Rinse in bucket 2. Re-rinse in bucket 3. Shower and launder all personal clothing as soon as possible upon completing daily activities.

Personnel hygiene, hand and face washing, following decontamination will take place in the Project support area.

12.2 EQUIPMENT DECONTAMINATION

The SHSO will be responsible for inspecting decontaminated vehicles, equipment and material contaminated work areas, to ensure proper decontamination. The SHSO will certify in writing that each piece of equipment utilized in the exclusion zone has been properly decontaminated.

Decontamination personnel will be required to use Modified Level D PPE as specified in Section of this HASP. The standard operating procedure for the use of high pressure washers, proved in Section of this HASP, will be strictly followed to prevent injury.

12.2.1 HEAVY EQUIPMENT DECONTAMINATION

As a general practice, equipment, such as excavators, bulldozers, etc. will remain within the Project controlled work zones for the duration of the excavation activities. This ensures the minimization of the potential cross contamination or migration of contaminants outside the Project limits. In addition, the sequence of excavation has been designed to avoid the movement of machinery and personnel over areas within the work zones that have been excavated.

Generally heavy equipment, and large materials used in potentially contaminated areas equipment, will be contaminated as outlined below.

- Conduct gross removal of solids at point use.
- Degrease as necessary.
- Move to the equipment decontamination pad for decontamination via pressure washing.
- Collect and handle resultant liquids/solids.

12.2.2 TOOLS and SMALL EQUIPMENT DECONTAMINATION

Tools and smaller equipment that may have come in contact with potentially contaminated materials will be decontaminated using the procedures outlined below.

- Flush and wipe components to remove debris and other gross contamination.
- Clean with potable water and non-phosphate detergent using a brush or high pressure washer, as necessary, to remove particulate matter and surface films.
- Rinse thoroughly with potable water.
- Allow to air dry for as long as possible.

12.2.3 NON-DISPOSABLE SAMPLING EQUIPMENT

Non-disposable sampling equipment that may have come into contact with potentially contaminated materials will be decontaminated prior to collecting each sample, according to the procedures listed below.

- Clean with potable water and non-phosphate detergent using a brush, if necessary, to remove all visible foreign matter.
- Rinse thoroughly with potable water.
- Rinse thoroughly with de-ionized water.
- Visually inspect the openings and treads for solid materials.
- Allow to air dry as long as possible on a clean polyethylene sheet or aluminum foil.
- Wrap in clean polyethylene sheet or aluminum foil until needed.

12.3 DISPOSITION of DECONTAMINATION WASTES

All equipment and wash used for decontamination will be decontaminated or disposed of properly. All aqueous liquids generated in the personnel and equipment decontamination process will be collected, characterized and appropriately disposed of. All disposable PPR will be containerized in drums and properly disposed of.

12.4 MANAGEMENT of DECONTAMINATION WATERS

Wash water will be contained, collected, filtered (per contract specifications) and tested. Handling, reuse and disposal of filtered water is dependent on test results. Likewise, mud/sediment/debris from the wash pad and will be collected tested and characterized for handling.

13.0 EMERGENCY EQUIPMENT and FIRST AID REQUIREMENTS

Emergency and first aid equipment to be maintained onsite will include the items listed below.

- The active work area will be provided with approved, portable, emergency eye wash and shower units in accordance with ANSI Standard Z358.1 and a minimum rating of 2A-10 B:C type dry chemical fire extinguishers.
- At least one industrial first aid kit and stretcher will be provided and maintained fully stocked at an easily accessible, uncontaminated location chosen by the SHSO onsite. Additional first aid kits will be provided in the event active work areas are very isolated or separated, therefore making the use of one first aid kit impractical.
- At least one commercial snakebite kit will be provided and maintained in an easily accessible, uncontaminated location onsite, to be determined by the SHSO.
- First aid and CPR kit locations will be specifically marked by the SHSO and stocked with adequate water and other supplies necessary to cleanse and decontaminate burns, wounds or lesions. First aid stations will also be supplied with a buffer solution for testing acid and caustic burns.
- At least two first aid technicians, certified by the American Red Cross or another approved agency, will be onsite at all times.
- 2A-10 B:C type dry chemical fire extinguishers will be provided at all Project site locations where flammable materials present a fire risk.

Agencies and medical facilities that need to be contacted in the event of an onsite emergency, as well as directions to the nearest hospital, are identified in Contact Information portion of this HASP. The tables stating the emergency contact information and hospital location should be posted in a prominent location(s) onsite.

If a site worker becomes injured or ill, Red Cross first aid procedures will be followed. First aid, or other appropriate initial reactions, will be provided by the certified first aid technician that is closest to the incident.

NOTE: When protective clothing has been grossly contaminated during an incident, contaminants may be transferred to the treatment personnel or the wearer and cause injuries. Unless severe medical problems have occurred simultaneously with splashes, protective clothing should be washed off as quickly as possible and removed. If the worker can be moved, he/she will be taken to the personnel decontamination station where decontamination procedures, additional first aid or preparation for transport to the hospital will be accomplished. In the event that the victim could not be decontaminated, the rescue service provider must be notified of the situation.

If the injury to the worker is of a chemical nature, the procedures listed below are to be followed.

- Eye Exposure: If contaminated solids or liquids get into the eyes, wash eyes immediately at the emergency eyewash station using large amounts of water while lifting the lower and upper eyelids occasionally. Wash for at least 15 minutes. Obtain medical attention.
- Skin Exposure: If contaminated solids or liquids get on the skin, promptly wash the contaminated skin using soap and water. Immediately obtain medical attention when exposed to concentrated solids or liquids.

- Respiratory Exposure: Immediately move the victim to fresh air and begin CPR. Obtain immediate medical attention.
- Ingestion Exposure: Identify what contaminant was swallowed. Follow the appropriate procedure and obtain medical attention as soon as possible.

NOTE: Any person who is transported to the hospital for treatment related to an exposure injury will take with them the appropriate information (i.e. MSDSs) on the chemical(s) to which he/she has been exposed. MSDSs for chemicals known or suspected to exist onsite will be stored in ***OSC***'s Project field office and maintained by the SHSO.

14.0 EMERGENCY RESPONSE and CONTINGENCY PLAN

The following Emergency Response and Contingency Plan considers and recommends the following:

- Preventative measures;
- Personnel training and regular HSE meetings conducted to reduce the likelihood of incidents;
- The measures mitigated to limit the scope of any incident, and
- Contingency actions to respond to and remedy the effects of incidents.

14.1 TYPES of EMERGENCIES

A. Controllable: Minor fire, mechanical problem or any disturbance from normal operation that affects the immediate area.

B. Minor: A condition that could endanger life and property on the Project site that required outside help for correction or control, but generally can be maintained.

C. Major: Any condition deemed at the time uncontrollable, that could endanger life and property on the Project site; as well as adjacent properties. This emergency requires considerable outside help from any source.

14.2 REPORTING AN EMERGENCY

A. Controllable: No need to report this type of an emergency. Project personnel will notify the SHSO of the incident.

B. Minor: The SHSO will immediately notify the Site Superintendant and state the following:

- Name
- Location of emergency
- Describe problem
- State whether fire department is needed
- State whether emergency personnel are needed.

The Site Superintendant will react as follows:

- Call the fire department if required
- Call personnel from the emergency phone list.

C. Major: The SHSO will immediately notify the Site Superintendant stating the same points that are listed under a minor emergency. However, with a major emergency the SHSO must state that this is a major emergency. The Site Superintendant will react as follows:

- Call fire department
- Call rescue personnel
- Call police
- Call contracted emergency response coordinator
- Call ***OSC***'s Corporate HSE Director

14.1 PRE-PLANNING

All work will be coordinated with the Owner or Owner's representative. Arrangements for emergency services will be made prior to initiating onsite operations. Emergency response procedures will be covered as part of the Project personnel's training. This training will include, but not be limited to:

- Emergency chain of command;
- Communication methods and signals;
- Location of phones and emergency numbers;
- Use of emergency equipment;
- Evacuation and emergency procedures;
- Offsite support;
- Site-specific hazards;
- Decontamination procedures;
- Standard operating procedures, and
- Location and use of the first aid equipment.

14.3 EMERGENCY CHAIN OF COMMAND

In the event of emergency personnel will immediately notify the SHSO, using available communications (see Section 14.3). The SHSO will make a rapid assessment of the situation and take appropriate action which can include (depending on the circumstances) notifying the Project Manager, Site Supervisor, Corporate HSE Director and Owner/Owner's representative of the situation; initiating engineering controls (i.e. dust suppression, ventilation, etc.); ceasing all work; ordering evacuation of the work zone; implementing emergency altering and response procedures; requesting emergency medical treatment; and/or administering first aid.

14.3.1 EMERGENCY RESPONSE TEAMS

The emergency response team will consist of individuals with the following titles or responsibilities:

- Initial Incident Coordinator
- Project coordinator
- HSE officer

14.2 FUNCTIONS of EMERGENCY REPONSE TEAM MEMBERS

The Initial Incident Commanders' responsibilities are comprised of the below tasks. This position will be occupied by the Site Superintendant.

- Coordinate response activities with the appropriate personnel.
- Responsible for the overall direction of the emergency staff.
- Arrange for notification of the appropriate individuals, in the case of an emergency.
- Act in an advisory capacity on policy matters.
- Inform the appropriate local government officials of the safety aspects of the remedial program, prior to Project startup.
- Act as the liaison with governmental officials, during an emergency.

- Minimize all public contact.
- Depending on the wind conditions, coordinate the notification of neighboring businesses and residents with local authorities.
- Ascertain the extent of air and sewage contamination and notify the proper authorities.

The Project Coordinator position will be occupied by the Project Foreman and will be require the below responsibilities.

- Coordinate with the police authorities, with respect to notification of neighbors.
- Arrange and provide for the equipment and materials needed to cope with emergency conditions. This equipment will include showers, eye wash stations, firefighting equipment capable of extinguishing chemical fires, first aid supplies and construction equipment.
- Direct onsite questions from the public to the appropriate individuals.
- Notify the contracting officer of any scheduled meetings with local government officials.

The Site HSE Officer position will be filled by the SHSO and will be comprised of the below responsibilities.

- Responsible for the safety of Project personnel at the emergency scene.
- Recommend the proper PPE and equipment; as well as the proper firefighting techniques.
- Test areas for levels of chemicals.
- Maintain contact with the Project field office.
- Establish and maintain crowd control around the scene, until local authorities arrive.
- Have a current inventory of PPE that is available at the Project site. Manufacturer's specification sheets will be in the Project field office for the various types of protective clothing and equipment available at the Project site, for emergencies.

14.3 SHSO's ROLE IN EMERGENCIES

In the event of a spill or release, the SHSO will determine whether there has been any human exposure to either the Project personnel or others. He will also attempt to determine the levels of exposure, when feasible.

The SHSO will consult with the physician to determine if any health effects are to be expected. If appropriate, medical treatments will be recommended.

14.4 COMMUNICATION METHODS and SIGNALS

For a detailed Site Communication Plan, please see Section 5.2 of this HASP, titles Site Control.

14.5 EVACUATION

Emergency escape routes will be designated by the SHSO for use in situations where rapid egress from the exclusion zone is required. Project personnel will be notified of the specific evacuation routes and re-assembly areas during the daily toolbox HSE meetings.

An emergency evacuation alarm (air or vehicle horn) will be kept onsite at all times. The audible evacuation signal will be short bursts on the horn (one second burst followed by one second interval) and will be repeated until the site is evacuated. After the work area is cleared, Project personnel will meet at an upwind re-assembly facility area that the SHSO will designate. The emergency alarm will be sounded in the event of any serious problems or emergency (fire, medical) that requires the assistance of Project personnel or the evacuation of the construction team. In situations where an onsite emergency results in evacuation, personnel will not be permitted to re-enter until:

- The conditions resulting in the emergency have been corrected;
- The hazards have been reassessed;
- The HASP has been reviewed, and
- Project personnel have been briefed on any changes in the HASP.

14.6 EMERGENCY SERVICES and EMERGENCY VEHICLE ACCESS

The emergency telephone numbers, listed in the Contact Information section of this HASP, will be posted at each project site telephone. Directions to the hospital will also be posted at this location.

In the event that emergency service vehicles need access to a location that is blocked by onsite operations, those operations (equipment, materials, etc.) will be immediately moved to allow vehicle access. The emergency crews will be quickly briefed as to the site conditions and hazards by the SHSO. All vehicles and personnel will be decontaminated prior to leaving the site.

14.7 WEATHER

In the event of severe weather (lightning, high winds, etc.), the SHSO will notify the Project personnel. As the storm approaches, all work will stop, loose object will be secured and Project personnel will take shelter at a location pre-arranged by the SHSO. After the severe weather has passed, and prior to work startup, the SHSO will inspect the site for hazards.

14.8 SPILL CONTAINMENT

A site specific Spill Containment Plan is provided as an attachment to this HASP.

14.9 PERSONNEL INJURIES

In the event of personal injuries the below procedures will be enacted, in the given order.

A. Initial Alarm and First Aid: Once an injury is observed, Project employees will rapidly get the attention of nearby workers; immediately act to protect the injured person, if a life threatening situation; render the appropriate first aid; and warn unsuspecting people of the potential hazard.

B. Notify the SHSO and Corporate HSE Director: Using the available personal radio communications, or other rapid communication methods, the SHSO and Corporate HSE Director will be notified of the situation, the identity of the person, the type of injury and the Project site location where the injury occurred.

C. Emergency Services: The SHSO will immediately assess the situation and, if necessary, contact the designated hospital, and any necessary emergency services, of the situation.

D. Follow-Up: The SHSO will determine why the injury occurred and will take the appropriate steps to prevent a similar occurrence. The events associated with the injury will be recorded in the Project site logbook.

14.9.1 PERSONNEL INJURY IN THE EXCLUSION ZONE

Upon notification of an injury in the exclusion zone, the designated emergency signal will be sounded. All Project personnel will assemble at a pre-arranged location. A rescue team, comprised of the SHSO and other Project personnel who have received the proper training, will enter the exclusion zone (if required) to remove the injured person to the boundary of the zone. The SHSO will evaluate the extent of the injury and the person will be decontaminated to the extent possible, prior to movement to the support zone. The appropriate first aid will be administered and the ambulance and designated medical facility will be contacted, if required. Nobody will re-enter the exclusion zone until the cause of the injury or symptoms of the illness have been determined.

14.9.2 PERSONNEL INJURIES IN THE SUPPORT ZONE

The SHSO, upon notification of the injury, will assess the severity of the situation. Operations will continue if the cause of the injury, or the loss of the injured person, does not affect the performance of Project personnel. The appropriate first aid will be administered, as needed. If the injury increases the risk to other personnel, the designated emergency signals will be used and all Project personnel will move to a pre-designated location for further instructions. Activities onsite will cease until the added risk is removed or minimized.

14.10 PPE FAILURE

While in the exclusion zone, if a site worker experiences a failure or alteration of protective equipment that affects its protection factor, the person and his buddy will immediately leave the exclusion zone and notify the SHSO. Re-entry will not be permitted until the PPE has been replaced or repaired and the affected areas of the person's body have been decontaminated (if applicable).

14.11 FIRE/EXPLOSION

The following contingency plan will be implemented in the event of a fire at the Project site.

A. Initial Alarm: Upon observation of an onsite fire, personnel will immediately notify the SHSO, or his designated alternate. No attempt will be made to extinguish the fire, prior to sounding the alarm.
B. Control and/or Extinguish Small Fires: Most small fires can be easily and promptly suppressed with available onsite equipment. Without risking personal injury, an attempt will be made to control or extinguish small fire(s), utilizing ABC-type fire extinguishers. Do not use water, unless is wood or paper files.
C. Notify Local Fire Company: The SHSO will immediately assess the situation and, if deemed necessary, notify the local fire company (by calling 911) of the location and type of fire/explosion.
D. Follow-Up: The SHSO will determine why the fire or explosion occurred and will take the appropriate steps to prevent a similar reoccurrence. The events associated with the fire/explosion will be recorded in the Project site logbook.

An Incident Report Form (sample provided in Attachment 1 of this HASP) will be completed by the SHSO and submitted to the Project Manager and Corporate HSE Director within 24 hours of the fire/explosion. The Owner will receive a copy of the Incident Report Form within 48 hours of the fire.

14.12 EQUIPMENT FAILURE

The SHSO will be notified if any onsite equipment, other than PPE, fails to operate. The SHSO will determine the effect of this failure on the continuing operations of the site. If the failure affects the Project personnel or prevents the completion of work tasks, then all personnel will leave the exclusion zone until the situation is evaluated and all appropriate actions are taken.

15.0 HEAT and COLD STRESS MONITORING

The SHSO will visually monitor the Project personnel for signs of heat or cold overexposure. The SHSO will be responsible for implementing the following program when the ambient air temperature exceeds 75°F (heat stress monitoring) or drops below 32°F (cold stress monitoring).

15.1 SYMPTOMS OF HEAT and COLD OVEREXPOSURE

A. Heat – Weakness, dizziness, fainting, nausea, headaches, cool and clammy skin, profuse sweating, slurred speech, weak pulse and dilated pupils.

B. Cold – Shivering, apathy, decreased muscle function, decreased level of consciousness, glassy stare, frostbite and decreased vital signs.

15.2 HEAT STRESS MONITORING

Project personnel who wear PPE allow their body heat to be accumulated with and elevation of the body temperature. Heat cramps, heat exhaustion and heat stroke can be experienced which, if not remedied, can threaten health and life. A current edition of the American Red Cross Standard First Aid book or equivalent will be maintained onsite at all times so that the SHSO and all Project personnel will be able to recognize the symptoms of heat emergencies and be capable of controlling them.

When PPE is worn (especially levels A, B and C) the suggested guidelines for ambient temperature and maximum wear time per excursion are as follows:

Ambient Temperature (°F)	Maximum Wear Time Per Excursion (Minutes)
Above 90	15
85 – 90	30
80 – 85	60
70 – 80	90
60 – 70	120
50 - 60	180

On method for measuring the effectiveness of employees' rest-recovery regime is by monitoring their heart as follows:

A. During a 3 minute period, count the pulse rate for the last 30 seconds of the first minute, the last 30 seconds of the second minute and the last 30 seconds of the third minute.

B. Double that count.

C. If the recovery rate during the last 30 seconds of the first minute is at 110 beats/minute or less and the deceleration between the first, second and third minute is at least 10 beats/minute, the work recovery regime is acceptable. If the employee's rate is above the specified, a longer rest period is required, and accompanied by and increased intake of fluids.

In the instance of cramps or heat exhaustion, Gatorade, or its equivalent, is suggested as part of the treatment regime. The reason for this type of refreshment is such that they replenish the much needed electrolytes to the body. Without these electrolytes, the bodies systems cannot function properly, thereby increasing the hazard.

Liquid refreshments will be stored, in plastic squeeze bottles, in a cooler at the edge of the decontamination zone. Each bottle will be marked with an individual's name. Disposable cups with lids and straws may be used in place of the bottles. Prior to drinking within the decontamination zone, the Project personnel will follow the decontamination procedures outline below.

- Wash and rinse outer gloves and remove them.
- Remove hardhats and respirators and place on a table.
- Remove inner gloves and place on a table.
- Wash and rinse hands and face.
- Carefully remove the properly labeled bottle or cup from the cooler ensuring that outer clothes do not touch any bottles, cups, etc.
- Used bottles or cups will not be returned to the cooler, but will be replaced in a receptacle or container to be cleaned or disposed of.
- Put back on respirators and hardhats and don a new pair of disposable inner gloves prior to re-entering the hazardous zone.

When personnel are working in situations where the ambient temperatures and humidity are high and especially in situations where protection Levels A, B and C are required, the SHSO must assure that all employees drink plenty of fluids (Gatorade or its equivalent); assure that frequent breaks are scheduled, so overheating does not occur; and revise work schedules, when necessary, to take advantage of the cooler parts of the day (i.e. 5:00am – 1:00pm, and 6:00pm – nightfall).

15.3 COLD STRESS MONITORING

Whole body protection will be provided to all Project personnel who will have prolonged exposure to cold air. The appropriate PPE will be provided onsite, and provided to Project personnel, to prevent cold stress. The SHSO will use the equivalent chill temperature when determining the combined cooling effect of wind and low temperatures on exposed skin or when determining the proper clothing insulation requirements. The following dry clothing will be provided, as deemed necessary, by the SHSO.

- Appropriate underclothing (wool or other)
- Outer coats that repel wind and moisture
- Face, head and ear coverings
- Extra pairs of socks
- Insulated safety boots
- Wool glove liners or wind and water repellant gloves

Project personnel who are working in continuous cold weather are required to warm themselves on a regular basis in the onsite hygiene facility. Warm, sweet drinks will be provided to Project personnel to prevent dehydration. The SHSO will follow the work practices and recommendations for cold stress threshold limit values as stated by the current edition of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices by the American Conference of Governmental Industrial Hygienists, or use equivalent cold stress prevention methods.

16 LOGS, REPORTS and RECORDKEEPING

The following reports will be prepared and submitted as indicated below. Copies of the field logs, permits and forms required for this Project are provided in Attachment 1.

Type	Frequency
Daily HSE Report	Daily
Employee Meeting Record	As needed; one per Safety meeting
Site Log	Daily
Security Log	Per Work Plan
Confined Space Entry Permit	As needed; one per entry
Air Monitoring Report	Daily for Previous day's monitoring events
Incident Report	As needed; within 24 hours
Spill Report	As needed; within 24 hours

The above logs and reports will be prepared by the SHSO, or his designated representative, at the frequency noted above. Completed logs and reports will be maintained in the Project filed onsite during construction.

17 "WHAT NEXT" PROGRAM and SAFETY TASK ANALYSIS CARD PROCESS

17.1 OVERVIEW

The "What Next" Program and Safety Task Analysis Card (STAC) processes are required components of all ***OSC*** projects.

The "What Next" Program is a proactive program intended to identify the most likely scenarios for incidents; identify corrective actions; and incorporated observations on the STAC.

The STAC is a pre-printed, tri-fold card that must be completed by each employee prior to every work shift. The completed card will be used by the employee as a reference tool throughout their work shift. The STAC card will be updated as needed throughout the Project, to address new work tasks and/or potential hazards.

17.2 "WHAT NEXT" PROGRAM

The "What Next" Program is designed to identify and correct hazards before they become a problem. Before work begins:

- Review the Project requirements and the intended outcome;
- Tour the Project site with the goal of identifying hazards;
- Identify the 3 or 4 most likely areas where incidents could occur;
- Identify corrective actions and/or corrective behaviors;
- Train Project personnel on the use if the STAC cards ;
- Incorporate prioritized hazards and corrective actions/behaviors onto the STAC card;
- Measure progress and report at the HSE tailgate meetings, and
- Report progress and prioritize opportunities monthly.

When observed behaviors become habits or all corrective actions are complete, replace the issue or hazard with the next highest priority issue and update the STAC cards. Repeat this process as necessary.

17.3 SAFETY TASK ANALYSIS CARD (STAC) PROCESS

The STAC will be used by OSC employees and subcontractors at the Project site to identify obvious or potential hazards. STAC's will be used in addition to Safe Work Permits and/or approved work procedures. The STAC is designed to be an ongoing learning tool. By breaking jobs into small parts, workers can identify hazards and eliminate or control them.

The STAC must be completed by each employee prior to every work shift. This is a zero tolerance issue. Project personnel found to be working on a task without a properly completed STAC will be instructed to leave the site.

Project supervisors and/or the SHSO will review the scheduled work tasks with employees at the tailgate safety meetings and will assist Project personnel in the preparation of daily STAC's.

17.4 INSTRUCTIONS FOR COMPLETING THE STAC

FRONT of CARD – PANEL 1

Instructions for completing this section of the STAC (front of card – panel 1) are listed below.

- Enter the date and time you complete this card.
- Write your name.
- Write the name of the Owner's site representative.
- Identify the location of where you will be working.
- Have you been trained in this area? Work cannot proceed until the "Yes" box has been checked.
- What are you doing today? List your planned work tasks.
- Check the appropriate boxes if permits are required.
- Was there a pre-job meeting held? Check the appropriate box.
- Did you turn in the require permits? Check the appropriate box.
- LOPC = Loss of Primary Contaminant (spill).

ONTARIO SPECIALTY CONTRACTING, INC.

CURRENT PROJECTS
Zero Injuries, Incidents and LOPCs

SAFETY TASK ANALYSIS CARD

Date: _____ Time: _____
Name: _____
Owner Rep: _____
Location: _____

Have you been trained for this area? ☐Yes ☐No ☐N/A

Job Description: _____
_____
_____

Permits
1. Safe Work? ☐Yes ☐No ☐N/A
2. Confined Space? ☐Yes ☐No ☐N/A
3. Hot Work? ☐Yes ☐No ☐N/A
4. Other? _____
_____

Pre-Job Meeting Held? ☐Yes ☐No ☐N/A
Permits Turned In? ☐Yes ☐No ☐N/A

Be Alert for Slip, Trip and Fall Hazards
Make At Least One Observation Today

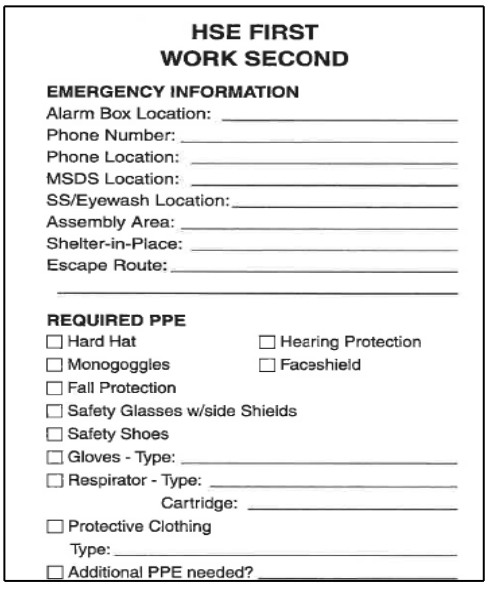
FRONT of CAR – PANEL 2

Instructions for completing this section of the STAC (front of card – panel 2) are listed below.

- Insert all of the required emergency information.
- Check your required PPE. Indicate the type of equipment where it is required, or insert N/A if not applicable.

***DO NOT LEAVE BLANK SPACES ON THE CARD.**

Write "N/A" if something I not applicable for this project.



HSE FIRST
WORK SECOND

EMERGENCY INFORMATION
Alarm Box Location: _____
Phone Number: _____
Phone Location: _____
MSDS Location: _____
SS/Eyewash Location: _____
Assembly Area: _____
Shelter-in-Place: _____
Escape Route: _____
_____

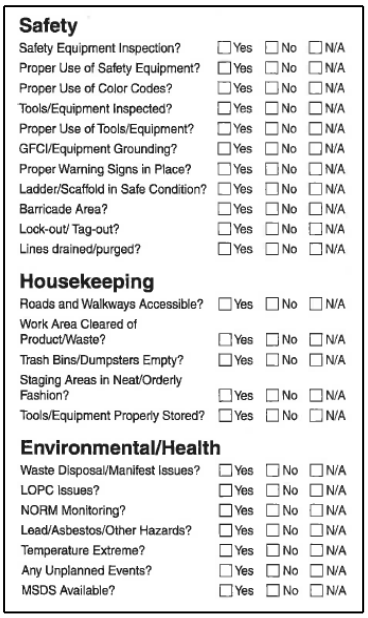
REQUIRED PPE
☐ Hard Hat ☐ Hearing Protection
☐ Monogoggles ☐ Faceshield
☐ Fall Protection
☐ Safety Glasses w/side Shields
☐ Safety Shoes
☐ Gloves - Type: _____
☐ Respirator - Type: _____
Cartridge: _____
☐ Protective Clothing
Type: _____
☐ Additional PPE needed? _____
_____

It's All About You

Front of Card – Panel 3

Instructions for completing this section of the STAC (front of card – panel 3) are listed below.

- Check the box for each line item that is listed. Work activities cannot proceed until all boxes have been checked "Yes" or "N/A".
- GFCI = Ground Fault Circuit Indicator
- LOPC = Loss of Primary Control (spill)
- MSDS = Material Safety Data Sheet
- NORM = Naturally Occurring Radioactive Material



Safety

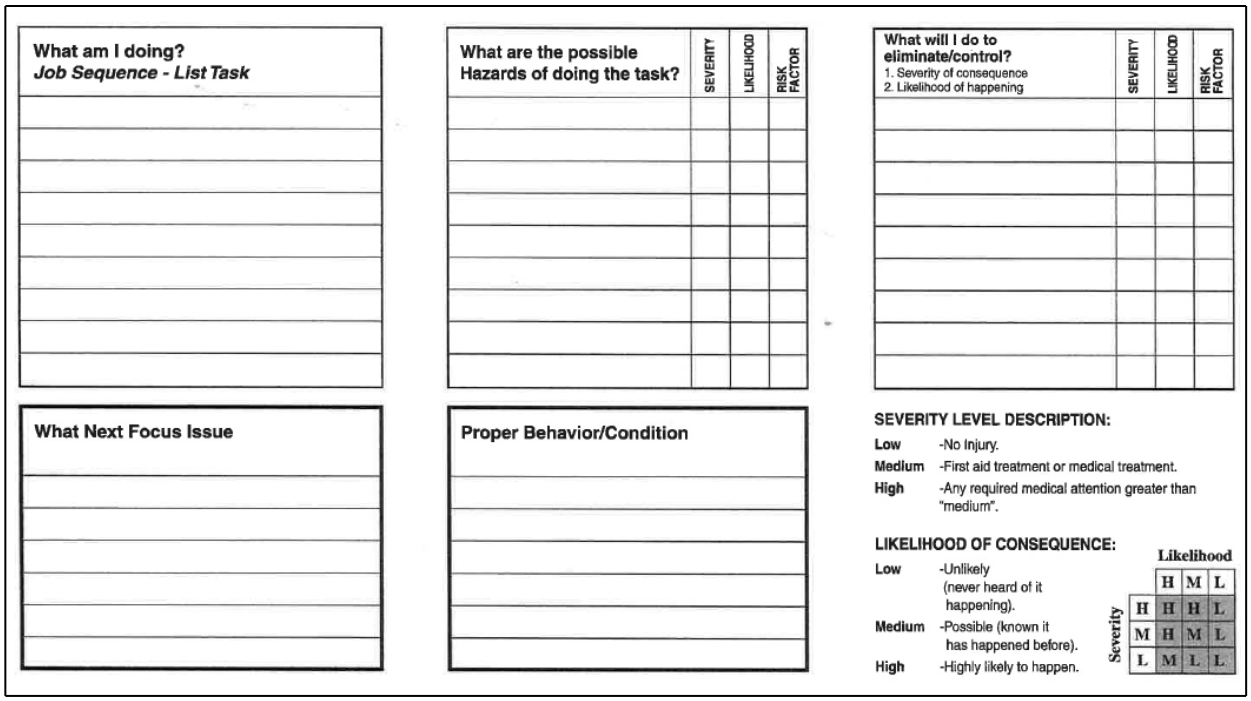
Safety Equipment Inspection?	☐ Yes	☐ No	☐ N/A
Proper Use of Safety Equipment?	☐ Yes	☐ No	☐ N/A
Proper Use of Color Codes?	☐ Yes	☐ No	☐ N/A
Tools/Equipment Inspected?	☐ Yes	☐ No	☐ N/A
Proper Use of Tools/Equipment?	☐ Yes	☐ No	☐ N/A
GFCI/Equipment Grounding?	☐ Yes	☐ No	☐ N/A
Proper Warning Signs in Place?	☐ Yes	☐ No	☐ N/A
Ladder/Scaffold in Safe Condition?	☐ Yes	☐ No	☐ N/A
Barricade Area?	☐ Yes	☐ No	☐ N/A
Lock-out/ Tag-out?	☐ Yes	☐ No	☐ N/A
Lines drained/purged?	☐ Yes	☐ No	☐ N/A

Housekeeping

Roads and Walkways Accessible?	☐ Yes	☐ No	☐ N/A
Work Area Cleared of Product/Waste?	☐ Yes	☐ No	☐ N/A
Trash Bins/Dumpsters Empty?	☐ Yes	☐ No	☐ N/A
Staging Areas in Neat/Orderly Fashion?	☐ Yes	☐ No	☐ N/A
Tools/Equipment Properly Stored?	☐ Yes	☐ No	☐ N/A

Environmental/Health

Waste Disposal/Manifest Issues?	☐ Yes	☐ No	☐ N/A
LOPC Issues?	☐ Yes	☐ No	☐ N/A
NORM Monitoring?	☐ Yes	☐ No	☐ N/A
Lead/Asbestos/Other Hazards?	☐ Yes	☐ No	☐ N/A
Temperature Extreme?	☐ Yes	☐ No	☐ N/A
Any Unplanned Events?	☐ Yes	☐ No	☐ N/A
MSDS Available?	☐ Yes	☐ No	☐ N/A



What am I doing? *Job Sequence - List Task*	What are the possible Hazards of doing the task?	SEVERITY	LIKELIHOOD	RISK FACTOR	What will I do to eliminate/control? 1. Severity of consequence 2. Likelihood of happening	SEVERITY	LIKELIHOOD	RISK FACTOR

What Next Focus Issue	Proper Behavior/Condition

SEVERITY LEVEL DESCRIPTION:

Low -No Injury.

Medium -First aid treatment or medical treatment.

High -Any required medical attention greater than "medium".

LIKELIHOOD OF CONSEQUENCE:

Low -Unlikely (never heard of it happening).

Medium -Possible (known it has happened before).

High -Highly likely to happen.

Severity \ Likelihood	H	M	L
H	H	H	L
M	H	M	L
L	M	L	L

Back of Card – Panels 1 and 2

Instructions for completing these sections of the STAC are listed below.

- *What am I Doing?* List the work tasks that you will perform today.

- *What Next Focus Issue:* At the initial site safety meeting, Project personnel will be asked to identify the three or four most likely areas for incidents to occur (focus issues).
- *Proper Behavior/Condition:* Identify the corrective actions/behaviors that will prevent the focus issues from becoming a problem.
- The focus issues and corrective actions will remain on the STAC until the observed behaviors become habits or all corrective actions that are associated with the focus issues are complete.
- These sections of the STAC (back of card - panels 1 and 2) will be updated, as needed, to incorporate new focus issues. This process will continue until the Project is complete.

Back of Card – Panels 2 and 3

Instructions for completing these sections of the STAC are listed below.

- *What are the possible hazards of doing the task?* Identify the hazards that may be associated with the planned work tasks.
- *What will I do to eliminate/control?* Identify the methods in which the hazards identified in Panel 2 can be mitigated.
- Use the "Severity Level" and "Likelihood of Consequence" descriptions on Panel 3 to determine if response should be "L" (low), "M" (medium) or "H" (high).
- Calculate the risk factor using the "Likelihood of Consequence" key, located at the bottom of Panel 3.

NOTE: You cannot work on a task with a risk factor above "L". Tasks with a risk factor greater than "L" must be mitigate before work on the task can proceed.

OSC STAC Process Training Verification

Project/Location: _____ ***OSC*** Job No. _____

Name of Attendee	Last 4 Digits of SSN	Signature	Date

SHSO Name (Print): _____ Date: _____

SHSO Signature: _____

Attachment 1

HSE Report Forms

Project Name:	Project Location:
Inspected by:	Date of Inspection:

OSC JOB SITE CHECKLIST

CHECK THE APPROPRIATE RESPONSE . IF THE ITEM DOES NOT APPLY WRITE NA

Manual Material Handling	Yes	No
Are mechanical devices being used in place of manual handling of material?		
Are ropes, slings, chains, hook, cables, and chokers in good condition?		
Proper staging of materials to minimize lifting and carrying?		
Rigging equipment inspected regularly and in good condition?		
Is the handling of bagged material limited to 50 lbs?		
Are carrying handles being used when a single worker is carrying sheeted materials?		

Person Responsible for correction of any Noted Hazards:_____

Date corrected:_____

COMMENTS:_____

Housekeeping: Slips, Trips and Falls	Yes	No
Are walking and working surfaces clear and free of debris?		
Are waste and trash containers provided, and used?		
Is there regular removal of waste and trash from the containers?		
Does each trade clean up after themselves?		
Is adequate temporary lighting provided?		
Is temporary storage of materials and supplies done in an organized fashion?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

Fire Protection and Prevention	Yes	No
Are all flammable liquid containers clearly identified?		

Are all flammable liquid containers UL of FM listed?		
Have proper storage practices for flammables been observed?		
Are extinguishers readily accessible and serviced regularly?		
Are hydrants clear and accessible for fire department personnel?		
Have gas cylinders been chained upright with valve caps securely fastened?		
Has there been proper segregation between flammable gasses?		
Proper labeling of full and empty cylinders?		
Are temporary heaters located at a safe distance from combustibles?		
Is ventilation adequate for temporary heaters?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

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_____

Electrical	Yes	No
Are all switch gear, panels, and devices that are energized marked and/or guarded?		
Lockout devices available/used on circuits that could become energized while being worked?		
Are all temporary circuits properly guarded and grounded?		
Are extension cords in continuous lengths without splice?		
Are GFCI's and/or Assured Equipment Grounding Conductor Program being used?		
If temporary lighting is provided, are bulbs protected against accidental breakage?		
Are working surfaces clear of cords so as not to create a tripping hazard?		
Are there a sufficient number of temporary outlets on the job site?		
Any visual signs of outlet overloading?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Hazard Communication Does the Program include:	Yes	No
A list of hazardous chemicals.		

Container labeling.		
Material Safety Data Sheets (MSDS)		
Employee training.		
Informing other contractors.		
Posting.		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

Excavation/Trenching	Yes	No
Have utility companies been notified of proposed excavation work?		
Are all tools, equipment, and shoring materials readily available prior to job startup?		
Are overhead utility lines noted and precautions taken to avoid contact with equipment?		
Is the spoil pile at least two feet from the edge of the excavation?		
Is the excavation inspected daily or more frequently when conditions could affect the soil?		
If needed, are barricades, stop logs, properly placed?		
Has soil classification been made by a competent person?		
Are excavations five feet or deeper correctly sloped, benched, shored or is a trench box used?		
Is a ladder or other means of egress provided in trenches or excavations six feet or deeper?		
When ladders are used, do they extend three feet above the surface and are they secured?		
Are shoring and shielding systems inspected daily by a competent person?		
Is the trench backfilled as soon a work is completed?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

	Yes	No
Barricading		
Are floor openings planked and secured or barricaded?		

Are direction signs used to inform the public of upcoming construction work?		
Is the sidewalk protection effective?		
Is a flag person provided to direct traffic when needed?		
Has the person been trained on how to direct traffic and the public?		
Are open excavation, road drop offs, manholes, uneven surfaces barricaded?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

_____

Ladders	Yes	No
Is the proper ladder for the job being used?		
Are ladders in good condition (no missing or broken rungs)?		
Are there safety shoes/cleats on the bottom of ladders? Are they needed?		
Are non-conductive ladders available for use around live wiring?		
Are ladders tied-off at top or otherwise secured?		
Do side rails extend 36 inches above top of landing?		
Rungs or cleats uniformly spaced 10 – 14 inches apart?		
Are step ladders fully open when in use?		

Person Responsible for correction of any Noted Hazards:

_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Scaffolding	Yes	No
Are scaffold components visibly free of any physical damage? (no bent supports or bracing)		
Is scaffold properly erected with all pins and braces in place and locked?		
Are rolling scaffolds equipped with locking wheels?		
Are wheels locked when scaffold is in use?		
Is scaffold erected on a firm and substantial surface?		
Is planking of a scaffold grade?		

Planking in good condition and properly installed?		
Are toe boards and guardrails in place on scaffolds over 10 feet?		
Are workers on scaffolding protected from falling objects if overhead hazards exist?		
Ladder provided for access to scaffold work platform?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Personal Protective Equipment	Yes	No
Is hearing protection available for personnel that may be exposed to noisy conditions?		
Is respiratory protection available to personnel and being used when conditions require them?		
Are safety harnesses, lifelines and shock absorbing lanyards available and being used?		
Are personnel using gloves when handling sharp or rough material?		
Where required, rubber gloves with protectors-insulators being used?		
Is life saving equipment available for work over or near water?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

_____

Medical	Yes	No
Are first-aid kits available and properly stocked?		
Are all emergency phone numbers posted?		
Are employees aware of the address of the site/ capable of giving directions to emergency crew?		
Is anyone trained in first aid and CPR?		

Hoist, Cranes and Derricks	Yes	No
Are cables and sheaves checked?		

Person Responsible for correction of any Noted Hazards:
Date Corrected:_____

COMMENTS:

Tools: Hand and Power	Yes	No
Are tools free of any obvious physical damage?		
Are tools inspected for frayed or damaged cords?		
Are tools and cords properly grounded (ground pins are in good condition?		
Are double insulated tools in use and in good condition?		
Are the handles on all tools in good condition (not bent, splintered or broken)?		
Are all hoses on air or hydraulic tools in good condition?		
Are all shields and guards in place on the tools and in good condition?		
Operator qualified and instructed to use powder actuated tools?		

Person Responsible for correction of any Noted Hazards:
Date Corrected:_____

COMMENTS:

Welding and Cutting	Yes	No
Are non-combustible enclosures, (screens/shields) provided and used when welding?		
Welding goggles, gloves, and clothing being used by welder?		
Inspection for fire hazards after welding stops?		
Are gas cylinder, hoses, regulators, torches, torch tips and welding carts, in good condition?		
Welding and ground cables properly insulated, sized and located to avoid tripping hazards?		
Natural or mechanical ventilation adequate?		
Surrounding areas free of flammables and combustibles?		
Proper storage of gas cylinders?		

COMMENTS:

Are slings, hooks, eyelets, chokes inspected?	_____	_____
Are load capacities posted in cab?	_____	_____
Are power lines at a safe distance [10 feet minimum]?	_____	_____
Do cranes have proper barricades around swing radius?	_____	_____
Are crane inspection logs/certifications with crane?	_____	_____

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Floor, Wall Openings, Stairways	Yes	No
Floor and roof openings guarded by guardrails and toe boards or a secured cover?	_____	_____
Open-sided floors/platforms six feet or higher guarded with railing, toe boards or equivalent?	_____	_____
Are stairs with four or more risers equipped with standard hand rail protection?	_____	_____
Runways four feet or more above ground properly guarded?	_____	_____
Anchor posts and framing capable of withstanding 200lb load in any direction?	_____	_____

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

_____

_____

Powder Activated Tools	Yes	No
. Operators properly trained and authorized?	_____	_____
Operators use eye, face, hearing and hand protection?	_____	_____
Tools inspected and tested daily before use to assure safety devices operational?	_____	_____
Anchors and charges comply with tool manufacturer's specs?	_____	_____
Anchorage limited to recommended materials?	_____	_____

Tools loaded immediately prior to use?		
Other employees warned to expect loud noise and possible airborne debris?		
Employees who may be in harm's way relocated?		
Unattended and stored tools always rendered unloaded and secure?		

Person Responsible for correction of any Noted Hazards:

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Concrete	Yes	No
. Employees working with concrete properly clothed to protect skin?		
PPE (gloves, boots, hard hats, eye/face protection) used where required?		
Employees trained to avoid hazards of cement burns and inhalation?		
Form work designed, fabricated, erected, supported, braced and maintained to support vertical and lateral loads?		
Shoring inspected prior to, during and after concrete placement?		
Scaffolding or platforms used by employees properly designed and constructed to support load?		
Scaffold platforms equipped with standard guard rails?		
Raising or lowering of concrete buckets over heads of people prohibited?		
Employees forbidden from riding concrete buckets?		
Safe access provided for equipment and vehicles?		
Safe shoring and form removal procedures established?		
Vertical reinforcing steel protected from impalement hazards?		
Lift slab operations designed and planned by a PE with all employees trained?		
Required distances maintained between overhead electrical power lines and concrete placement equipment?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Masonry	Yes	No
Limited access zone established on the un-scaffold side of the wall?		
Walls properly supported to prevent overturn or collapse?		

Dust protection used during sawing, mortar mixing, or other dust generating activities?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Structural Steel	Yes	No
Permanent and/or temporary flooring requirements been met?		
Temporary planking sized and installed correctly?		
Employees using the required fall protection equipment?		
Company approved fall protection program in place?		
Danger zone beneath the steel erection designated to limit unauthorized employee?		
Hoisting equipment and accessories inspected as required?		
Tag lines used to control loads?		
Proper erection bolting and bracing procedures followed?		
Floor, roof and wall openings protected immediately as they appear?		
Ladders, stairways, approved personnel lifts or other safe means or access?		

Person Responsible for correction of any Noted Hazards:_____

Date Corrected:_____

COMMENTS:_____

_____

_____

_____

Heavy Equipment	Yes	No
Operators properly trained and authorized?		
Inspection and maintenance performed on a regular schedule?		
Bi-directional machines have operational signal horns?		
Back-up alarms operational?		
Roll over protection provided as required and with seat belts?		
Equipment clean and free of grease, oil, mud, fluids and other slipping hazards?		

Moving parts protected by guards?		
Engines shut off during refueling?		
Glass free of defects and rated as safety glass or equivalent?		
Lights, reflectors, wipers, defrosters, brakes, tires, etc. in good condition?		
Employees prohibited from riding on heavy equipment without a proper seat?		
Are haul roads properly maintained?		

Person Responsible for correction of any Noted Hazards:

Date Corrected:

COMMENTS:

Aerial Lifts

	Yes	No
Employees using aerial lifts are trained and authorized?		
Manufacture's operation and safety rules obeyed?		
Unit safety inspected and all controls tested prior to each days use?		
Unit positioned on solid, level ground?		
Boom and basket load limits within manufacture's specs?		
Everyone in lift basket standing firmly on the floor, wearing fall prevention or protection equipment?		
Brakes set and outriggers positioned as required?		

Person Responsible for correction of any Noted Hazards:

Date Corrected:

COMMENTS:

OVERALL SITE IMPRESSIONS and COMMENTS:

ACTIVITY HAZARD ANALYSIS

Location:	**Contract No.**	**Project:**
Phase (Division):	**Prime Contractor:** ***OSC***	**Subcontractor:**
Task	**Potential Safety Hazard**	**Safe Procedure & Recommended Controls**
Equipment to be Used	Inspection Requirements	Training Requirements

Vehicles and Heavy Equipment Checklist

Date Prepared: _____ By: _____

Project Name/No.: _____Location: _____

.

- Check the box if statement is true.

HAZARD IDENTIFICATION AND WORKER TRAINING

- All drivers are properly licensed and have been trained in the proper and safe operation of vehicles and equipment. YES _____ NO ____

INSPECTION AND SAFETY EQUIPMENT

- All vehicles and heavy equipment are visually inspected at the beginning of each workday for any malfunctions that could affect safe operation. All defects are corrected before the equipment is placed in service. Damage equipment is repaired, red tagged, or removed from the site. YES _____ NO _____

- Where required, every vehicle and piece of equipment has a working back-up alarm. YES _____ NO _____

- Seat belts that are in good working order are provided on all vehicles and heavy equipment. YES _____ NO _____

- Where required, roll-over protection structures (ROPS) are provided on vehicles and heavy equipment (including scrapers, tractors, loaders, bulldozers, carryalls, trucks, etc.). YES ____ NO ____

- Every vehicle and piece of heavy equipment with a cab has an intact windshield and powered windshield wipers. YES ____ NO ____

- Equipment and accessories installed on haulage vehicles do not impair the driver's vision to the front or sides. YES ____ NO ____

- Every vehicle and piece of heavy equipment has two operating headlights and two operating taillights if operated at night or where visibility is poor. YES ____ NO ____

- Every vehicle and piece of heavy equipment has working brake lights. YES ____ NO ____

- Dump trucks that tilt to release their load have a visible or audible warning when the elevating mechanism is activated. YES ____ NO ____

- Loads on vehicles are secured against displacement. YES ____ NO ____

- Drivers operating loaders have adequate visibility, and the equipment is stable. YES ____ NO ____

- On "H, Pipe and Sheet" pile drivers, safety chains on compression hose fittings are in place and in working order so as to prevent thrashing if the connection is broken. YES ____ NO ____

- Subcontract equipment operators are aware of inspection, back-up alarm, and seat belt requirements, and are ordered to remove defective equipment from the site. YES ____ NO ____

- All unattended loaders and industrial trucks have the bucket or boxes lowered to the ground. YES ____ NO ____

.

- When power equipment is being repaired, moving parts such as blades, beds, or gates are lowered to the ground, or securely blocked in an inoperative position. Controls are kept in a neutral position, with the engines stopped and brakes set (unless the repair work requires otherwise). YES ____ NO _____

- There are signs in plain view of the operator on all cranes, derricks, power shovels, pile drivers, and similar machinery reading: YES ____ NO ____

    ◊ "Unlawful to operate this equipment within 10 feet of high voltage lines of 50,000 volts or less." (in large print)
    ◊ "For minimum clearances of high voltage lines in excess of 50,000 volts, see appropriate regulations at 29 CFR 1910 or 29 CFR 1926. "

TRAFFIC CONTROL

- Workers are warned not to take short cuts across areas where vehicles or heavy equipment are working or moving. YES ____ NO ____

- Flagmen are posted wherever barricades and warning signs cannot control the moving traffic. YES ____ NO ____

PRIVATE ROADWAYS AND OFF-HIGHWAY CONDITIONS

- Private roads are maintained free from holes and ruts that may affect the safe operation of vehicles and equipment. YES ____ NO ____

- Dust levels are minimized to ensure adequate visibility for drivers. Vehicle and equipment operators use adequate respiratory protection in dusty operations. YES ____ NO ____

FUELING

- Fueling of vehicles and heavy equipment is done with the engine off. YES ____ NO ____

- No smoking is permitted at or near the fuel storage or refueling area. A sign is posted stating: NO SMOKING WITHIN 25 FEET. YES ____ NO ____

- No sources of ignition are present at or near fuel storage or refueling area. YES ____ NO ____

- A dry chemical or carbon dioxide fire extinguisher (rated 6: BC or larger) is located accessible to the fueling area. YES ____ NO ____

AIR MONITORING LOG

Date:

Type of Monitor:

Serial Number:

Tested By	Time	PID reading PPM	Type of Activities /Location

ZERO MONITOR AT START OF SHIFT IN CLEAN AIR AND “BUMP CALIBRATE”

BACKGROUND READING:_____PPM LOCATION:_____

TIME:_____

SAFETY INSPECTION FOR MISCELLANEOUS EQUIPMENT	Date of Inspection:
Contractor or Unit	Contract No. Or Activity
Inspected by (Signature)	Witness (Signature)

	CRANE/DERRICK INSPECTION CHECKLIST.	Yes	No	N/A
1	Are the following documents with the crane at all times?			
1a	Operating manual from the manufacturer for the specific crane being inspected.			
	(1) Any operator aids for which the crane is equipped?			
1b	Load rating chart for the crane which shall include:			
	(1) The crane make and model, serial number, and year of manufacturer			
	(2) Load ratings for all crane operating configurations: including optional equipment			
	(3) Wire rope type, size, and reeving; line pull, line speed and drum capacity			
	(4) Operating limits in windy or cold conditions			
1c	Crane log book that shows operating hours, inspections, tests, maintenance & repair. **Note 1:** Has log been updated daily when crane is used and is it signed by operator & supervisor? **Note 2:** Mechanics shall sign after conducting maintenance or repairs.			
2	Does operator have certification that he meets operator qualification and training			
3	Has a hazard analysis been completed for set-up procedures (mobilization, assembly, dismantling, etc.)?			
4	Are adequate clearances provided from electrical sources, fixed objects, and swing radius?			
5	Is communication provided as required?			
6	Has inspection been performed?			
7	Have performance load tests been in accordance with?			
8	Are tag lines used to control loads?			

9	Is critical lift plan required?			
10	Are all environmental considerations being met?			
11	Is crane equipped with boom angle indicator, load-indicating device, means to visually determine levelness, and anti-two block devices?			
12	Are cable-supported booms equipped with boom stops?			
13	Are booms lowered to ground or secured when not in use?			
14	Do all floating cranes and derricks meet the ANSI requirements?			
15	Are all moving parts (gears, drums, shafts, belts, etc.) and all hot surfaces (exhaust lines, pipes, etc.) guarded?			
16	Does the unit have a suitable fire extinguisher? **Note:** Minimum 5 BC			

CRANE/DERRICK INSPECTION CHECKLIST	Yes	No	N/A
17 Is the floating crane secured to the barge and tethered?			
18 Is the crane clear of objects that can slide or roll in the operators cab!			
19 If installed from the factory, are seat belts in working order and being worn by the operator.			
_____			

Note: All printed copies of this document are uncontrolled. It is the responsibility of the user to assure that this is the latest revision by checking the electronic version in the HSE Document Library.

Near Miss, Unsafe Condition/Act Report

Rev. D Revision Date: 8/17/10 Document NoNMUC-08

Purpose

Purpose of this form is to identify near-misses and unsafe conditions/acts in the workplace and to assure corrective action is completed in a timely manner.

Scope

This document applies to all OSC operations and includes OSC employees, contractors, tenants or visitors.

Definitions

A near miss is an event that could have caused a serious injury or illness, property damage or a release to the environment but didn't.

For example:

- Someone spills liquid on the floor and does not clean it up. Someone slips but does not fall.
- A forklift operator takes a turn too quickly and drops the load which almost hits a nearby worker.
- While transporting a 55 gallon drum of petroleum product on the work-site, it tips over but does not spill.

An unsafe condition or act is a condition or act that could cause an incident or, an incident waiting to happen.

For example:

- Water or other material(s) on the floor that could cause a slip or fall.
- A frayed electrical cord on a piece of equipment.
- Lack of fall protection on a leading edge.

Job Name:	Job Number:
Where did the near miss take place or where is/was the unsafe condition?	
Location (building/parking lot/shop/etc.)	
Name of Supervisor/Site HSE Officer:	
Reporting Employee:	
When did the near miss happen or when did you discover the unsafe condition? Date: Time:	
What personnel/equipment/etc. were involved or impacted in the near miss or unsafe condition?	
Was the near miss/unsafe act or condition reported to site supervision/HSE personnel Yes No	
Describe the near miss or unsafe act or condition in detail. Include the potential danger to employees, equipment and/or property. Attach additional information, photos, etc. if necessary:	

Check all that apply:

Unsafe Acts	Unsafe Conditions
Improper use of equipment	Poor housekeeping
Using faulty/defective equipment	Sharps (glass, needles etc)
Removing safety devices or making them inoperative	Insufficient guards/barriers
Under the influence of alcohol and/or drugs	Defective tools, equipment or materials
Failure to wear personal protective equipment (PPE)	Insufficient or improper protective equipment
Horseplay	Insufficient lighting
Incorrect lifting techniques	Insufficient ventilation
Incorrect loading/stacking	Exposure to excessive noise
Operation of equipment without authority	Insufficient warning signs
Failure to warn or to secure	Compliance with standards
Compliance with standards	Animal (bite etc)
Other -	Other -
Human Factors	**Job Factors**
Physical incapacity	Inadequate leadership/supervision
Mental incapacity	Inadequate engineering
Lack of knowledge	Inadequate purchasing
Lack of skill	Inadequate maintenance
Stress	Inadequate tools/equipment
Improper motivation	Inadequate materials
Distraction	Inadequate work standards/procedures
Attitude	Inadequate standards
Motivation	Other -
Compliance with standards (e.g. training)	
Other -	
Estimate risk for potential future incident; Circle One: Low 1 2 3 4 5 High	
Explain Why:	
Please note what corrective action you were able to take or what other corrective action you recommend.	
To be completed by HSE Personnel:	
Reviewed by;	Date Received by HSE:
OSC HSE Tracking Number	
Comments	

ATTACHMENT #2

MSDS

Part Number/Trade Name: **REGULAR UNLEADED GASOLINE**

==========

General Information

==========

Company's Name: AMERADA HESS CORP
Company's Street: 1 HESS PLAZA
Company's City: WOODBRIDGE
Company's State: NJ
Company's Country: US
Company's Zip Code: 07095
Company's Emergency Ph #: 800-424-9300(CHEMTREC)
Company's Info Ph #: 201-750-6000
Date MSDS Prepared: 13JAN89
Safety Data Review Date: 08JAN92
MSDS Serial Number: BLZXH
Hazard Characteristic Code: F2

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Ingredients/Identity Information

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Proprietary: NO
Ingredient: GASOLINE
Ingredient Sequence Number: 01
Percent: 100
NIOSH (RTECS) Number: LX3300000
CAS Number: 8006-61-9
OSHA PEL: 300 PPM; 500 PPM STEL
ACGIH TLV: 300 PPM; 500 PPM STEL

Proprietary: NO
Ingredient: TERT-AMYL METHYL ETHER (BLEND OF ING 2&3 FOR A TOTAL OF 15% OF PRODUCT)
Ingredient Sequence Number: 02
Percent: MIX
NIOSH (RTECS) Number: 1007422 AM
CAS Number: 994-05-8
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE
Proprietary: NO
Ingredient: ETHER, TERT-BUTYL METHYL; (METHYL TERT-BUTYL ETHER)
Ingredient Sequence Number: 03
Percent: MIX
NIOSH (RTECS) Number: KNS525000
CAS Number: 1634-04-4
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: TOLUENE
Ingredient Sequence Number: 04

Percent: 6-<3015
NIOSH (RTECS) Number: XS5250000
CAS Number: 108-88-3
OSHA PEL: 200 PPM/150 STEL
ACGIH TLV: 50 PPM; 9293

Proprietary: NO
Ingredient: XYLENE
Ingredient Sequence Number: 05
Percent: 8.5-<15
NIOSH (RTECS) Number: ZE2100000
CAS Number: 1330-20-7
OSHA PEL: 100 PPM; 150 PPM STEL
ACGIH TLV: 100 PPM; 150 PPM STE

Proprietary: NO
Ingredient: BENZENE
Ingredient Sequence Number: 06
Percent: 0.1-<5
NIOSH (RTECS) Number: CY1400000
CAS Number: 71-43-2
OSHA PEL: 1 PPM; 5 STEL (MFR)
ACGIH TLV: 10 PPM

Proprietary: NO
Ingredient: BENZENE, ETHYL; (ETHYL BENZENE)
Ingredient Sequence Number: 07
Percent: <3
NIOSH (RTECS) Number: DA0700000
CAS Number: 100-41-4
OSHA PEL: 100 PPM; 125 PPM STEL
ACGIH TLV: 100 PPM; 125 PPM STEL

Proprietary: NO
Ingredient: BENZENE, 1, 2, 4-TRIMETHYL-; (1, 2, 4-TRIMETHYLBENZENE)
Ingredient Sequence Number: 08
NIOSH (RTECS) Number: DC3325000
CAS Number: 95-63-6
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: SUPPORT DATA: IN AIR. HEAVIER/AIR VAPOR CAN FLOW ALONG SURFACES TO DISTANT SOURCES OF IGNITION AND FLASHBACK. FLOW GASOLINE CAN BE (ING 10)
Ingredient Sequence Number: 09
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 9: IGNITED BY SELF-GENERATED STATIC ELECTRICITY RUNOFF TO SEWERS MAY CREATE FIRE &/OR EXPLOSION HAZARD
Ingredient Sequence Number: 10

NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: EFFECTS OF OVEREXPOSURE: WILL FATIGUE OLFACTORY SENSES. IMMEDIATELY DANGEROUS TO HEALTH/LIFE IS REPRESENTED BY 2 THOUSANDS (2000)PPM. (ING 12)
Ingredient Sequence Number: 11
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 11: INGESTION/INHALATION OF LIQUID &/OR EXCESS VAPOR CAN HAVE AN ANESTHETIZING EFFECT, CAUSING VERTIGO, BLURRED VISION, VOMIT & (ING 13)
Ingredient Sequence Number: 12
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 12: CYANOSIS. OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION.
Ingredient Sequence Number: 13
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: SPILL PROCEDURES: ACQUATIC LIFE. CAUTION-EVACUATE ALL NON-ESSENTIAL PERSONNEL SPILLED MATERIAL MAY CAUSE SLIPPERY CONDITION. OPEN (ING 15)
Ingredient Sequence Number: 14
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 14: SPILLS MAY EMIT FLAMMABLE VAPOR APPROACH FROM UPWIND IF POSSIBLE. AVOID BREATHING EMITTED VAPOR WEAR SCBA IF REQUIRED TO PREVENT(ING 16)
Ingredient Sequence Number: 15
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 15: INHAL OF VAPORS.
Ingredient Sequence Number: 16
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: WASTE DISPOSAL METHOD: FLAMMABLE, VAPORS.
Ingredient Sequence Number: 17
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: HANDLING/STORAGE PRECAUTIONS: BONDED/GROUNDED TO PREVENT POTENTIAL ACCUMULATION OF STATIC ELECTRICITY. NO SMOKING IN AREAS OF HANDLING/STORAGE (ING 19)

OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 18: STORAGE SHOULD BE TIGHTLY CLOSED CONTAINER IN COOL/DRY/ISOLATED & WELL VENTED AREA AWAY FROM POTENTIAL SOURCES OF IGNITION.
Ingredient Sequence Number: 19
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: OTHER PRECAUTIONS: REGULAR/FREQUENT BASIS. VENTALATION MUST BE SUFFICIENT TO PREVENT ACCUMULATION OF TOXIC/FLAMMABLE CONCENTRATION OF VAPOR IN AIR. (ING 21)
Ingredient Sequence Number: 20
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 20: EMPTY CONTAINER MAY CONTAIN TOXIC/FLAM/MABLE COMBUSTION RESIDUE/VAPOR. DO NOT CUT/GRIND/DRILL/WELD OR REUSE CONTAINER UNLESS ADEQUATE (ING 22)
Ingredient Sequence Number: 21
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: ING 21: PRECAUTIONS AGAINST THESE HAZARDS ARE TAKEN.
Ingredient Sequence Number: 22
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: HYGIENE PRACTICES: UPPWIND OF VAPOR OR MIST RELEASE, SPILL OR LEAK.
Ingredient Sequence Number: 23

NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE
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Physical/Chemical Characteristics
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Appearance and Odor: CLEAR LIQUID W/STRONG AROMATIC HYDROCARBON ODOR. MAY BE DYED CHARACTERISTIC (SUPDAT)
Boiling Point: 85.0F, 29.4C
Vapor Pressure (MM Hg/70 F): SUPP DATA
Vapor Density (Air=1): 3.0-4.0
Specific Gravity: 0.76
Evaporation Rate and Ref: 10-11(BUTYL ACETATE=1)
Solubility in Water: SLIGHT
Percent Volatiles by Volume: 100
==========
Fire and Explosion Hazard Data
==========
Flash Point: -40F,-40C
Flash Point Method: TCC
Lower Explosive Limit: 1.4%
Upper Explosive Limit: 7.4%
Extinguishing Media: ANY APPROVED EXTINGUISHING AGENT FOR CLASS B FIRES/DRY CHEM/FOAM/CO*2 OR HALON. H*2O IS NOT ORDINARILY EFFECTIVE HOWEVER, H*2O FOG(SUPP DATA)
Special Fire Fighting Proc: NIOSH/MSHA APPRVD SCBA & FULL PROTECTION EQUIPMENT (FPN). AVOID INHALATION OF VAPOR. H*2O SHOULD BE USED TO KEEP EXPOSURE CONTROL COOL. APPROACH FROM UPWIND IF POSSIBLE.
Unusual Fire and Explosive Hazards: CLASS 1A FLAMMABLE LIQUID. KEEP AWAY FROM HEAT/SOURCES OF IGNITION/OXIDIZERS. BURN MAY CAUSE EMISSION OF TOXIC PRODUCTION OF COMBUSTION.
EMPTY PRODUCT CONTROL/VESSELS MAY CONTAIN (SUPP DATA)
==========
Reactivity Data
==========
Stability: YES
Conditions to Avoid (Stability): AVOID HANDLING OR STORING NEAR HEAT, SPARKS OR OPEN FLAME.
Materials to Avoid: OXIDIZING AGENTS. COMBUSTION OF NITRIC AND SULFURIC ACIDS.
Hazardous Decomp. Products: CONTACT W/NITRIC & SULFURIC ACIDS WILL FORM NITROCRESOLS THAT CAN DECOMPOSE VIOLENTLY.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT.
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Health Hazard Data
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LD50-LC50 Mixture: LD50:ORAL (RBT)5 ML/KG

Route of Entry - Inhalation: YES
Route of Entry - Skin: NO
Route of Entry - Ingestion: YES
Health Haz. Acute And Chronic: ACUTE/CHRONIC: HARMFUL/FATAL IF SWALLOW/ ASPIRATED. LONG TERM EXPOS TO VAP HAS CAUSED CANCER IN SOME LAB ANIMALS. INGEST MAY CAUSE GI DISTURB. ASPIR INTO LUNGS MAY CAUSE PNEUMONIA PROLONGED CONTACT W/SKIN MAY RESULT IN DEFAT/RED/ITCH/INFLAM/CRACK & POSS SECONDARY INFECTION.
HAS LOW ORDER OF ACUTE ORAL TOXICITY IF (EFFECTS OF OVEREXPOSURE)
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: YES
Explanation Carcinogenicity: GASOLINE - IARC 2B; BENZENE, A CONSTITUENT OF GASOLINE: OSHA REGULATED, GROUP 1 (IARC, NTP).
Signs/Symptoms of Overexposure: HEALTH HAZARD: INGESTED, BUT MINIMUM AMOUNT ASPIR DURING SUCH INGEST MAY CAUSE DEATH. HIGH PRESS SKIN INJECTIONS ARE SERIOUS MEDICAL EMERGENCY REPEATED/PROLONGED EXPOSURE TO VAPOR CONTAIN HIGH CONCENTRATION OF BENZENE MAY CAUSE ANEMIA &
OTHER BLOOD DISEASES, INCLUDING LEUKEMIA. INHALATION TO 100PPM MAY CAUSE SLIGHT DROWSINESS/HEADACHE. 100-200PPM MAY CAUSE FATIGUE/NAUSEA/ITCH & (ING 11)
Medical Conditions Aggravated By Exposure: OPEN WOUNDS, SKIN DISORDERS, CHRONIC RESPIRATORY DISEASE OR PRE-EXISTING CENTRAL NERVOUS SYSTEM DISEASE.
Emergency/First Aid Proc: INHALATION: REMOVE TO FRESH AIR, PROVIDE O*2 THERAPY &/OR RESUSCITATION AS INDICATED. SKIN: REMOVE CONTAMINATED CLOTHING AND FLUSH WITH SOAP AND WATER. EYE: FLUSH WITH WATER FOR AT LEAST 15 MINUTES. INGEST: RINSE MOUTH WITH WATER. KEEP CALM AND WARM. DO NOT INDUCE VOMIT! ASPIRATION OF MATERIAL INTO LUNGS MAY CAUSE CHEMICAL PNEUMONIA. CALL PHYSICIAN IMMEDIATELY

Precautions for Safe Handling and Use

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Steps If Material Released/Spilled: CONTAIN ALL SPILLS. ABSORB ALL FREE LIQUID. REMOVE ALL IGNITION SOURCES/SAFELY STOP FLOW OF SPILL. PREVENT FROM ENTER ALL BODIES OF H*2O. COMPLY WITH ALL APPLICABLE LAWS/REGS. ABSORBENT MATERIAL/PADS/SAND/EARTH MAY BE USED. CONTAMINATED H*2O/SOIL MAY BE HAZARD TO ANIMAL/ (ING 14)
Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.
Waste Disposal Method: DISPOSE OF PRODUCT/CONTAMINATED MATERIAL AS EPA "IGNITABLE HAZARDOUS WASTE". USE ONLY APPROVED TREATMENT TRANSPORTERS & DISPOSAL SITES IN COMPLIANCE W/ALL APPLICABLE FEDERAL/STATE/LOCAL REGULATIONS MAINTAIN SURVEILLANCE OF ABSORBED MATERIAL UNTIL FINAL DISPOSAL TO OBSERVE FOR EMISSION OF VOLATILE, (ING 17)
Precautions-Handling/Storing: KEEP AWAY FROM HEAT/SPARKS/OPEN FLAME. AVOID BREATHING VAPOR/MIST. AVOID SKIN/EYE CONTACT. KEEP CONTAINER CLOSED & PLAINLY LABELED.
TRANSFER LINES MUST BE (ING 17)
Other Precautions: USE ONLY AS MOTOR FUEL. HANDLE/TRANSPORT/STORE IN ACCORDANCE W/APPLICABLE LAWS/REGULAITONS. ELECTRICAL EQUIPMENT SHOULD BE APPROVED FOR

CLASSIFIED AREA. REMOVE SOILED CLTHG/LAUNDER BEFORE RE-USE. DISCARD OIL SOAKED SHOES. WEAR FULL
LENGTH CLOTHING/LAUNDER ON (ING 18)

Control Measures

Respiratory Protection: USE NIOSH/MSHA APPROVED SCBA IN CONFINED SPACES OR WHEN EXPOSED TO HEAVY MIST.
Ventilation: LOCAL EXHAUST: GENERALLY NOT REQUIRED. MECHANICAL (GENERAL): EXPLOSION PROOF(APPROVED FOR CLASSIFIED AREA).
Protective Gloves: IMERVIOUS GLOVES.
Eye Protection: CHEMICAL WORKERS GOGGLES (FP N).
Other Protective Equipment: IMPERVIOUS CLOTHING, EYEWASH/BATH.
Work Hygienic Practices: WASH SKIN THOROUGHLY W/SOAP/H*2O BEFORE EAT/DRINK/SMOKING. VENTILATION MAY BE USED TO CONTROL/REDUCE AIRBORNE CONCENTRATIONS STAND (ING 23)
Suppl. Safety & Health Data: VP: 275-475@68F. APPEAR/ODOR: COLOR FOR IDENTIFICATION (CLEAR RED/BRONZE/YELLOW ARE TYPICAL). EXTINGUISHING MEDIA: MAY BE USED BY EXPERIENCED FIRE FIGHTER FOR INTENSITY CONTROL/TO COOL EXPOSED AREAS.
EXPLOSION HAZARD: EXPLOSIVE VAPOR DO NOT PRESSURIZE/CUT/HEAT/WELD/EXPOSE SUCH CONTROL OR VESSELS TO SOURCES OF IGNITION. VAPOR CAN READILY FORM EXPLOSIVE MIXTURE(ING 9)

Transportation Data

Trans Data Review Date: 92072
DOT PSN Code: GTN
DOT Proper Shipping Name: GASOLINE
DOT Class: 3
DOT ID Number: UN1203
DOT Pack Group: II
DOT Label: FLAMMABLE LIQUID

Label Data

Label Required: YES
Label Status: G
Common Name: REGULAR UNLEADED GASOLINE
Special Hazard Precautions: ACUTE/CHRONIC:HARMFUL/FATAL IF SWALLOW/ ASPIRATED, LONG TERM EXPOSURE TO VAPOR HAS CAUSED CANCER IN SOME LAB ANIMALS. INGESTION MAY CAUSE GI DISTURBANCE. ASPIRATE INTO LUNGS MAY CAUSE PNEUMONIA PROLONG CONTACT W/SKIN MAY RESULT IN DEFAT/RED/ITCH/INFLAM/CRACK & POSSIBLY SECONDARY INFECTION.
HAS LOW ORDER OF ACUTE ORAL TOXICITY IF (EFFECTS OF OVEREXPOSURE) HEALTH HAZARD: INGESTED, BUT MINIMUM AMOUNT ASPIRATED DURING SUCH INGEST MAY CAUSE DEATH. HIGH PRESS SKIN INJECTIONS ARE SERIOUS MEDICAL EMERGENCOES REPEATED/PROLONGED EXPOSURE TO VAPOR CONTAINING HIGH CONCENTRATION OF BENZENE MAY CAUSE ANEMIA & OTHER BLOOD DISEASES, INCLUDING LEUKEMIA.

INHALATION TO 100PPM MAY CAUSE SLIGHT DROWSINESS/HEADACHE. 100-200PPM MAY CAUSE FATIGUE/NAUSEA/ ITCH & (ING 11)

Item Name: **DIESEL FUEL**
Company's Name: AMOCO INTERNATIONAL OILCO
Company's Street: 200 E RANDOLPH DR
Company's P. O. Box: 5910-A
Company's City: CHICAGO
Company's State: IL
Company's Country: US
Company's Zip Code: 60680
Company's Emergency Ph #: 800-447-8735
Company's Info Ph #: 312-856-3907
Distributor/Vendor # 1: AMOCO INTERNATIONAL OILCO
Status: SE
Date MSDS Prepared: 25JUL89
Safety Data Review Date: 07MAR91
Supply Item Manager: KY
MSDS Preparer's Name: R. G. FARMER
MSDS Serial Number: BGWFD
Specification Number: VV-F-800
Spec Type, Grade, Class: DF-2
Hazard Characteristic Code: F4

Ingredients/Identity Information

Proprietary: NO
Ingredient: ALIPHATIC PETROLEUM DISTILLATES
Ingredient Sequence Number: 01
NIOSH (RTECS) Number: 1003049AP
CAS Number: 68476-30-2
OSHA PEL: NOT ESTABLISHED
ACGIH TLV: NOT ESTABLISHED
Other Recommended Limit: NONE SPECIFIED

Physical/Chemical Characteristics

Appearance and Odor: CLEAR, BRIGHT LIQUID
Boiling Point: 340F, 171C
Specific Gravity: 0.88
Decomposition Temperature: UNKNOWN
Solubility in Water: NEGLIGIBLE
Viscosity: 1.8 CS @100F
Corrosion Rate (IPY): UNKNOWN

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Fire and Explosion Hazard Data
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Flash Point: 120F, 49C
Flash Point Method: TCC
Lower Explosive Limit: 0.6
Upper Explosive Limit: 7.5
Extinguishing Media: USE WATER FOG, CARBON DIOXIDE, FOAM OR DRY CHEMICAL. (EXTINGUISHINGING AGENTS APPROVED FOR CLASS B HAZARDS)
Special Fire Fighting Proc: FIRE FIGHTERS SHOULD USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT WHEN FIGHTING CHEMICAL FIRE. USE WATER SPRAY TO COOL NEARBY CONTAINERS EXPOSED TO FIRE.
Unusual Fire and Explosive Hazards: FIRE OR EXCESSIVE HEAT MAY CAUSE PRODUCTION OF HAZARDOUS DECOMPOSITION PRODUCTS.
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Reactivity Data
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Stability: YES
Conditions to Avoid (Stability): HIGH TEMPERATURES, SPARKS, AND OPEN FLAMES
Materials to Avoid: STRONG OXIDIZING AGENTS
Hazardous Decomp. Products: BY FIRE: CARBON MONOXIDE, CARBON DIOXIDE
Hazardous Poly Occur: NO
Conditions to Avoid (Poly): NOT APPLICABLE
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Health Hazard Data
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LD50-LC50 Mixture: LD50 (ORAL RAT) IS EXPECTED > 5G/KG
Route of Entry - Inhalation: YES
Route of Entry - Skin: YES
Route of Entry - Ingestion: YES
Health Hazards Acute and Chronic: EYE: IRRITATION. SKIN: MILDLY IRRITATING. RESPIRATORY SYSTEM IRRITATION AND LIGHT HEADEDNESS. MAY CAUSE NAUSEA, HEADACHE, DROWSINESS, VOMITING. INGESTION: SOLVENT ASPIRATION INTO LUNGS AS A RESULT OF VOMITING MAY CAUSE LUNG AND DIGESTIVE SYSTEM DAMAGE
Carcinogenicity - NTP: NO
Carcinogenicity - IARC: NO
Carcinogenicity - OSHA: NO
Explanation Carcinogenicity: NONE OF THE COMPOUNDS IN THIS PRODUCT IS LISTED BY IARC, NTP, OR OSHA AS A CARCINOGEN. (DIESEL EXHAUST IS POTENTIAL)
Signs/Symptoms of Overexposure: VAPORS IN HIGH CONCENTRATION ARE ANESTHETIC. OVEREXPOSURE MAY RESULT IN FATIGUE, WEAKNESS, CONFUSION EUPHORIA, DIZZINESS, HEADACHE, DILATED PUPILS, LACRIMATION, NERVOUSNESS, MUSCLE FATIGUE, INSOMNIA, PARESTHESIA, DERMATITIS, AND PHOTOPHOBIA. CAN CAUSE TEARING, REDNESS OF EYES AND BLURRED VISION. IRRITATION OF SKIN.
Med Cond Aggravated By Exp: PERSONS WITH A HISTORY OF AILMENTS OR WITH A PRE-EXISTING DISEASE INVOLVING THE EYES, SKIN, RESPIRATORY TRACT OR NERVOUS SYSTEM MAY BE AT INCREASED RISK FROM EXPOSURE. DRYING/CRACKING OF SKIN.
Emergency/First Aid Proc: EYES: FLUSH WITH RUNNING WATER FOR 15 MINUTES

WHILE HOLDING EYELID. GET MEDICAL ATTENTION IMMEDIATELY. SKIN: WASH WITH REMOVE TO FRESH AIR. GIVE MOUTH-TO-MOUTH RESUSCITATION IF NOT BREATHING. GET MEDICAL ATTENTION. INGESTION: DO NOT INDUCE VOMITING. GIVE NOTHING BY MOUTH IF UNCONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.

Precautions for Safe Handling and Use

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Steps If Material Released/Spill: REMOVE ALL SOURCES OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT. USE NON-SPARKING TOOLS.
Neutralizing Agent: NOT APPLICABLE
Waste Disposal Method: WASTE MATERIAL MAY BE A HAZARDOUS WASTE (CODE D001) WHICH MUST BE DISPOSED OF ACCORDINGLY. DO NOT INCINERATE CLOSED CONTAINER. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.
Precautions-Handling/Storing: CONTENTS ARE FLAMMABLE. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. DURING USE AND UNTIL ALL VAPORS ARE GONE: KEEP AREA VENTILATED-DO NOT SMOKE.
Other Precautions: AVOID BREATHING OF VAPORS. LABORATORY TESTS ON ANIMALS HAVE SHOWN THAT EXPOSURE CAN CAUSE SKIN TUMORS. ALWAYS PROMPTLY WASH OFF ANY EXPOSED SKIN.

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Control Measures

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Respiratory Protection: WEAR A NIOSH/MSHA APPROVED RESPIRATOR IF VENTILATION DOES NOT MAINTAIN INHALATION EXPOSURES BELOW PEL/TLV. WEAR SELF-CONTAINED BREATHING APPARATUS IF REQUIRED FOR HIGH LEVELS OF CONTAMINATES.
Ventilation: LOCAL EXHAUST PREFERABLE. GENERAL EXHAUST ACCEPTABLE IF THE EXPOSURE IS MAINTAINED BELOW APPLICABLE EXPOSURE LIMITS.
Protective Gloves: NEOPRENE OR NATURAL RUBBER GLOVES
Eye Protection: PAINT GOGGLES/SAFETY GLASSES AS REQUIRED
Other Protective Equipment: INDUSTRIAL-TYPE WORK CLOTHING, HAT AND APRON AS REQUIRED. AN EYE WASH AND DRENCH SHOWER FACILITY SHOULD BE AVAILABLE.
Work Hygienic Practices: USE WITH ADEQUATE VENTILATION. AVOID BREATHING VAPOR/SPRAY MIST. AVOID CONTACT WITH SKIN/EYES. WASH HANDS/SKIN AFTER USE
Suppl. Safety & Health Data: KEEP CONTAINER CLOSED WHEN NOT IN USE. TRANSFER ONLY TO APPROVED CONTAINERS WITH COMPLETE AND APPROPRIATE LABELING. DO NOT TAKE INTERNALLY.

Transportation Data

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Trans Data Review Date: 91066
DOT PSN Code: LKZ
DOT Proper Shipping Name: PETROLEUM DISTILLATES, N.O.S. OR PETROLEUM PRODUCTS, N.O.S.
DOT Class: 3
DOT ID Number: UN1268
DOT Pack Group: III
DOT Label: FLAMMABLE LIQUID
AFI Prop. Shipping Name: PETROLEUM DISTILLATES, N.O.S.

N.O.S. Shipping Name: CONTAINS PETROLEUM DISTILLATE.
Additional Trans Data: MSDS GIVES FLASH POINT RANGE 120F-180F, BOILING POINT RANGE 340F-675F.

Label Data

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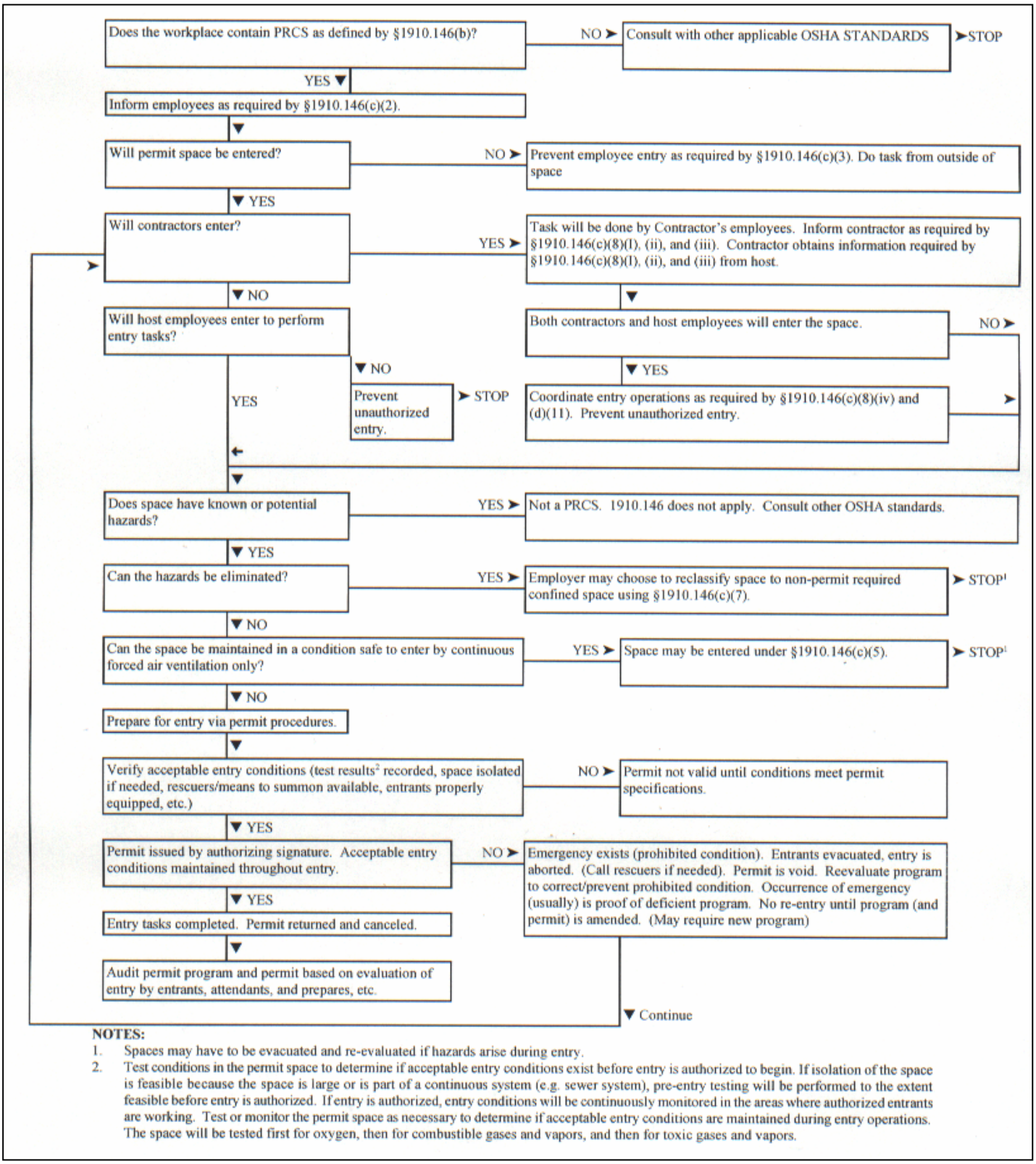
Label Required: YES
Technical Review Date: 07MAR91
Label Status: F
Common Name: AMOFUEL NO. 2 DIESEL
Chronic Hazard: NO
Signal Word: WARNING!
Acute Health Hazard-Slight: X
Contact Hazard-Slight: X
Fire Hazard-Moderate: X
Reactivity Hazard-None: X
Special Hazard Precautions: EYE: IRRITATION. SKIN: MILDLY IRRITATING. RESPIRATORY SYSTEM IRRITATION AND LIGHT HEADEDNESS. MAY CAUSE NAUSEA, HEADACHE, DROWSINESS, VOMITING. INGESTION: SOLVENT ASPIRATION INTO LUNGS AS A RESULT OF VOMITING MAY CAUSE LUNG AND DIGESTIVE SYSTEM DAMAGE REMOVE ALL SOURCES OF IGNITION. VENTILATE AND REMOVE WITH INERT ABSORBENT. USE NON-SPARKING TOOLS. CONTENTS ARE FLAMMABLE. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. DURING USE AND UNTIL ALL VAPORS ARE GONE: KEEP AREA VENTILATED-DO NOT SMOKE.

ATTACHMENT #3
PRCS Decision Flow Chart

PRCS Decision Flow Chart



NOTES:

1. Spaces may have to be evacuated and re-evaluated if hazards arise during entry.
2. Test conditions in the permit space to determine if acceptable entry conditions exist before entry is authorized to begin. If isolation of the space is feasible because the space is large or is part of a continuous system (e.g. sewer system), pre-entry testing will be performed to the extent feasible before entry is authorized. If entry is authorized, entry conditions will be continuously monitored in the areas where authorized entrants are working. Test or monitor the permit space as necessary to determine if acceptable entry conditions are maintained during entry operations. The space will be tested first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors.

ATTACHMENT #4

SPILL RESPONSE

Spills & Site Contingencies

The purpose of this Emergency Response and Contingency Plan is to provide an organized group to take fast, efficient action in any emergency situation. The objectives are as follows:

1. Safeguard project personnel and property;
2. Protect general public and neighboring areas; and
3. Resume normal operations as soon as possible.

In the event of a fire or sudden release of contaminants, OSC personnel will quickly evacuate the work area. In the event of an injury or if OSC observes an emergency unrelated to the field work the procedures identified in this Emergency Response and Contingency Plan will be followed.

The SHSEO will identify and arrange for emergency services. The location, telephone number, and transportation capabilities of the nearest emergency medical facilities will be posted by in the project job trailer and employee break area project. For particularly hazardous operations, on-site medical assistance should be considered or the nearest medical facility alerted.

In the event of any emergency associated with the project, OSC will, without delay, alert the client representative and institute whatever measures that might be necessary to prevent any repetition of the conditions or actions leading to, or resulting in, the emergency.

In the event of an accident resulting in a spill on public roadways or travel ways, First Call shall be made to SHSE to request emergency services cleanup. OSC will be liable for all costs associated with the cleanup of spills. OSC will coordinate and assist response cleanup as necessary.

In the event of an injury or illness among the site personnel, the on-site, certified first aid practitioner (SHSEO) will take control. The injured or ill person will be transferred to the nearest medical facility.

When an evacuation is necessary, all field team members will go to the reassembly point for the project. Reassembly points for contractor personnel will be identified by the SHSEO in tool-box safety meetings and reviewed with workers daily as part of the STAC process.

For emergency situations, oral or hand safety signals must be established by the SHSEO. The signals will be developed, reviewed, and made available to personnel for all phases of operation before going on-site. This will ensure quick communications for use during adverse or emergency situations. Safety signals to be used in support of this project are defined in Section 11.10.

If an emergency develops at the site, the discoverer will take the following course of action:

1. Call 911for proper emergency service response (fire, police, ambulance, etc).
2. Notify other affected personnel at the site.
3. Contact the client representative to inform them of the incident as soon as possible.
4. Prepare a summary report of the incident for the CLIENT representative.

Emergency Equipment Required On-Site

OSC will provide appropriate emergency equipment, including; environmental field spill response kit (see attached Spill Response Guidance Summary Site Available Equipment) industrial-type first aid kit that is approved by its consulting physician for injuries and illnesses which may occur on site. A 20-pound ABC-rated fire extinguisher shall be maintained in each work area of the site. Emergency retrieval equipment will be provided for any confined space entry.

SPILL RESPONSE SUMMARY

(Confining and Containing Releases)

Spill Response Summary:

1. *Do not* place yourself in a hazardous situation in order to confine or contain a release.

2. Although considered as the initial cleanup phase of an incident, confining and containing releases are often dangerous operations and should be performed cautiously, as if they were emergency response actions.

3. Unless the identity of the substance is known, treat any substance as a hazardous material until the identity of the substance becomes known.

4. Wear appropriate body and respiratory protection when working near released petroleum or hazardous materials; Respirators, Poly Coated Tyvek Disposable Suits, Rubber Boots, Gloves and appropriate eye/face protection (goggles, glasses, face shield) is onsite and located in the storage trailer.

5. All initial response activities shall be coordinated through site safety (Fire Dept, Haz Team, Ambulance and Private Contractors) as necessary.

6. **Your first priority is to confine free product in order to minimize the area of impact utilizing site available absorbent boom socks, pads and poly berms. Your second priority is to contain the leak, if applicable, at its source as well as stop the leak …"turn it off or plug it up." Confinement and containment actions, however, will often take place simultaneously.**

7. Keep in mind that during confinement/containment operations, site conditions may deteriorate -- thus creating new hazards or causing the recurrence of hazards (e.g., fire, intensified leak, etc.) that had been under control -- which, in turn, would trigger the need for emergency response actions.

8. Although quick actions are often needed in order to limit the spread of contaminants, always attempt to evaluate response options and to choose the one(s) that will likely be the most effective, safe, and feasible.

On Site Spill Response Equipment:

2 – 95 gallon DOT over pack spill kit drums

Contents per drum: (110) - 15" x 19" Pads (12) - 3" x 4' SOCs (8) - 3" x 12' SOCs (8) - 17" x 19" Pillows (1) - Pair Nitrile Gloves (10) - Disposal Bags, 10 Goggles, 10 Disposable coveralls and boots.

APPENDIX E

Sample CAMP

SAMPLE
COMMUNITY AIR MONITORING PLAN

TRACT I SITE SOIL MANAGEMENT PLAN
NIAGARA FALLS, NIAGARA COUNTY, NEW YORK
NYSDEC SITE ID NUMBER: C932157

SUBMITTED TO:

THE NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

Prepared for:

BRIGHTFIELDS

BRIGHTFIELDS, Inc.
333 Ganson Street
Buffalo, New York 14203

Prepared by

amec

AMEC Environment & Infrastructure, Inc.
800 North Bell Avenue, Suite 200
Carnegie, PA 15106

AMEC Project 3410130921

December 12, 2012

SAMPLE
COMMUNITY AIR MONITORING PLAN

TRACT I SITE SOIL MANAGEMENT PLAN
NIAGARA FALLS, NIAGARA COUNTY, NEW YORK
NYSDEC SITE ID NUMBERS: C932157 AND 932136

Prepared for:
BRIGHTFIELDS, Inc.
333 Ganson Street
Buffalo, New York 14203

Prepared by:

Robert E. Crowley
Senior Principal Scientist
(AMEC Environment and Infrastructure Inc.)

AMEC Project No. 3410130921

DECEMBER 12, 2014

TABLE OF CONTENTS

FIGURES

LIST OF ACRONYMS

Amec	AMEC Environment and Infrastructure
Brightfields	Brightfields, Inc.
CAMP	Community Air Monitoring Plan
COPCs	Constituents of Potential Concern
HASP	Health and Safety Plan
JHAs	Job Hazard Analyses
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PM-10	particulate matter smaller than 10 microns
PAHs	Polynuclear Aromatic Hydrocarbons
Site	Tract I and Tract II Sites, Niagara Falls, NY
$\mu g/m^3$	micrograms per cubic meter
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

AMEC Environment and Infrastructure (Amec) has prepared this Sample Community Air Monitoring Plan (CAMP) on behalf of Brightfields, Inc. (Brightfields) for the Tract I Site Soil Management Plan (SMP). The Tract I Site is located at 3123 Highland Avenue, north of the Tract II site in the City of Niagara Falls, New York (referred to herein as the "Site"). The New York State Department of Environmental Conservation (NYSDEC) registry number for Tract I is C932157. Figure 1 shows the location of the Site on a United States Geological Survey 7.5-minute topographic map and Figure 2 shows a plan view of the Site layout.

This CAMP outlines the air quality monitoring procedures that will be implemented during future excavation work in support of Site redevelopment. This CAMP fulfills the general requirements set forth by the New York State Department of Health (NYSDOH) "Generic Community Air Monitoring Plan" and the "Fugitive Dust and Particulate Monitoring" procedures contained in the NYSDEC document "DER-10, Technical Guidance for Site Investigation and Remediation", dated May 2010.

1.1 Purpose

The purpose of this CAMP is to provide a measure of protection for the downwind community (i.e., off-Site receptors and on-Site workers not directly involved with the subject work activities) from potential airborne contaminant releases resulting from remedial work activities to be conducted at the Site. Additionally, the CAMP provides data to confirm that remedial work activities have not spread contamination offsite via airborne emissions.

According to the NYSDOH guidance document, the CAMP requires real-time air monitoring for volatile organic compounds (VOCs), if present, and airborne particulates (i.e., dust) at the downwind perimeter of each designated work area during certain activities at contaminated Sites, and establishes action levels that trigger emission control actions. The action levels specified herein require increased monitoring, corrective measures to abate emissions, and/or shutdown of work activities. This CAMP is not intended for use in establishing action levels for worker protection; for such information, refer to the Sample Health and Safety Plan (HASP) included as an appendix in the SMP.

1.2 Hazard Analysis

As identified in previous investigations, the primary constituents of potential concern (COPCs) at the Site include metals (mainly lead) and polynuclear aromatic hydrocarbons (PAHs).

During future (post-remedial) activities that disturb Site media impacted with the above mentioned COPCs, the primary transport mechanism for these COPCs is dispersion of particulates (dust) in air. As such, this CAMP will address real-time monitoring for these COPCs via downwind perimeter particulate monitoring and through visual observations.

Since VOCs have not been identified at the Site at levels of concern, air monitoring for VOCs will not be conducted and are not included as part of this CAMP. Should these compounds be identified within the work area, the CAMP will be revised to address them.

2.0 SOIL MANAGEMENT PLAN SCOPE OF WORK

In general, the future scope of work for the Site may include the excavation or disturbance of soil containing lead and PAHs that meet the restricted Commercial Soil Cleanup Objectives published in 6 NYCRR Pare 375. These activities may be subject to the requirement for a CAMP, and should be evaluated as part of future project planning.

During execution of the above mentioned scope of work, reliance on this CAMP will not preclude reasonable fugitive dust suppression measures to maintain dust at a minimum in and around the work areas. The following dust suppression techniques should be considered during remedial activities:

- Applying water to roads and areas of the Site used by vehicles,
- Restricting vehicle speeds to 10 mph or less,
- Wetting building debris/materials to be removed,
- Spraying water on buildings during demolition,
- Wetting equipment and excavation faces,
- Spraying water on buckets during excavation and dumping,
- Hauling materials in properly covered containers,
- Covering excavated areas and material after excavation activities cease, and
- Reducing the excavation size and/or number of excavations.

During the use of water to suppress dust, care must be taken not to use excess water, which can create unacceptably wet conditions. The use of atomizing sprays will prevent overly wet conditions, will conserve water, and will offer and effective means of suppressing fugitive dust. Additional details regarding the specific dust suppression measures to be employed during Site remediation activities are identified in the above mentioned Interim Remedial Measures Work Plan and Remedial Design Work Plan.

3.0 AIR QUALITY MONITORING

Protection of air quality for the downwind community is the objective of the air quality monitoring program. This will be confirmed by continuously monitoring the airborne particulate concentrations at various locations at the perimeter of the Site during demolition and remediation activities. The particulate concentration information obtained will be used by project personnel to ensure that dust levels are maintained below acceptable threshold levels, as defined below. Air quality monitoring will not be required during the grading or placement of clean fill.

Based upon the primary COPCs identified at the Site, air quality monitoring will consist of real-time air monitoring for particulates. All air monitoring will be conducted from four to five feet above the ground surface in the breathing zone. A description of the air monitoring activities to be performed is presented below.

Real-Time Particulate Air Quality Monitoring

Real-time air monitoring for particulates (i.e., dust) will be performed continuously during excavation of soils that may contain constituents of concern. Monitoring will include both air testing equipment and through visual observations. Real-time particulate monitoring equipment shall be capable of measuring particulate matter smaller than 10 microns (PM-10), capable of averaging over periods of 15 minutes or less for evaluation against the action level, and include an alarm system to signify an exceedance of the action level.

Monitoring will be conducted at one upwind location to establish background concentrations and at select downwind locations around the perimeter of the Site and/or work area. The locations of the downwind particulate monitoring stations will be immediately downwind of the work area or at the downwind perimeter of the Site. In all, up to six particulate monitoring locations will be utilized. The monitoring equipment will be equipped with an audible alarm that will be activated in the event of an alert/action level exceedance.

During excavation activities, the following alert/action levels will be used for the perimeter dust monitoring:

- If the average downwind PM-10 particulate level is 100 $\mu g/m^3$ greater than background (upwind level) over a 15-minute period, or if airborne dust is observed leaving the work area,

then dust suppression techniques will be employed. Work will continue with dust suppression techniques as long as the downwind PM-10 particulate levels do not exceed 150 µg/m^3 above the background level, and provided that no visible dust is migrating from the work area. (Note that dust suppression techniques will also be applied in other circumstances as described in the HASP and/or the remedial design plans).

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m^3 above the background level, work activities will be halted in the area of concern until corrective measures are identified and implemented to reduce levels to less than 150 µg/m^3 above the background level and to prevent visible dust migration.
- If the action level of 150 µg/m^3 continues to be exceeded, work activities must be halted and the NYSDEC must be notified. The notification must include a description of the measures implemented to prevent further exceedances of the action level.

All real-time particulate readings will be recorded and will be available for review by NYSDEC, NYSDOH and County Heath personnel. In addition, at the end of each work day, the particulate and weather data (discussed below) recorded by the monitoring system will be retrieved and stored. This data will be posted and reviewable at the jobsite.

Weather Monitoring Station

In addition to particulate monitoring, one weather station will be located onsite during excavation activities. The weather station will measure and transmit meteorological data. Wind direction and speed will be reviewed during each workday to ensure that the particulate monitoring equipment is appropriately located and adjusted as needed. Periodic measurements of wind direction at the Site will also be conducted to distinguish which particulate monitoring stations are downwind.

4.0 PRE-REMEDIATION BASELINE PARTICULATE MONITORING

Prior to excavation activities, monitoring will be conducted to document ambient particulate concentrations in the vicinity of the work site. During the baseline monitoring, it will not be necessary to provide or monitor for real-time alert/action levels. At the end of all baseline monitoring, a results summary will be prepared and will be available for review at the jobsite.

5.0 DATA QUALITY ASSURANCE

5.1 Calibration

Instrumentation and equipment used to generate air quality data will be calibrated and zeroed per the manufacture's recommendations. If an instrument does not properly zero, it will be removed from service and will be replaced with a working one.

5.2 Operation

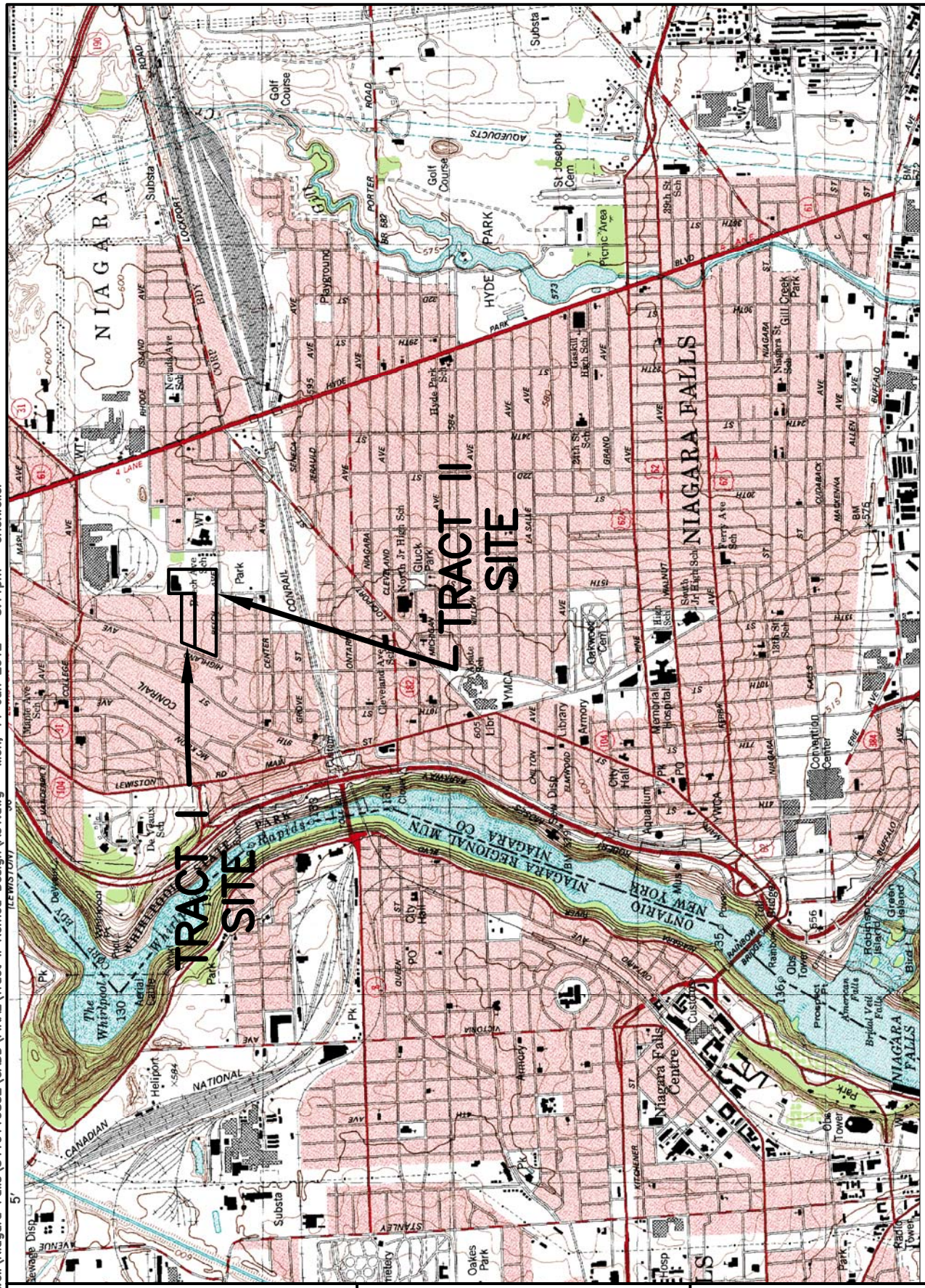
All instruments shall be operated in accordance with the manufacture's specifications by individuals trained in the proper use of the equipment. If an instrument malfunctions during operation, it will be removed from service and exchanged for a properly working one. Manufacture's literature, including the operations manual for each piece of monitoring equipment, will be maintained onsite for reference. All instruments and equipment used in air quality monitoring will be maintained in proper working order and properly stored when not in use.

5.3 Record Keeping

All air monitoring data, monitoring results, wind speed and direction, as well as the locations of monitoring equipment will be recorded electronically or in the daily field log and will be available for review by NYSDEC, NYSDOH, and applicable local agencies. In addition, as discussed previously, daily particulate and weather data will be reviewable by the public at the jobsite.

FIGURES

DRAWN BY: NEL 8-13-2009 APPROVED BY: REC 10-12-2011



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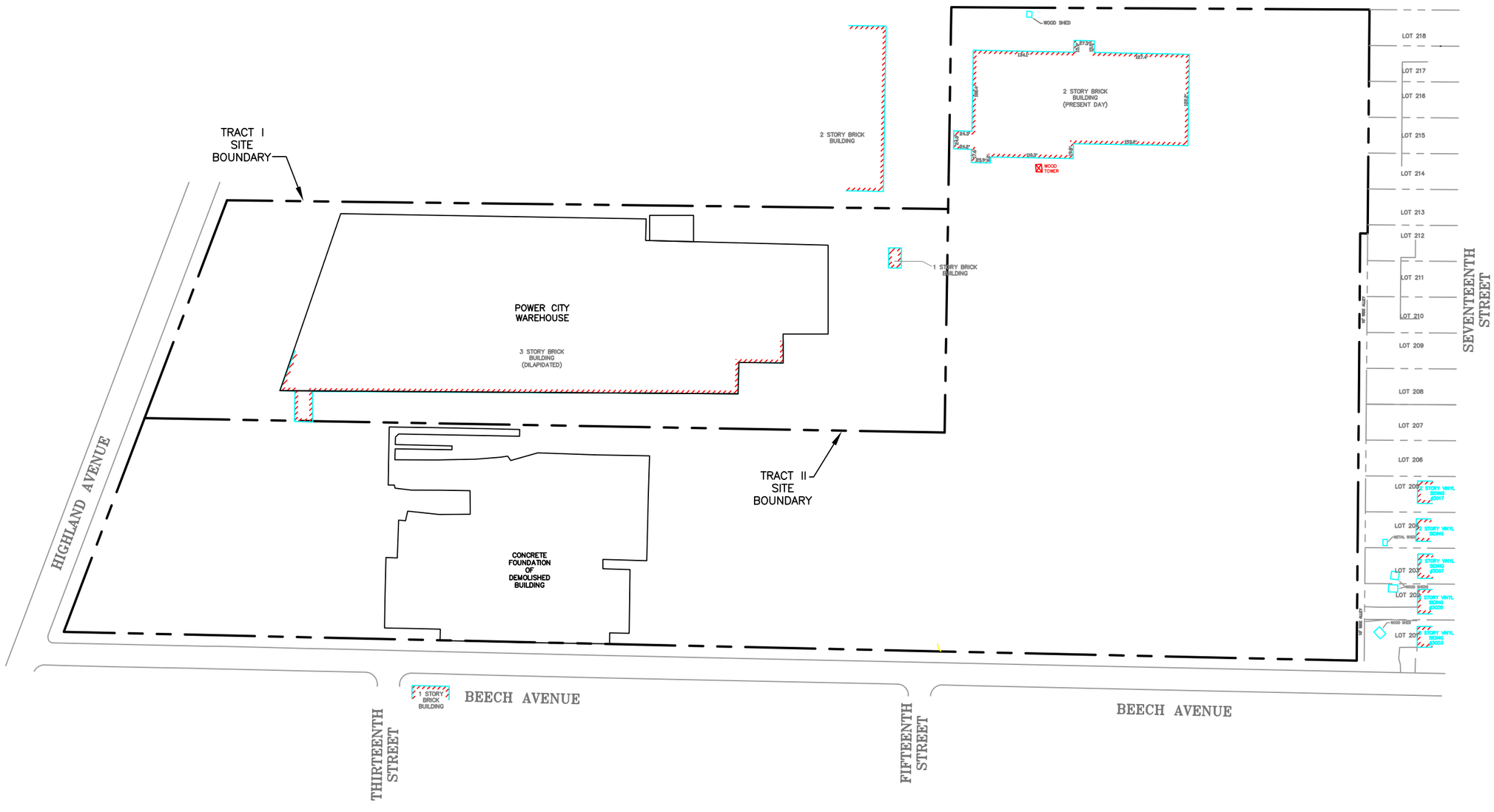
HONEYWELL INTERNATIONAL INC. NIAGARA FALLS, NEW YORK Project No.: 3410110832	amec Environment & Infrastructure 800 North Bell Avenue, Suite 200 Pittsburgh, Pennsylvania 15106	Site Location Map Figure: 1	1

DRAWN BY: NEL 1-4-2011 APPROVED BY: ESW 5-19-2011



150 0 150
SCALE: 1"=150'

HONEYWELL INTERNATIONAL, INC.
NIAGARA FALLS, NEW YORK

Project No.: 3410100775

MACTEC
Engineering & Consulting Inc.
800 North Bell Avenue, Suite 200
Pittsburgh, PA 15106

TRACT I AND TRACT II
SITE PLAN

FIGURE: 2

2

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APPENDIX F

Site Inspection Form

Site Inspection Form

Site Name: _____ Weather: _____

Project Number: _____ Assessment By: _____

Date: _____

Yes	No	N/A	
			A. Site Use
☐	☐	☐	1. Evidence of Residential Use?
☐	☐	☐	2. Day Care or Other Non-Permitted Use Present?
☐	☐	☐	3. Evidence of Excavation?
☐	☐	☐	4. Proper Notification for Excavation Made?
☐	☐	☐	5. CAMP and/or HASP Revised for Excavation
			B. Security
☐	☐	☐	1. Signs of Trespassers/Vandalism?
☐	☐	☐	2. Other
			C. General Site Conditions
☐	☐	☐	1. Vegetation Stress?
☐	☐	☐	2. Mowing Required?
☐	☐	☐	3. Access Road Drivable?
☐	☐	☐	4. Odors?
☐	☐	☐	5. Other
			D. Soil Inspection
☐	☐	☐	1. Exposed Waste?
☐	☐	☐	2. Side Slope Stable?
☐	☐	☐	3. Erosion?
☐	☐	☐	4. Leachate Seeps (Discolored Vegetation)?
☐	☐	☐	5. Bare Spots?
☐	☐	☐	6. Presence of Burrowing Animals?
☐	☐	☐	7. Deep Rooted Vegetation?
☐	☐	☐	8. Cracking?
☐	☐	☐	9. Other
			E. Surface Water
☐	☐	☐	1. Obstruction of Flow Ditches?
☐	☐	☐	2. Erosion of Ditches?
☐	☐	☐	3. Silt & Erosion Control?
☐	☐	☐	4. Culverts in Good Condition?
☐	☐	☐	5. Evidence of Overflow or Uncontrollable Flow?
☐	☐	☐	6. Outfalls in Good Condition?
☐	☐	☐	7. Other

Other Comments:

_____

_____

_____