MALCOLM PIRNIE

APPENDIX

Health and Safety Plan

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Safety*WISE*®

The Krog Corp.

Buffalo Lakeside Commerce Park
Subparcels 1 & 2 —
CertainTeed Site

HEALTH AND SAFETY PLAN

for

Voluntary Cleanup Activities

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BUFFALO LAKESIDE COMMERCE PARK, SUBPARCELS 1 & 2 — CERTAINTEED SITE

HEALTH AND SAFETY PLAN FOR VOLUNTARY CLEANUP ACTIVITIES

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HEALTH AND SAFETY PLAN FOR VOLUNTARY CLEANUP ACTIVITIES

1.0 INTRODUCTION

1.1 General — Purpose and Requirements

The purpose of this health and safety plan (HASP) is to establish minimum standards, practices, and procedures related to personnel protection and safety during voluntary cleanup and construction activities at the Buffalo Lakeside Commerce Park, Subparcels 1 & 2, CertainTeed Site. This plan is based upon the *"Remedial Action Work Plan"* developed for this site in 2002 by Malcolm Pirnie, Inc.

This plan assigns responsibilities for on-site remedial construction personnel; serves as a minimum standard for the remedial contractor – Krog Corp. – and all subcontractors; defines the potential hazards and associated risks that may exist at the site; describes action levels for the use and upgrading of personal protective equipment (PPE); and identifies the proper use of work zones to be delineated during the conduct of potentially hazardous activities at the site. The provisions of this plan are mandatory for all on-site personnel performing related remedial construction operations, monitoring, and maintenance. Visitors to the site will check with the Site Safety Officer (SSO) to learn which sections of this HASP will affect them.

This HASP also will serve as a minimum for subcontracted services at the site. All on-site personnel who engage in project activities must be familiar with this plan and comply with its requirements. All subcontractors must sign-off on the "Plan Acceptance Form" (Appendix F) prior to beginning work on the site. The "Plan Acceptance Form" must be submitted to and maintained by the SSO.

All visitors must be accompanied by authorized personnel while on-site. The SSO will ensure that all visitors have been briefed on site safety and security, and have been provided with temporary identification.

Krog Corp. will stop work whenever a work procedure or a condition at the work site is deemed by the Health and Safety Coordinator, his trained safety representative(s), or the SSO to be unsafe to workers or the community.

1.2 Site History

The CertainTeed Site Project is at the Former Hanna Furnace Site, a vacant industrial property currently owned by the City of Buffalo. The site surrounds the eastern portion of the Union Ship Canal, and encompasses approximately 113 acres, including the Former Railroad Yard. The Former Railroad Yard Area has been designated Subparcels 1 & 2 and occupies approximately 43 acres in the southern portion of the Hanna Furnace Site.

1.3 Parameters of Interest

The environmental investigations found that the constituents of concern in the soils/fill include inorganic analytes and polyaromatic hydrocarbons (PAHs). With the exception of potentially elevated pH, groundwater was not significantly impacted by industrial activities at the site. The results of site investigations have indicated that the constituents of potential concern (COPCs) are:

- Polyaromatic hydrocarbons (PAHs), which were found in soils/fill across Subparcels 1 & 2. PAHs present at the site are almost exclusively limited to byproducts of incomplete combustion and impurities in petroleum products. The presence of PAHs at this site is consistent with its urban location and past use as a railroad yard.
- Metals and cyanide, which were found in soils/fill across Subparcels 1 & 2. The metals present at elevated concentrations relative to "background" concentrations include arsenic, chromium, copper, and zinc. Many of these metals are components of slag and are present in elevated concentrations as a result of slag deposited on the site.
- Elevated pH measured in groundwater collected from wells, borings, and test pits in the western portion of the Subparcels 1 & 2. The cause of the elevated pH may be lime used as a raw material in the pig iron manufacturing process or the material that was used as fill at the turn of the century prior to any construction at the site.

Table 3-1, "Parameters of Interest," identifies concentration ranges for parameters detected during previous field investigations at the site.

1.4 Overview of Cleanup Activities

According to Malcolm Pirnie, in order to eliminate potential exposure risks associated with direct contact with site fill material, the entire Subparcels 1 & 2 area will be covered as part of site redevelopment. The cover system will be placed directly on top of the regraded on-site fill material and will include clean soil for outdoor, vegetated areas; asphalt for roads and parking lots; or concrete for sidewalks, buildings and heavy use areas. According to Malcolm Pirnie's "Remedial Action Work Plan," surface coverage over the entire redeveloped subparcel or portion thereof will be required as a precondition of occupancy.

Work to be performed under this HASP includes the excavation and handling of potentially contaminated soils and groundwater (and their treatment or disposal, if necessary) during site construction activities. The HASP requirements establish protocols for use by on-site construction workers during invasive activities at the site. The Community Air Monitoring Plan establishes specific requirements for air monitoring and procedures to mitigate off-site migration of airborne particulates and vapors during the remediation and redevelopment periods.

Protection of on-site workers and the off-site community, which includes surrounding residents and businesses as well as potential future commercial and public users of the site during the redevelopment period, are addressed through a Soil/Fill Management Plan to be executed by Krog Corp., which includes this HASP. The Soil/Fill Management Plan provides requirements for handling of soils/fill excavated during redevelopment (i.e., for foundation and subsurface utilities) and for placement of the cover system.

2.0 ORGANIZATIONAL STRUCTURE

This chapter of the HASP describes the lines of authority, responsibility and communication as they pertain to health and safety functions at the site. The purpose of this section is to identify the personnel who affect the development and implementation of the HASP and to describe their roles and responsibilities. This section also identifies other contractors and subcontractors involved in work operations and establishes the lines of communications among them for health and safety matters. The organizational structure described is consistent with the requirements of 29 CFR 1910.120(b)(2). This section will be reviewed by the Project Manager and updated as necessary to reflect the current organizational structure at this site.

2.1 Roles and Responsibilities

All personnel on the site must comply with the minimum requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this site are detailed in the following paragraphs.

2.2 Project Team Organization

Table 2-1, "On-site Personnel," describes the responsibilities of on-site personnel associated with this project. Each of these individuals shall have appropriate training in first aid/CPR; safe handling procedures for hazardous chemicals/waste, including the proper selection, fitting, and use of personal protective equipment; and shall be experienced with the types of field operations to be conducted at the site. The names of principal on-site personnel associated with this project are as follows:

Project Manager: Patrick Sheedy, Krog Corp. — 667-1234
Site Superintendent: Andy Metzger, Krog Corp. — 583-2801
General Foreman: Tim Peters, Krog Corp. — 818-6714
Site Safety Officer: Kevin (Felix) Conly, Krog Corp. — 818-6706
Health and Safety Coordinator: SafetyWise, Inc.: William Orsborn, CSP — 481-2525
Reisman CIH Services: Heidi M. Reisman, CIH — 390-8494
Medical Consultant: HealthWorks WNY, 55 Melroy, Lackawanna, NY 14218 — 823-5050

2.3 Site-specific Training

The Health and Safety Coordinator is responsible for developing and conducting a site-specific occupational hazard training program for all personnel that will work at the site. This training will consist of the topics described in Section 4.1.2.

In addition, all personnel involved with surface intrusive work on this site shall submit proof of 24-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and all refresher training, per the requirements of 29 CFR 1910.120, to the Site Safety Officer. The SSO will maintain a file on-site of all training records.

TABLE 2-1
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
On-site Personnel Descriptions

Title	General Description	Responsibilities
Project Manager —		
Site Superintendent — Reports to Project Manager. Has authority to direct all site personnel, site work activities and any response operations required. Assumes total control over site activities. • Prepares the project schedule, and organizes and directs all field work activities performed by Krog Corp. employees or their subcontractors. • Assists in obtaining permission for site access and coordinating work activities with appropriate officials of the regulator branches or other governing agencies. • Ensures that the Work Plan is completed and on schedule. • Coordinates with the SSO for the HASP to ensure that requirements are met and proper documentation has been provided for each daily work activity. • Provides quality assurance data to the engineer or regulatory agency in a timely manner to allow work to proceed without delay.		
General Foreman — Responsible for implementing daily work activities. • Manages field operations. • Executes the Work Plan and schedule. • Assists in the enforcement of safety procedures. • Coordinates with the Site Safety Officer in determining protection level. • Enforces site control. • Coordinates daily work activities with Site Superintendent.		
Health and Safety Coordinator — Prepares the HASP, assists the SSO in the implementation of the HASP, and advises the Site Safety Officer (SSO) on all issues associated with the HASP. • Advises concerning compliance with governing laws, rules and regulations as well as of good safety practice. • Conducts inspections as often as necessary but at least once a week to assure that the SSO is carrying out the HASP. • Reviews and interprets all qualitative and quantitative monitoring results. • Coordinates requirements of the HASP with SSO and project contractors. • Available for consultation by the SSO. • Available to assist the SSO in follow-up training and if changes in site conditions occur.		

Checklist - Consolidate for Document

Title	General Description	Responsibilities

Site Safety Officer (SSO) — Daily implements and enforces the HASP.

- Shall have completed at a minimum the OSHA 10-hour Construction Outreach Program.
- Coordinates HASP activities with the Project Manager and Health and Safety Coordinator.
- Maintains records of daily work activities, monitoring forms and other required documentation in an orderly manor for review upon request.
- Conducts and records health and safety inspections at least once a shift to determine that the HASP and OSHA regulations are being followed, enforces all health and safety rules and regulations, making written recommendations for corrective actions to contractor's and subcontractor's superintendents or foremen.
- Conducts daily health and safety meeting with site personnel to review health and safety issues as they pertain to current work activities.
- Provides an outline of materials to be covered during health and safety meeting.
- Conducts the initial training of on-site workers with respect to the contents of the HASP.
- Provides health and safety orientation training to authorized visitors.
- Oversees air monitoring program.
- Posts all appropriate notices regarding health and safety regulations at locations that afford maximum exposure to all jobsite workers.
- Posts all appropriate instructions and warning signs in regard to all hazardous areas or conditions that cannot be eliminated.
- Determines that operators of specific equipment are qualified by training and/or experience before they are allowed to operate such equipment.
- Ensures that all required personal protective equipment (PPE) is available and accessible prior to beginning any work activities.
- Periodically inspects protective clothing and equipment.
- Ensures that protective clothing and equipment are properly stored and maintained.
- Assures that rescue equipment is adequately maintained and available.
- Controls entry and exit at the Access Control Points and maintains entry log.
- Confirms, from physician's recommendation, that each employee is suitability for work at the site.
- Monitors workers for signs of stress, such as cold exposure, heat stress, and fatigue.
- Establishes emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.
- Notifies, when necessary, State and local public emergency officials.
- Coordinates emergency medical care.
- Establishes site control, decontamination lines and decontamination solutions appropriate for the type of chemical contamination on the site.
- Controls the decontamination of all equipment and personnel from the work area.
- Assures proper disposal of contaminated clothing and materials.
- Advises medical personnel of potential exposures and consequences.
- Notifies emergency response personnel by telephone or radio in the event of an emergency.

Title	General Description	Responsibilities
Health and Safety Technician — The on-site person who serves as assistant to the SSO. • Will serve as the Alternate SSO, performing the duties of the SSO when he has to leave the jobsite. • Shall have completed at a minimum the OSHA 10-hour Construction Outreach Program. • Must be familiar with the operations, maintenance and calibration of monitoring equipment. • Assist in the implementation of the HASP. • Assist with air monitoring in active work areas and community monitoring areas. • Assist with the maintenance of safety equipment and the contamination reduction area. • Performs other duties as assigned by the SSO to assist him with his duties.		
Project Personnel — Includes Krog Corp., their representatives, subcontractors, and Federal, and State, and local Representatives, working or having official business at the Project Site. • Safely completes the on-site tasks required to fulfill the Work Plan. • Complies with Site HASP. • Notifies Site Safety Officer or their Supervisor of suspected unsafe conditions.		
Medical Consultant — The Medical Consultant (MC) is a physician, certified in occupational medicine. The MC: • Will have experience in the occupational health area. • Will manage the medical surveillance requirements of the project. • Will be familiar with potential site hazards of remedial action projects. • Will also be available to provide annual physicals and to provide additional medical evaluations of personnel when necessary.		

3.0 HAZARD EVALUATION

Due to the presence of certain contaminants at the site, the possibility exists that workers will be exposed to hazardous substances during field activities. The principal routes of exposure would be through direct contact with and incidental ingestion of fill/soils, and through the inhalation of contaminated particles or vapors. Other points of exposure may include direct contact with groundwater. In addition, the use of large construction equipment on-site and open excavations will also present conditions for potential physical injury to workers. Furthermore, since work will be performed outdoors, the potential exists for heat/cold stress to affect workers, especially those wearing protective equipment and clothing. Using proper engineering and administrative controls, exposures are not expected to exceed the allowable limits listed in Table 3-2, "Chemical Hazard/Exposure Data Summary." Environmental monitoring will be conducted throughout the field activities to verify this expectation (See Chapter 10). In addition, all workers on the site will have worker training relative to the safe work practices, chemical hazards, work zones and site control, and contingency planning. They will be required to wear personal protective equipment as described in Chapter 8 and follow decontamination procedures outlined in Chapter 9.

3.1 Chemical Hazards

As discussed in Section 1.2 and 1.3, because of previous activities and storage in the Former Railroad Yard Area, polyaromatic hydrocarbons (PAHs), metals and cyanide were found in soils/fill across Subparcels 1 & 2. There also is elevated pH measured in groundwater collected from wells, borings, and test pits in the western portion of the Subparcels 1 & 2.

Previous field investigations have provided significant information concerning the types of contaminants that may be encountered during construction activities. Table 3-1, "Parameters of Interest," identifies concentration ranges for parameters detected during previous field investigations at the site and for which site-specific action levels (SSALs) have been developed to guide cleanup efforts summarized in Section 1.3 of this HASP. The hazards associated with these chemical substances are discussed in Table 3-2 at the end of this section. Table 3-3 is a "Task and Risk Analysis" which identifies the protective measures to be taken to minimize on-site hazards.

3.2 Physical Hazards

Remedial construction activities at the Former Hanna Furnace Site present many potential physical hazards. Table 3-3 identifies many of the physical hazards that are possible on this site and the protective measures to be taken to minimize on-site hazards. Since it is impossible to list all potential sources of injury, it shall be the responsibility of each individual to exercise proper care and caution during all phases of the work.

3.3 Hazard Control

With respect to the anticipated voluntary cleanup activities discussed in Section 1.4, Table 3-3 presents the Risk Analysis for the cleanup activities including the activity, hazards and protective measures to be taken to minimize exposures.

TABLE 3-1
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
Previously-detected Concentrations of Parameters of Interest (POI)

Parameter	Concentration in Groundwater Samples Range (µg/L)	Concentration in Soils/Fill Range (µg/kg)
POLYAROMATIC HYDROCARBONS (PAHs):		
Benzo(a)anthracene	ND	ND-3700
Benzo(a)pyrene	ND	ND-5100
Benzo(b)fluoranthene	ND	ND-6400
Benzo(k)fluoranthene	ND	ND-1900
Chrysene	ND	ND-3800
Dibenz(a,h)anthracene	ND	ND-960
Indeno(1,2,3-cd)pyrene	ND	ND-3700
METALS:		
Arsenic	ND	ND-61.7
Barium	ND-175 — not a POI	ND-327
Cadmium	ND	ND-19.9
Chromium	ND	ND-4700
Lead	ND-5.1 — not a POI	ND-3300
Mercury	ND	ND-0.67
Selenium	ND-114	ND-35.9
Silver	ND-41.2 — not a POI	ND-1170
Cyanide (total)	ND-90 — not a POI	ND-43

Notes:
(1) Constituents are identified as Parameters of Interest in the Voluntary Cleanup site assessment reports for Subparcels 1 & 2 (Reference 20-2).
(2) Concentrations ranges as presented in site assessment reports (Reference 20-2).
(3) ND = Not Detected

TABLE 3-2
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
Chemical Hazard / Exposure Data Summary

Chemical of Concern	Potentially Contaminated Media	Exposure Limit		Routes of Exposure	Exposure Symptoms & Primary Hazards
		PEL or TLV (in air)	IDLH (in air)		
Polyaromatic Hydrocarbons (PAHs)	• Soil/fill — Across the entire site. • Groundwater	Individual limits do not exist		Inhalation, ingestion, contact	CARCINOGEN HANDLE WITH EXTREME CAUTION. PAHs are characterized by an organic odor. Exposures can cause acne-type blemished in areas of the skin exposed to sunlight. Repeated exposures can cause bronchitis and cancer of the lungs, skin, bladder, and kidneys. Exposure may cause allergic skin rash.
Arsenic	Soils/fill across entire site.	0.01 mg/m^3	5 mg/m^3	Inhalation, ingestion, contact	CARCINOGEN – HANDLE WITH EXTREME CAUTION. Metallic arsenic is a silver-gray odorless solid. Exposure may cause nausea, vomiting diarrhea, and pain in the stomach. Repeated exposures cause ulceration of the nasal septum, dermatitis and skin discoloration.
Barium	Soils/fill across entire site, groundwater	0.5 mg/m^3	N/A	Inhalation, ingestion, contact	Barium compounds are odorless white solids. Exposure can cause irritation to the eyes, nose, throat, bronchial tubes and skin. Higher exposures may cause severe stomach pains, slow pulse rate, irregular heart beat, ringing of the ears, dizziness, convulsions, muscle spasms, and death.
Cadmium	Soils/fill across entire site.	0.005 mg/m^3	9 mg/m^3	Inhalation, ingestion	POSSIBLE CARCINOGEN – HANDLE WITH CAUTION. Cadmium is an odorless solid. Contact with dust may cause irritation of the notes and throat. Inhalation of high levels may cause cough, chest pain, sweating, chills, shortness of breath, weakness, and death. Ingestion of dust may cause nausea, vomiting, diarrhea, and abdominal cramps. Repeated exposure may cause loss of sense of smell, ulceration of the nose, kidney damage and anemia.

Chemical of Concern	Potentially Contaminated Media	Exposure Limit		Routes of Exposure	Exposure Symptoms & Primary Hazards
		PEL or TLV (in air)	IDLH (in air)		
Chromium	Soils/fill across entire site.	0.5 mg/m^3	250 mg/m^3	Inhalation, ingestion, contact	POSSIBLE HUMAN CARCINOGEN – HANDLE WITH CAUTION. Metallic chromium is a shiny, odorless solid. Some forms of chromium may cause irritation to the skin and mucous membranes. High exposures may cause coughing, wheezing, headaches, pain and fever. Repeated exposures may cause lung changes.
Lead	Soils/fill across entire site, groundwater	0.05 mg/m^3	100 mg/m^3	Inhalation, ingestion	TERATOGEN – HANDLE WITH EXTREME CAUTION. Lead is a soft, gray solid. Repeated exposure causes lead buildup in the body. Low levels may cause tiredness, mood changes, headaches, stomach problems, anemia, and trouble sleeping. Higher levels may cause aching, weakness, and concentration or memory problems. Lead also can cause serious permanent kidney or brain damage at high levels. Lead exposure increases the risk of high blood pressure. Contact may cause irritation to the skin.
Mercury	Soils/fill across entire site, groundwater	0.025 mg/m^3	10 mg/m^3	Inhalation, absorption, ingestion, contact	Mercury is an odorless liquid. Exposures may cause headaches, cough, chest paints and difficulty breathing. Higher levels may cause soreness of the mouth, loss of teeth, nausea, and diarrhea. Liquid mercury may irritate the skin and eyes. Repeated exposures may cause fine shaking of the hands, eyelids, lips, tongue, or jaw. In addition, repeated exposures may cause allergic skin rash, insomnia, excessive salivation, personality change, irritability, loss of memory, and intellectual deterioration.
Selenium	Soils/fill across entire site, groundwater	0.2 mg/m^3	1 mg/m^3	Inhalation, ingestion, contact	Selenium and its inorganic compounds are colorless and odorless. Contact with selenium and its inorganic compounds may cause skin rash or blisters, and irritate the eyes. High inhaled levels may cause breathing difficulties. Repeated exposures may cause paleness, coated tongue, stomach problems, nervousness, metallic taste and garlic odor of the breath. Prolonged skin contact may cause skin sensitization.

Chemical of Concern	Potentially Contaminated Media	Exposure Limit		Routes of Exposure	Exposure Symptoms & Primary Hazards
		PEL or TLV (in air)	IDLH (in air)		
Silver	Soils/fill across entire site, groundwater	0.01 mg/m^3	10 mg/m^3	Inhalation, ingestion, contact	Silver is a white metallic solid with no odor. Effects of exposure to elemental silver are minor. Silver nitrate can cause skin burns and permanent damage to the eyes. High exposures can cause discoloration of the eyes, nose throat and skin.
Cyanide	Soils/fill across entire site, groundwater	5.0 mg/m^3	N/A	Inhalation, absorption, ingestion, contact	Cyanide compounds are white solids with an almond odor. Exposure may cause weakness, headache, confusion, nausea, and vomiting. Higher exposures can cause unconsciousness and death. Cyanide compounds can be irritating to the eyes, nose, and skin.

ppm = parts per million
mg/m^3 = milligrams per cubic meter
PEL = Permissible Exposure Limit, established by OSHA, equals the maximum exposure conc. allowable for 8 hours per day @ 40 hours per we
TLV = Threshold Limit Value, established by ACGIH, equals the maximum exposure concentration allowable for 8 hours per day @ 40 hours per week
IDLH = Immediately Dangerous to Life or Health
N/A = Not Available. Exposure should be minimized to the extent feasible through appropriate engineering controls & PPE

TABLE 3-3
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
Task and Risk Analysis

Task	Sub-task	Activity	Hazard	Protective Measures
Excavation and trenching	• Excavation of contaminated soil • Trenching for foundation work • Contaminated soil remediation or disposal • Backfilling of excavations • Utility trenches	Use of heavy equipment, trucking, loading and unloading	• ***Chemical*** – Potential exposure from contact with contaminated soils; exposure to airborne dust contaminated with inorganics and PAHs; exposure to vapors from volatile organics in the soil • ***Physical*** – Potential trench cave-in, work around heavy equipment and trucks; struck by equipment; and slip/trips and falls • ***Biological*** – Allergic reactions to plants, spiders, and insects; bites from snakes, rodents and other animals.	• ***Chemical*** – Particulate and chemical monitoring during excavations; monitoring for O_2, LEL, H_2S in any trench >4 ft. deep; use of engineering controls such as water for particulate control, and PPE • ***Physical*** – Competent person supervision of trenches >4 ft. deep, including ladders every 25 ft.; sloping and shoring as needed, keeping at least 2 feet from edge of excavation; proper heavy-equipment operation, and proper loading and unloading; keep eye contact with operator/driver; wearing slip-resistant footwear, watching footing on uneven surfaces • ***Biological*** – Training in the recognition and avoidance of these hazards; awareness of surroundings.
Concrete work	• Prep for concrete pour • Cleanup after concrete set	• Building and setting forms • Stripping forms	• ***Chemical*** – Skin rashes from acids and additives • ***Physical*** – Collapse of forms; strains from material handling; eye injury from splashes or grinding; abrasion from rebar or impalement • ***Biological*** – Allergic reactions to plants, spiders, and insects; bites from snakes, rodents and other animals	• ***Chemical*** – Proper PPE (clothing and gloves) • ***Physical*** – Properly securing of forms; proper technique for lifting and handling materials; proper gloves and eye PPE; rebar caps, fall awareness and prevention • ***Biological*** – Training in the recognition and avoidance of these hazards; awareness of surroundings.

Task	Sub-task	Activity	Hazard	Protective Measures
Groundwater Collection/ Containment System	• Excavations for groundwater collection and barrier system • Construction of groundwater collection and barrier system • On-site pretreatment of groundwater	Use of heavy equipment, trucking, loading and unloading, manual lifting, power and hand tools, pumping and treatment contaminated water	• ***Chemical*** – Potential exposure from contact with contaminated soils and water; exposure to airborne dust contaminated with inorganics and PAHs • ***Physical*** – Potential trench cave-in; work around heavy equipment and trucks; struck by equipment, falling objects; back injury; slip/trip/falls • ***Biological*** – allergic reactions to plants, spiders, and insects. Bites from snakes, rodents and other animals.	• ***Chemical*** – Particulate and chemical monitoring; use of engineering controls such as water for particulate control, proper work practices, and PPE • ***Physical*** – Sloping and shoring as needed, keeping at least 2 feet from edge of excavation; proper operation with and around heavy equipment; proper work practices and proper loading and unloading, proper lifting and material-handing techniques; wearing slip-resistant footwear, watching footing on uneven surfaces • ***Biological*** – training in the recognition and avoidance of these hazards; awareness of surroundings.
Decontamination of equipment	Cleaning of contaminated equipment	Spraying and scrapping mud and dirt	• ***Chemical*** – Potential exposure from contact with contaminated soils. • ***Physical*** – Potential injection hazard because of high pressure water or steam. • ***Biological*** – Depending on area of decontamination, allergic reactions to plants, spiders, and insects; bites from snakes, rodents and other animals.	• ***Chemical*** – Use of special PPE; training in the recognition of this hazard. • ***Physical*** – Training in the recognition of this hazard; keeping water/steam wand away from body parts. • ***Biological*** – Training in the recognition and avoidance of these hazards; awareness of surroundings.

4.0 TRAINING

4.1 Site Workers

All personnel performing intrusive work during voluntary cleanup activities at the site (such as, but not limited to, equipment operators and general laborers) and who may be exposed to hazardous substances, health hazards, or safety hazards and their supervisors/managers responsible for the site shall receive training in accordance with 29 CFR 1910.120(e) before they are permitted to engage in operations in the exclusion zone or contaminant reduction zone. Because these workers are on a site which has been fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and because they work in site areas which are being monitored and the characterization indicates that there are no uncontrolled health hazards or the possibility of an emergency developing, the required training includes a minimum initial 24-hour Hazardous Waste Site Worker Protection Course and 1 day of actual field experience under the direct supervision of a trained, experienced supervisor. If the characterization or health hazards change to a worsened condition, an additional 16-hours of HAZWOPER training shall be required. Additional site-specific training shall also be provided by the SSO prior to the start of field activities. A description of topics to be covered by this training is provided below.

4.1.1 Initial and Refresher Training

Initial training is conducted by a qualified instructor as specified under OSHA 29 CFR 1910.120(e)(5), and is specifically designed to meet the requirements of OSHA 29 CFR 1910.120(e)(3). The training covers, as a minimum, the following topics:

- OSHA HAZWOPER regulations.
- Site safety and hazard recognition, including chemical and physical hazards.
- Medical monitoring requirements.
- Air monitoring, permissible exposure limits, and respiratory protection level classifications.
- Appropriate use of personal protective equipment (PPE), including chemical compatibility and respiratory equipment selection and use.
- Work practices to minimize risk.
- Work zones and site control.
- Safe use of engineering controls and equipment.
- Decontamination procedures.
- Emergency response and escape.
- Heat and cold stress monitoring.
- Elements of a Health and Safety Plan.

Initial training also incorporates workshops for PPE and respiratory equipment use (dust masks). Records and certification received from the course instructor documenting each employee's successful completion of the training identified above are maintained on file at Krog's corporate office and a copy will be filed by the SSO at the site field office. Contractors and Subcontractors are required to provide similar documentation of training for all their personnel who will be involved in on-site intrusive work activities. Any worker who has not been certified as having received health and safety training in conformance with 29 CFR 1910.120(e) is prohibited from working in the exclusion and contamination reduction zones, or to engage in any on-site work activities that may involve exposure to hazardous substances or wastes.

4.1.2 Site Training

Site workers have access to a copy of the HASP and are provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with the HASP and the information and requirements it contains. The site briefing shall be provided by the SSO prior to initiating field activities and shall include:

- Names of personnel and alternates responsible for site safety and health.
- The site layout including work zones and places of refuge.
- Safety, health and other hazards present on the site.
- The emergency communications system and emergency evacuation procedures.
- Selection and use of PPE.
- Work practices by which the employee can minimize risks from hazards.
- Safe use of engineering controls and equipment on the site.
- Purpose of medical surveillance.
- Recognition of symptoms and signs of overexposure as described in Chapter 5 of this HASP.
- Site control and work zones as detailed in Chapter 6 of this HASP.
- Decontamination procedures as detailed in Chapter 9 of this HASP.
- The emergency response plan as detailed in Chapter 13 of this HASP.
- The spill response program as detailed in Chapter 14 of this HASP.
- Recognition of symptoms and signs of heat and cold stress as detailed in Chapter 15 of this HASP.

Supplemental health and safety briefings will also be conducted by the SSO on an as-needed basis during the course of the work. Supplemental briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing site work activities. Conditions for which the SSO may schedule additional briefings include, but are not limited to: a change in site conditions (viz., based on monitoring results); changes in the work schedule/plan; newly discovered hazards; and safety incidents occurring during site work.

4.2 Supervisor Training

On-site safety and health personnel who are directly responsible for or who supervise the safety and health of workers engaged in hazardous waste operations (viz., SSO) shall receive, in addition to the appropriate level of worker training described in Section 4.1, above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

4.3 Emergency Response Training

Emergency response training is also addressed in Section 13.9 of this HASP's Emergency Response Plan. As it states, all persons who enter this worksite, including visitors, receive a site-specific briefing about anticipated emergency situations and the emergency procedures by the SSO. The SSO, Alternate SSO and General Foreman will have basic first-aid and CPR training. Where this site relies on off-site organizations for emergency response, the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

4.4 Site Visitors' Training

The SSO will provide a site-specific briefing to all site visitors and other unfamiliar personnel who enter the site beyond the site entry point. The following shall be posted in the Field Office:

Visitor Training

The Site Safety Officer (SSO) or his representative will provide a site-specific briefing to all site visitors and other unfamiliar personnel who enter the site beyond the site entry point at Commerce Drive.

- **All visitors must be accompanied by authorized personnel while on-site.**
- **Site hazards** — Primarily:
  - Vehicular and heavy equipment traffic.
  - Intrusive work (excavation and grading), resulting in "contact hazard" with water with elevated pH or contaminated soil.
  - Other building construction activities, depending on the phase of construction.
- **Site layout** — Site map shows three kinds of work zones:
  - *Exclusion Zone* ("ExZ" or "Hot Zone") — The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape or fencing. All authorized visitors must enter and exit the ExZ only through the access control points.
  - *Contamination Reduction Zone* ("CRZ") — The zone where decontamination of personnel and equipment takes place. All authorized visitors must enter and exit the CRZ only through the access control points.
  - *Support Zone* ("SZ" or "Clean Zone") — The part of the site that is considered non-contaminated or "clean."
- **Places of refuge** — Designated by the SSO; otherwise, any enclosures within Support Zone, e.g., main office trailer, personal vehicles.
- **Emergency communications system** — The signaling system for emergency purposes includes voice and hand signals, horns, and radio communication. Cellular phones will be the primary method of off-site communications.
  - *Emergency signals* by portable air horn, siren, or whistle:
    - ✓ *Two short blasts* — personal injury or localized problem.
    - ✓ *One continuous blast* — emergency requiring site excavation.
    - ✓ *Two long blasts* — all clear.
  - *Visual signals*: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.
- **Emergency evacuation procedures** — If evacuation notice is given, visitors must leave the worksite with their respective guide, if possible by way of the nearest exit, following the guide's instructions.
- **Entry into work zones** — Site visitors must remain in the SZ unless authorized by the SSO to enter the ExZ or CRZ, and then only if they have received the level of HAZWOPER training required for site personnel who are doing the intrusive work.

5.0 MEDICAL SURVEILLANCE

Medical monitoring examinations are provided to all site workers involved in intrusive work. These exams include initial employment, annual and employment termination physicals for all workers involved in intrusive field operations. Post-exposure examinations are also provided for employees who may have been injured, received a health impairment, or developed signs or symptoms of overexposure to hazardous substances or were accidentally exposed to substances at concentrations above the permissible exposure limits without necessary personal protective equipment. Such exams are performed as soon as possible following development of symptoms or the known exposure event.

Medical evaluations are performed by HealthWorks WNY, an occupational health care provider under contract with Krog Corp. Healthwork's local facility is in the former Our Lady of Victory Hospital, 55 Melroy, Lackawanna off of Ridge Road. The facility can be reached at (716) 823-5050 to schedule routine appointments or post-exposure examinations. Fx 823-5080

Medical evaluations are conducted according to Krog's Medical Monitoring Program and include an evaluation of the workers' ability to use respiratory protective equipment. The examination is specific to the hazards on this site and will include:

- Occupational/medical history review.
- Physical exam, including vital sign measurement.
- Examination of the skin for signs of skin disease.
- Spirometry testing, including FEV and FVC.
- Eyesight testing.
- Audio testing (minimum baseline and exit, annual for employees routinely exposed to greater than 85db).
- EKG (for employees >40 years age or as medical conditions dictate).
- Chest roentgenogram (baseline and exit, and every 5 years).
- Blood biochemistry (including chloride, potassium, sodium, BUN, glucose, globulin, total protein, albumin, calcium, cholesterol, alkaline phosphates, triglycerides, uric acid, creatinine, total bilirubin, phosphorous, lactic dehydrogenase, SGPT, SGOT, and any other testing the physician deems necessary).
- Liver Function.
- Urinalysis, including specific gravity, albumin, glucose, and microscopic on centrifuge sediment.
- Tetanus booster shot (if no inoculation has been received within the last five years).
- Medical certification of physical requirements (viz., musculoskeletal, cardiovascular) for safe job performance and to wear respiratory protection equipment.

The purpose of the medical evaluation is to determine an employee's fitness for duty in intrusive work on the site and to establish baseline medical data.

In conformance with OSHA regulations, Krog will maintain and preserve medical records for a period of 30 years following termination of employment. Employees are provided a copy of the physician's post-exam report, and have access to their medical records and analyses.

6.0 SITE CONTROL AND WORK ZONES

6.1 Security

Site security shall be provided and maintained by Krog. All personnel and visitors must enter and exit the jobsite only through the access control points.

- Vehicular access to the site shall be restricted to authorized vehicles only. Use of on-site designated parking areas shall be restricted to vehicles of a State or Federal on-site representative, Krog Corp., subcontractor, and service personnel assigned to the site and actually on duty but may also be used on short-term basis for authorized visitors.
- Krog Corp. shall be responsible for maintaining a log of security incidents and visitor access granted.
- Krog shall require all personnel having access to the project site to sign-in and sign-out, and shall keep a record of all site access.
- All approved visitors to the site shall be briefed by the SSO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit. Site visitors shall not be permitted to enter the hazardous work zone unless approved by the SSO with appropriate site access agreement.

Project site shall be posted, "Warning Hazardous Work Area, Do Not Enter Unless Authorized." Warning signs shall be posted at a minimum of every 500 feet.

6.2 Site Control

Krog Corp. shall provide the following site control procedures as a minimum:

- A site map;
- A map showing site work zones;
- The use of a "buddy system" whenever work requires PPE of Level C or higher; and
- Standard operating procedures or safe work practices.

6.3 Work Zones

Work zones around the areas designated for construction activities will be established by the Project Manager and SSO on a daily basis and communicated to all employees and other site users. It shall be the SSO's responsibility to ensure that all site workers are aware of the work zone boundaries and to enforce proper procedures in each area. The zones will include:

- Exclusion Zone ("ExZ" or "Hot Zone") — The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape or fencing. All personnel must enter and exit the ExZ only through the access control points. All personnel entering the ExZ must wear the prescribed level of personal protective equipment identified in Section 7.
- Contamination Reduction Zone ("CRZ") — The zone where decontamination of personnel and equipment takes place. All personnel must enter and exit the CRZ only through the access control points. Any potentially contaminated clothing, equipment and samples must remain in the Contamination Reduction Zone until decontaminated.

- Support Zone ("SZ" or "Clean Zone") — The part of the site that is considered non-contaminated or "clean." Support equipment will be located in this zone, and personnel may wear normal work clothes within this zone. The function of the Support Zone includes:
  - An entry area for personnel, material and equipment to the Exclusion Zone of site operations through the Contamination Reduction Zone;
  - An exit for decontamination personnel, materials and equipment from the "Decontamination" area of site operations;
  - The housing of site special services; and
  - A storage area for clean safety and work equipment.

In the absence of other task-specific work zone boundaries established by the SSO, the following boundaries will apply to all investigation and construction activities involving disruption or handling of site soils or groundwater:

- Prohibited Areas: Because of unknown contamination in surrounding areas, workers are prohibited from entering areas outside of the CertainTeed Site.
- Exclusion Zone: 25 foot radius from the outer limit of the intrusive work being done.
- Contaminant Reduction Zone: 50 foot radius from the outer limit of the intrusive work.
- Support Zone: Areas outside the Contaminant Reduction Zone.

Access of nonessential personnel to the Exclusion and Contamination Reduction Zones will be strictly controlled by Krog. Only personnel who are essential to the completion of the task will be allowed access to these areas and only if they are wearing the prescribed level of protection. Entrance of all personnel must be approved by Krog's SSO.

The SSO will maintain a Health and Safety Logbook containing the names of workers and their level of protection. The zone boundaries may be changed by the SSO as environmental conditions warrant, and to respond to the necessary changes in work locations on-site. These changes, made in the field may be without the approval of the site project manager.

7.0 SAFE WORK PRACTICES & SAFETY PROCEDURES

All site workers shall conform to the following safe work practices **during all on-site work activities conducted within the exclusion and contamination reduction zones**:

- Strictly regard the distinction of work zones and stay out of prohibited areas.
- Workers must strictly follow the decontamination procedures.
- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth contact is strictly prohibited. The hands and face must be thoroughly washed upon leaving the work area and prior to engaging in these activities.
- Carrying food, beverage, matches, lighters, Chap-Stick, cosmetics, etc., around the worksite is prohibited, except in the Clean Area exclusively.
- Contact with surfaces/materials either suspected or known to be contaminated will be avoided to minimize the potential for transfer to personnel, cross contamination and need for decontamination.
- If there is a change in conditions which warrants increased protection above Modified Level D, work will be immediately suspended until there is additional training provided for workers appropriate to Level B or Level C protection.
- On-site personnel shall use the "buddy" system whenever work requires PPE of Level C or higher, at which time no one may work alone (i.e., out of earshot or visual contact with other workers) in the Exclusion Zone (ExZ). Responsibilities of "buddies" include:
  - Assisting and checking PPE
  - Monitoring the body for heat stress and/or chemical exposure
  - If there is an emergency, getting help, primarily; secondarily, getting buddy out of ExZ.
- Personnel and equipment in the contaminated area shall be minimized, consistent with effective site operations.
- The recommended specific safety practices for working around the contractors' equipment (e.g., backhoes, bulldozers, excavators, etc.) are as follows:
  - Although Krog Corp. and subcontractors are responsible for their equipment and safe operation of the site, personnel are also responsible for their own safety.
  - Heavy equipment should not be operated within 20 feet of overhead wires. This distance may be increased if windy conditions are anticipated or if lines carry high voltage. The site should also be sufficiently clear to ensure the project staff can move around the heavy machinery safely. Care should be taken to avoid overhead wires when moving heavy-equipment from location to location.

SAFETY REGULATIONS

(To Be Posted for Project Personnel)

The main safety emphasis is on preventing personal *contact* with contaminated soil and water. Towards that end, the following rules have been established.

Regulations:

- All workers have the obligation to immediately report and, if possible, correct unsafe work conditions.
- All personnel shall be familiar with standard operating safety procedures and additional instructions contained in this Health and Safety Plan.
- Hard hats and safety glasses must be worn on the project site.
- Use of contact lenses on-site will not be permitted.
- Medicine and alcohol can synergize the effects of exposure to toxic chemicals. Due to possible contraindications, use of prescribed drugs should be reviewed with Krog's occupational physician. Alcoholic beverages are strictly forbidden during the work day, and illegal drug intake is strictly forbidden at any time.
- The work site should be kept neat. This will prevent personnel from tripping and will allow for fast emergency exit from the site.
- Eating on the site is PROHIBITED except in specifically designated areas.
- All project personnel on the site must wear clean personal protective equipment (PPE) appropriate for the work area and kind of work being done.
- If you get wet to the skin, you must wash the affected area with soap and water immediately. If clothes in touch with the skin are wet, these must be changed.
- You must have a thorough decontamination and wash your hands and face before eating, drinking, smoking, or chewing.
- Strictly regard the different work zones. Only workers with HAZWOPER training and wearing appropriate PPE can enter the Exclusion Zone.
- Closely follow the regulations on decontamination before entering the "Clean Zone," and before going home.

Recommendations:

- Encourage one another for safe work practices.
- Check for any personal habit which could introduce soil or water into the body. Examples: wiping face or nose with a dirty hand or running a dirty hand through hair.
- Check that any regularly worn item is clean. Examples include dirty watchbands, neck chains and a dirty liner on your safety helmet.
- Use a properly-fitted dust mask whenever you feel it is needed.

8.0 PERSONAL PROTECTIVE EQUIPMENT

8.1 Recommended Level of Protection for Site Tasks

Based upon current information regarding both the contaminants suspected to be present at Subparcels 1 & 2 and the various tasks that are included in the voluntary cleanup activities, the minimum required Levels of Protection for these tasks shall be as identified in Table 8-1, "Recommended Level of Protection for Site Tasks." Table 8-2, "Equipment Selection," defines the site-specific personal protective equipment (PPE) requirements. Table 8-3, "Protection Ensembles," describes the PPE and work clothing combinations.

8.2 Equipment Selection

PPE will be donned when work activities may result in exposure to physical or chemical hazards beyond acceptable limits, and when such exposure can be mitigated through appropriate PPE. The selection of PPE will be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

Equipment designed to protect the body against contact with known or suspect chemical hazards are grouped into varying categories according to the degree of protection afforded. These categories, designated A through D are consistent with United States Environmental Protection Agency (USEPA) Level of Protection designation, are:

- Level A: Should be selected when the highest level of respiratory, skin and eye protection is needed.
- Level B: Should be selected when the highest level of respiratory protection is needed, but a lesser level of skin protection is required. Level B protection is the minimum level recommended on initial site entries until the hazards have been further defined by on-site studies. Level B (or Level A) is also necessary for oxygen-deficient atmospheres.
- Level C: Should be selected when the types of airborne substances are known, the concentrations have been measured and the criteria for using air-purifying respirators are met. In atmospheres where no airborne contaminants are present, Level C provides dermal protection only.
- Modified Level D: Should be used when airborne chemical constituents are not present at levels of concern, but site intrusive activities are causing an increased potential for skin contact with liquids and solids.
- Level D: Should not be worn on any site with elevated respiratory or skin hazards. This is generally work clothing providing minimal protection.

In situations where the types of chemicals, concentrations, and possibilities of contact are unknown, the appropriate level of protection must be selected based on professional experience and judgment until the hazards can be further characterized. The individual components of clothing and equipment must be assembled into a full protective ensemble to protect the worker from site-specific hazards, while at the same time minimizing hazards and drawbacks of the personal protective gear itself. Ensemble components are detailed below for Modified Level D and Level D protection. Based upon current information regarding both the contaminants suspected to be present at Subparcels 1 & 2 and

the various tasks that are included in the voluntary cleanup activities, there should be no need for Levels A, B or C protection.

Special Note: If there is a change in conditions which warrants increased protection for workers:

- Work will be immediately suspended,
- Additional HAZWOPER training will be provided for the exposed workers before they proceed with the tasks that have increased risk,
- Tables 8-1 and 8-2 will be modified, along with the listed protection ensembles,
- Increased and risk-appropriate PPE will be obtained, and
- Additional medical surveillance will be obtained.

8.3 Protection Ensembles

8.3.1 Modified Level D Protection Ensemble

Modified Level D protection is primarily a coverall work uniform to protect the employees clothing from contact with potential contaminants. It can be worn in areas where are no inhalable toxic substances and where the atmosphere contains at least 19.5% oxygen. Recommended PPE for Modified Level D includes:

- Washable or disposal cloth or Tyvek coveralls.
- Chemical-resistant overboots, Tyvek booties over safety work boots/shoes.
- Safety glasses or chemical splash goggles.
- Hardhat meeting ANSI Z89.
- Chemical-resistant work gloves, consisting of nitrile (NCR).
- Optional hearing protection.
- Other optional gloves, as needed.
- Optional dust mask for nuisance particulates.
- Extra PPE is needed for pressure washing during equipment decontamination to prevent an injection-hazard from the high-pressure water or steam — hardhat with face shield, and coveralls, gloves, and boots that are impervious to penetration at the designed highest pressure of the wash system.

8.3.2 Level D Protection Ensemble

Level D protection is primarily basic work clothing. It will be required for all on-site personnel at the project site. Level D will be worn as the initial protection level for project site operations. Recommended PPE for Level D includes:

- Work clothing as prescribed by weather.
- Safety work boots/shoes.
- Safety glasses or goggles.
- Hardhat meeting ANSI Z89.
- Optional hearing protection.
- Optional gloves (to reduce dirtying of hands).
- Optional dust mask for nuisance particulates.

Table 8-1
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
Action Levels for Personal Protective Equipment [1]

Task	Planned Level of Protection	Action Level for PPE Upgrade / Downgrade
Excavation of and Work in Contaminated Soils	Modified Level D	• Upgrade to Level C if sustained reading measure 1 – 5 ppm with the PID or 10 – 150 µg/m³ with the Particulate Monitor • Upgrade to Level B if sustained reading measure 5– 50 ppm with the PID or >150 µg/m³ with the Particulate Monitor
Cleaning of Contaminated Equipment	Modified Level D	• Upgrade to Level C if sustained reading measure 1 – 5 ppm with the PID or 10 – 150 µg/m³ with the Particulate Monitor • Upgrade to Level B if sustained reading measure 5– 50 ppm with the PID or >150 µg/m³ with the Particulate Monitor
Contact with Groundwater with Elevated pH	Modified Level D	• Upgrade to Level C if sustained reading measure 1 – 5 ppm with the PID or 10 – 150 µg/m³ with the Particulate Monitor • Upgrade to Level B if sustained reading measure 5– 50 ppm with the PID or >150 µg/m³ with the Particulate Monitor

[1] **If there is a change in conditions which warrants increased protection, work will be immediately suspended until there is additional training provided for workers appropriate to Level B or Level C protection.**

Table 8-2
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
Site-specific Personal Protective Equipment Requirements

Level of Protection	Respiratory Protection	Protective Clothing	Gloves	Boots	Other PPE Required
Modified Level D[1]	None required; dust mask available for nuisance dust	• Excavation and trench work — Tyvek or cloth coverall • Elevated groundwater pH — chemical/splash-resistant suit	• Excavation and trench work — optional cloth or leather • Elevated groundwater pH — Nitril outer	• Excavation and trench work — Tyvek bootie or overboot • Elevated groundwater pH — water-resistant, chemical-resistant overboot	• Excavation and trench work — hardhat, safety glasses with side shields • Elevated groundwater pH — hardhat and splash-resistant goggles • Hearing protection (if conversations are difficult without raised voices)
Level D	None required; dust mask available for nuisance dust	Work uniform; cloth or Tyvek coverall	None required	Safety boot or work shoe	• Hardhat, safety glasses with side shields • Hearing protection (if conversations are difficult without raised voices)

[1] Extra PPE is needed for pressure washing during equipment decontamination to prevent an injection-hazard from the high-pressure stream — Modified Level D in this case includes hardhat with face shield, and coveralls, gloves, and boots that are impervious to penetration at the designed highest pressure of the wash system.

9.0 PERSONAL HYGIENE AND DECONTAMINATION

9.1 Decontamination of Site Personnel

The degree of decontamination required is a function of a particular task and the environment within which it occurs. Specific personnel decontamination procedures shall be adopted to achieve the goal of removing contamination prior to entering the Support Zone ("Clean Zone"). Procedures will be directed by the SSO. Generally it is anticipated that most work involving large pieces of construction equipment will be completed in Modified Level D or Level D. Workers conducting operations in work zones requiring higher levels of protection, particularly laborers, will require more stringent decontamination procedures than personnel not directly in contact with contaminants. The following are decontamination procedures that will remain flexible to the changing environmental conditions which may arise at the site. All personnel leaving the Exclusion Zone (ExZ) will pass through a Contamination Reduction Zone (CRZ) where they will remove their PPE and thoroughly wash/rinse exposed skin with water and biodegradable soap before leaving the project site.

- Station 1 — Equipment Drop: Deposit visibly contaminated (if any) re-useable equipment used in the CRZ and ExZ (e.g., tools, containers, monitoring instruments, radios, clipboards, etc.) on plastic sheeting.
- Station 2 — Boots and Gloves Wash and Rinse: Scrape gross contamination from boot and outer gloves. Wash outer boots and gloves with soap and water solution. Rinse with water. Deposit tape in waste disposal container.
- Station 3 — Tape, Outer Boot and Glove Removal: Remove tape, outer boots and gloves. Deposit tape and gloves in waste disposal container. Store boots in decontamination trailer on shelving. Safety glasses or goggles are removed. Avoid touching face with fingers. Hard hat removed and placed on plastic sheet.
- Station 4 — Mask Change: If worker leaves ExZ to change a dust mask, this is the last step in the decontamination procedure. Worker's dust mask is exchanged, new/cleaned outer gloves and boot cover donned, and worker returns to duty in the ExZ.
- Station 5 — Outer Garment Removal: Disposable protective outer clothing removed and put in a disposal container. Reusable protective clothing will be removed and stored on hooks in the decontamination trailer.
- Station 6 — Inner Glove Removal: Inner gloves are the last personal protective equipment to be removed. Avoid touching the outside of the gloves with bare fingers. Dispose of these gloves in waste disposal container.

Following PPE removal, personnel shall wash hands, face, and forearms at the washing facility provided at the site.

All materials generated during decontamination will be drummed for disposal or cleaning in accordance with applicable local, state, and federal regulations.

9.2 Decontamination For Medical Emergencies

In the event of a minor, non-life-threatening injury, personnel should follow the decontamination procedures as defined, and then administer first-aid.

In the event of a major injury or other serious medical concern (e.g., heat stroke), immediate first-aid is to be administered and the victim transported to the hospital in lieu of further decontamination.

9.3 Decontamination of Heavy Equipment

Construction equipment, operated in contaminated work zones must be decontaminated prior to leaving the site. Decontamination will take place within a designated equipment and materials decontamination area. The equipment will be decontaminated to the satisfaction of the SSO in the following manner:

- The construction equipment will be scraped clean of gross contamination using a track spade or shovel. A pressure wash unit capable of providing a nozzle pressure of 150 psi will be utilized to remove dirt and residue from the equipment in all areas of contact with the contaminated materials. Pressure washing may be supplemented with detergents as appropriate to remove dirt and residues.
- Shields and belly pans will be removed and cleaned.
- Degreasing will take place only if required.

The SSO will certify, in writing, that each piece of construction equipment has been decontaminated prior to removal from site. Personnel engaged in vehicle decontamination will wear specialized Modified Level D described in Table 8-2 with a full face-shield. Any expendable equipment which is unable to be decontaminated to the satisfaction of the SSO will be disposed of. At the completion of the project, the decontamination area will be completely cleaned and removed.

Should the exterior of monitoring equipment become grossly contaminated, it will be decontaminated using a phosphate-free detergent solution, such as Alconox, with potable water rinse carefully applied so not to damage the equipment.

10.0 EXPOSURE MONITORING

Krog Corp. has developed, as part of the HASP, an air monitoring program (AMP). The purpose of the AMP is to determine that the proper level of protective equipment for personnel is used, to document that the level of worker protection is adequate, and to assess the migration of contaminants to off-site receptors as a result of site work.

Based on the results of historic sample analysis and the nature of the proposed work activities at the site, the possibility exists that organic vapors and/or particulates may be released to the air during intrusive construction activities.

10.1 Monitoring Instrumentation

Krog Corp. will install a meteorological station on site that will be capable of recording, at a minimum, wind velocity, temperature, and direction. Real-time air monitoring will be conducted by the SSO during all subsurface construction activities using a particulate meter or a photo-ionization detector (PID) or equivalent instrumentation capable of measuring total organic vapor concentrations.

Monitoring instruments will be calibrated in accordance with manufacturer's instructions before use. Battery charge level for each instrument will be checked at the beginning and end of each day. All instruments will be operated in accordance with manufacturer's specifications. Equipment manuals for all monitoring instruments will be present on-site during all operations.

10.2 Monitoring Documentation

All air monitoring readings will be recorded and maintained in the Health and Safety Logbook. The logbook will be available for review by the NYSDEC and New York State Department of Health (NYSDOH). The following will be recorded:

- Air monitoring results, location, date and time of day
- Equipment check and calibration before and after use each day.
- Weather conditions
- Actions taken

10.3 Work Zone Monitoring

Routine, real-time monitoring will be conducted by the SSO on the downwind side of the work zone all intrusive construction phases such as excavation, backfilling and regrading of soils, installation of the groundwater collection system, removal of piping, etc. Air monitoring will be conducted in accordance with the schedule set forth in Table 10-1, "Summary of Air Monitoring Plan with Action Levels — Photo-ionization Detector (PID) & Particulate Monitor (PM)." Additional monitoring and/or monitoring instruments may be added if site conditions change.

10.4 Community Air Monitoring

Conditions will be measured at the perimeter of the site throughout the day and prior to the commencement of intrusive operations in accordance with the schedule set forth in Table 10-1.

10.4.1 Vapor Emission Response Plan

If the downwind area perimeter air concentrations of organic vapors exceed the upwind work area perimeter concentration by 5 ppm but less than 25 ppm, the following actions will be taken:

- Every 30 minutes monitor the perimeter work area location.
- Every 30 minutes monitor the organic vapor concentration 200 feet downwind of the work area perimeter or half the distance to the nearest receptor, whichever is less. If this reading exceeds the perimeter work area upwind organic vapor concentration by 5 ppm, all work must halt and monitoring increased to every 15 minutes. If, at any time, this reading exceeds the perimeter work area upwind concentration by 10 ppm, the Major Vapor Emissions Response Plan will be initiated.
- If organic vapor levels 200 feet downwind of the perimeter work area or half the distance to the nearest downwind receptor, whichever is less, exceeds by 5 ppm the work area perimeter upwind concentration persistently, then air quality monitoring must be performed within 20 feet of the nearest downwind receptor (20-foot zone). If the readings in the 20-foot zone exceed the perimeter work area upwind concentration by 5 ppm for more than 30 minutes, then the Major Vapor Emissions Response Plan will be implemented.
- Work activities can resume only after the downwind 200 foot reading and the 20-foot zone reading are less than 5 ppm above the perimeter work area upwind concentration. In addition, the downwind perimeter work area concentration must be less than 25 ppm above the perimeter work area upwind concentration.

10.4.2 Major Vapor Emission Response Plan

If the downwind work area perimeter organic vapor concentration exceeds the upwind work area perimeter concentration by more than 25 ppm, then the Major Vapor Emission Response Plan will be activated. Upon activation, the following activities will be undertaken:

- All work will halt.
- All Emergency Response Contacts as listed in Section 17 will be contacted.
- The NYSDEC or NYSDOH will contact notified the Erie County Health Department and advise them of the situation.
- The local police and fire depart authorities will be immediately contacted by the SSO and advised of the situation.
- Frequent air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the SSO and work may resume.

TABLE 10-1
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
Summary of Air Monitoring Plan with Action Levels — Photo-ionization Detector (PID) & Particulate Monitor (PM)

Sample Location	Monitoring Frequency	Instrument	Measured Level	Response Action
Upwind and Downwind Edges of Site Perimeter	• Before start of work each day. • Before start of intrusive work.	PID PM	Establish background	• Determine action levels.
Downwind Side of Work Zone	• Every 30 minutes.	PID	Less than **5 ppm** above background	• Continue operations.
			Sustained readings of greater than **5 ppm** above background	• Monitor at downwind site perimeter.
		PM	Less than **150 µg/m³**	• Continue operations.
			Sustained readings of greater than **150 - 250 µg/m³**	• Continue operations. • Initiate engineering controls to reduce dust concentrations. • Monitor at downwind site perimeter.
			Sustained readings of greater than **250 µg/m³**	• Discontinue work. • Monitor at downwind site perimeter.
Downwind Site Perimeter When Work Zone Measurements Exceed 5 ppm or 150 µg/m³	• As required.	PID	Less than **5 ppm** above background	• Continue operations. • Monitor every 30 minutes until work zone measurement are below 5 ppm.
			Sustained readings of greater than **5 – 25 ppm** above background	• Discontinue work. • Implement the Vapor Emission Response Plan.
			Sustained readings of greater than **25 ppm** above background	• Discontinue work. • Implement the Major Vapor Emission Response Plan.
		PM	Less than **150 µg/m³** above background	• Continue operations. • Monitor every 30 minutes until work zone measurement are below **150 µg/m³**.
			Sustained readings of greater than **150 µg/m³** above background	• Discontinue work until engineering controls are controlling dust levels. • Monitor every 15 minutes until work zone measurement are below **150 µg/m³**.

11.0 FIRE PREVENTION AND PROTECTION

Recommended practices and standards of the National Fire Protection Association (NFPA) and other applicable regulations will be followed in the development and application of Project Fire Protection Programs. When required by regulatory authorities, the project management will prepare and submit a Fire Protection Plan for the approval of the contracting officers, authorized representative or other designated official. Essential considerations for the Fire Protection Plan will include:

- Proper site preparation and safe storage of combustible and flammable materials.
- Availability of coordination with private and public fire authorities.
- Adequate jobsite fire protection and inspections for fire prevention.
- Adequate indoctrination and training of employees.

11.1 Equipment and Requirements

All fire extinguishers will be provided by the Krog and subcontractors and are required on all heavy equipment and in each field trailer. Fire extinguishers will be inspected, serviced, and maintained in accordance with the manufacturer's instructions. As a minimum, all extinguishers shall be checked monthly and weighed semiannually, and recharged if necessary. Recharge or replacement shall be mandatory immediately after each use.

11.2 Flammable And Combustible Substances

All storage, handling or use of flammable and combustible substances will be under the supervision of qualified persons. All tanks, containers and pumping equipment, whether portable or stationary, which are used for the storage and handling of flammable and combustible liquids, will meet the recommendations of the National Fire Protection Association.

11.3 Hot Work

If the scope of work necessitates welding or blow torch operation, the attached hot work permit (Table 11-1) will be completed by the SSO and reviewed/issued by the Project Manager.

TABLE 11-1
Buffalo Lakeside Commerce Park, Subparcels 1 & 2 – CertainTeed Site Voluntary Cleanup
HOT WORK PERMIT
(MUST BE CONSPICUOUSLY POSTED WHERE HOT WORK IS BEING PERFORMED)

Part 1 — Information

Issue Date:
Date Work to be Performed: Start: Finish (permit terminated):
Performed by:
Work Area:
Object to be Worked On:

Part 2 — Approval (for 1, 2, and 3, mark Yes, No, or NA) *

Will working be on or in:
1 — Metal partition, wall, ceiling covered by combustible material?
2 — Pipes, in contact with combustible material?
3 — Explosive area?

* If any of these conditions exist (marked "yes") a permit will not be issued without being reviewed and approved by _____. (Signature required below)

Part 3 — Required Conditions ** (Circle all conditions that must be met)

PROTECTIVE ACTION	PROTECTIVE EQUIPMENT
Specific Risk Assessment Required	Goggles / visor / welding screen
Fire or spark barrier	Apron / fireproof clothing
Cover hot surfaces	Welding gloves / gauntlets / other:
Move movable fire hazards, specifically	Wellingtons/Knee pads
Erect screen on barrier	Ear protection: Ear muffs/Ear plugs
Restrict Access	B.A.: SCBA / Long Breather
Wet the ground	Respirator: Type:
Ensure adequate ventilation	Cartridge:
Provide adequate supports	Local Exhaust Ventilation
Cover exposed drain/floor or wall cracks	Extinguisher / Fire blanket
Fire watch (must remain on duty during duration of permit)	Personal flammable gas monitor
Issue additional permit(s):	

Other precautions:

** Permit will not be issued until these conditions are met.

Signatures:

Originating Employee: Date:

Site Superintendent: Date:

Part 2 Approval: Date:

12.0 EMERGENCY EQUIPMENT / FIRST AID REQUIREMENTS

12.1 Communications

Krog shall provide telephone communication at the site field office. Emergency numbers, such as police, sheriff, fire, ambulance, hospital, NYSDEC, EPA, NYSDOH, and utilities, applicable to this site shall be prominently posted near the telephone.

On-site, Krog and all subcontractors will use a signaling system for emergency purposes, including voice and hand signals, horns, and radio communication. Cellular phones will be the primary method of off-site communications.

12.2 Emergency Shower and Emergency Eye Wash

Krog Corp. shall supply and maintain one portable eyewash/body wash facility per active hazardous work zone. The facility shall have a minimum water capacity of 10 gallons and shall conform to OSHA regulations 29 CFR 1910.151. The portable eyewash/body wash facility shall be manufactured/ supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

12.3 Fire Extinguishers

Krog Corp. shall supply and maintain at least one fire extinguisher in the field office and one at each hazardous work zone. The fire extinguisher shall be a 20-pound Class ABC dry fire extinguisher with UL-approval per OSHA Safety and Health Training Standards 29 CFR 1910.157. The fire extinguisher shall be manufactured/supplied by Direct Safety Company, Lab Safety Supply Company, or other appropriate suppliers.

12.4 First Aid Kit

Krog Corp. shall supply and locate in his project office and at each and every hazardous work zone one 24-unit (minimum size) "industrial" or "Contractor" first aid kit, required by OSHA requirements 29 CFR 1910.151. The first aid kit shall be manufactured/supplied by Norton, Scott, or other appropriate suppliers.

12.5 Spill Response Kit

Spill containment supplies and equipment on hand should include:

- Absorbent pads — Three (3) 100 count Bales
- Absorbent booms — Two (2) 4 count Bales (8 inches X 10 feet)
- Granular absorbent — Eight (8) 40 pound bags
- Impermeable Tyvek suits — 3 each
- Nitrile gloves — 3 pairs
- 12 inch chemical- and water-resistant boots — 3 pairs
- Shovels — 5
- Empty 5-gallon pails — 5
- An empty open-top 55-gallon drum.

12.6 Emergency Inventory

In addition to those items specified elsewhere, the SSO will maintain the following inventory of equipment and protective clothing for use at the site in the event of emergencies.

- Washable coveralls and disposable coveralls;
- Gloves — outer and inner;
- Face shields and safety glasses;
- Chemical-resistant boots and boot covers;
- Hard hats; and
- Rain suits.

13.0 EMERGENCY RESPONSE AND CONTINGENCY PLAN

This is the site-specific Emergency Response Plan. This chapter of the HASP describes potential emergencies; procedures for responding to those emergencies; roles and responsibilities during emergency response; and training that workers must receive in order to follow emergency procedures. This plan also describes the provisions this site has made to coordinate its emergency response planning with other contractors on-site and with off-site emergency response organizations.

This emergency response plan is consistent with the requirements of 29 CFR 1910.120(l) and provides the site-specific information in the following sections.

13.1 On-site and Off-site Safety Personnel and Emergency Contacts

The attached master telephone list in Chapter 17 will be completed and prominently posted at the field office. The list will have telephone numbers of all project personnel, emergency services including hospital, fire, police, and utilities. In addition, two copies with telephone numbers are to be given to the NYSDEC and NYSDOH for emergency reference purposes.

13.2 Pre-emergency Planning

This site has been evaluated for potential emergency occurrences, based on site hazards, the required work tasks, the site topography, and prevailing weather conditions. The results of that evaluation indicate the potential for the following site emergencies to occur at the locations indicated.

Type of Emergency:	Source of Emergency:	Location of Source:
Medical	Slip/trip/fall	Nonspecific
	Allergic reaction (i.e., spiders, plants, snakes, rodents, stinging/biting insects)	
	Heat/Cold Stress	
	Struck by injuries (i.e., heavy equipment, falling object)	
	Excavation cave-in	
	Cuts and lacerations	
	Chemical exposure	
	Lifting/Carrying	
	Vehicle traffic	
	Tools	
	Hot work; Electrical	
	Lightning	
Fire/Explosion	Hot work; Electrical	
	Lightning	
Weather	High winds	
	Lightning	
	Heavy rainfall	
	Extreme heat or cold	

13.3 On-site Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency cleanup. Emergency response equipment stocked on this site is listed below. The equipment inventory and storage locations are based on the potential emergencies described above. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this site but not ordinarily stocked.

Any additional PPE required and stocked for emergency response is also listed in below. During an emergency, the Emergency Response Coordinator (viz., the SSO) is responsible for specifying the level of PPE required for emergency response. At a minimum, PPE used by emergency responders will comply with Chapter 7, Personal Protective Equipment, of this HASP. Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

Emergency Equipment	Quantity	Location
• Fire Extinguisher (Section 12.3)	1 (minimum)	Field Trailer and all heavy equipment
• First Aid Kit (Section 12.4)	1	Field Trailer
• Spill Response Kit (Section 12.5)	1	Field Trailer

Emergency PPE	Quantity	Location
• Chemical-resistant suits	4 (minimum)	Field Trailer

13.4 Emergency Planning Maps

Due to the vast size of the site and likely performance of the work on an area-specific basis, area-specific maps of the site will be developed prior to initiation of field activities. The maps will be clearly marked with critical on-site emergency planning information. Emergency evacuation route(s), places of refuge, assembly point(s), and the locations of key site emergency equipment are identified. Site zone boundaries are shown to alert responders to known areas of contamination. Major topographical features and the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on the map(s). The map is to be posted at site entry points and at strategic locations throughout the work site.

13.5 Emergency Alerting and Evacuation

Emergency communication systems are used to alert workers to danger, convey safety information, and maintain site control. Any effective system can be employed. Two-way radios or cellular phones are often used when work teams are far from the command post. Hand signals and air-horn blasts are also commonly used. Every system must have a backup. It shall be the responsibility of the SSO to ensure that an adequate method of internal communication is understood by all personnel entering the site. Unless all personnel are otherwise informed, the following signals shall be used:

- *Emergency signals* by portable air horn, siren, or whistle:
  - *Two short blasts* — personal injury or localized problem.
  - *One continuous blast* — emergency requiring site excavation.
  - *Two long blasts* — all clear.
- *Visual signals*: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible by way of the nearest exit. Emergency decontamination procedures detailed in Chapter 12 of this HASP are followed to the extent practical without compromising the safety and health of site personnel. Appropriate primary and alternate evacuation routes and assembly areas have been identified and are shown on the Emergency Response Map. Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds. Since work conditions and work zones within the site may be changing on daily basis, it shall be the responsibility of the SSO to review evacuation routes and procedures as necessary and to inform all site workers of any changes.

Personnel exiting the site will gather at the designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly site. If any worker cannot be accounted for, notification is given to the SSO so that appropriate action can be initiated. Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

13.6 Extreme Weather Conditions

In the event of adverse weather conditions, the SSO in conjunction with the Project Manager and any subcontractors will determine if engineering operations can continue without sacrificing the health and safety of site personnel. Items to be considered prior to determining if work should continue include but are not limited to:

- Potential for heat/cold stress.
- Weather-related construction hazards (viz., flooding or wet conditions producing undermining of structures or sheeting, high wind threats, etc.).
- Limited visibility.
- Potential for electrical storms.
- Limited site access/egress (e.g., due to heavy rains)

13.7 Emergency Medical Treatment and First Aid

Personnel Exposure:

The following general guidelines will be used in instances where chemical exposure is expected:

- Eye or Skin Contact: Use copious amounts of soap and water. Wash/rinse affected area for at least 15 minutes. Decontaminate and provide medical attention. Eyewash stations will be provided on site. If necessary, transport to HealthWorks WNY or Mercy Hospital.
- Inhalation: Move to fresh air and, if necessary, transport to Mercy Hospital.
- Ingestion: Identify item swallowed. Decontaminate and transport to Mercy Hospital.

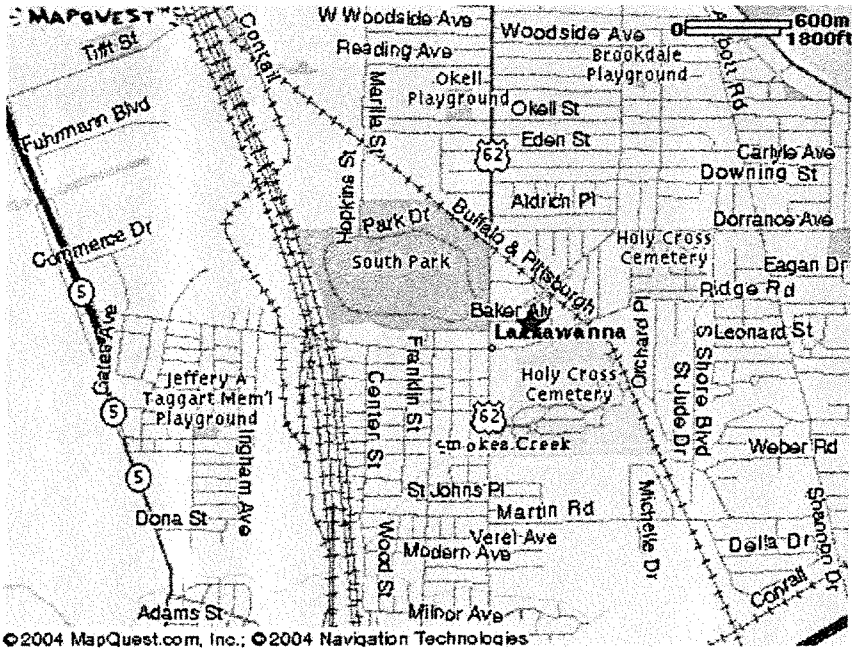
Personal Injury:

Minor first-aid will be applied on-site. If a worker, supervisor or SSO determine that medical treatment is needed, the worker will be transported to HealthWorks WNY. In the event of a life threatening injury, the individual should be transported to Mercy Hospital via ambulance. The SSO will supply chemical specific information to appropriate medical personnel.

First aid kits will conform to Red Cross and other applicable good health standards, and shall consist of a weatherproof container with individually sealed packages for each type of item. First aid kits will be fully equipped before being sent out on each job and will be checked weekly by the SSO to ensure that the expended items are replaced.

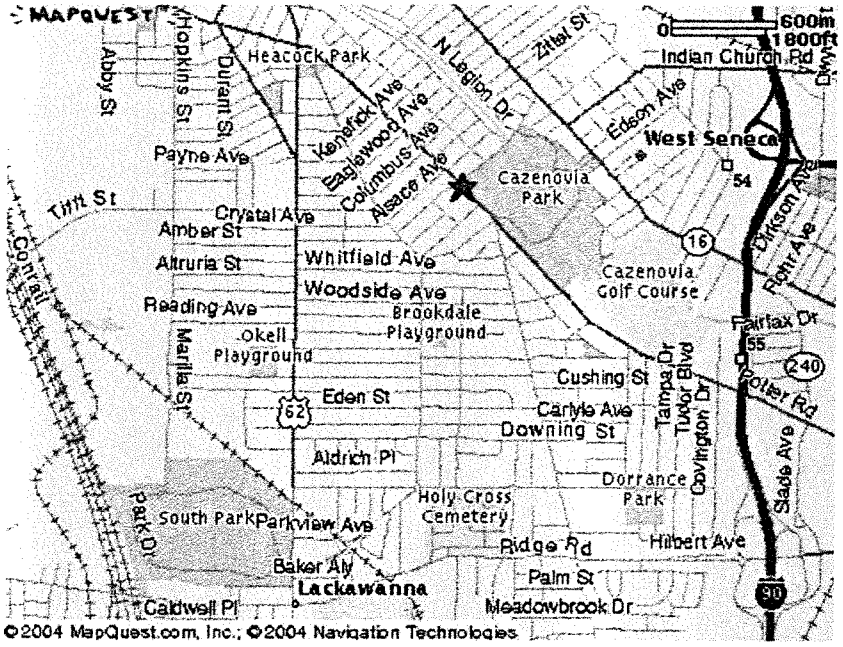
Directions to HealthWorks WNY:

- From the site access, drive to Ridge Road, turn left at the flashing light.
- Continue east on Ridge Road to Melroy, across from the Basilica. Turn left onto Melroy.



Directions to Mercy Hospital:

- From the site access, drive to Ridge Road, turn left at the flashing light.
- Continue east on Ridge Road to Abbott Road. Turn left onto Abbott Road.
- Proceed north on Abbott Road to Mercy Hospital, 565 Abbott Road, Buffalo. Follow signs to emergency room (ER).



13.8 Emergency Response Critique and Recordkeeping

Following an emergency, the SSO and Project Manager shall review the effectiveness of this Emergency Response Plan in addressing notification, control and evacuation requirements. Updates and modifications to the Emergency Response Plan shall be made accordingly. It shall be the responsibility of each employer to establish and assure adequate records of all:

- Occupational injuries and illnesses.
- Accident investigations.
- Reports to insurance carrier or State compensation agencies.
- Records and reports required by local, state, federal and/or international agencies.
- Property or equipment damage.
- Third party injury or damage claims.
- Environmental testing logs.
- Hazardous substances inventories and records.
- Records of inspections and citations.
- Safety training.

13.9 Emergency Response Training

All persons who enter this worksite, including visitors, receive a site-specific briefing about anticipated emergency situations and the emergency procedures by the SSO. The SSO, Alternate SSO and General Foreman will have basic first-aid and CPR training. Where this site relies on off-site organizations for emergency response, the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

14.0 SPILL RELEASE / RESPONSE

This chapter of the HASP describes the potential for and procedures related to spills or releases of known or suspected petroleum and/or hazardous substances on the site. The purpose of this Section of the HASP is to plan appropriate response, control, countermeasures and reporting, consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii). The elements of the spill containment program is detailed in the following sections.

14.1 Potential Spills and Available Controls

An evaluation was conducted to determine the potential for hazardous material and oil/petroleum spills at this site. For the purpose of this evaluation, hazardous materials posing a significant spill potential are considered to be:

- CERCLA Hazardous Substances as identified in 40 CFR Part 302, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).
- Extremely Hazardous Substances as identified in 40 CFR Part 355, Appendix A, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).
- Hazardous Chemicals as defined under Section 311(e) of the Emergency Planning and Community Right-To-Know Act of 1986, where such chemicals are present or will be stored in excess of 10,000 lbs.
- Toxic Chemicals as defined in 40 CFR Part 372, where such chemicals are present or will be stored in excess of 10,000 lbs.
- Chemicals regulated under 6 NYCRR Part 597, where such materials pose the potential for release in excess of their corresponding Reportable Quantity (RQ).

Oil/petroleum products are considered to pose a significant spill potential whenever the following situations occur:

- The potential for a "harmful quantity" of oil (including petroleum and non-petroleum-based fuels and lubricants) to reach navigable waters of the U.S. exists (40 CFR Part 112.4). Harmful quantities are considered by USEPA to be volumes of 1,000 gallons or more, or lesser quantities that either form a visible sheen on the water or violate applicable water quality standards.
- The potential for any amount of petroleum to reach any waters of NY State, including groundwater, exists. Petroleum, as defined by NY State in 6 NYCRR Part 612, is a petroleum-based heat source, energy source, or engine lubricant/maintenance fluid.
- The potential for any release, to soil or water, of petroleum from a bulk storage facility regulated under 6 NYCRR Part 612. A regulated petroleum storage facility is defined by NY State as a site having stationary tank(s) and intra-facility piping, fixtures and related equipment with an aggregate storage volume of 1100 gallons or greater.

The evaluation indicates that, based on site history and decommissioning records, a hazardous material spill is not likely to occur during voluntary cleanup efforts. However, the potential for petroleum product spill may exist if former underground fuel oil transfer lines containing residual petroleum product are encountered during cleanup efforts, or if there is a spill during equipment refueling.

14.2 Initial Spill Notification and Evaluation

Any worker who discovers a hazardous substance or oil/petroleum spill will immediately notify the Project Manager and SSO. The worker will, to the best of his/her ability, report any associated injuries, the material involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, and related fire/explosion incidents, if any. The Emergency Response Plan presented in Chapter 13 of this HASP will immediately be implemented if an emergency release has occurred.

Following initial report of a spill, the Project Manager will make an evaluation as to whether the release exceeds RQ levels. If an RQ level is exceeded, the Project Manager will notify the NYSDEC at 1-800-457-7362 within 2 hours of spill discovery. The Project Manager will also determine what additional agencies (viz., USEPA) are to be contacted regarding the release, and will follow up with written reports as required by the applicable regulations.

14.3 Spill Response

In this unlikely scenario of a spill involving materials subject to regulations described in the first paragraph in Section 14.1, outside contractors listed below will be contacted for control and cleanup.

For oil/petroleum product spill situations, the following general response guidelines will apply:

- Only those personnel involved in overseeing or performing containment operations will be allowed within the spill area. If necessary, the area will be roped, ribboned or otherwise blocked off to prevent unauthorized access.
- Ignition points will be extinguished/removed if fire or explosion hazards exist.
- Surrounding reactive materials will be removed.
- Drains or drainage in the spill area will be blocked to prevent inflow of spilled materials or applied materials.

For minor spills, Krog Corp. and subcontractors operating heavy equipment will maintain Spill Response Kits in the Field Office or other readily accessible storage location. The kits are described in Section 12.5. Spilled materials will be absorbed, and shoveled into a 55-gallon drum for proper disposal (NYSDEC approval will be secured for on-site treatment of the impacted soils/absorbent materials, if applicable). Impacted soils will be hand-excavated to the point that no visible signs of contamination remains, and will be drummed with the absorbent.

In the event of a major release or a release that threatens surface water, a spill response contractor will be called to the site. The response contractor may use heavy equipment (viz., excavator, backhoe, etc.) to berm the soils surrounding the spill site or create diversion trenching to mitigate overland migration or release to navigable waters. Where feasible, pumps will be used to transfer free liquid to storage containers. Spill control/cleanup contractors in the Western New York area that may be contacted for assistance include:

- Modern Disposal Services, Inc.: (800) 662-0012
- The Environmental Service Group of NY, Inc.: (716) 695-6720
- C & W Environmental, LLC: (716) 597-0001

14.4 Post-spill Evaluation

If a reportable quantity of hazardous material or oil/petroleum is spilled as determined by the Project Manager, a written report will be prepared as indicated in Section 14.2. The report will identify the root cause of the spill, type and amount of material released, date/time of release, response actions, agencies notified and/or involved in cleanup, and procedures to be implemented to avoid repeat incidents. In addition, all re-useable spill cleanup and containment materials will be decontaminated, and spill kit supplies/disposable items will be replenished.

15.0 HEAT & COLD STRESS MONITORING

The SSO and/or his designee will be responsible for monitoring and documenting all field personnel for symptoms of heat/cold stress.

15.1 Heat Stress Monitoring

Personal protective equipment may place an employee at risk of developing heat stress, a common and potentially serious illnesses often encountered at construction, landfill, waste disposal, industrial or other unsheltered sites. The potential for heat stress is dependent on a number of factors, including environmental conditions, clothing, workload, physical conditioning and age. Personal protective equipment may severely reduce the body's normal ability to maintain temperature equilibrium (via evaporation and convection), and require increased energy expenditure due to its bulk and weight.

Proper training and preventive measures will mitigate the potential for serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress, the following steps should be taken:

- Adjust work schedules.
- Modify work/rest schedules according to monitoring requirements. When protective clothing is worn the suggested guidelines for ambient temperature and maximum wearing time per excursion are:

Ambient Temperature	Maximum Wearing Time per Excursion (Minutes)
Above 90	15
85 to 90	30
80 to 85	60
70 to 80	90
60 to 70	120
50 to 60	180

- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat (i.e., eight fluid ounces must be ingested for approximately

every 1 lb. of weight lost). The normal thirst mechanism is not sensitive enough to ensure that enough water will be consumed to replace lost perspiration. When heavy sweating occurs, workers should be encouraged to drink more.
- Train workers to recognize the symptoms of heat related illness.

Heat-Related Illness — Symptoms:
- Heat rash may result from continuous exposure to heat or humid air.
- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include: muscle spasms; pain in the hands, feet and abdomen.
- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include: pale, cool, moist skin; heavy sweating; dizziness; nausea; fainting.
- Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury and death occur. Competent medical help must be obtained. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

The monitoring of personnel wearing protective clothing should commence when the ambient temperature is 70 degrees Fahrenheit or above. For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a screening mechanism:
- Heart rate may be measured by the radial pulse for 30 seconds as early as possible in the resting period. The rate at the beginning of the rest period should not exceed 100 beats per minute. If the rate is higher, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest periods stay the same. If the pulse rate is 100 beats per minute at the beginning of the next rest period, the following work cycle should be further shortened by 33%.
- Body temperature may be measured orally with a clinical thermometer as early as possible in the resting period. Oral temperature at the beginning of the rest period should not exceed 99.6 degrees Fahrenheit. If it does, the next work period should be shortened by 10 minutes (or 33%), while the length of the rest period remains the same. However, if the oral temperature exceeds 99.6 degrees Fahrenheit at the beginning of the next period, the work cycle may be further shortened by 33%. Oral temperature should be measured at the end of the rest period to make sure that it has dropped below 99.6 degrees Fahrenheit. No worker will be permitted to continue wearing semi-permeable or impermeable garments when his/her oral temperature exceeds 100.6 degrees Fahrenheit.

15.2 Cold Stress Monitoring

Exposure to cold conditions may result in frostbite or hypothermia, each of which progresses in stages as shown below.

Frostbite occurs when body tissue (usually on the extremities) begins to freeze. The three states of frostbite are:
- *Frostnip* — This is the first stage of the freezing process. It is characterized by a whitened area of skin, along with a slight burning or painful sensation. Treatment consists of removing

the victim from the cold conditions, removal of boots and gloves, soaking the injured part in warm water (102 to 108 degrees Fahrenheit) and drinking a warm beverage. Do not rub skin to generate friction/heat.

- *Superficial Frostbite* — This is the second stage of the freezing process. It is characterized by a whitish gray area of tissue which will be firm to the touch but will yield little pain. The treatment is identical for Frostnip.
- *Deep Frostbite* — In this final stage of the freezing process the affected tissue will be cold, numb and hard and will yield little to no pain. First aid treatment is identical to that for Frostnip, then get treatment by a medical professional.

Hypothermia is a serious cold stress condition occurring when the body loses heat at a rate faster than it is produced. If untreated, hypothermia may be fatal. The stages of hypothermia may not be clearly defined or visible at first, but generally include:

- Shivering
- Apathy (i.e., a change to an indifferent or uncaring mood)
- Unconsciousness
- Bodily freezing

Employees exhibiting signs of hypothermia should be treated by medical professionals. Steps that can be taken while awaiting help include:

- Remove the victim from the cold environment and remove wet or frozen clothing. (Do this carefully as frostbite may have started.)
- Perform active re-warming with hot liquids for drinking (Note: do not give the victim any liquid containing alcohol or caffeine) and a warm water bath (102 to 108 degrees Fahrenheit).
- Perform passive re-warming with a blanket or jacket wrapped around the victim.

In any potential cold stress situation, usually temperature below 40° F, it is the responsibility of the SSO to encourage the following:

- Education of workers to recognize the symptoms of frostbite and hypothermia.
- Workers should dress warmly, with more layers of thin clothing as opposed to one thick layer.
- Personnel should remain active and keep moving.
- Personnel should be allowed to take shelter in a heated areas, as necessary.
- Personnel should drink warm liquids (no caffeine or alcohol if hypothermia has set in).
- For monitoring the body's recuperation from excess cold, oral temperature recordings should occur:
  - At the Site Safety Technicians discretion when suspicion is based on changes in a worker's performance or mental status.
  - At a workers request.
  - As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind chill less than 20 degrees Fahrenheit or wind chill less than 30 degrees Fahrenheit with precipitation).
  - As a screening measure whenever anyone worker on site develops hypothermia.

Any person developing moderate hypothermia (a core body temperature of 92 degrees Fahrenheit) will not be allowed to return to work for 48 hours without the recommendation of a qualified medical doctor.

16.0 CONFINED SPACE WORK

OSHA 29 CFR 1910.146 identifies a confined space as a space which is large enough and so configured that an employee can physically enter and do assigned work, has limited or restricted means for entry and exit, and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, trenches more than 4 feet deep, storage tanks, process vessels, pits, sewers, tunnels, underground utility vaults, pipelines, sumps, wells, and excavations.

Confined space entry by Krog employees and subcontractors is not anticipated to be necessary to complete the Voluntary Cleanup activities identified in Section 1.0. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by a Krog employee or subcontractor cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through Krog's corporate Health and Safety Director. Krog employees and subcontractors shall not enter a confined space without these procedures and permits in place.

17.0 EMERGENCY INFORMATION

This master telephone list will be completed and prominently posted at the field office.

The site location is: Buffalo Lakeside Commerce Park, Subparcels 1 & 2, CertainTeed Site
1818 Fuhrmann Blvd.
Buffalo, New York 14203

Site Phone: (716) _____ — Land line
(716) 818-6714 — Cellular
(716) 818-6706 — Cellular

Emergency Telephone Numbers

Project Manager: Patrick Sheedy
Work: (716) 667-1234
Cell: (716) 583-2802
Home: (716) 741-8430

Site Superintendent: Andy Metzger
Work: (716) 667-1234
Shop: (716) 667-2627
Cell: (716) 583-2801

General Foreman: Tim Peters
Site: (716) _____
Cell: (716) 818-6714

Site Safety Officer: Kevin (Felix) Conly
Site: (716) _____
Cell: (716) 818-6706

Health and Safety Coordinator: William Orsborn
Office: (716) 836-4641
Cell: (716) 481-2525

Heidi M. Reisman
Office: (716) 745-7657
Cell: (716) 390-8494

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Confined space entry by Krog employees and subcontractors is not anticipated to be necessary to complete the Voluntary Cleanup activities identified in Section 1.0. In the event that the scope of work changes or confined space entry appears necessary, the Project Manager will be consulted to determine if feasible engineering alternatives to confined space entry can be implemented. If confined space entry by a Krog employee or subcontractor cannot be avoided through reasonable engineering measures, task-specific confined space entry procedures will be developed and a confined-space entry permit will be issued through Krog's Site Safety Officer (SSO) or Health and Safety Coordinator (HSC). Krog employees and subcontractors shall not enter a confined space without these procedures and permits in place. Each subcontractor who will be conducting confined space entry is required to submit their Permit-required Confined Space Program to Krog's HSC for approval before beginning confined space work.

To determine which site work may involve a confined space, the exposing contractor will be required to complete Appendix G, "Confined Space Recognition Form" and submit it to the HSC. If the confined space is determined to *not* be a non-permit space, entry shall be done under procedures for either (1) a full permit- required confined space, (2) a hazardous-atmosphere-only confined space, or (3) a reclassification confined space. To determine which procedure to use for the space to be entered, Appendix H, "Confined Space Profile," shall be completed by the contractor and submitted to the HSC. This shall be used to inform Krog of the following information and to coordinate any entry operations:

- The location of the permit spaces at the jobsite, and that entry into these spaces is only allowed through a permit-space program, hazardous-atmosphere-only procedures or space reclassification.
- The contractor's rationale for listing the space as a permit-space, such as any identified hazards and their experiences with the particular space.
- Precautions that the contractor has implemented or will implement to protect site workers working in or near the space.

The contractor shall conduct a debriefing with Krog's SSO or HSC at the completion of the entry operation, or during the operation if a need arises and if any hazards were confronted or created during their work.

Emergency Service	***Telephone Number***
Fire Department	911
Buffalo Police Department	911
Ambulance (Rural Metro)	911
Outpatient/Emergency Care Facility (HealthWorks WNY)	(716) 823-5050
Hospital/Emergency Care Facility (Mercy Hospital)	911/(716) 826-7000
Poison Control Center	(716) 878-7654
Chemical Emergency Advice (CHEMTREC)	(800) 424-9300
Erie County Department of Health	(716) 858-7690 (business hours) (716) 898-4225 (after 5 PM)
NYSDEC Region 9 office (Buffalo)	(716) 851-7220
NYSDEC Division of Environmental Remediation, Albany, NY	(518) 457-9285 (800) 342-9296 (leave a message for next work day response)
NYSDOH Western Regional Office	(716) 847-4385
NYSDOH Headquarters (Albany)	(800)-458-1158
Erie County Health Department	(716) 858-7690
OSHA	(800) 321-OSHA

Note: Only call OSHA if there has been a fatality or a catastrophic event that caused three (3) or more workers to be hospitalized; then, it must be reported to OSHA within eight (8) hours.

18.0 COMMUNITY PROTECTION PLAN

The surrounding population within ¼ mile is commercial and industrial. Significant environmental sampling has been performed at the site in support of voluntary cleanup site assessment and planning activities. These samples indicated the presence of byproducts of steel manufacturing operations in soils/fill and groundwater at a number of specific locations where these materials were stored, handled or produced. The Community Protection Plan outlines the steps being implemented to protect the health and safety of surrounding human population and the environment during the voluntary cleanup activities.

18.1 Air Monitoring

Krog will provide real-time air monitoring for particulate levels at the perimeter of the work area, as described in Section 10.4. All readings shall be recorded and be available for State (NYSDEC and NYSDOH) personnel to review. Krog will coordinate with local officials to arrange for notification and evacuation of the surrounding community in the event that off-site emissions pose a threat.

18.2 Off-site Spill Response

The Spill Response Plan (Chapter 14) will be coordinated with local officials, in case of an off-site spill of either liquid or solid wastes. The plan shall include transportation routes and times, as well as the minimum requirements set forth in Chapter 14.

The driver shall be supplied with Material Safety Data Sheets (MSDSs), a 24-hour emergency phone number, and instructions for reporting emergencies to local agencies and the project site.

19.0 RECORDKEEPING

19.1 Security Log

There are several security logs:

- A log of all personnel entering and exiting the site — Appendix B
- A log of visitors granted access to the work site — Appendix C
- A report of security incidents — Appendices D
- A daily log of security incidents — Appendix E

All approved visitors to the site will be briefed by the SSO on safety and security, provided with temporary identification and safety equipment, and escorted throughout their visit. Site visitors will not be permitted to enter a hazardous work zone. The project site shall be posted, "Warning: Hazardous Work Area, Do Not Enter Unless Authorized," and access restricted by the use of a fence.

19.2 Safety Log

The SSO will maintain a bound Health and Safety Logbook. The log will include all health and safety matters on site and include, but not be limited to, the following information:

- Date and weather conditions on site;
- A description of the proposed work for the day;
- Times when site personnel arrive and depart;
- Air monitoring data;
- Heat and/or cold stress monitoring;
- Decontamination procedures;
- Type and calibration of air sampling/monitoring equipment used;
- Safety meeting summaries; and
- Accidents.

19.3 Incident Investigation Report

Any emergency or accident will be reported immediately to the SSO. An incident investigation report (Appendix A) must be completed by the supervisor with the assistance of the SSO.

If the incident is work-related and involves worker injury or illness, it will be reported to the Workers' Compensation insurance agency and recorded on the OSHA 300 Log. If there is a fatality or a catastrophic event that causes three (3) or more workers to be hospitalized, it must be reported to OSHA within eight (8) hours by calling 1-800-321-OSHA.

If the emergency or accident is related to environmental contamination, the NYSDEC and NYSDOH will also be notified; Krog will submit a written report immediately to the NYSDEC and the NYSDOH, but no later than 24 hours of its concurrence. The report will include, but not be limited to, the nature of the problem, time, location, areas affected, manner and methods used to control the emergency, sampling and/or monitoring data, impact, if any, to the surrounding community, and corrective actions Krog Corp. will institute to minimize future occurrences. All spills will be treated as emergencies.

19.4 Daily Work Report

Krog Corp. shall maintain a daily work report that summarizes the following:

- Work performed,
- Level of protection,
- Air monitoring results,
- Safety-related problems, and
- Corrective actions implemented.

20.0 REFERENCES

20.1 United States Department of Labor, Occupational Safety and Health Administration, Code of Federal Regulations (CFR) — 29 CFR 1910 and 29 CFR 1926

20.2 Malcolm Pirnie, Inc.'s *"Remedial Action Work Plan, Hanna Furnace Site, the Former Railroad Yard Area,"* February 2002

Appendix A — *Supervisor's Incident Investigation Report*

I. GENERAL INFORMATION	EMPLOYER		SHIFT
	EMPLOYEE NAME		JOB TITLE
	SOC. SEC. NUMBER		SEX (MALE/FEMALE)
	DATE OF ACCIDENT		TIME OF ACCIDENT ☐ AM ☐ PM
	TYPE OF ACCIDENT/ILLNESS (e.g., Workers' Comp., Environmental Contamination, Truck/Equipment, etc.):		
	TYPE OF INJURY		
	PART OF BODY INJURED	TREATMENT: FIRST AID ☐ MEDICAL ☐	DID EMPLOYEE RETURN TO WORK THE SAME DAY? ☐ YES ☐ NO
II. DESCRIPTION	WHERE AND HOW DID ACCIDENT HAPPEN? (Use additional sheets if necessary)		
	WITNESSES (Names and Companies):		
III. CAUSES	SPECIFY TRAINING, MACHINE, TOOL, SUBSTANCE, OR OBJECT CONNECTED WITH THE ACCIDENT		
	UNSAFE MECHANICAL/PHYSICAL/ENVIRONMENTAL CONDITION AT TIME OF ACCIDENT (Be specific)		
	PERSONAL FACTORS (Attitude, lack of knowledge or skill, slow reaction, fatigue)		
	PERSONAL PROTECTIVE EQUIPMENT REQUIRED (Circle one) — A B C D Modified-D		
	WAS INJURED EMPLOYEE USING REQUIRED PPE?		
	WAS THERE A CHEMICAL EXPOSURE? CONTAMINANTS:		
IV. RECOMMENDATIONS	ACTION PLAN TO PREVENT RECURRENCE (Modification of machine, mechanical guarding, work environment, training)		
	_____ SUPERVISOR'S NAME & SIGNATURE		_____ DATE
V. FOLLOW-UP	ACTIONS TAKEN ON RECOMMENDATIONS (Include the date the action was completed)		

Instructions for Completing Incident Investigation Report

Please type or neatly print all information. Complete in as much detail as possible.

I. General Information

Fill in all information requested. Name of employee injured, date, exact location, job title, job being performed, etc. For description of type of accident/illness, injury and body part, see the following:

A. Type of Accident/Illness

- slip/fall
- struck by/against
- caught in/on/between
- contact with/by
- over-exertion/lifting
- burn by
- cut by
- amputation

B. Type of Injury

- cut
- bruise
- puncture
- abrasion
- strain
- sprain
- irritation
- swelling
- burn
- fracture
- inhalation
- absorption
- ingestion
- skin contact

C. Part of Body Injured (select as many as needed)

- thumb/finger/hand/wrist
- elbow/arm/shoulder
- toe/foot/ankle
- leg/knee/hip
- head/neck/face
- nose/eye/ear/throat
- chest/abdomen
- upper back/lower back

II. Description of Accident

Describe in as much detail as possible where and how the accident happened. This section is for facts, not opinions. Statements from the injured employee or witnesses made should be detailed. Use an additional piece of paper if more space is needed. Include sketches or photos if they help explain what happened.

III. Causes

Identify and describe in detail the type of equipment, tools, processes, etc., unsafe conditions (mechanical, physical, environmental) and/or personal factors involved in the accident. Discuss the use and requirements regarding any personal protective equipment.

IV. Recommendations

Once causes are identified, action must be taken to prevent the same thing from happening again. Realistic yet effective recommendations should be implemented. The form should be signed and dated by the appropriate supervisor.

V. Follow-up

List actions which have been taken and their respective completion date. Proper follow-up should continue on any incomplete recommendations.

Appendix B

Site Personnel Log-in

Date	Name	Company	Reason

Appendix C
Visitor Log-in

Date	Time In	Time Out	Name	Company	Badge Number, Person to See & Reason for Visit

Appendix D
Security Incident Report

A Security Incident Report should be completed during the same shift as the occurrence. Reportable incidents include any crime, vandalism, thefts, medical emergencies, suspicious activity, threats, injuries, etc. Your cooperation is appreciated.

_____
Report number

Name: _____
Home address: _____
_____
Phone numbers: _____

_____
Date of Incident

_____
Time of Incident

Mark one: ☐ Worker ☐ Visitor ☐ Other: _____

Location of incident: _____
_____

Were you injured? ☐ Yes ☐ No
If yes, please describe: _____
_____

Describe incident (use extra paper, if necessary): _____
_____
_____
_____
_____
_____

List witnesses: _____

Was 9-1-1 called? ☐ Yes ☐ No Who responded? _____

Was EMS transport or treatment refused? ☐ Yes ☐ No ☐ N/A

If applicable: License plate number _____
Make and model of vehicle _____

For worker injuries, complete Appendix A, "Supervisor's Incident Investigation Report."

Comments: _____
_____
_____
_____
_____
_____

Incident report completed by: _____ _____
Print name Date

Appendix E
Security Log

Date	Incident Report Number	Brief Description of the Incident

Appendix F
Plan Acceptance Form

Date: _____

On behalf of our company:

- We acknowledge that we have received a copy of the Health and Safety Plan (HASP) for this remediation project.
- We accept the HASP for this remediation project and agree to comply by its requirements and the requirements of all local, state and federal regulations (e.g., OSHA, DEC, EPA).
- We agree that the Site Safety Officer has the authority to suspend any site operations until such time that hazards are corrected and controlled to his satisfaction.
- We agree that this HASP also will serve as a minimum for health and safety for our personnel at this jobsite and that all on-site personnel for our company will be familiar with this plan and comply with its requirements.

Company Name: _____

Managing Officer: _____
Signature

_____
Print Name

Project Manager: _____
Signature

_____
Print Name

Visitor Training

The Site Safety Officer (SSO) or his representative will provide a site-specific briefing to all site visitors and other unfamiliar personnel who enter the site beyond the site entry point at Commerce Drive.

- **All visitors must be accompanied by authorized personnel while on-site.**
- **Site hazards** — Primarily:
  - Vehicular and heavy equipment traffic.
  - Intrusive work (excavation and grading), resulting in "contact hazard" with water with elevated pH or contaminated soil.
  - Other building construction activities, depending on the phase of construction.
- **Site layout** — Site map shows three kinds of work zones:
  - *Exclusion Zone* ("ExZ" or "Hot Zone") — The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape or fencing. All authorized visitors must enter and exit the ExZ only through the access control points.
  - *Contamination Reduction Zone* ("CRZ") — The zone where decontamination of personnel and equipment takes place. All authorized visitors must enter and exit the CRZ only through the access control points.
  - *Support Zone* ("SZ" or "Clean Zone") — The part of the site that is considered non-contaminated or "clean."
- **Places of refuge** — Designated by the SSO; otherwise, any enclosures within Support Zone, e.g., main office trailer, personal vehicles.
- **Emergency communications system** — The signaling system for emergency purposes includes voice and hand signals, horns, and radio communication. Cellular phones will be the primary method of off-site communications.
  - *Emergency signals* by portable air horn, siren, or whistle:
    - ✓ *Two short blasts* — personal injury or localized problem.
    - ✓ *One continuous blast* — emergency requiring site excavation.
    - ✓ *Two long blasts* — all clear.
  - *Visual signals*: hand gripping throat, out of air/cannot breathe; hands on top of head, need assistance; thumbs up, affirmative/everything is OK; thumbs down, no/negative; grip partner's wrist or waist, leave area immediately.
- **Emergency evacuation procedures** — If evacuation notice is given, visitors must leave the worksite with their respective guide, if possible by way of the nearest exit, following the guide's instructions.
- **Entry into work zones** — Site visitors must remain in the SZ unless authorized by the SSO to enter the ExZ or CRZ, and then only if they have received the level of HAZWOPER training required for site personnel who are doing the intrusive work.

Visitor Training

The Site Safety Officer (SSO) or his representative will provide a site-specific briefing to all site visitors and other unfamiliar personnel who enter the site beyond the site entry point at Commerce Drive.

- **All visitors must be accompanied by authorized personnel while on-site.**
- **Site hazards** — Primarily:
  - Vehicular and heavy equipment traffic.
  - Intrusive work (excavation and grading), resulting in "contact hazard" with water with elevated pH or contaminated soil.
  - Other building construction activities, depending on the phase of construction.
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  - *Exclusion Zone* ("ExZ" or "Hot Zone") — The area where contaminated materials may be exposed, excavated or handled and all areas where contaminated equipment or personnel may travel. The zone will be delineated by flagging tape or fencing. All authorized visitors must enter and exit the ExZ only through the access control points.
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    - ✓ *Two short blasts* — personal injury or localized problem.
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Appendix F

Former Hanna Furnace Site, Former Railroad Area Site, Subparcel 1 Voluntary Cleanup

Plan Acceptance Form

Date: _____

On behalf of our company:

- We acknowledge that we have received a copy of the Health and Safety Plan (HASP) for this remediation project.
- We accept the HASP for this remediation project and agree to comply by its requirements and the requirements of all local, state and federal regulations.
- We agree that this HASP also will serve as a minimum for health and safety for our personnel at this jobsite and that all on-site personnel for our company will be familiar with this plan and comply with its requirements.

Company Name: _____

Managing Officer: _____
Signature

_____
Print Name

Project Manager: _____
Signature

_____
Print Name

Appendix G

Confined Space Recognition Form

GENERAL INFORMATION

Part I	**Yes**	**No**
Is the space large enough so an employee can bodily enter and perform work?		
Does the space have limited or restricted means for entry and exit?		
Is the space designed for occupancy?		
Part II		
Does the space contain or potentially contain a hazardous atmosphere?		
Does the space contain any chemicals or chemical residues?		
Does the space contain any flammable/combustible substances?		
Does the space contain or potentially contain any decomposing organic matter?		
Does the space have any pipes which bring chemicals into it?		
Does the space have any materials that can trap or potentially trap, or engulf, or down an entrant?		
Is vision obscured by dust at 5 feet or less?		
Does the space contain any mechanical equipment?		
Does the space have converging walls, sloped floors or tapered floor to smaller cross-sections which could trap or asphyxiate an entrant an entrant (Entrapment Hazard)?		
Does the tank or vessel contain rusted interior surfaced?		
Does the space contain thermal hazards (e.g.; extreme hot cold)?		
Does the space contain excessive noise levels which could interfere with communication with an attendant?		
Does the space present any slip, trip, or fall hazards?		
Are there any operations conducted near the space opening which could present a hazard to entrants?		
Are there any hazards from falling objects?		
Are there lines under pressure servicing the space?		
Are cleaning solvents or paints going to be used in the space?		
Is welding, cutting, brazing, riveting, scraping, or sanding going to be performed in the space?		
Does the space have poor natural ventilation which would allow an atmospheric hazard to develop?		
Are there any corrosives which would irritate the eyes in the space?		
Are there any conditions which could prevent any entrants' self rescue from the space?		
Are there any substances used in the space which have acute hazards?		
Is mechanical ventilation needed to maintain a safe environment?		
Is air monitoring necessary to ensure to space is safe for entry due to a potential hazardous atmosphere?		
Will entry be made into a diked area where the dike is 5 feet or more in height?		
Are residues going o be scraped off the interior surfaces of the vessel?		
Are non-sparking tools required to remove residues?		
Does the space restrict mobility to the extent that it could trap an entrant?		
Is respiratory protection required because of a hazardous atmosphere?		
Does the space present a hazard other than those noted above which would make it a permit space?		

Note: *If any of the questions in Part II have been checked yes, the confined space is not a non-permit confined space and entry must be done under procedures for a full permit-required, hazardous atmosphere only, or reclassification confined space.*

SPECIFIC SPACE ENTRY PROCEDURES _____

_____

_____

_____

METHODS TO PREVENT UNAUTHORIZED ENTRY _____

_____

_____

PERSONNEL REQUIREMENTS

DUTY	NO. REQUIRED	DUTIES
CERTIFIED INDIVIDUAL		
ENTRANT		
ATTENDANT		
ENTRY SUPERVISOR		

PROCEDURES TO FOLLOW WHEN ATTENDANT IS MONITORING MULTIPLE SPACES: _____

_____

_____

PROCEDURES TO FOLLOW DURING EMERGENCY RESPONSE: _____

_____

_____

ENTRY PERMIT

IS AN ENTRY PERMIT REQUIRED? ☐ YES ☐ NO

ENTRY PERMIT CAN BE OBTAINED FROM _____

UPON CANCELLATION OF THE ENTRY PERMIT BY THE ENTRY SUPERVISOR, THE ENTRY PERMIT WILL BE RETURNED TO _____

RESCUE PROCEDURES

PROCEDURES FOR SUMMONING RESCUE AND EMERGENCY SERVICES: _____

_____

_____

Name of Rescue Service		**Name of Emergency Medical Service**	
Telephone Number		**Telephone Number**	
Location		**Location**	
Approximate Response Time		**Approximate Response Time**	

MULTI-EMPLOYER PERMIT SPACE OPERATIONS PROCEDURES _____

_____

_____

_____

CLOSURE REQUIREMENTS

List measures taken to close entry portal and return the space to normal operating conditions: _____

_____

_____

PROGRAM REVIEW

_____ will review entry operations if the measures taken did not fully protect employees.

_____ will conduct a review of the permit program at least annually utilizing canceled entry permits. Any inadequacies will be corrected.

Appendix H

Confined Space Profile

GENERAL INFORMATION

Permit Space Location: _____

General Description: _____

CLASSIFICATION

☐ Non - Permit ☐ Permit Required ☐ Reclassified Non- Permit ☐ Hazardous Atmosphere Only

HAZARDS

ACTUAL OR POTENTIAL ATMOSPHERIC HAZARD	YES	NO	ACCEPTABLE LEVEL	ACTUAL READINGS	HAZARD CONTROL	INITIALS
Oxygen Deficiency	☐	☐	19.5% - 23.5%			
Oxygen Enrichment	☐	☐	19.5% - 23.5%			
Explosive (Gas/Vapor)	☐	☐	< 10% LFL			
Explosive Dust	☐	☐	< LFL (5 Ft VISIBILITY)			
Carbon Monoxide	☐	☐	50 PPM			
Hydrogen Sulfide	☐	☐	10 PPM			
Other Toxic gases/vapors	☐	☐				
ENGULFMENT/ ENTRAPMENT	☐	☐			☐ Blank or blind	
					☐ Double block and bleed	
					☐ Locking or tagging valves	
					☐ Disconnecting lines	
					☐	
MECHANICAL	☐	☐			☐ Physically block machinery	
					☐	
ELECTRICAL	☐	☐			☐ Deenergize equipment	
					☐ Lock out electrical circuits	
					☐ Tag out electrical circuits	
					☐	
SUBSTANCE HAZARDOUS TO SKIN OR EYES	☐	☐				
HEAT STRESS	☐	☐				
OTHER POTENTIAL HAZARDS:	☐	☐				

EQUIPMENT REQUIREMENTS

EQUIPMENT	REQUIRED		TYPE
Air Testing Monitor	☐ Yes	☐ No	
Forced Air Ventilation	☐ Yes	☐ No	
Communication	☐ Yes	☐ No	
Lighting	☐ Yes	☐ No	
Barriers	☐ Yes	☐ No	
Entry/Egress (e.g., ladders)	☐ Yes	☐ No	
Rescue Equipment	☐ Yes	☐ No	
Respirator	☐ Yes	☐ No	
Other Equipment	☐ Yes	☐ No	

VENTILATION REQUIREMENTS

Requires continuous forced air	☐ Yes	☐ No
Minimum ventilation time before entry		