

SUBMITTAL FOR:

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FORMER BOUCHARD JUNKYARD
SITE No. 4-11-014 (RCC #D006282)**

TOWN OF NEW LEBANON, NY

**HEALTH AND SAFETY PLAN
(01392-001-C)**

SUBMITTED TO:

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS

Mr. James Magda
Project Manager
5879 Fisher Road
East Syracuse, New York 13057

SUBMITTED BY:

D.A. COLLINS ENVIRONMENTAL SERVICES

101 Route 67, PO Box 191
Mechanicville, New York 12118-0190
Ph. 518-664-9855 / Fax 518-664-9609



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1.0 Introduction

This Health & Safety Plan (HASP) has been developed in order to address the remedial activities at the Former Bouchard Junkyard in New Lebanon, New York.

A copy of this HASP will also be made available to all personnel for review. All employees will complete a Health and Safety Plan Review Acknowledgement form to verify they have reviewed this plan and a copy of the form is attached as Exhibit 1. All subcontractors involved with remediation activities are required to certify that their employees have received all applicable training, medical exams, and are capable of respirator usage. Any subcontractors performing tasks in the Exclusion Zone must be OSHA 40-hour certified and are subject to the same requirements as DAC employees as set forth in the HASP. The Contractor Occupational Safety and Health Certification form is attached as Exhibit 2. Prior to starting activities at the site all employees and subcontractors will also be required to fill out a Field Medical Data Sheet which is attached as Exhibit 3.

All on-site personnel involved with the remediation project will attend a pre-construction briefing on the chemical and physical hazards associated with the site. The initial health and safety briefing will consist of the following information:

- Names of personnel and alternates responsible for site safety and health.
- Identification of known hazards present on the site.
- Safe use of engineering controls and equipment on-site.
- Work practices by which the employee can minimize risks from hazards.
- Selection, use, care, and maintenance of Personal Protection Equipment (PPE).
- Site control procedures.
- Site decontamination procedures.
- Standard operation safety procedures.
- Review of all work plans and related safety protocol.

Documentation of all training, fit test and medical monitoring certificates will be maintained in the offices of D.A. Collins and be available to the Health & Safety Officer (HSO).

A daily tailgate meeting will be conducted prior to starting any remediation activities. The topics covered will include a reminder of site hazards, target activities for the day's work, potential changes in observed exposure levels, staff changes (e.g. due to illness) and responsibilities.

1.1 *Scope and Applicability*

The purpose of the HASP is to identify, evaluate and control health and safety hazards, and provide for emergency response for operations at the site during remediation activities. This plan applies to all site employees and visitors under the direction of D.A. Collins who have the potential to be exposed to the contaminated materials.

This health and safety plan covers the following site activities:

- Site Setup

- Clearing & Grubbing
- Erosion and Sediment Controls
- Utility Identification and Protection
- Survey
- Access Road(s), Parking Areas and Fencing
- Soil Removal, Transportation, Staging and Handling Activities
- Backfilling, Grading and Shaping
- Surface Restoration
- General Site Restoration
- Demobilization

All personnel on-site shall be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation. This HASP summarizes those hazards and defines protective measures planned for the site. All personnel prior to working at the site must review this plan.

The HASP guidelines and requirements are based upon actual field activities and are subject to revision upon subsequent discoveries regarding potential hazards at the Site. All fieldwork will be performed to comply with the Occupational Safety and Health Administration (OSHA) 29 CFR 1910 and 1926.

1.2 Site Location

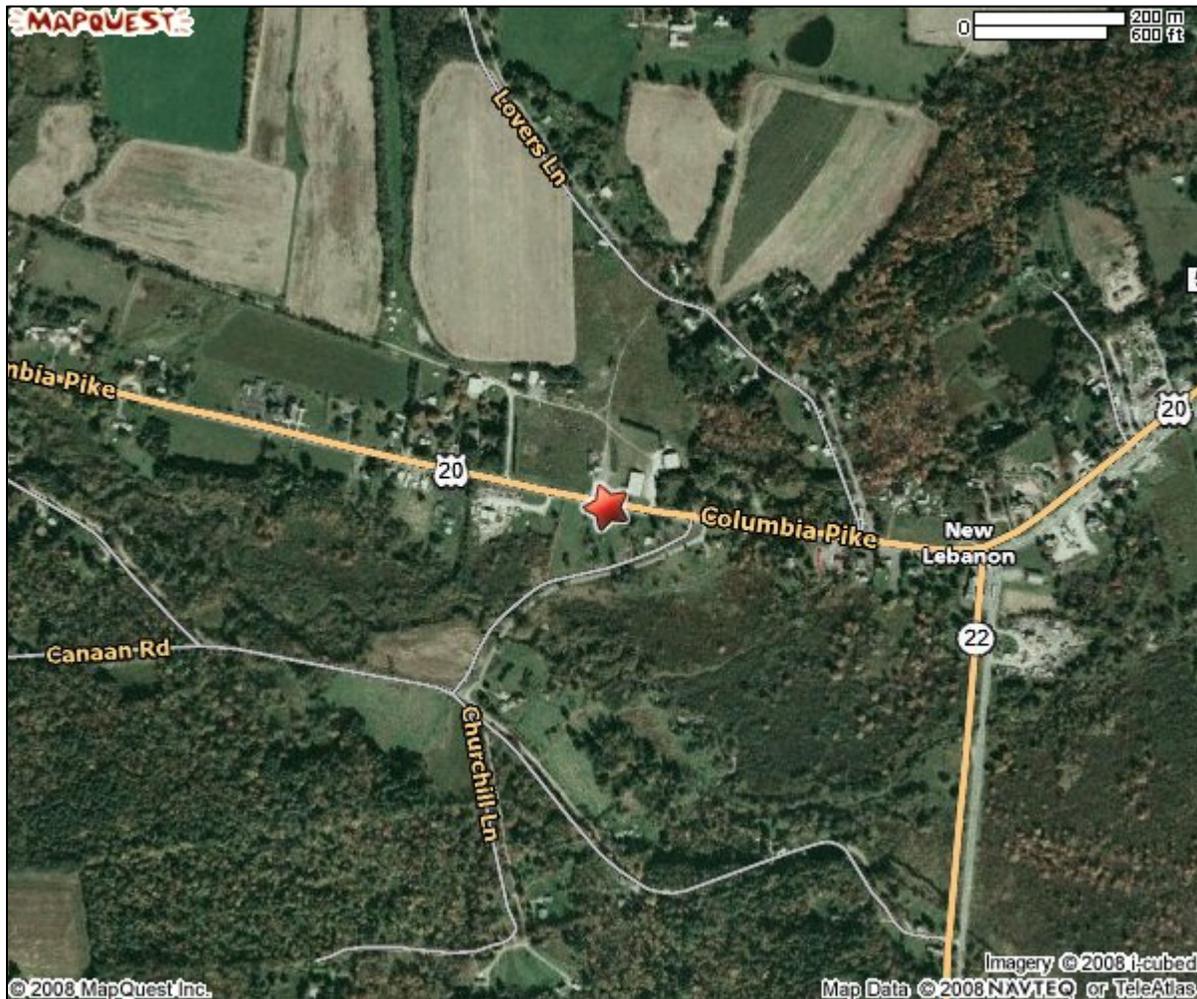
The Former Bouchard Junkyard Site is located in a rural agricultural area on the north side of United States (U.S.) Route 20 in the Town of New Lebanon, Columbia County, New York, approximately 0.25 miles west of the junction of U.S. Route 20 and New York State 22 and 25 miles southeast of the City of Albany, New York.

The approximate 17 acre site is an irregular shape parcel of land that is relatively flat with a gentle downward slope to the southeast. The site is bounded on the north and east by Lovers Lane, on the south by U.S. Route 20, and on the west by a residential property.

Wyomanock Creek, a New York State Class C (TS) stream, is located southwest of the site and flows from the southeast to northwest. Tributaries flow from north to south along the eastern and western boundaries of the site.

Three buildings are currently located at the site that are or have been used for business and are occupied by employees and customers during business hours. The remainder of the property has historically been utilized as farm land, but not currently used for agricultural purposes. South of the property, across U.S. Route 20, are a construction company and residential properties. Residential properties are also located to the north, east and west of the site. Agricultural lands are situated to the northwest.

Access to the site is via driveways along U.S. Route 20 that lead to gravel parking lots for the three buildings at the site. Dirt/gravel roads traverse the site allowing access to other portions of the property.



1.3 Site Characterization

The Former Bouchard Junkyard Site is the location of a former automobile junkyard operated from at least 1959 through February 1969 by Mr. Henry Bouchard. Mr. Edward Weisberg purchased the property from the widow of Mr. Bouchard in February 1969, and continued to use it as a junkyard. The former automobile junkyard was ordered closed in 1971 for operating without a license. All salvage was removed from the site in the late 1970's. The property was purchased by Mr. Ralph Chittenden in 1985. Since the removal of the junk cars, a theater group, automobile repair shop and engineering company, which has since moved, has been tenants on the site; however, most of the property has been utilized for agricultural purposes.

In July 1998, General Electric (GE) provided NYSDEC with an internal memorandum, dated October 10, 1980 indicating that drums of oil and Pyranol (polychlorinated biphenyls or PCBs) had either been disposed of or burned at the site. The NYSDEC collected surface and subsurface soil samples and water samples from private water supply wells on or near the property on September 28, 1998. Based on the sampling data and site conditions, NYSDEC listed the site as a Class 2 Inactive Hazardous Waste

Disposal Site. See Dvirka and Bartilucci Limited Site Data Summary Report for additional environmental sampling results).

2.0 Health and Safety Organization

2.1 Contact Information & Emergency Numbers

The project organizational structure and key project personnel are indicated below. Personnel assigned to perform the work described for this work assignment are as follows:

NAME	COMPANY	RESPONSIBILITIES	PHONE NUMBERS
David MacDougall	D.A. Collins Environmental	Director of Remediation	518-664-9855 (office) 518-365-3189 (mobile)
Dean Blodgett	D.A. Collins Construction	Site Superintendent	518-365-9900 (mobile)
Scott Serviss	D.A. Collins Environmental	Project Manager	518-664-9855 (office) 518-378-9619 (mobile)
TBD	D.A. Collins Construction	Site Health & Safety Officer	TBD (mobile)
Robert Gilchrist, CIH	D.A. Collins	Director of Safety	518-580-0300 (office) 518-857-9210 (mobile)
Michael Mason, P.E.	NYSDEC	Project Manager	518-402-9814 (office) 518-573-8244 (mobile)
James Magda	Dvirka and Bartilucci	Project Manager	415-437-1142 (office) 315-415-4315 (mobile)
Paul Martorano	Dvirka and Bartilucci	Project Engineer	516-364-9890 (office) 516-458-2476 (mobile)
Daniel Bishuk, CPG	Dvirka and Bartilucci	Field Inspector	315-437-1142 (office) 315-406-1204 (mobile)
Fire	Fire Dept.	To report a fire	911
Police	Police Dept.	To report emergencies	911
Ambulance	Ambulance		911
Chemical Emergency Advice			800-424-9300
Poison Control			800-222-1222
Pollution Emergency			800-292-4706
National Response Center			800-424-8802
Dr. Phil Adamo, M.D., M.P.H	Occupational Medicine Services	Medical Consultant	413-443-7799
Hospital (See Exhibit 4)	Berkshire Medical Center	725 North St., Pittsfield, MA	(413) 447-2000

2.2 Responsibility and Authority of Key Personnel

The responsibility and authority of key personnel relative to the implementation of this HASP are described below.

Project Manager

- Verify that the project is performed in a manner consistent with the HASP, Work Plan and technical specifications.
- Temporarily suspend field activities if the health and safety of personnel are endangered, pending further consideration by the Director of Safety.

Project Superintendent

- Insure that all personnel are made aware of the HASP.
- Coordinate work activities in compliance with the HASP.
- Temporarily suspend field activities if the health and safety of personnel are endangered, pending further consideration by the Director of Safety.

Director of Safety (Health & Safety Coordinator)

- Responsible for the overall development and implementation of the HASP
- Responsible for the initial training of on-site workers with respect to the contents of the HASP.
- Verify compliance with the HASP by all Site personnel.
- Perform site inspections and audits on a routine basis to verify compliance with the HASP.
- Coordinate with the Health and Safety Officer on health and safety matters.
- Temporarily suspend field activities if the health and safety of personnel are endangered, pending further consideration by the Health and Safety Officer.
- Report all infractions of the HASP to the Project Manager.
- Availability to assist the Safety Officer in follow-up training and if changes in site condition occurs.

Site Health and Safety Officer

- Direct health and safety activities on-site in accordance with the HASP.
- Educate site personnel by:
 - 1) Daily toolbox safety meetings
 - 2) Posting daily safety tips
 - 3) Coordination of weekly safety meetings
 - 4) Safety training of site personnel
 - 5) Leading by example
- Report safety related incidents or accidents to the Project Manager.
- Implement, enforcement, and monitoring of the HASP.
- Pre-construction indoctrination and periodic training of all on-site personnel with regard to this safety plan and other safety requirements to be observed during construction, including;
 1. Potential hazards;
 2. Personal hygiene principles;
 3. PPE;

4. Respiratory protection equipment usage and fit test;
 5. Emergency procedures dealing with fire and medical situations;
 6. Conduct daily update meetings in regard to health and safety.
- Maintain health and safety equipment on-site, as specified in the HASP.
 - Perform health and safety activities on-site, as specified in the HASP, and report results to the Project Manager.
 - Maintain documentation of health and safety measures taken at the Site including:
 - 1) Communication of the HASP;
 - 2) Levels of protection and required upgrades;
 - 3) Environmental monitoring results;
 - 4) Incident reporting; and
 - 5) Upgrade or downgrade levels of protection in response to field conditions outlined in the HASP.
 - Monitor the ambient air with a photo-ionization detector (PID), a combustible gas meter, and an ambient air sampling system and report this information to the Department and the Engineer.
 - Temporarily suspend field activities if health and safety of personnel are endangered, pending further consideration by the Director of Health and Safety and the Project Manager.
 - Report all infractions of the HASP to the Project Manager.
 - Interface with the Project Manager as may be required in matters of health and safety.
 - Monitor compliance with the approved HASP.
 - Assist the Project Manager in maintaining health and safety equipment for the Project.
 - Verify personnel working on the Site have completed medical surveillance and health and safety training.
 - Direct personnel to change work practices if they are deemed to be hazardous to health and safety of personnel.
 - Remove personnel from the project if their action or condition endangers their health and safety or the health and safety of co workers.
 - Direct health and safety related comments to management personnel for resolution and or correction.
 - Monitor site conditions for implementation of the Health and Safety Plan by all Subcontractors and visitors.
 - Enforcement of D.A. Collins Policies and Procedures.
 - Responsible for informing project personnel of the NYS Labor Law Section 876 (Right \-to-Know Law).
 - Responsible for the maintenance of separation of Exclusion Zone (Dirty) from the Support Zone (Clean) areas.

Health and Safety Technicians

The Health and Safety Technicians (HST) must have one year of hazardous waste site or related experience and be knowledgeable of applicable occupational health and safety regulation. The HST will be certified in CPR and first aid. The HST will be under direct supervision of the Safety Officer (SO) during on-site work. The HST must be familiar with the operations, maintenance and calibration of monitoring equipment used in the remediation. An HST will be assigned to each work crew or task in potentially hazardous areas.

Medical Consultant

DA Collins will retain a Medical Consultant (MC) who is physician, certified in occupational medicine. The physician shall have experience in the occupational health area and shall be familiar with potential site hazards of remedial action projects. The MC will also be available to provide annual physical and to provide additional medical evaluations of personnel when necessary.

3.0 Risk Analysis**3.1 Chemical, Biological and Physical Hazards****3.1.1 Chemical Hazards**

The Bouchard Junkyard Site known contaminants of concern (COCs) consists of mainly of polychlorinated biphenyls (PCBs), a subset of semi-volatile organic compounds (SVOCs) (e.g. naphthalene, 2-methylnaphthalene), and metals (e.g. lead, chromium, mercury).

A hazard analysis has also been prepared for the site contaminants of concern. The hazard analysis utilizes exposure and toxicity information generated by the Occupational Safety and Health Administration, American Conference of Governmental Industrial Hygienists, the National Institute for Occupational Safety and Health, the National Toxicology Program, the International Agency for Research on Cancer and accepted industry data. Listed below are the chemical and physical hazards associated with PCB, and other constituents requiring response action at Bouchard Junkyard Site.

PCBs

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		Powder, carbon dioxide.
EXPLOSION			
EXPOSURE		Prevent Generation of Mists! Strict Hygiene	
•INHALATION		Ventilation	Fresh air, rest. Refer for medical attention.
INGESTION	Headache, Numbness	Do not eat, drink, or smoke in work area.	Rest. Refer for medical attention
•SKIN	May be Absorbed! Dry skin. Redness	Protective gloves. Protective Clothing	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
•EYES		Face shield, or eye protection	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

Chemical dangers: The substance decomposes in a fire producing irritating and toxic gases.

Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact

Symptoms: Irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen]

Target Organs: Skin, eyes, liver, reproductive system

Short-Term Exposure: NA

Long-Term Exposure: Repeated or prolonged contact with skin may cause dermatitis. Chloracne is the most visible effect. The substance may have effects on the liver. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

SVOCs

Semi-volatile organic compounds (SVOCs) are released much more slowly than VOCs and often will attach to dust and other particles. Whereas VOCs tend to be emitted rapidly in the first few hours or days after installation of a product then taper off over time, SVOCs will be released by products more slowly and over a longer period of time.

SVOCs (Naphthalene)

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Flammable	NO open flames, NO sparks, and NO smoking	Water spray, dry chemical, carbon dioxide
EXPLOSION	Vapor/air mixture are moderately explosive	Closed system, ventilation, explosion-proof electrical equipment and lighting. Use non-sparking hand tools. Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		Avoid all Contact	
•INHALATION	Dizziness. Drowsiness. Headache. Nausea. Shortness of breath. Sweating, Confusion. Excitement. Convulsions. Unconsciousness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Dry skin. Redness. Pain	Protective gloves. Protective clothing.	Remove contaminated clothes. Wash skin with soap and water or shower. Refer for medical attention.
•EYES	Redness. Pain	Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for 15 minutes (remove contact lenses if easily possible), seek medical attention
•INGESTION	Abdominal pain. Sore throat. Vomiting	Do not eat, drink, or smoke in work area	Rinse mouth; induce vomiting after two glasses of water. Refer for medical attention.

Chemical danger: Naphthalene reacts violently with oxidizing materials and chromium anhydride potentially causing moderate fire and explosion hazards.

Physical danger: Naphthalene evaporates easily, vapor/dust may travel along the surface; distant ignition possible. As a result of flow, agitation, etc., electrostatic charges can be generated.

SVOCs (2-methylnaphthalene)

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Moderately Combustible.	NO open flames, NO sparks, and NO smoking	Powder, AFFF, foam, carbon dioxide.
EXPLOSION	Limited Explosion hazard		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		Avoid all Contact	
•INHALATION	Dizziness. Drowsiness. Coughing	Ventilation, local exhaust, or breathing protection.	Fresh air, rest.
•SKIN	Irritation. Dry skin. Redness. Pain	Protective gloves. Protective clothing.	Remove contaminated clothes. Wash skin with soap and water or shower.
•EYES	Redness. Pain	Face shield, or eye protection in combination with breathing protection.	Rinse with plenty of water for several minutes, remove contact lenses if easily possible, Seek medical attention
•INGESTION	Abdominal pain. Sore throat. Vomiting	Do not eat, drink, or smoke in work area	Rinse mouth. Do not induce vomiting. Give slurry of activated charcoal in water to drink. Seek medical attention.

Chemical danger: Decomposition of 2-methylnaphthalene produces acrid smoke and irritating fumes.

Exposure Routes: Inhalation, skin absorption, ingestion, or skin and/or eye contact.

Target Organs: Lungs, stomach, skin

Short-Term Exposure: Animal studies have shown harmful effects the skin, body fluids, reproductive system and ability to fight diseases. But these effects have not been seen in people.

Long-Term Exposure: Animal studies have shown harmful effects the skin, body fluids, reproductive system and ability to fight diseases. But these effects have not been seen in people. Some PAHs may be carcinogenic.

Lead

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Finely divided lead powder is flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking (if in powder form)	In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION	Finely dispersed particles form explosive mixture in air.	Prevent deposition of dust; close system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		Prevent dispersion of dust! Strict Hygiene! Avoid exposure of (pregnant) women! Avoid exposure of adolescents and children!	In all cases consult a doctor.
INHALATION	Abdominal cramps. Drowsiness. Headaches. Nausea. Vomiting. Weakness. Pallor. Hemoglobinuria. Collapse.	Ventilation (not if powder). Avoid inhalation of fine dust and mist. Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
INGESTION	Abdominal cramps (further see Inhalation).	Do not eat, drink, or smoke in work area. Wash hands before eating.	Rinse mouth. Induce vomiting (Only in conscious person!). Refer for medical attention.
•SKIN	May be absorbed.	Protective gloves. Protective Clothing	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
•EYES		Face shield, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible, then take to a doctor).

Chemical danger: Upon heating, toxic fumes are formed. Reacts with hot concentrated nitric acid, boiling concentrated hydrochloric and sulfuric acids. Attacked by pure water and by weak organic acids in the presence of oxygen. **Physical danger:** Dust explosion possible if in powder or granular form, mixed with air.

Exposure Routes: Inhalation, ingestion, skin and/or eye contact.

Symptoms: Lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation eyes; hypotension.

Target Organs: Eyes, gastrointestinal tract, central nervous system, kidneys, blood, and gingival tissue.

Short-Term Exposure: The substance may cause effects on the gastrointestinal tract, blood, central nervous system and kidneys, resulting in colic, shock, anemia, kidney damage and encephalopathy. Exposure may result in death. The effects may be delayed. Medical observation is indicated.

Long-Term Exposure: The substance may have effects on the gastrointestinal tract, nervous system, blood, kidneys and immune system, resulting in severe lead colic, paralysis of muscle groups of the upper extremities (forearm, wrist and fingers), anemia, mood and personality changes, retarded mental development, and irreversible nephropathy. May cause retarded development of the new-born. Danger of cumulative effect.

Mercury

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION	Risk of fire and explosion.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
INHALATION	Abdominal pain. Cough. Diarrhea. Shortness of breath. Vomiting. Fever or elevated body temperature.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Refer for medical attention.
•SKIN	MAY BE ABSORBED! Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Face shield, or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

Chemical danger: Upon heating, toxic fumes are formed. Reacts violently with ammonia and halogens causing fire and explosion hazard. Attacks aluminum and many other metals forming amalgams.

Exposure Routes: Inhalation, ingestion, skin and/or eye contact.

Symptoms: Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria

Target Organs: Eyes, skin, respiratory system, central nervous system, kidneys

Short-Term Exposure: The substance irritates the skin. Inhalation of the vapors may cause pneumonitis. The substance may cause effects on the central nervous system and kidneys. The effects may be delayed. Medical observation is indicated.

Long-Term Exposure: The substance may have effects on the central nervous system and kidneys, resulting in irritability, emotional instability, tremor, mental and memory disturbances, speech disorders. May cause inflammation and discoloration of the gums. Danger of cumulative effects. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

Chromium

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible if in very fine powder. Gives off irritating or toxic fumes (or gases) in a fire.	No open flames if in powder form.	In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
INHALATION	Cough.	Local exhaust or breathing protection.	Fresh air, rest.
INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.
•SKIN	May be absorbed.	Protective gloves. Protective Clothing	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
•EYES	Redness.	Face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

Chemical danger: Reacts violently with strong oxidants such as hydrogen peroxide, causing fire and explosion hazard. Reacts with diluted hydrochloric and sulfuric acids. Incompatible with alkalis and alkali carbonates.

Physical danger: Dust explosion possible if in powder or granular form, mixed with air.

Exposure Routes: Inhalation, ingestion, skin and/or eye contact

Symptoms: Irritation eyes, skin; lung fibrosis (histologic).

Target Organs: Eyes, skin, respiratory system.

Short-Term Exposure: Not Available

Long-Term Exposure: Repeated or prolonged contact may cause skin sensitization.

3.1.2 Physical & Biological Hazards

Other physical and biological hazards associated with this project include but not limited to:

- **Heavy Equipment**

Workers may be seriously injured or killed by heavy equipment. Equipment should be equipped with a backup alarm that alerts workers. When approaching operating equipment, the approach should be made from the front and within view of the operator, preferentially making eye contact.

Heavy equipment (small and large) may roll over on steep slopes or unstable ground crushing the operator. The angle of the slope should be designed to minimize the potential for roll-over. The construction contractor must maintain safe operating conditions for equipment during construction and provide a competent person for excavation activities.

- **Noise**

Due to the excess noise that maybe encountered during the different phases of this project, employees will be supplied with earplugs and/or earmuffs. The HSO will determine if the use of earplugs and/or earmuffs is needed based on the levels listed on Table 3.2.3.

- **Excavations**

Excavations (even small ones) will always be considered potentially hazardous. A cubic yard of earth weights about 3,000 pounds, so cave-in can cause a serious injury, or even death. Other hazards may include being struck by rocks or other falling objects, being struck by earth-moving equipment. During excavation watch out for people working below you, make sure tools, equipment, and other objects are kept at least two feet from the edge of the excavation, always wear PPE assigned for the job, Stay alert for signs of danger; cracks, water, earthmoving, gas or chemical odors, and report anything that appears hazardous to the supervisor immediately. In a deep excavation (5 feet or greater) or in unstable soil, use one of the following techniques; sloping or benching, shoring, or shielding. The contractor will ensure a competent person is available during all excavation activities.

- **Fall Protection**

When working at height of 6 feet or greater, employees are at risk of falling. Anchorage used for attachment of personal fall arrest equipment will be independent of any anchorage being used to support or suspend platforms and capable of supporting at least 5,000 pounds (22.2 kN) per employee attached. At a minimum, the following OSHA guidelines are applicable:

Personal fall arrest system:

- Personnel will wear safety harnesses (inspect daily) and will be tied off to a secured stationary object when working 6 feet above ground or greater.

- If manlifts are required personnel will be tied off inside the lift when operating 6 feet above ground.

Rails:

- Top rails between 39 and 45 inches tall.
- Toe boards at least 3 1/2 inches high.

Safety Nets: - As close as possible and no more than 30 feet below the work platform. Safety nets must meet the following requirements: The drop-test shall consist of a 400 pound (180 kg) bag of sand 30 + or – 2 inches (76 + or – 5 cm) in diameter dropped into the net from the highest walking/working surface at which employees are exposed to fall hazards, but not from less than 42 inches (1.1 m) above that level.

- **Material handling**

The greatest potential hazard of material handling aids is the improper selection, loading, and operation of dollies and hand trucks. Specific hazards of using material handling equipment include: losing the load, dropping the load, load falling on operator or bystander, overexertion – moving a dolly or hand truck the wrong way, using the wrong rope for the job, and sharp ends and edges on steel and plastic straps.

When strapping: wear gloves, safety shoes, and safety glasses, test strapping to make sure it can handle the planned load, make strapping taut – not too loose and not too tight, cut off any dangling ends.

- **Heavy lifting**

Workers should not be required to lift heavy loads (greater than 50 pounds) manually. Some loads may require two people. Proper lifting techniques include stretching, bending at the knees, and bringing the load close to the body prior to lifting. Mechanical lifting equipment, such as forklifts, should be used to lift or to move loads whenever possible.

- **Ticks**

Hard-bodied ticks, suborder Ixodidae, are vectors of several diseases that affect man and domesticated animals, including Lyme disease, Rocky Mountain spotted fever, and ehrlichiosis. These diseases can be treated with antibiotics if diagnosed early. Notify your physician if you develop flu-like symptoms two to 21 days after a tick bite.

Tick bites are best avoided, if possible. The following tips are suggested:

- Avoid tick infested areas, if possible.
- Wear light-colored clothing, preferably long sleeves and pants, when walking through known tick habitat.
- Tuck pants into sock or boot tops.

- Apply repellents.
- Stick to trails in wooded areas.
- Check for ticks, including the scalp, frequently.
- Remove ticks carefully,

- **Poisonous plants**

Poison Oak

In the East, it grows as a shrub. It has three leaflets to form its leaves' "hairs."

Poison Ivy

Grows as a vine in the East, Midwest and South, it grows as a vine. In the far Northern and Western United States, Canada and around the Great Lakes, it grows as a shrub. Each leaf has three leaflets.

Poison Sumac

Grows in standing water in peat bogs in the Northeast and Midwest and in swampy areas in parts of the Southeast. Each leaf has seven to 13 leaflets.

Poison Plant rash is an allergic contact dermatitis caused by contact with oil called urushiol. Urushiol is found in the sap of poisonous plants like poison ivy, poison oak, and poison sumac. It is colorless or pale yellow oil that oozes from any cut or crushed part of the plant, including the roots, stems, and leaves. After exposure to air, urushiol turns brownish-black. Damaged leaves look like they have spots of black enamel paint making it easier to recognize and identify the plant. Contact with urushiol can occur in three ways:

- Direct contact — touching the sap of the toxic plant.
- Indirect contact — touching something on which urushiol is present. The oil can stick to the fur of animals, to garden tools or sports equipment, or to any objects that have come into contact with it.
- Airborne contact — burning poison plants put urushiol particles into the air.

When urushiol gets on the skin, it begins to penetrate in minutes. A reaction appears, usually within 12 to 48 hours. There is severe itching, redness, and swelling, followed by blisters. The rash is often arranged in streaks or lines where the person brushed against the plant. In a few days, the blisters become crusted and take 10 days or longer to heal.

Poison plant dermatitis can affect almost any part of the body. The rash does not spread by touching it, although it may seem to when it breaks out in new areas. This may happen because urushiol absorbs more slowly into skin that is thicker such as on the forearms, legs, and trunk.

Prevention of Poison Ivy

Prevent the misery of poison ivy by looking out for the plant and staying away from it. You can destroy these weeds with herbicides, but this is not practical elsewhere. If you are going to be where you know poison ivy likely grows, wear long pants, long sleeves, boots, and gloves. Remember that the plant's nearly invisible oil, urushiol, sticks to almost all surfaces, and does not dry. Because urushiol can travel in the wind if it burns in a fire, do not burn plants that look like poison ivy.

Barrier skin creams such as a lotion containing bentoquatam offer some protection before contact with poison ivy, poison oak, or poison sumac. Over-the-counter products prevent urushiol from penetrating the skin. Ask your dermatologist for details.

Treatment

If you think you've contacted poison ivy, poison oak, or poison sumac, follow these simple steps:

- Wash all exposed areas with cold running water as soon as you can reach a stream, lake, or garden hose. If you can do this within five minutes, the water may keep the urushiol from contacting your skin and spreading to other parts of your body. Within the first 30 minutes, soap and water are helpful.
- Wash your clothing in a washing machine with detergent. If you bring the clothes into your house, be careful that you do not transfer the urushiol to rugs or furniture. You may also dry clean contaminated clothes.
- Relieve the itching of mild rashes by taking cool showers and applying over-the-counter preparations like calamine lotion or Burow's solution. Soaking in a lukewarm bath with an oatmeal or baking soda solution may also ease itching and dry oozing blisters. Over-the-counter hydrocortisone creams are not strong enough to have much effect on poison ivy rashes.

3.2 Air Monitoring

3.2.1 Work Area Air Monitoring

Work Area air monitoring will include the following elements:

1. Ambient dust will be monitored using one aerosol / dust meter.
2. Volatile organics in the work area will be monitored by a Photo-Ionization Detectors (PID) meter.
3. Combustible gases in the work area will be monitored by a four gas meter.
4. Personal air monitoring.

The HSO will have the responsibility to calibrate, set up, monitor, and maintain all safety meters and equipment utilized throughout the project.

3.2.1.1 Ambient Dust

Dust monitoring will be performed using an aerosol / dust meter (MiniRam Model MIEPDM-3 or equivalent) and will monitor particulate matter in the range of 0-10 microns diameter. Real-time dust monitoring shall be monitored and integrated over a period not to exceed 15 minutes within the work area.

Background levels will be established before the start of each shift every day. Dust monitoring shall be performed when site activities have the potential to disturb soils or create dust which may contain COCs. Dust monitoring may be waived on days where precipitation prevents dust migration or when site activities are not likely to generate dust. A background reading will be established daily at the beginning of the work shift. If the wind direction changes during the course of the day, a new background reading will be made.

Actions level and protective responses are detailed on Section 3.2.3.

3.2.1.2 Volatile Organics

Volatile organic compounds (VOCs) shall be monitored using a portable Photo-Ionization Detector (PIDs) (MiniRAE 2000-PGM 7600 or equivalent). HSO will evaluate the working conditions and determine when volatile organics will be monitored.

VOC monitoring, when performed, shall occur on a continual basis within the work area. Readings shall be recorded and documented in the daily progress reports.

Action levels and protective responses are detailed on Section 3.2.3.

3.2.1.3 Combustible Gases

Combustible gases and available oxygen shall be monitored whenever intrusive activities are likely to encounter high concentrations of volatile organics. LEL/O₂ monitoring shall be performed using a portable four gas meter (LEL/O₂/CO/H₂S), operated in the active work zone. Readings from an upwind location shall be used to determine background concentrations. Action levels and protective responses are detailed on Section 3.2.3

3.2.1.4 Personal Air Monitoring

Personal exposure monitoring for high risk employees shall be performed by the HSO utilizing the portable air monitoring instruments and methods discussed in Technical Specification 00003, 1.15 (D)(1)(F). Personal exposure monitoring shall be performed in the employee's work zone for a length of time sufficient to characterize the employee's time-weighted exposure. Personal exposure evaluations shall be documented by the HSO in the daily records and will be submitted with the Documentation Sampling, described below, which will identify the "high risk" workers chosen to wear appropriate collection media for PCBs, metals, and particulate; date media was worn; task involved; analytical results and applicable standards. At a minimum two "high risk" workers will be chosen to wear collection media for a particular day each week.

3.2.2 Community Air Monitoring

Community air monitoring will include the following elements:

1. Ambient dust will be monitored using four aerosol / dust meters (one upwind, three downwind).
2. Volatile organics will be monitored by four PID meters (one upwind, three downwind).
3. Meteorological Weather Station
4. Documentation Monitoring

The HSO will have the responsibility to calibrate, set up, monitor, and maintain all safety meters and equipment utilized throughout the project.

Daily real-time air monitoring results will include at a minimum, an appropriately scaled map on the work area depicting sample locations, wind direction and other pertinent meteorological data, date, time, analytical results, applicable standards and engineering controls implemented (if necessary).

Real-time air monitoring results for each workday, reported by DAC, will be submitted to the Engineer no later than 10:00am on the following workday, as specified in Technical Specification 00003, 1.15 (C)(1) Real-Time Monitoring.

3.2.2.1 Ambient Dust

Dust monitoring will be performed using an aerosol / dust meter (MiniRam Model MIEPDM-3 or equivalent) and will monitor particulate matter in the range of 0-10 microns diameter. Real-time dust monitoring shall be monitored and integrated over a period not to exceed 15 minutes at an upwind, and three downwind locations.

Background levels will be established before the start of work every day. Dust monitoring shall be performed when site activities have the potential to disturb soils or create dust which may contain COCs. Dust monitoring may be waived on days where precipitation prevents dust migration or when site activities are not likely to generate dust. The Engineer's representative shall be notified on any such days. DAC and the Engineer shall document concurrence on this action in their respective daily report logs. A background reading will be established daily at the beginning of the work shift. If the wind direction changes during the course of the day, a new background reading will be made.

Actions level and protective responses are detailed on Section 3.2.3.

3.2.2.2 Volatile Organics

Volatile organic compounds (VOCs) shall be monitored using four portable Photo Ionization Detectors (PIDs) (MiniRAE 2000-PGM 7600 or equivalent). HSO will evaluate the working conditions and determine when volatile organics will be monitored.

VOC monitoring, when performed, shall occur on a continual basis at an upwind, and three downwind locations. Readings shall be recorded and documented in the daily progress reports.

Action levels and protective responses are detailed on Section 3.2.3.

3.2.2.3 Meteorological Weather Station

DAC will provide and install a meteorological station which will record temperature, wind speed, wind direction, and precipitation.

3.2.2.4 Documentation Monitoring

Documentation monitoring will be conducted at the perimeter at a minimum of four locations (one upwind and three downwind) for total dust. Documentation monitoring will be conducted only during excavation, consolidation, staging, removal, or decontamination activities (i.e., intrusive activities)

Collection of total nuisance dust will be performed by PVC collection filter and personnel sampling pump and analyzed gravimetrically according to NIOSH 89-127 Method 0500. Documentation sampling will be collected at established perimeter locations. The four locations will be chosen according to site activities and expected wind direction. The perimeter locations will be established and marked with high visibility paint or flagged at approximate equidistant points around the site.

Documentation samples will be continuously collected during normal work hours (8-hour work period) when activities are occurring on site, at a height of 6 feet above ground surface.

At the end of the week, one days worth of sample (i.e. three downwind and one upwind location) will be selected by the Engineer for analysis. D.A. Collins will submit a written copy of the documentation air monitoring results within 7 days of sampling, which will include an appropriately scaled map of the Work Area depicting sample locations, wind direction and other pertinent meteorological data: time; analytical results; applicable standards and engineering controls implemented, if necessary.

3.2.2.5 Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities shall be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities will resume. If the organic vapor levels are greater than 5 ppm over the background but less than 25 ppm over background at the perimeter of the work area, activities will resume provided the organic vapor level 200 feet downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities shall be shutdown. When work shutdown occurs, downwind air monitoring as directed by the HSO will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

3.2.2.6 Major Vapor Emission

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities shall be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, the air quality shall be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if organic vapor levels are approaching 5 ppm above background and persist for more than 30 minutes in the 20 Foot Zone, the Major Vapor Emission Response Plan shall automatically be placed into effect.

However, the Major Vapor Emission Response Plan shall be immediately placed into effect if organic vapors levels within the 20 Foot Zone are greater than 10 ppm above background levels.

3.2.2.7 Major Vapor Emission Response Plan

Upon activation, the following shall be undertaken:

- All Emergency Response Contacts as listed above should be contacted;
- The local police authorities shall immediately be contacted by the HSO and advised of the situation. Coordinate with local officials to arrange for notification and evacuation of the surrounding community;
- 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 should be halted or modified by the HSO.

3.2.2.8 Odor

Foam active work areas to reduce odors if odor complaints are received from nearby residences during site activities. Odor suppression will be applied during each day that odor complaints are received.

3.2.3 Action Levels & Protective Response

The Site Health and Safety Officer will perform air sampling to determine airborne contaminant concentrations and document the concentration levels. Decisions to upgrade or downgrade PPE, or to modify engineering controls and work practices will be dependant upon the air monitoring data and the following table.

Table 3.2.3

Project Task	Potential Hazards	Monitoring & Action Levels	Response & PPE Req'd.
Any task which can generate dust-containing contaminants of concern. (Excavation, Soil/sediment stabilization, backfilling, heavy equipment decontamination, etc.)	Excavation activities may cause a dust hazard in the work zone and site perimeter. PCB: OSHA PEL: TWA 0.5 mg/m ³ skin	Dust monitoring: Total particulates: 2.5 times background and/or >150 µg / m ³ Visible Dust: Visible dust as determined by the ENGINEER	Modified Level D PPE to start. Work ceases until mitigated Work ceases until mitigated
Any task which is likely to encounter VOCs, or SVOCs (Excavation activities waste handling, waste transporting and loading, etc.)	Excavating and stabilization of sediment may create an exposure to VOCs and SVOCs which is a respiratory hazard	Total Organic Vapors monitoring (by PID): If < 5 ppm If ≥ 5 ppm at Work Zone (15 min. TWA) If ≥ 25 ppm at Work Zone (15 min. TWA)	Modified Level D PPE to start. Normal Operations; Continue to hourly breathing zone monitoring. Workers use respirators. Stop work. Evaluate alternate methods.
Any task which is likely to encounter VOCs or SVOCs		Noticeable odors outside the exclusion zone as determined by the Engineer	Work ceases until mitigated
Any task which is likely to cause high levels of noise (Working with heavy equipment, chain saws, heavy equipment decontamination etc.)	Working where high levels of noise can affect personnel's hearing.	OSHA limits > 85 dBA – 8hr per day > 140 dBA – peak level	Hearing protection shall be worn (ear plugs, ear muffs) for any work that may create a hearing protection hazard (as determined by the HSO).

3.3 General Safety – Standard Operating Procedures

3.3.1 Job Hazard Analysis

Job Hazard Analysis (JHA) for physical hazards are included in Exhibit 6. JHA are intended to provide general awareness of task related hazards and relevant guidance for safety protocol. Employees are required to understand and comply with all applicable OSHA standards, corporate operating procedures, and site specific plans.

JHAs should be used for relevant tasks. Where JHAs are not available refer to Standard Operating Procedures (SOPs)

3.3.2 Standard Operating Procedures

The activities to be performed at the site involve a variety of general construction tasks which present physical hazards that are not necessarily related to environmental contamination. The following general safety SOPs are incorporated into this HASP by reference. The project Superintendent and HSO should review these documents to ensure compliance with the programs, and maintain copies of all applicable SOPs at the work site.

All SOPs referenced below will be provided in a separate binder located in D.A. Collins field trailer (See Exhibit 8). Also refer to Section 1.11 Standard Operating Safety Procedures (SOSP), Engineering Controls, A. General SOSP, 1-18 in the Technical Specifications.

- ACCIDENT INVESTIGATION REPORT
- ALCOHOL & DRUG POLICY
- CONFINED SPACE
- CRANES AND DERRICKS
- DISCIPLINE PROGRAM
- EMERGENCY ACTION PLAN
- EMERGENCY FIRST AID
- EXCAVATION AND GRADING
- FIRE AND FIRE EXTINGUISHERS
- FIVE MINUTE HUDDLE FORMS
- GENERAL WORK RULE GUIDES
- HAZARD COMMUNICATION
- LOCKOUT/TAGOUT
- MANAGEMENT COMMITMENT AND EMPLOYEE INVOLVEMENT
- MANAGEMENT RESPONSIBILITY
- MATERIAL HANDLING
- OVERHEAD WIRES/OVERHEAD UTILITY SAFETY
- PERSONAL PROTECTIVE EQUIPMENT
- POISONOUS PLANTS (Poison ivy, poison sumac, etc.)
- RABIES
- RESPIRATORY PROTECTION
- STATEMENT OF POLICY
- TICKS AND LYME DISEASE
- TRENCHING AND SHORING
- U.F.P.O.

4.0 Training

All personnel associated with remediation activities at the site must participate in a health and safety training program that complies with OSHA 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response (HAZWOPER), prior to mobilization at the site. This program instructs employees on the intent of the standard health and safety principles/procedures, proper operation of monitoring instruments, use of personal protective equipment, decontamination, and site specific emergency plans.

All personnel shall have an initial 40 hour-training course. This course is supplemented by an annual 8 hour refresher course. Personnel responsible for supervision and on-site management relative to site operations receive an additional 8 hours of specialized training. Additional training is provided for those employees responsible for responding to site emergencies.

Any chemical specific training that may be required will be based upon compliance with 29 CFR 1910.1200, Hazard Communication. Training on respiratory protection will be in compliance with 29 CFR 1910.134.

All employees who will enter confined spaces will be trained in Confined Space Entry in accordance with the applicable OSHA regulations. Personnel responsible for supervising, planning confined space entry and rescue will be adequately trained in their function duties prior to any confined space entry. Refresher training will be conducted as needed to maintain employees' competence in entry procedures and precautions.

5.0 Personal Protective Equipment

This section describes the general requirements of the Levels of Protection (A-D), and the specific levels of protection required for this project. All PPE supplied by DAC will meet the minimum requirements set forth in the Technical Specifications.

5.1 Levels of Personal Protection

Personnel must wear protective equipment when activities involve potential contact with known or suspected contamination, when hazardous vapor, gases, or particulates may be generated by site activities, or when direct skin contact with hazardous substances may occur.

The specific levels of protection and necessary components for each have been divided into four categories according to the degrees of protection afforded:

Level A

Should be worn when the highest level of respiratory, skin, and eye protection is needed.

Level B

Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection.

Level C

Should be worn when the criteria for using air purifying respirators are met, and a lesser level of skin protection is needed.

Level D

Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

The Level of Protection selected is based upon the following:

- Type and measured concentration of the chemical substance in the ambient atmosphere and its toxicity.
- Potential routes of exposure to substances by inhalation, dermal contact, ingestion, or other direct contact with material due to work being done.
- Knowledge of chemicals on-site along with properties such as toxicity, route of exposure, and contaminant concentration.

The required levels of personal protection area defined in Section 3.1 (Chemical Hazards). All on-site personnel will be required to comply with the personal protective levels of protection.

The various levels of protection for this project are defined as follows:

Level D

- High visibility reflective safety vests
- Sleeved shirt
- Full length pants
- Boots/shoes; chemical resistant, steel toe and shank
- Safety glasses or chemical splash goggles meeting ANSI Z.87.1 requirements
- Hardhat meeting ANZI Z.89.1 requirements
- Earplugs and/or earmuffs (optional as applicable)
- Face shield (where splash hazards exist)
- Leather work gloves
- Rain gear (optional as applicable)
- Safety harnesses, lanyards and lifelines (optional as applicable)

Level D (Modified)

This level of protection is used when concentrations(s) and types(s) of airborne substance(s) are known to be below the permissible exposure limits (PELs), and when prevention of dermal contact is needed.

Air purifying respirators should be readily available. Use of an air-purifying respirator with Modified Level D PPE will constitute Level C PPE.

The following constitute Modified Level D PPE, which may be used as appropriate:

- High visibility reflective safety vests
- Sleeved shirt
- Full length pants
- Boots/shoes; chemical resistant, steel toe and shank
 - Disposable boot covers (where appropriate)
- Safety glasses or chemical splash goggles meeting ANSI Z87.1 requirements
- Hardhat meeting ANSI Z89.1 requirements
- Chemical protective suits
 - White Tyvek (dry work)
 - Polyethylene coated Tyvek (wet work)
- Gloves
 - Nitrile gloves
- Safety harnesses, lifelines and lanyards (optional as applicable)
- Earplugs and / or earmuffs (optional as applicable)
- Face shield (decontamination pad employees)

Level C

This level of protection applies when the concentration (s) and types(s) of airborne substance(s) are known and the criteria for using air purifying respirators are met. The following constitute Level C PPE, which may be used as appropriate.

- Air purifying respirator (NIOSH approved) with appropriate cartridges as listed below:
 - Half face or full face respirator with OV/HEPA cartridges for all work where action levels dictate respiratory protection.
 - The HSO shall evaluate the protection factors of both full face and half face respirators with respect to the anticipated concentration of COCs and shall direct the employee as to which style shall be utilized.
 - The 15 min TWA for Total VOCs and/or results from benzene and naphthalene sampling will determine the use of half-face and full-face respirators.
 - Half-Face – if >5 ppm and <50 ppm
 - Full Face – if >50 ppm and < 250 ppm
- Sleeved shirt
- Full length pants
- Boots/shoes; chemical resistant, steel toe and shank
 - Disposable boot covers (where appropriate)
- Safety glasses or chemical splash goggles meeting ANSI Z 87.1 requirements
- Hardhat meeting ANSI Z89.1 requirements
- Chemical protective suits
 - White Tyvek (dry work)
 - Polyethylene coated Tyvek (wet work)
- Gloves
 - Nitrile gloves
- Safety harnesses, lifelines and lanyards (optional as applicable)

- Earplugs and / or earmuffs (optional as applicable)
- Face shield (decontamination pad employees)

Level B

Level B PPE is not anticipated for this project. If site hazards require Level B PPE, the Director of Safety and / or the Project Manager will determine the safety protocol and provide a formal amendment to this HASP.

Level A

Level A PPE is not anticipated for this project. If site hazards require Level A PPE, the Director of Safety and / or the Project Manager will determine the safety protocol and provide a formal amendment to this HASP.

5.2 PPE Storage and Maintenance

Clothing and respirators will be stored properly to prevent damage or malfunction due to exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures and impact. Many equipment failures can be directly attributed to improper storage.

Different types and materials of clothing and gloves will be stored separately to prevent issuing the wrong material by mistake. Protective clothing will be folded or hung in accordance with the manufacturers' recommendations. Contaminated clothing for re-use will remain in the contaminant reduction zone.

Air-purifying respirators will be stored in a clean re-sealable plastic bag. Cartridges will be removed from the respirators prior to storage. Cartridges will be changed out daily, if breakthrough is noticed or as directed by the HSO.

SCBAs, supplied air respirators and air purifying respirators, if necessary or required, will be regularly dismantled, washed and disinfected. SCBAs will be stored in storage chests supplied by the manufacturer. Air purifying respirators should be stored individually in their original cartons or carrying cases, or in heat sealed or re-sealable plastic bags.

The technical aspects of PPE maintenance procedures vary by manufacturer and type of equipment. It is the responsibility of each employee to review, understand, and comply with the recommended maintenance procedures for any PPE assigned to him.

5.3 Training and Proper Fitting

Training: Employees have been trained in the proper use of protective equipment prior to using any equipment on-site. The purpose of the training has been to: (1) become familiar with the equipment in a non-hazardous situation; (2) instill confidence and awareness in the user of the limitations and capabilities of the equipment; (3) increase the operating and protective efficiency of PPE use; and (4) reduce maintenance expenses.

Respirator Fit Testing: The "fit" of the facepiece to face seal of a respirator will be tested on each potential wearer to ensure a tight seal; every face piece does not fit every wearer. Certain features, such as scars, very prominent cheekbones, deep skin creases, dentures or missing teeth and the chewing of gum and tobacco may interfere with the respirator to face seal. Under conditions where these features may impede a good seal, a respirator must not be worn. All personnel who may wear a respirator will be qualitatively fit tested with irritant smoke, isoamyl acetate, or equivalent methods according to 29 CFR 1926.103 at least semiannually. Where a qualitative fit test is used in lieu of a quantitative fit test, the HSO shall reduce the safety factor by 50% when evaluating respiratory protection requirements.

6.0 Medical Surveillance Program

This medical surveillance program is designed to survey pre-employment or baseline conditions prior to potential exposures and monitor physical conditions on a regular basis. All HAZMAT workers on this project are required to comply with the medical monitoring program. Non-HAZMAT workers (if any) may be excluded from this requirement at the HSOs discretion.

Medical surveillance confirmation for employees who may utilize respiratory protection will be maintained on site with other records.

6.1 Baseline Medical Monitoring

Prior to employment, each employee must receive a baseline medical examination as outlined in the D.A. Collins corporate safety program.

The content of the baseline medical examinations will be determined by the employer's medical consultant based upon the potential exposures of the worker and the nature of the duties to be performed. The medical monitoring examinations must certify employees as fit for duty and able to wear respiratory protection and insure that no chemical exposure has occurred during the course of normal operations.

6.2 Periodic Medical Monitoring

In addition to a baseline examination for all employees, regular annual examinations shall be performed unless the advising physician or HSO believes a shorter interval is appropriate. Annual exams must fulfill OSHA 29 CFR 1910 and 1926 requirements.

The Project Manager or Site HSO will verify all personnel working in potentially contaminated areas at the site are currently (within 12 months) participating in a medical surveillance program. This is done by obtaining a copy of the physicians written opinion form for the medical surveillance at the job site.

6.3 Exposure or Injury Medical Support

As a follow up to an injury or possible exposure above established exposure limits, all employees are entitled to and encouraged to seek medical attention and medical testing. Depending upon the type of

exposure, it is critical to perform follow up testing within 24-48 hours. The medical consultant will advise as to the type of test required to accurately monitor for exposure effects.

6.4 Exit Medical Monitoring

At termination of employment, reassignment, or at the physician's discretion each employee shall complete an exit medical surveillance examination. The content of the examination is to be determined by the employer's medical consultant. Employees who are assigned to this project for less than 6 months may be exempt, at the HSO's discretion.

7.0 Site Control Measures

This section defines measures and procedures for maintaining site control. Site control is an essential component in the implementation of the site health and safety plan.

7.1 Site Maps and Work Zones

The Project Superintendent will maintain a copy of all site maps and drawings at the D.A. Collins office trailer. Site maps and work zones shall be fully available to all workers and provided to any employee or site visitor upon request.

7.2 Site Security

Entry and exit to and from the site will be limited to authorized personnel only. All personnel must sign in at the Project Office and complete an entry into the Daily Visitor Log (see Exhibit 5).

Entry and exit to and from the site will be permitted only through designated access points, except during an emergency or as authorized by the Superintendent or HSO.

All visitors and subcontractors entering the site must be approved with the Department prior to arrival on-site. Anyone entering the active remediation areas will be required to read and verify compliance with the provisions of this HASP. Visitors will be expected to comply with relevant OSHA regulations and expected to provide their own protective equipment.

In the event that a visitor does not adhere to the provisions of the HASP, he/she will be requested to leave the work area. All nonconformance incidents will be recorded in the site log.

7.3 Work Zone Definitions

Work zones shall be delineated as described below. Variations to the designation, layout, or configuration of the work zones must be authorized by the HSO, Project Manager, or Director of Safety. Construction fence, tape, cones, or other warning barriers will be placed to identify the various work zones.

7.3.1 Exclusion Zone

Exclusion Zones are restricted areas where work activities create a high potential for exposure. Entry into the exclusion zone is limited to authorized personnel only, equipped with the proper PPE as described in Sections 3.1 and 5.0.

Exclusion Zones for this project shall include, but are not limited to, the following areas:

- Active removal areas where project tasks are intrusive and likely to encounter contaminated materials.
- The exclusion zone at Bouchard Junkyard shall include the entire excavation, handling and stockpiling area (s).

7.3.2 Contamination Reduction Zone

Contaminant Reduction Zones are designated as transition areas between the Exclusion Zone and the Support Zone. Activities in the CRZ may involve decontamination of personnel or equipment, waste containment, or other activities where the possibility of direct exposure to contaminants is reduced. Authorized personnel entering a CRZ may be required to use PPE as designated in Sections 3.1 and 5.0. The need for PPE shall be determined by the HSO based upon the anticipated tasks to be completed.

Contaminant Reduction Zones for this project shall include the following areas:

- Entrance areas adjacent to active removal areas
- The equipment and truck decontamination pad.
- All other areas within the limits of work, but outside of EZs, shall be considered CRZs with respect to authority, training, and PPE requirements.

7.3.3 Support Zone

Support zones are all other areas of the project which are active as part of the operation. Support zones do not require special access authority, training or PPE. All areas of the site not designated as EZs or CRZs shall be considered Support Zones.

7.4 Site Communications

Successful communications between personnel in the various zones is essential. Contact with outside services and agencies are also essential to summon emergency services. The following communications system will be available during activities at the site.

Hand Signal	Definition
Hands clutching throat	Out of air, Can't breathe
Hands on top of head	Need assistance
Thumbs up	OK / I understand
Thumbs down	No / negative

Arms waving upright Send backup support
Grip partners wrist Exit area immediately

Communications equipment for this project shall include the following:

- Two Way Radios
- Portable Cellular Telephones
- Telephones in Project Office

8.0 Personal Decontamination Procedures

8.1 Personal Hygiene

- Site personnel must thoroughly wash their hands and faces before eating.
- Facial hair will not be allowed where the respirator seal contacts the face.
- Personnel will not eat, drink, smoke, or chew tobacco in the exclusion zone.

8.2 Personal Decontamination

Personnel and equipment decontamination varies depending on the level of PPE required at the site. Personnel and equipment decontamination is necessary when personnel or equipment enter and exit an Exclusion Zone or Contaminant Reduction Zone.

The following procedures have been established to provide site personnel with minimum guidelines for proper decontamination. These minimum procedures must be followed by all personnel donning PPE in accordance with this HASP. The decontamination process shall take place at a reasonable distance from any area of potential contamination.

Designated stations will be established within the Contamination Reduction Zone (CRZ) and include, at a minimum, a portable eyewash/body wash facility with a minimum water capacity of 10 gallons and will conform to OSHA regulations 29 CRF 1910.151.

Non-disposable equipment will be cleaned and staged for the next use. Wash stations shall consist of a potable water supply, hand soap and clean towels. In most instances, employees will perform self decontamination. In cases where further assistance is necessary, such as Level C operations, employees will be designated to work within the CRZ to assist employees with decontamination. Modifications of the decontamination procedures may be necessary as determined by the HSO. Decontamination solutions will be contained in 55 gallon drums, sampled and disposed of consistent with regulatory guidance and applicable regulations.

Wash stations and sanitary facilities will be available onsite. The sanitary facilities will be maintained and cleaned on a weekly basis.

8.3 Decontamination Procedures

The following decontamination procedures shall be implemented during site activities for the appropriate level of protection. Decontamination procedures for Level B or Level A PPE are not anticipated for this project, and will be determined by the HSO or Project Manager in a formal amendment to this HASP if necessary.

8.3.1 Level D Decontamination Procedure

1. Segregated Equipment Drop: Deposit contaminated equipment (tools, sampling devices, monitoring instruments, etc.) onto plastic drop cloths or other designated containers.
2. Boot, Outer Glove and Coverall Wash: Brush overboots (if used), outer gloves (if used) and coveralls (if used) free of residual materials. If necessary, wash with detergent/water solution and rinse with water.
3. Boot, Outer Glove and Coverall Removal: Remove overboots (if used), outer gloves (if used), and coveralls (if used) in that order. Place disposable overboots, outer gloves, and coveralls into a waste container. Stage non-disposable equipment for decontamination and future use.
4. Inner Glove Wash and Removal: Wash and remove inner gloves (if used) and place in lined container.
5. Field Wash: Wash hands and face thoroughly.

8.3.2 Level C Decontamination Procedure

1. Segregated Equipment Drop: Previously described.
2. Overboot, Outer Glove and Coverall Wash: Overboots, outer gloves and coveralls shall be brushed free of bulk residual materials and scrubbed with a detergent/water solution if necessary.
3. Tape Removal: Remove tape from around boots and gloves and place into container with a plastic liner.
4. Removal of overboots and Outer Gloves: Remove overboots and outer gloves in that order. Non disposable overboots and gloves will be staged for future use and disposable overboots and gloves will be placed into a waste container.
5. Cartridge Change: This is the last step in the decontamination procedures for those workers wishing to change respirator cartridges and return to the exclusion zone. The workers cartridges are exchanged, new outer gloves and overboots are donned, and joints are taped. For workers moving to a Support Zone, spent cartridges will be removed as part of step 7.
6. Removal of Chemical Resistant Clothing: With care, remove chemical resistant suit. The exterior of the suit shall not come into contact with any inner layers of clothing. Place disposable clothing in a waste container.
7. Remove Respirator: Remove respirator and place on plastic. Keep face/glove contact to a minimum.
8. Inner Glove Removal: Remove inner gloves and deposit in a waste container.
9. Field Wash: Wash hands and face thoroughly.

8.4 Emergency Decontamination Procedures

Should an injured person have an excessive exposure to contaminated soil, groundwater, or other materials, they will be decontaminated, if appropriate, and brought immediately to the hospital. The HSO will decide whether or not to decontaminate an affected employee, and the decision will be based upon the type and severity of the illness or injury and the nature of the contaminant.

For some emergency victims, immediate decontamination may be an essential part of life saving first aid. For others, decontamination may aggravate the injury or delay life saving treatment. If decontamination does not interfere with essential treatment, it may be performed by any employee trained in the appropriate decontamination procedures, including respiratory protection and personal protective clothing.

While performing the decontamination procedures, the protective clothing of the affected employee will be washed, rinsed and/or cut off. If decontamination cannot be performed, then the victim will be wrapped in blankets, plastic or rubber to reduce contamination of other personnel. Emergency and offsite personnel will be alerted to potential contamination, and they will be instructed in specific decontamination procedures if necessary. At least one person familiar with the incident will be sent along with the victim during emergency treatment.

9.0 Equipment Decontamination Procedures

9.1 Equipment Decontamination Pad

Any equipment or vehicles which may become contaminated must be decontaminated prior to exiting the CRZ. All equipment will be decontaminated (as necessary) on-site using a high-pressure wash station located at the Equipment Decontamination Pad (EDP). The EDP will be installed at a mutually agreed location onsite suitable to support the traffic patterns for truck loading. Construction of the EDP will include the following specifications:

- Dimensions of the decon pad will be 50' long x 15' wide.
- 40-mil LLDPE liner
- 16 oz. fabric on top of liner
- Select fill (concrete bedding sand) shall be a 6" layer of clean sand from the Nassau gravel pit which will be utilized for common fill. Sand for this application will be taken from the deposits at the site which are free of gravel sized stone.
- Containment berms will be built with the same sand, rather than ¾" crushed stone.
- Driving surface stone will be #2 angular or #3 angular (6" minimum thickness) as the angular stone provides better stability (tires spin too much in pea gravel). The 16 oz. fabric normally provides suitable protection against puncture with this material.
- Stone ramp will be installed on the inlet and outlet sides of the EDP.

Decontamination water collected in the sump during equipment / truck decontamination will be transferred to the untreated water storage tank for management in accordance with the Dewatering Plan. The EDP will be washed down at the end of each work day, if necessary with a pressure washer. No

contamination will be left behind. At the completion of the project the EDP will be removed in its entirety and disposed of offsite as described in the Work Plan.

9.2 Equipment Decontamination

Decontamination of equipment will be performed to prevent the migration of contaminants off-site and between work areas on the site. All equipment and other tools will be cleaned prior to site entry to remove grease, oil, encrusted dirt, or other materials. An inspection of the equipment will be made by the Project Superintendent prior to approving equipment for use on-site.

Decontamination of small reusable equipment will be performed at a designated location within the contamination reduction zone. Decontamination of equipment will consist of soap and water washing and water rinse.

Following decontamination, clean equipment will be securely stored away from potential contaminants if not immediately used. The Project Superintendent will be responsible for inspecting all equipment leaving the site for adequacy of decontamination.

All equipment and material used in this project will be thoroughly washed down in accordance with established federal and state procedures before it is removed from the project. With exception of the excavated materials, all other contaminated debris, clothing, etc. that cannot be decontaminated will be disposed of by DAC by a method permitted by appropriate regulatory agencies. All vehicles and equipment used in the "Dirty Area" will be decontaminated to the satisfaction of the HSO in the decontamination area on site prior to leaving the project. The DAC will certify that each piece of equipment has been decontaminated prior to removal from the site. PCB wipe test will be performed on DAC equipment, and will not be removed from the site until the analytical results verify the equipment clean. All waste hauler trucks will be visually inspected by DAC personnel prior to leaving the site and will be documented in an Excel spreadsheet that the visually inspection has been preformed.

9.3 Decontamination Methods

For general cleanup and/or non-TSCA contaminants, equipment decontamination will include gross removal of bulk debris at the EDP by brushing or scraping followed by thorough decontamination with a steam cleaner (hot pressure washer) with a minimum 3,000 psi pressure rating and industrial grade degreaser. For TSCA regulated contaminants, final decontamination of the Contractor's equipment shall be performed in compliance with TSCA requirements as set forth in 40 CFR 761.79(c).

Small tools and equipment which can not be safety pressure washed will be hand washed with a warm detergent solution within the DP.

All portions of transport vehicles that have contacted materials subjected to removal (e.g., wheels, dump body exterior, etc.) will be decontaminated within the on-site Decontamination Pad (DP) prior to leaving the site. Refer to the Work Plan for further information.

Non-disposable equipment cleaning shall be deemed complete based on a review by NYSDEC and the analytical results of the wipe samples. NYSDEC may require additional cleaning efforts based on the analytical wipe samples.

Personnel engaged in vehicle decontamination will wear protective clothing and equipment as determined in this HASP.

The decontamination pad will be cleaned after daily use and upon completion of the project in accordance with SPEC 00003, 1.14 Equipment Decontamination..

9.4 Disposal of Decontamination Wastes

Personal protective equipment will be co-disposed with bulk solid waste and disposed of at an approved waste facility.

Decontamination water will be collected in a designated sump, pumped to an on site frac-tanks for storage, and treated prior to discharge. Refer to the Work Plan for further information.

Solid material generated from the decontamination of the equipment shall be co-disposed with bulk-solid waste and disposed at an appropriate waste facility.

10.0 Emergency Response Plan (ERP)

10.1 Emergency Planning

During the site briefings held periodically, all employees will be trained in and reminded of provisions of the emergency response plan, communication systems, and evacuation routes. The plan will be reviewed and revised if necessary, on a regular basis by the Project Manager and Site HSO. This will verify that the plan is adequate and consistent with prevailing site conditions.

The HSO shall attend and participate in any planning meetings required by local emergency management departments (hospital, fire, police, hazardous materials, etc.) for the purpose of coordinating emergency response to the project site and communicating and procedural requirements or information needs.

The HSO has primary responsibility for responding to and correcting emergency situations. This includes taking appropriate measure to ensure the safety of site personnel and the public. Possible actions may involve evacuation of personnel from the site area. He is additionally responsible for verifying corrective measures have been implemented, appropriate authorities notified, and follow up reports completed. The HSO will direct responses to any medical emergency.

All employees are responsible for assisting the HSO within the parameters of their scope of work.

In the event of an emergency, the site HSO shall be responsible for notifying the proper authorities and implementing any appropriate measures. A local map and directions to the nearest hospital are attached in Exhibit 4. Emergency access / egress routes are visible on the map.

10.2 Emergency Meeting Place and Signals

A clear, safe exit route and meeting place will be setup for personnel to meet should a release occur (fire, explosion, etc.). All personnel will be informed about the routes from the Work Area to the Meeting area. Air horns will be placed at each Work Zone and will indicate a release has occurred.

10.3 Spill Prevention and Countermeasures

This Spill Response Plan (SRP) has been developed in order to address the soil remedial activities at the Bouchard Junkyard activities in New Lebanon, New York. This plan will address spill response measures for potential spills or discharges of contaminated-related materials that could occur at the Bouchard Junkyard site during the work activities.

A copy of this SPCC will also be made available to all personnel for review.

10.3.1 Notification

In the event of a reportable spill D.A. Collins will immediately notify the following entities, but in no case later than two hours after the discharge:

- National Response Center (if applicable): 800-424-8802
- NYSDEC Spill Hotline: 800-457-7362
- DAC Contact – Scott Serviss (518-378-9619)

The person notifying the department shall provide all of the following information which is available:

1. The name of the person making such report and his relationship (agent, employee, etc.) to any person (corporation, company, etc.) which might be responsible for causing such discharge.
2. The time and date of the discharge.
3. The probable source of the discharge.
4. The location of the discharge, both geographic and in relation to bodies of water.
5. The type of hazardous material discharge.
6. Possible health or fire hazards resulting from the discharge.
7. The amount of hazardous material discharged.
8. All actions which are being taken or will be taken to clean up and remove the discharge.
9. The personnel presently on the scene.
10. Other government agencies which have been or will be notified.
11. Trucking Routes – Head northwest on Route 20 to I-90. Take I-90 west to disposal facility (e.g. Ontario County Landfill, Waste Management – Model City, etc.).

10.3.2 Spill Prevention and Countermeasures

Spill prevention has been developed as an integral part of the developed for this project. The key elements of the spill prevention program include:

- Leak proof containment liners on the EDP.
- Secondary containment around the waste water treatment pad and untreated frac tank.
 - Dimensions of the decon pad will be 65' x 65' square. Suitable for 3 frac tanks plus WWTP components. Also meets 110% containment for 1 frac tank (using 1' berms).
 - 40-mil LLDPE liner
 - 16 oz. fabric on top of liner
 - Select fill (concrete bedding sand) shall be a 6" layer of clean sand from the Nassau gravel pit which will be utilized for common fill. Sand for this application will be taken from the deposits at the site which are free of gravel sized stone.
 - Containment berms will be built with the same sand, rather than ¾" crushed stone.
 - Driving surface stone will be #2 angular or #3 angular (4" minimum thickness).
- Spill proof fuel storage areas.
- On-site inventory of spill response materials including sorbent pads and boom.
- Daily walk-through inspections of the construction site to check the piping, equipment, and tanks for leakage, soils for staining and discoloration, excessive accumulation of rainwater in containment structures, and verification that dike drain valves are sealed closed. D.A. Collins will repair or replace as needed.
- Storm water management systems have been established to prevent washout and migration of active sediment removal areas. These systems include the following:
 - The EDP will be graded to collect all precipitation. Secondary containment is provided by the curbing and the liner barrier walls.
 - Installation of silt fence.

Where hazardous substances may be released by spilling sediments or other hazardous substances, such that employees may be exposed to these hazards, HAZMAT trained employees must perform the appropriate spill containment procedures. The spill containment procedures for this project include the following:

1. Solid Spills:

- The Contractor shall immediately remove and place impacted materials into staging piles.
- Cover the piles;
- Identify the piles as impacted;
- Test the material for disposal requirements, if appropriate, dispose of at an approved offsite treatment, storage and disposal facility as specification Section 002230, "Transportation and Disposal".

2. Liquid and/or Sludge Spills:

- The Contractor shall absorb with sand, clean fill, or other absorbent material;
- Remove and place the absorbent/spill mixture into staging piles.
- Cover the piles;
- Identify the piles as impacted;

- Test the material for disposal requirements, if appropriate, dispose of at an approved offsite treatment, storage and disposal facility as specification Section 002230, “Transportation and Disposal”.
3. Application of absorbents, e.g. sorbent pads, lime kiln dust
 4. Fuel spills on water
 - Will be managed with floating oil booms, sorbent pads and other typical water based spill management practices.
 5. Off-site/transportation related spills
 - The Contractor will line, cover and inspect all waste transportation loads prior to leaving the site.
 - If spill occurs off-site the truck driver will contact the Site Superintendent.
 - The Site Superintendent will immediately contact the appropriate authorities.
 - The Site Superintendent will assemble a cleanup team composed of DAC employees or call in a Subcontractor to clean-up and dispose of the spill.

Employees performing these procedures are required to wear the proper protective clothing and equipment for the materials present, and to follow established standard operating procedures for spill control. The HSO shall evaluate the conditions of the spill and determine the appropriate level of PPE. In many cases, the chart in Section 3.1 of the HASP may provide quick guidance.

Once contained, the spill shall be cleaned up in accordance with routine remediation methods. Upon completion of a satisfactory cleanup, the spill incident shall be reviewed by all management personnel in order to determine the conditions leading to the spill, additional prevention methods, and corrective actions to be immediately implemented.

DAC will maintain onsite the following equipment for spill containment and cleanup:

- Sorbent Pads
- Floating Oil Boom
- Shovels, brooms, etc.
- Speedi-Dri
- Overpack Drums

11.0 Heat and Cold Stress

11.1 Heat Stress

Site Personnel who wear protective clothing allow body heat to be accumulated with an elevation of body temperature. Heat cramps, heat exhaustion, and heat stroke can be experienced, which, if not remedied can threaten life and health. Therefore, an American Red Cross Standard First Aid book or equivalent will be maintained on site at all times so that the HSO and site personnel will be able to recognize symptoms of heat emergencies and be capable of controlling the problem.

When protective clothing is worn the suggested guidelines for ambient temperature and maximum wearing time per excursion are:

Ambient Temperature (°F)	Maximum Wear 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

To monitor the workers, be familiar with the following heat-related disorders and their symptoms:

- **Prickly Heat (Heat rash)**
 - Painful, itchy red rash. Occurs during sweating, on skin covered by clothing.
- **Heat Cramps**
 - Painful spasm of arm, leg or abdominal muscles, during or after work
- **Heat Exhaustion**
 - Headache, nausea, dizziness. Cool, clammy, moist skin. Heavy sweating. Weak, fast pulse. Shallow respiration, normal temperature.
- **Heat Fatigue**
 - Weariness, irritability, loss of skill for fine or precision work. Decreased ability to concentrate. No loss of temperature control.
- **Heat Syncope**
 - Fainting while standing in a hot environment.
- **Heat Stroke**
 - Headache, nausea, weakness, hot dry skin, fever, rapid strong pulse, rapid deep respirations, loss of consciousness, convulsions, coma. **This is a life threatening condition.**

To monitor:

- Heart rate. Count the radial pulse during a 30-second period as early as possible in the rest period.
 - If the heart rate exceeds 100 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same.
 - If the heart rate still exceeds 100 beats per minute at the next rest period, shorten the following work cycle by one-third. A worker cannot return to work after a rest period until their heart rate is below 100 beats per minute

- Oral temperature. Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking).
 - If oral temperature exceeds 99.6°F, shorten the next work cycle by one-third without changing the rest period. A worker cannot return to work after a rest period until their oral temperature is below 99.6°F.
 - If oral temperature still exceeds 99.6°F at the beginning of the next rest period, shorten the following cycle by one-third.
 - Do not permit a worker to wear a semi-permeable or impermeable garment when oral temperature exceeds 100.6°F.

Prevention of Heat Stress – Proper training and preventative measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention 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 following steps should be taken:

- Adjust work schedules
 - 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 shade areas to protect personnel during rest period.
- 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, id., eight fluid ounces of water must be ingested for approximately every eight ounces of water lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:
 - Maintain water temperature 50° to 60°F.
 - Provide small disposal cups that hold about four ounces.
 - Have workers drink 16 ounces of fluid (preferably water or dilute drinks) before beginning work.
 - Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons of fluid per day are recommended, but more may be necessary to maintain body weight.
- Train workers to recognize the symptoms of heat related illness.

11.2 Cold-Related Illness

If work on this project begins in the winter months, thermal injury due to cold exposure can become a problem for field personnel. Systemic cold exposure is referred to as hypothermia. Local cold exposure is generally called frostbite.

Hypothermia – Hypothermia is defined as a decrease in the patient core temperature below 96°F. The body temperature is normally maintained by a combination of central (brain and spinal cord) and

peripheral (skin and muscle) activity. Interference with any of these mechanisms can result in hypothermia, even in the absence of what normally considered a “cold” ambient temperature. Symptoms of hypothermia include: shivering, apathy, listlessness, sleepiness, and unconsciousness.

Frostbite – Frostbite is both a general and medical term given to areas of local cold injury. Unlike systemic hypothermia, frostbite rarely occurs unless the ambient temperatures are less than freezing and usually less than 20°F. Symptoms of frostbite are: a sudden blanching or whitening of the skin; the skin has a waxy or white appearance and is firm to the touch; tissues are cold, pale, and solid.

Preventions of Cold-Related Illness – To prevent cold-related illness:

- Educate workers to recognize the symptoms of frostbite and hypothermia.
- Identify and limit known risk factors.
- Assure the availability of enclosed, heated environment on or adjacent to the site.
- Assure the availability of dry changes of clothing.
- Assure the availability of warm drinks.
- Start (oral) temperature recording at the job site:
 - At the HSO discretion when suspicion is based on changes in a worker’s performance or mental status.
 - At a worker’s request
 - As a screening measure, two times per shift, under unusually hazardous condition (e.g., wind-chill less than 20°F, or wind-chill less than 30°F with precipitation).
 - As a screening measure whenever any one worker on the site develops hypothermia.

Any person developing moderate hypothermia (a core temperature of 92°F) cannot return to work for 48 hours.

12.0 Confine Space Work

DAC will evaluate the work areas and determine if there are any permit-required confined spaces. If DAC determines that personnel will not need to enter a permit-required confined space, appropriate measures to prevent personnel from entering such shall be taken. If DAC determines that personnel will need to enter a permit-required confine space, develop and implement a written permit-required confine space program.

The written program will comply with 29 CFR 1910.146 and will include the following:

1. Implement methods to prevent unauthorized entry.
2. Identify and evaluate the hazards of permit-required confined space before entry;
3. Develop and implement procedures for safe permit-required confined space.
4. Evaluate permit-required confined space when entry operations are conducted.
5. Provide at least one attendant outside the permit-required confined space which will be entered.
6. Designate the personnel who will have active role in entry operations;
7. Develop and implement procedures for obtaining rescue and emergency services;
8. Develop and implement a system for the preparation, issuance, use and collection of entry permits,

9. Develop and implement procedures to coordinate entry operations when personnel from more than one employer are working;
10. Develop and implement procedures for concluding the entry;
11. Review and revise entry operations if measures may not protect personnel; and
12. Review the permit-required confined space program to ensure personnel are protected from the hazards present.

13.0 Recordkeeping

Implementation of the provisions of this HASP must be completely documented. The Project Manager must set up a separate file to receive health and safety related records and activity reports. This file should contain the following records:

- One copy of the site specific HASP.
- Material Safety Data Sheets (MSDS).
- Daily Safety Logs.
- A list of personnel engaged in site activities and verification of the required training and medical monitoring.
- Employee injury/exposure incident reports.
- Safety violation records and remedial actions taken.
- Other pertinent health and safety related observations.
- Air sampling instrumentation records, sampling data sheets, and chain-of-custody forms.
- Accident/Incident Reports.
- Security Log
- Safety Log

All field personnel must sign the Compliance Agreement, indicating that they have attended a briefing by the Project Manager or HSO, understand, and agree to abide by the provisions of this HASP prior to working at the site. Personnel will be trained by the Project Manager or Site Health and Safety Officer before entering the site.

Health and safety documents shall be submitted to the Project Manager for inclusion in the weekly progress reports.

14.0 Material Safety Data Sheets

MSDS will be submitted for all hazardous chemicals onsite. MSDS will be made readily available, upon request, and will be located in the Contractor's field office.

15.0 Approvals

This HASP has been reviewed by the undersigned parties. Each party understands his / her responsibilities and duties and will comply with requirements herein and enforce compliance throughout the duration of the project.

Project Manager

Date

Project Superintendent

Date

Director of Health and Safety

Date

Health and Safety Officer

Date

EXHIBIT 1

Health and Safety Plan Review Acknowledgement and Compliance Agreement

I, _____ have read this Health, Safety, and Contingency Plan and hereby agree to abide by its provisions and to aid the Project Manager in its implementation. I understand that it is in my best interest to see that site operations are conducted in the safest manner possible; therefore, I will be alert to site health and safety conditions at all times.

I, _____ have been instructed on the following items listed below. I realize that it is in my best interest to understand these items and the locations of these items. If at any time I do not understand these items, I will ask the Health and Safety Officer for this information.

- 1. Emergency Treatment Locations _____
- 2. Competent Person _____
- 3. OSHA 300 Logs _____
- 4. Right to Know _____
- 5. MSDS Sheets _____
- 6. Hazard Analysis Forms _____
- 7. Human Rights _____

Signature

Date

EXHIBIT 2

Contractor/Subcontractor OSHA Certification

Company Name: _____

Company Address: _____

Company Address: _____

Company Official: _____

Phone: _____

As an official of the listed Contractor or Subcontractor, I understand that all company personnel employed at the _____ (the site) need to be trained, medically monitored and respirator certified in accordance with 29 CFR 1910 and 1926 (the regulations).

I certify that company personnel employed at the site will have current training, medical monitoring, fit testing and respirator clearance in accordance with the regulations and that all records and documentation are available for review.

I understand that this certification is not a substitution for the submittal of actual historical and/or current records and documentation; and that actual documentation may need to be submitted upon request of D.A. Collins Environmental Services.

I will instruct all employees intended to work at the site to review and acknowledge the Health, Safety and Contingency Plan as required.

I certify that I am authorized to act on behalf of the company and take full responsibility to see that all employees and all workmanship are in compliance with this certification and the referenced regulations.

Signature Date

Printed Name Title

EXHIBIT 3

Medical Data Sheet

Employee Name: _____

Company Name: _____

Company Address: _____

Company Official: _____

Company Phone: _____

Check the appropriate boxes

____ I have no medical conditions that will impact my ability to work safely and in accordance with the Health, Safety and Contingency Plan as required.

____ I have the following condition which may affect my ability to work safely and in accordance with the Health, Safety and Contingency Plan as required. (Explain Below)

Condition: _____

____ I take no drugs (prescription or otherwise) that will impact my ability to work safely and in accordance with the Health, Safety and Contingency Plan as required.

____ I take the following drugs which may affect my ability to work safely and in accordance with the Health, Safety and Contingency Plan as required. (Explain Below)

Drugs: _____

Signature Date

Printed Name Title

D.A. COLLINS ENVIRONMENTAL SERVICES
101 ROUTE 67, P.O. BOX 191
MECHANICVILLE, NY 12118-0190



Date of Employment / Assignment: _____

Date of Termination / Reassignment: _____

Date Sent: _____

Employee Name & Address:

Re: Offer for Exit Physical
Project: _____
Job No: _____

Dear Employee:

In accordance with Section 6.4 (Exit Medical Monitoring) of the Health & Safety Plan which was provided to you for the above referenced project, D.A. Collins hereby offers you the opportunity for an exit medical surveillance examination.

The purpose of the exit exam is to confirm and document your health status at the completion of the project. It further serves to evaluate and follow up on any injury or possible exposure that may have occurred during your employment on this project.

The examination is voluntary and may be accepted or declined at your discretion. If you choose to accept this offer, you must contact project Health & Safety Officer (HSO) or Project Superintendent within 30 days of receipt of this letter. The HSO will then schedule an exit examination on your behalf.

If you choose to decline this offer, please notify the HSO so that we may close your file. If you do not contact the HSO within the 30 day period it will be assumed that you have declined the offer for the exit exam.

You may also contact myself at 518-664-9855 if you have any questions or need additional information. Thank you for your employment with D.A. Collins.

Sincerely,

David MacDougall
Director of Remediation

cc: Safety Department, DAC
Permanent Project File, DACE
Site HSO File, DACE

EXHIBIT 4

Route to Hospital

From: 666 US Route 20 New Lebanon, NY

To: Berkshire Medical Center
725 North St., Pittsfield, MA
518-243-4000

Driving Directions:

Start out going EAST on US-20 / COLUMBIA PIKE toward CANAAN RD. Continue to follow US-20 (Crossing into MASSACHUSETTS).

Turn LEFT onto SOUTH ST / US-7.

Turn RIGHT onto BANK ROW / US-7 N. Continue to follow US-7 N.

Turn LEFT onto 1ST ST / US-7.

Turn LEFT onto TYLER ST.

Turn RIGHT onto NORTH ST.

End at Berkshire Medical Center
725 North St
Pittsfield, MA 01201-4109, US

Total Estimated Time: 20 min

Total Distance: 11.85 miles

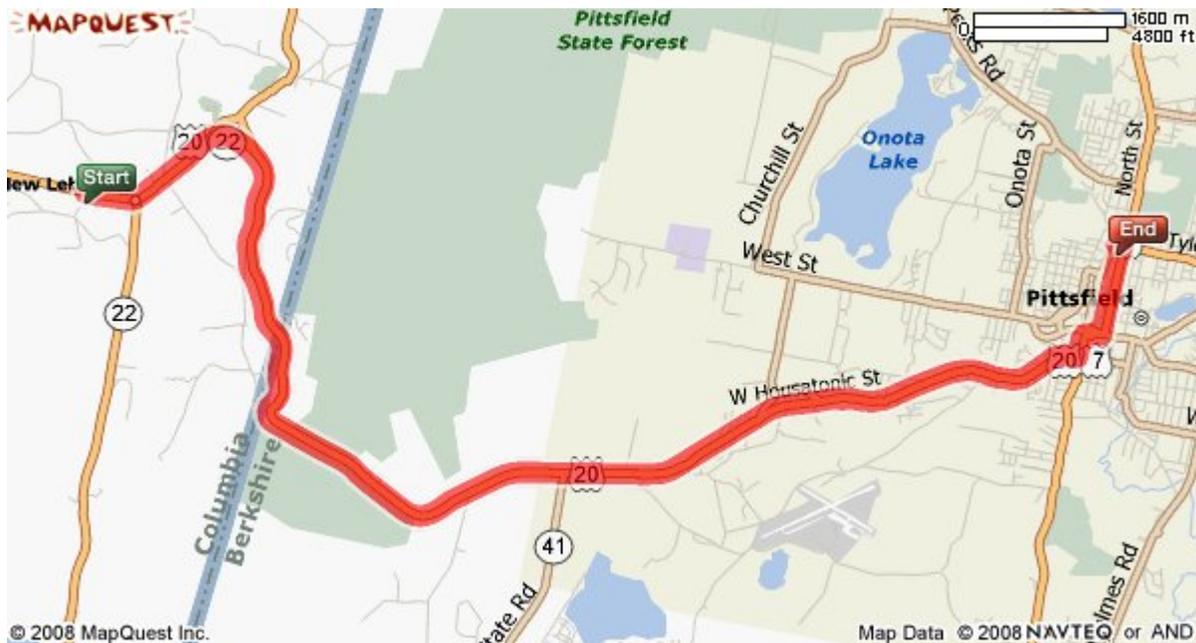


EXHIBIT 5

Daily Visitor Log

EXHIBIT 6

Job Hazard Analysis
(Submitted with 01392-001-B)

EXHIBIT 7

Air Monitoring Equipment Specification

(Submitted with 01392-001-B)

EXHIBIT 8

Standard Operating Procedures (SOPs)

(Submitted with 01392-001-B)