

US EPA ARCHIVE DOCUMENT

**HEALTH AND SAFETY PLAN (HASP)  
for  
WESTERN ENVIRONMENTAL, INC.  
SOIL RECLAMATION FACILITY**

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**Prepared for:  
WESTERN ENVIRONMENTAL, INC./WRT INDIO, LLC  
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MECCA, CALIFORNIA 92254**

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**Approvals Signature (required prior to project start):**

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\_\_\_\_\_ Date: \_\_\_\_\_  
WEI/WRT Site Safety Officer

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- A Chemical Descriptions
- B Forms
  - Air Monitoring Form*
  - Site Safety Checklist*
  - Daily Tailgate Safety Meeting Form*
  - Accident Report Form*
  - Hazard Assessment and Correction Record*
  - Worker Training and Instructor Record*
- C Hospital Route Map
- D Site Diagrams

Table 1- Odor Screening Protocol

## 1.0 GENERAL

ESRA Consulting LLC in conjunction with Cornerstone Emergency Management have prepared this Health and Safety Plan (HASP) for use during the material screening activities for the presence of odorous volatile organic compounds (VOC) and application of appropriate odor mitigative measures at the Western Environmental, Inc. (WEI) and Waste Reduction Technologies, LLC (WRT) Facility located in Mecca, California (“the Site”). Activities conducted under WEI/WRTs’ direction at the Site will be in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations, particularly those in 29 Code of Federal Regulations (CFR) 1910.120, and other applicable federal, state, and local laws, regulations, and statutes. A copy of this Health and Safety Plan (HASP) will be kept on site during scheduled field activities.

### **Health and Safety General Requirements:**

1. WEI/WRT employees and contractors will be briefed on the contents of the plan prior to commencing work on Site.
2. WEI/WRT will maintain its facilities and equipment in proper working order to ensure that the risks to employees are minimized and that the required personal protective equipment (PPE) is made available as required in this HASP.
3. Activities conducted by WEI/WRT or its subcontractors will operate within the practices and procedures outline in this HASP.

This HASP addresses the potential hazards associated with planned field activities at the Site. It presents the minimum health and safety requirements for establishing and maintaining a safe working environment during the course of work. In the event of conflicting requirements, the procedures or practices that provide the highest degree of personnel protection will be implemented. If work plan specifications change or if site conditions encountered during the course of the work are found to differ substantially from those anticipated, the Director of Health and Safety must be informed immediately upon discovery, and appropriate changes will be made to this HASP.

It is the Project Manager’s responsibility to ensure that health and safety procedures are enforced at the Site. Project personnel, including subcontractors, shall receive a copy of this HASP and sign the form to indicate acceptance before on-site project activities begin.

WEI/WRT health and safety programs and procedures, including medical monitoring, respiratory protection, injury and illness prevention, hazard communication, and personal protective equipment (PPE), are documented in this Health and Safety Plan and other CAL OSHA Compliance Plans and policies adopted by WEI/WRT management. WEI/WRT employees will adhere to the procedures specified in this HASP and company policies and procedures.

When specified in contract documents, this HASP may cover the activities of WEI/WRT subcontractors. However, this HASP may not address hazards associated with tasks and equipment that are specialties of the subcontractor (e.g., operation of a drill rig). Subcontractors are responsible for developing, maintaining, and implementing their own health and safety programs, policies, and procedures.

WEI/WRT is responsible for the safety of its employees and subcontractors under its control, but assumes no responsibility for the activities of other contractors or their subcontractors who may be working concurrently at the general project location. WEI/WRT will use a reasonable degree of care when marking potentially hazardous areas within its project work site and restricting access as appropriate. WEI/WRT will not be responsible for others outside its control who disregard such marked hazards or restricted access. This HASP has been prepared specifically for this project and is intended to address health and safety issues solely with respect to WEI/WRT's work. Therefore, all references to the Site, the work, activities, site personnel, workers, persons, or subcontractors in this HASP are with respect to WEI/WRT work only.

## 2.0 SITE DESCRIPTION AND BACKGROUND

The WEI/WRT Facility is approximately 40-acres in size and located in Mecca, California. The land is leased to WEI/WRT by the Cabazon Band of Mission Indians (CBMI) and is an important business within the Tribe's industrial development which is referred to as a "Resource Recovery Park".

The WEI/WRT Facility is one of the few in the State of California that provides full service recycling and remediation of contaminated soils, construction debris, biodegradable materials, liquids, plastics and other similar materials. The Site has been in operation since 2004. Materials are being recycled, bioremediated and being prepared for processing and reuse off Site. While the material is being processed it is temporarily stored on Site as shown on Figure 1.

## 3.0 PLANNED SITE ACTIVITIES

Scheduled work tasks/planned activities consist of the following:

### **Task No. 1 - Screening of the Materials Received at the Site**

This task involves the screening of soils and other materials received at the site for odorous VOCs using direct reading instruments.

### **Task No. 2 - Application of Mitigative Measures/Controls**

This task involves the application of odor control measures to reduce and mitigate nuisance odors.

### **Task No. - Soil Stabilization of Material Containing Lead**

This task involves mixing of soil containing lead (Pb) by adding fly ash (green waste) and water to it. The mixing occurs on the ground surface at the Site and involves the use of heavy equipment to spread and mix the material

#### **Task No. 4 - Bioremediation of Soils Containing Petroleum Hydrocarbons**

This task involves mixing of petroleum contaminated soil with microbes that are used to bioremediate the soil.

#### **Task No. 5 - Handling of Soy Whey, Biosolids and other Odorous Materials**

This task involves blending of biosolids with others composted materials.

### **4.0 KEY PROJECT PERSONNEL AND RESPONSIBILITIES**

The key project team members are identified below:

**Project Coordinator:** George Bower, Ph.D

**Project Manager:** Mr. William Carr

**Site Safety Officer (SSO):** Matt Mullen and Rick Diaz

**Project Health and Safety Manager:** Robert Palermo, Sc.D, PE, CSP, RPIH, CET

The responsibilities of key project personnel are outlined below.

#### **4.1 Project Manager**

The Project Manager has the ultimate responsibility for the health and safety of WEI/WRT personnel at the Site. The Project Manager is responsible for:

- Ensuring that project personnel review and understand the requirements of this HASP;
- Keeping the Project Health and Safety Manager informed of project developments;
- Keeping on-site personnel, including subcontractors, informed of the expected hazards and appropriate protective measures at the Site; and
- Providing resources necessary for maintaining a safe and healthy work environment for WEI/WRT personnel.

#### **4.2 Project Health and Safety Manager**

The Project Health and Safety Manager are responsible for the review, interpretation, and modification of this HASP. Modifications to this HASP that may result in less stringent precautions cannot be undertaken by the Project Manager or SSO without the approval of the



Health and Safety Manager. In addition, the Health and Safety Manager has the following responsibilities:

- Advising the Project Manager and SSO on matters relating to health and safety on this project;
- Recommending appropriate safeguards and procedures;
- Modifying this HASP, when necessary; and
- Approving changes in health and safety procedures employed at the Site.

### 4.3 Site Safety Officer

The SSO is responsible for enforcing the requirements of this HASP once site work begins. The SSO has the authority to immediately correct situations where noncompliance with this HASP is noted and to immediately stop work in cases where an immediate danger to site workers or the environment is perceived. Responsibilities of the SSO also include:

- Obtaining and distributing PPE and air monitoring equipment necessary for this project;
- Limiting access at the Site to authorized personnel;
- Communicating unusual or unforeseen conditions at the Site to the Project Manager;
- Supervising and monitoring the safety performance of site personnel to evaluate the effectiveness of health and safety procedures and correct deficiencies;
- Conducting daily tailgate safety meetings before each day's activities begin;
- Conducting a site safety inspection prior to the commencement of each day's field activities; and
- Conducting safety inspections of all operations and equipment on a regular basis and keeping records of those inspections.

### 4.4 Subcontractor Personnel

Subcontractor personnel are expected to comply with the minimum requirements specified in this HASP. Failure to do so may result in the dismissal of the subcontractor or any of the subcontractor's workers from the job site. Subcontractors may employ health and safety procedures that afford them a greater measure of personal protection than those specified in this plan as long as they do not pose additional hazards to themselves, the environment, or others working in the area.

## 5.0 HAZARDS OF KNOWN OR EXPECTED CHEMICALS OF CONCERN

<b>Volatile Organic Compounds Present in Materials Received Onsite</b>	<b>Environmental Media</b>	<b>OSHA Permissible Exposure Limit (PEL) and/or ACGIH Threshold Limit Value-Time Weighted Average (TWA)</b>
Naphthalene	Soil/liquids/solid materials	10 ppm
Ethyl benzene	Soil/liquids/solid materials	100 ppm
Toluene	Soil/liquids/solid materials	20/200 ppm
Benzene	Soil/liquids/solid materials	1 ppm
m-xylene	Soil/liquids/solid materials	100 ppm
Methyl and Ethyl Mercaptans n-Butyl Mercaptan, Isobutyl Mercaptan	Soil/liquids/solid materials	0.5 ppm
Hydrogen Sulfide	Soil/liquids/solid materials	10 ppm
Dimethyl sulfide	Soil/liquids/solid materials	10 ppm
Amines (Trimethyl Amine, Dimethyl Amine, Methyl Amine)	Soil/liquids/solid materials	5/10 ppm
Lead	Soil/solid materials	0.050 mg/m <sup>3</sup>
Respirable dust	Soil/solid materials	5 mg/m <sup>3</sup>
Inhalable dust	Soil/solid materials	15 mg/m <sup>3</sup>

### 5.1 Air Monitoring

On-site worker exposure to airborne contaminants will be monitored real time on the Site. The equipment will be calibrated and checked prior to use consistent with manufacturers requirements and the results will be recorded on WEI/WRT's Air Monitoring Form or in the project log book. The results of air monitoring will be recorded on a WEI/WRT Air Monitoring Form or project log book and will be retained in the project files following completion of field activities. A copy of the Air Monitoring Form is located in Appendix B and the Odor Control Screening Protocol is in Table 1 at the end of the document.

## 6.0 PHYSICAL HAZARDS

The following potential physical hazards may be encountered during scheduled activities at the Site:

- Slips, Trips, and Falls;
- Heavy Equipment;
- Heat Stress;
- Cold Stress;
- Noise;
- Electrical Sources;
- Underground and Overhead Utilities;
- Materials and Equipment Handling;
- Biological Hazards;
- Elevated Work Platforms;
- Fire/Explosion;
- Lightning/Electrical Storms;
- Traffic;
- Dust Control;
- Work Area Illumination;
- Compressed Gas Cylinders;
- Hand Tools; and
- Ladders.

### 6.1 General Safe Work Practices

General safe work practices to be implemented onsite include the following:

- Workers will thoroughly clean their hands, faces, and other potentially contaminated areas before smoking, eating, or leaving the Site;
- Respiratory devices may not be worn with beards or long sideburns, or under other conditions that prevent a proper seal;
- Accidents and/or injuries associated with work at the Site will be immediately reported to the SSO. If necessary, an incident report will be initiated by the SSO;
- Periodic safety briefings will be held to discuss current site conditions, field tasks being performed, planned modifications, and work concerns;

- Site conditions may include uneven, unstable, or slippery work surfaces. Substantial care and personal observation is required of each employee to prevent injuries from slips, trips, and falls;
- Workers will maintain good housekeeping practices during field activities to maintain a safe working environment. The work site will be kept free of debris, waste, and trash;
- The “buddy system” will be used whenever appropriate;
- To prevent head injury, American National Standards Institute (ANSI) approved hard hats will be worn at all times while the worker is in an area where overhead obstructions or falling objects may be encountered;
- To prevent eye injuries, workers must wear ANSI-approved safety glasses during field activities;
- To provide for worker safety, an ANSI-approved high visibility safety vest shall be worn at all times during field activities; and
- Site workers will wear other appropriate PPE (in addition to the PPE described above) required to perform work safely.

## 6.2 Heavy Equipment

Equipment, including earth-moving equipment, or other heavy machinery, will be operated in compliance with the manufacturer’s instructions, specifications, and limitations, as well as any applicable regulations. The operator shall have received appropriate training to ensure safe operation of any equipment used. The operator is responsible for inspecting the equipment daily to verify that it is functioning properly and safely. Damaged/deteriorated equipment will be removed from the Site or will be repaired prior to use on the Site.

Operation of equipment at the Site for the activities outlined in Section 3 poses potential physical hazards. The following precautions should be observed whenever heavy equipment is in use:

- PPE, including steel-toed boots, safety glasses, hard hats and vests must be worn;
- Personnel must be aware of the location and operation of heavy equipment and take precautions to avoid getting in the way of its operation. Workers must never assume that the equipment operator sees them; eye contact and hand signals should be used to inform the operator of intent;
- Personnel should not walk directly in back of, or to the side of, heavy equipment without the operator’s knowledge; and
- Nonessential personnel are not allowed in the work area, and appropriate warning signs will be posted to warn unapproved visitors not to enter the work area(s).

## 6.3 Heat Stress

Adverse climate conditions, primarily heat, are important considerations in planning and conducting site operations. Heat-related illnesses range from heat fatigue to heat stroke, with

heat stroke being the most serious condition. The effects of ambient temperature can cause physical discomfort, loss of efficiency, and personal injury, and can increase the probability of accidents. In particular, protective clothing that decreases the body's ventilation can be an important factor leading to heat-related illnesses.

To reduce the possibility of heat-related illness, workers should drink plenty of fluids and establish a work schedule that will provide sufficient rest periods for cooling down. Personnel shall maintain an adequate supply of non-caffeinated drinking fluids on site for personal hydration. Workers should be aware of signs and symptoms of heat-related illnesses, as well as first aid for these conditions. These are summarized in the following table.

Condition	Signs	Symptoms	Response
Heat Rash or Prickly Heat	Red rash on skin.	Intense itching and inflammation.	Increase fluid intake and observe affected worker.
Heat Cramps	Heavy sweating, lack of muscle coordination.	Muscle spasms, and pain in hands, feet, or abdomen.	Increase fluid uptake and rest periods. Closely observe affected worker for more serious symptoms.
Heat Exhaustion	Heavy sweating; pale, cool, moist skin; lack of coordination; fainting.	Weakness, headache, dizziness, nausea.	Remove worker to a cool, shady area. Administer fluids and allow worker to rest until fully recovered. Increase rest periods and closely observe worker for additional signs of heat exhaustion. If symptoms of heat exhaustion recur, treat as above and release worker from the day's activities after he/she has fully recovered.

Condition	Signs	Symptoms	Response
Heat Stroke	Red, hot, dry skin; disorientation; unconsciousness	Lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse.	Immediately contact emergency medical services by dialing 911. Remove the victim to a cool, shady location and observe for signs of shock. Attempt to comfort and cool the victim by administering small amounts of cool water (if conscious), loosening clothing, and placing cool compresses at locations where major arteries occur close to the body's surface (neck, underarms, and groin areas). Carefully follow instructions given by emergency medical services until help arrives.

#### 6.4 Cold Stress

Workers performing activities during winter and spring months may encounter extremely cold temperatures, as well as conditions of snow and ice, making activities in the field difficult. Adequate cold weather gear, especially head and foot wear, is required under these conditions. Workers should be aware of signs and symptoms of hypothermia and frostbite, as well as first aid for these conditions. These are summarized in the table below.

Condition	Signs	Symptoms	Response
Hypothermia	Confusion, slurred speech, slow movement.	Sleepiness, confusion, warm feeling.	Remove subject to warm area, such as truck cab; give warm fluids; warm body core as rapidly as possible; remove outer clothing and wrap torso in blankets with hot water bottle or other heat source. Get medical attention immediately.
Frostbite	Reddish area on skin, frozen skin.	Numbness or lack of feeling on exposed skin.	Place affected extremity in warm, not hot, water, or wrap in warm towels. Get medical attention.

#### 6.5 Noise

Noise may result primarily from the operation of drill rigs and mechanical equipment. The use of heavy equipment may generate noise above the OSHA permissible exposure limit for

noise of 90 dBA for an eight-hour time-weighted average. Workers will wear appropriate hearing protection when operating or working near heavy equipment. If loud noise is present or normal conversation becomes difficult, hearing protection in the form of ear plugs, or equivalent, will be required.

## 6.6 Electric Shock

Electrical equipment to be used during field activities will be suitably grounded and insulated. Ground fault circuit interrupters (GFCI), or equivalent, will be used with electrical equipment to reduce the potential for electric shock. Electrical equipment shall be inspected before each use. Damaged/deteriorated electrical equipment shall be removed from the Site.

Lockout/Tagout procedures in accordance with 29 CFR 1910.147 will be conducted before activities begin on or near energized or mechanical equipment that may pose a hazard to site personnel. Workers conducting the operation will isolate the piece of equipment, lock/tag the energy source, and verify effectiveness of the isolation. Only employees who perform the lockout/Tagout procedure may remove their own tags/locks. Employees will be thoroughly trained before initiating this procedure.

## 6.7 Underground and Overhead Utilities

Reasonable efforts will be made to identify the location(s) of underground utilities (e.g., pipes, electrical conductors, fuel lines, and water and sewer lines) before mechanized soil intrusive work is performed. The state underground utility notification authority (e.g., USA, Dig Alert,) will be contacted prior to the start of intrusive field activities in accordance with local notification requirements. In areas not evaluated by the underground utility notification authority, and a reasonable potential for underground utilities exists, one or more of the following techniques will be employed to determine the location of subsurface structures:

- Contracting the services of a qualified private utility locator;
- conducting a survey of the subject area by staff trained in the use of subsurface utility locating equipment
- subsurface testing (i.e., potholing) to the expected depth of probable utilities (not less than 5 feet)

If utilities cannot be located or if unlocated utilities are suspected to be present, subsurface activities (i.e., borings, excavation) should not be conducted prior to confirming the location(s) or absence of underground utilities.

Equipment with articulated upright booms or masts shall not be permitted to pass within 20 feet of an overhead utility line (less than 50 kilovolts [kV]) while the boom is in the upright position. For transmission lines in excess of 50 kV, an additional distance of 4 inches for each 10 kV over 50 kV will be used.



## 6.8 Materials and Equipment Handling Procedures

The movement and handling of equipment and materials on the Site pose a risk to workers in the form of muscle strains and minor injuries. These injuries can be avoided by using safe handling practices, proper lifting techniques, and proper personal safety equipment such as steel-toed boots and sturdy work gloves. Where practical, mechanical devices will be utilized to assist in the movement of equipment and materials. Workers will not attempt to move heavy objects by themselves without using appropriate mechanical aids such as drum dollies or hydraulic lift gates.

### 6.9.0 Biological Hazards

If any biological hazards are identified at the Site, workers in the area will immediately notify the SSO and other site personnel. Natural hazards that maybe encountered at the Site are described below. The biosolids received at the Site may contain wastewater treatment sludge which could contain bacteria and other organisms.

#### 6.9.1 Sanitary Waste

Some work activities may potentially expose site workers to sanitary waste streams. Whenever possible, personnel should avoid contact with sewage or sewage-affected equipment. A variety of chemicals and microbial pathogens are generally associated with sanitary waste. Persons handling sewage-affected materials will employ Universal Precautions and will wear prescribed PPE (latex in lieu of nitrile gloves). Potentially exposed personnel will be offered the opportunity to receive Hepatitis B virus (HBV) vaccinations before the start of activities. Whenever possible, WEI/WRT personnel should avoid contact with sewage or sewage-affected equipment.

#### 6.9.2 Venomous Snakes

Every snake should be treated as venomous and avoided. If bitten by a snake, a person should pay attention to the characteristics of the snake, including color and pattern. Keep bite victim(s) still and calm to slow the spread of venom in case the snake is poisonous. Seek medical attention as soon as possible. The bitten person should be transported immediately to a medical facility, and the snake should be described to the attending physician. If immediate transportation to a medical facility is not possible, the victim should be placed at rest so that the bite is below the level of the heart and the extremity of the bite should be covered with a clean, dry dressing. Do not cut the wound or attempt to suck out the venom.

#### 6.9.3 Insects and Spiders

Nearly all work sites contain ticks, venomous spiders (e.g., black widow, brown recluse), chiggers, scorpions, and venomous insects. Venomous insects and spiders are generally reclusive, and the greatest potential for exposure arises when personnel are opening



containers, structures, buildings, and well casings, or are handling idle equipment and construction material stockpiles. Caution should be taken when opening the casing around monitoring wells. WEI/WRT personnel should be aware of ticks and inspect themselves at the end of each workday.

### **Deer Ticks:**

Black-legged ticks (deer ticks) and Western black-legged ticks are primarily responsible for transmitting Lyme disease, which, if left unchecked, can lead to serious health problems. According to the Centers for Disease Control, a tick needs to be attached for at least 36 to 48 hours before it can transmit Lyme disease. Once the bacterium enters the bloodstream, victims may experience neck stiffness, chills, headaches, achiness, and fatigue. Most people are cured if Lyme disease is caught in this early stage and treated with antibiotics. One of the classic signs of infection is a bull's-eye rash that appears at the bite site within a week to a month after the bite. The circular rash can expand to more than 3 inches in diameter. It is important to note that not everyone gets this rash, and it may look like a bruise on those with dark skin. You often can't tell when a tick has bitten you, as deer ticks in the baby or "nymph" stage can be as small as the period at the end of this sentence. Adult deer ticks are less than 1/10 of an inch, or about the size of a small apple seed. Ticks can be difficult to spot on dark clothing because the males are black, and the females are dark red and black.

Therefore, WEI/WRT field staff shall comply with the following procedures:

- Field personnel must wear long pants, light-colored shirts, and a light-colored hat, at a minimum, unless more extensive PPE is required due to field operations.
- Tuck pant legs into socks or boots.
- The most important measure is for field staff to check each other whenever they might have been in tick-infested areas. Their favorite hiding places include the scalp and ankles.
- Do not try to pry a tick from your skin by using an irritating agent such as nail polish or a hot match. Ticks should always be removed with fine-point tweezers. Disinfect the bite area with alcohol.
- If an employee is bitten by a deer tick, consult with a WEI/WRT Human Resources representative to coordinate consultation and/or visit with a health care provider. Persons should promptly seek medical attention if they develop any signs and symptoms of early Lyme disease, ehrlichiosis, or babesiosis.

### **Spiders:**

Black widow and brown recluse spiders, both venomous, may be present in and around structures, vegetation and materials stored on-site. Spider bites from these species can cause swelling and intense pain and in some instances have caused death. If bitten, personnel should wash the bite area with soap and water, apply cool compress to the area, elevate area on pillow, and call the nearest poison control center. The poison control center will monitor the condition and advise if medical attention is needed.

**Mosquitoes:**

Mosquitoes are bothersome and may carry disease. They are attracted by heat, sweat, body odor, and carbon dioxide. Only the female mosquito bites. Site personnel should wear protective clothing and insect repellent containing 30 percent DEET. Insect repellent should be reapplied at least every 4 hours or as instructed by product label.

**Chiggers:**

Common chiggers are the larva of a type of mite found in tall grass and weeds. Chiggers attach themselves to tender skin areas to feed. The bites cause intense itching and small reddish welts. Because chiggers are so small, they are hard to avoid. Most persons cannot see them without a magnifying glass and so the bites may be the only indication that the bugs have infested a certain area.

Several commercially available repellents are effective against chigger infestations. These repellents usually contain one or more of the following compounds: permethrin, diethyl toluamide, dimethyl phthalate, dimethyl carbate, ethyl hexanediol, and benzyl benzoate. Most repellents are also effective against mosquitoes and other insects. They are formulated as liquids, aerosol sprays, solid sticks, and ointments. Repellents should be used in accordance with manufacturer instructions.

If exposure to chiggers is thought to have occurred or is evident (itching and small, reddish bumps), take a hot bath or shower as soon as possible and wash with soapy water to remove chiggers, especially in areas where clothes fit closely. Temporary relief of itching may be achieved with nonprescription local anesthetics available at most drug stores. Apply antiseptic to welts to avoid secondary infections. Infested clothing should be washed in hot soapy water prior to wearing them again.

**Venomous Insects:**

Venomous insects include wasps, bees, hornets, fire ants, and red ants. Nests should not be allowed to form near structures and areas where personnel will continue to have a need for access. If bitten, personnel should wash the bite area with soap and water, apply a cool compress to the area, elevate the area on a pillow, and make a paste of baking soda and water for itching.

Each year, many workers are stung by insects while on the job. For most, these stings mean pain and discomfort generally lasting only a few hours. Symptoms may include redness, swelling, and itching at the site of the sting. However, some people are allergic to insect stings. This means that their immune systems overreact to the venom injected by a stinging insect. Severe or allergic reactions to bites or stings should be referred to a physician for appropriate care.

After the first sting, the allergic person's body produces an allergic substance called Immunoglobulin E (IgE) antibody, which reacts with the insect venom. If the worker is stung again by an insect of the same or similar species, the insect venom interacts with the IgE

antibody produced in response to the earlier sting. This triggers the release of histamine and other chemicals that cause allergic symptoms.

### **Symptoms of Insect Bite:**

Signs and symptoms of an insect bite result from the injection of venom or other substances into the skin. The venom triggers an allergic (immune) reaction. The severity of the reaction depends on the victim's sensitivity to the insect venom or substance. Most reactions are mild, causing little more than an annoying itching or stinging sensation. A delayed reaction may cause fever, painful joints, hives, and swollen glands. A worker can experience both immediate and delayed reactions from the same bite or sting.

### **Emergency Care for Victims with Mild Reactions:**

- Move to a safe area to avoid more insect stings;
- Scrape or brush off the stinger with a straight-edged object, such as a credit card or the back of a knife. Don't try to pull out the stinger with tweezers or with the fingers; doing so may release more venom;
- Wash the area carefully with soap and water. Do this two to three times a day until the skin is healed;
- Swab the site with disinfectant;
- To reduce pain and swelling, apply ice or a cold pack;
- Apply 0.5 percent or 1 percent hydrocortisone cream, calamine lotion or a baking soda paste to the bite or sting several times a day until the symptoms subside. Consult with a physician before using any medication; and.
- If necessary, consult with a physician regarding the use of an antihistamine containing diphenhydramine or chlorpheniramine maleate.

### **Symptoms of Severe Reactions:**

For a small number of people with severe venom allergy, stings may be life-threatening. This severe allergic reaction to insect stings is called anaphylaxis. It can involve many body organs and may develop rapidly. Symptoms of anaphylaxis may include itching and hives over large areas of the body, swelling in the throat or tongue, difficulty breathing, dizziness, stomach cramps, nausea, or diarrhea.

In severe cases, a rapid fall in blood pressure may result in shock and loss of consciousness. Anaphylaxis is a medical emergency and may be fatal. If a worker experiences any of these symptoms after an insect sting, obtain emergency medical treatment immediately. After the symptoms are treated in the emergency room, the workers may need to obtain a referral to an allergist/immunologist to learn about treatment options.

### **Emergency Care for Victims with Severe Reactions:**

Severe reactions may progress rapidly. Dial 911 or call for emergency medical assistance if the worker experiences any of the following signs or symptoms:

- Difficulty breathing;
- Swelling of the lips or throat;
- Faintness;
- Confusion;
- Rapid heartbeat;
- Hives or; and
- Nausea, stomach cramps, and vomiting

A sting anywhere in the mouth warrants immediate medical attention. That's because stings in the mucous membranes of the mouth can quickly cause severe swelling that may block the airway.

#### **While Waiting for Emergency Transportation:**

- Have the person lie down;
- Watch for and treat signs of shock;
- If the person is unconscious and breathing, lay the person on his or her side to allow drainage from the mouth;
- If there's no pulse, trained personnel should begin cardiopulmonary resuscitation (CPR); and
- Check to see if the person is carrying an allergy kit containing injectable epinephrine and follow instructions on the kit.

Remember that injectable epinephrine is rescue medication only, and the workers must still have someone take them to an emergency room immediately if they are stung. Additional medical treatment may be necessary. Workers with severe allergies may want to consider wearing a special bracelet or necklace that identifies the wearer as having severe allergies and supplies other important medical information.

#### **Identifying Stinging Insects:**

Most sting reactions are caused by five types of insects: yellow jackets, honeybees, paper wasps, hornets and fire ants. Therefore, to avoid these insects it is important to learn what they look like and where they live. Bites from mosquitoes, ticks, biting-flies and some spiders can cause reactions, but these are generally milder.

Yellow jackets are black with yellow markings, and are found in various climates. Their nests, which are made of a papier-mâché material, are usually located underground but can sometimes be found in the walls of frame buildings, cracks in masonry, or woodpiles.

Honeybees have a rounded, "fuzzy" body with dark-brown coloring and yellow markings. Upon stinging, the honeybee usually leaves its barbed stinger in its victim and the bee dies as a result. Don't try to pull out the stinger because this may release more venom. Honeybees are non-aggressive and will only sting when provoked. However, Africanized honeybees, or so-called "killer bees" found in the southwestern United States and South and Central America, are more aggressive and may sting in swarms. Domesticated honeybees live in man-made hives, while wild honeybees live in colonies or "honeycombs" in hollow trees or cavities of

buildings. Africanized honeybees may nest in holes in house frames, between fence posts, in old tires or holes in the ground, or other partially protected sites.

Paper wasps' slender, elongated bodies are black, brown, or red with yellow markings. Their nests also are made of a paper-like material that forms a circular comb of cells that opens downward. The nests are often located under eaves, behind shutters, or in shrubs or woodpiles.

Hornets are black or brown with white, orange, or yellow markings, and are usually larger than yellow jackets. Their nests are gray or brown, football-shaped, and made of a paper material similar to that of yellow jackets' nests. Hornets' nests are usually found high above ground on branches of trees, in shrubbery, on gables, or in tree hollows.

Fire ants are reddish-brown to black stinging insects related to bees and wasps. They build nests of dirt in the ground that may be quite tall (18 inches) in certain kinds of soil. Fire ants may attack with little warning: after firmly grasping the victim's skin with its jaws, the fire ant arches its back as it inserts its rear stinger into the skin. It then pivots at the head and may inflict multiple stings in a circular pattern. Fire ant venom often causes an immediate burning sensation.

#### **Preventing Stings:**

Stay out of the "territory" of the stinging insects' nests. These insects are most likely to sting if their homes are disturbed, so it may be necessary to have hives and nests around the workplace destroyed. In some instances this activity can be dangerous. WEI/WRT will consult with property owner/client regarding the need to hire a trained exterminator as the situation warrants.

If WEI/WRT employees encounter any flying stinging insects, they should remain calm and quiet, and move slowly away from them. Many stinging insects are foraging for food, so don't smell like a flower -- avoid brightly colored clothing and perfume when outdoors. Because the smell of food attracts insects, be careful when cooking, eating, or drinking sweet drinks like soda or juice outdoors. Keep food covered until eaten. Wear closed-toe shoes outdoors. Also, avoid loose-fitting garments that can trap insects between material and skin.

### **6.9.4 Rodents and Fur-Bearing Animals**

**Fur-bearing animals.** Animals may potentially carry the rabies virus or ticks that may transmit Lyme disease to humans. Avoid contact. Do not attempt to feed or touch.

Dead and live animals can spread diseases such as Rat Bite Fever and Rabies.

- Avoid contact with wild or stray animals;
- Avoid contact with rats or rat-contaminated buildings. If you can't avoid contact, wear protective gloves, protective clothing, and respirator and wash your hands regularly;

- Request that the client/property owner contract to have dead animals removed as soon as possible; and
- If bitten/scratched, get medical attention immediately.

### 6.9.5 Allergenic Plants

There may be allergenic plants on the site property. Direct physical contact with these plants may produce significant allergic responses. The degree of allergic response depends on the individual's sensitivity and the extent to which they were exposed to the irritant. Types of reactions vary from nothing to characteristic red skin rash with raised lumps to more serious systemic reactions.

The best defense in dealing with these plants is preventing the direct physical contact that can lead to allergic reaction. This can be accomplished through the use of a skin barrier. Effective barriers include clothing (which should be handled carefully when laundering) and/or barrier cream.

The irritants can also be transported in smoke if these plants are burned. Irritants can also be released into the air when these plants are ground up as happens in mowing or mulching. These exposures may affect the respiratory tract as well as the skin.

### 6.10 Elevated Work Platforms

When working at heights that expose employees to falls greater than 6 feet, especially on sloping roofs and elevated platforms, the requirements of 29 CFR 1926.502 shall be observed. In such instances, a safety harness shall be worn and the lanyard secured at a level not lower than the employee's waist, limiting the fall distance to a maximum of 4 feet.

Elevated work platforms shall be constructed, used, and maintained in accordance with Subpart L of the OSHA Construction Safety Orders. Scaffolds and hoisting lines shall be inspected daily by a competent person to verify the integrity of the components. If a material is determined to be defective, it may not be used for any purpose and will be replaced immediately.

### 6.11 Fire/Explosion

Site workers should have an increased awareness concerning fire and explosion hazards whenever working with or near flammable and combustible materials, especially when performing any activity that may generate sparks, flame, or other source of ignition. Intrinsically safe equipment is required when working in or near environments with the potential for an explosive atmosphere. The SSO will verify facility requirements for a "hot work" permit before activities that may serve as a source of ignition are conducted.

Flammable materials will be kept away from sources of ignition. In the event of fire, work will cease, the area will be evacuated, and the local fire response team will be notified



immediately. Only trained, experienced fire fighters should attempt to extinguish substantial fires at the Site. Site personnel should not attempt to fight fires, unless properly trained and equipped to do so. A fully charged ABC dry chemical fire extinguisher will be readily available for use during all scheduled activities at the Site. Water trucks, yard standpipes and firefighting equipment is available on site for use by properly trained employees **after 911 Emergency has been called.**

## 6.12 Lightning/Electrical Storms

Lightning can be unpredictable and may strike many miles in front of, or behind, a thunderstorm. Workers will therefore cease field operations at the first sign of a thunderstorm and suspend activities until at least 30 minutes after the last observed occurrence of lightning or thunder. For purposes of this HASP, signs of a thunderstorm will include any visible lightning or audible thunder.

In the event of a thunderstorm, workers will take the following actions:

- Get inside a permanent building structure (not a shed or canopy) or fully enclosed metal vehicle (not a convertible or camper shell) with the windows fully up.
- Stay away from tall isolated objects, such as trees, drill rigs, telephone poles, or flag poles.
- Avoid large open areas, such as fields or parking lots, where a person is the relatively highest object.
- Stay away from lakes, ponds, railroad tracks, fences, and other objects that could transmit current from a distant lightning strike.

## 6.13 Traffic

Vehicular traffic presents opportunities for serious injury to persons or property. Traffic may consist of street traffic or motor vehicles operated by facility employees or visitors to the Site. Workers and other pedestrians are clearly at risk during periods of heavy traffic. Risk from motor vehicle operations may be minimized by good operating practices and alertness, and care on the part of workers and pedestrians.

Site personnel will wear high-visibility safety vests whenever activities are conducted in areas of heavy traffic. Work vehicles will be arranged to be used as a barrier between site workers and nearby traffic. If required by local ordinances or site location, a traffic control plan will be developed and implemented.

## 6.14 Dust, Vapor, and Odor Control

Methods that can be used to minimize the generation of dust include but are not limited to:

- Water spray. If water spray is used, runoff, if any, must be collected and managed as construction water;
- Expedient restoration of surfaces;
- Implementation of prudent material handling practices; and
- The use of chloride or petroleum-containing compounds for dust control is prohibited.

Dust controls within areas where particulates are present on site must be carefully managed to prevent an airborne release. Soils excavated which are dry in composition (little to no moisture content) must be hydrated to prevent blowing dust.

If nuisance odors or vapors are discovered during soil excavation activities, actions that should be taken include but are not limited to the following:

- Excavated odorous soil (including trench soils) shall be stored in a secured manner to prevent exposure to humans and the environment;
- Excavated odorous soil stored at the site of generation or at a temporary storage location shall be placed entirely on a base composed of an impermeable material;
- Any failure of materials or procedures used in employing the base layer shall be immediately repaired, replaced, or re-secured so as to minimize precipitation infiltration, volatilization, and erosion/runoff of the soil and materials on site; and
- Air monitoring activities in the source area of the odors or vapors will be performed following the air monitoring action level table included within this HASP. **See Table 1 “Odor Screening Protocol”** at the end of the document.

Odorous material will be controlled by the application of water, surfactants, hydro seeding covering with polymers and other measures as necessary to control odors.

## 6.15 Work Area Illumination

Scheduled work is anticipated to be conducted during daylight hours. If site activities are to occur during non-traditional hours (i.e., night-time), auxiliary lighting requirements as outlined in the HAZWOPER standard shall be provided.

## 6.16 Compressed Gas Cylinders

The contents of all compressed gas cylinders brought on site must be clearly identified.

All cylinders shall be upright and secured at all times.

As applicable, gas lines leading from a compressed gas supply should be clearly labeled to identify the gas, the area served, and the relevant emergency telephone numbers.



All cylinders shall be provided with safety caps. Do not accept delivery of any cylinders not capped.

Signs should be conspicuously posted in areas where flammable compressed gases are stored, identifying the substances and appropriate precautions (e.g., HYDROGEN - FLAMMABLE GAS - NO SMOKING - NO OPEN FLAMES). If flammable gas is present, then a fully-charged fire extinguisher must be located nearby.

All acetylene and fuel gas cylinders shall be separated from oxygen cylinders during storage by a minimum of twenty (20) feet or by a non-combustible barrier at least five (5) feet high with a fire resistant rating of at least one-half (1/2) hour. ANSI Z49.1.1973.

**Note: Cylinders containing acetylene must never be stored on their side.** All acetylene and fuel gas cylinders shall have a flash arrestor installed at the gauge.

Cylinders may be attached to a bench top, individually to the wall, placed in a holding cage, have a non-tip base attached or must be firmly secured on a special carrier intended for this purpose. Chains or sturdy straps may be used to secure cylinders in a well-marked storage area.

The cylinders that contain compressed gases are primarily shipping containers and should not be subjected to rough handling or abuse. Such misuse can seriously weaken the cylinder and render it unfit for further use or transform it into a dangerous projectile.

- To protect the valve during transportation, the cover cap should be screwed on hand tight and remain on until the cylinder is in place and ready for use;
- Cylinders should never be rolled or dragged;
- When moving large cylinders, they should be strapped to a properly designed wheeled cart to ensure stability; and
- Only one cylinder should be manually handled (moved) at a time.

## 6.17 Hand Tools

Appropriate personal protective equipment (e.g., safety goggles, gloves, etc.), must be worn due to hazards that may be encountered while using portable power tools and hand tools.

In the workplace, floors must be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

Around flammable substances, sparks produced by iron and steel hand tools can be a dangerous ignition source. Where this hazard exists, spark-resistant tools made from brass, plastic, aluminum, or wood will provide for safety.

Power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released.

Employees will not be issued or allowed to use defective or unsafe tools.

Impact tools must be kept free of mushroomed heads. The wooden handles of tools shall be kept tight in the tool and free of splinters. Tools with cracked wooden handles must be taken out of service until a new handle is provided.

Electrical, air or any type of hand tool will not be used if safety equipment such as shields, tool rests, hoods and/or guards have been removed or otherwise rendered inoperative.

Employees using tools under conditions that expose them to the hazards of flying objects or harmful dusts are provided with and must use proper personal protective equipment (may include, but is not limited to, safety glasses, gloves and hearing protection).

All electrically powered tools shall be properly grounded. Tools, cords and outlets using 110-volt electrical power shall be protected by ground fault circuit interrupters.

Portable grinders should be provided with hood-type guards with side enclosures that cover the spindle and at least 50% of the wheel. All wheels should be inspected regularly for signs of fracture.

Bench grinders shall be equipped with deflector shields and side covers guards. Tool rests shall have a maximum clearance of 1/8 inch from the wheel.

Hoses supplying pneumatic tools shall have couplings secured to prevent accidental disconnection.

Air-supply lines should be protected from damage, inspected regularly and maintained in good condition.

Pneumatic power tools with hoses exceeding 1/2-inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

## 6.18 Ladders

Employees shall be instructed and required to face ladders when ascending/descending. Material will be raised or lowered with rope or hoisting equipment and not carried in one hand while ascending or descending.

The side rails and cleats or rungs on ladders must be kept clean and free of lines, hoses, cables, wires, oil, grease and debris.

Portable ladders will be placed so the horizontal distance at the bottom of the ladder is not less than one quarter (1/4) of the vertical distance to the top support.

Portable ladders will be placed so that the side rails have a secure footing. The top rest shall be rigid and have ample strength to support the applied load. The top of the ladder must extend 3 feet beyond the landing or it must be clamped, tied off or otherwise securely fastened, to prevent movement.

Ladders with broken or missing rungs and steps broken or split side rails or other faulty and defective construction must not be used and promptly removed from the site.

Straight ladders must not be longer than 24 feet; extension ladders must not be longer than 60 feet. If greater heights are to be reached, separate ladders shall be used with intermediate landing platforms provided.

Portable ladders, used on smooth floor or other smooth surfaces, shall be equipped with non-slip bases or otherwise secured to prevent displacement.

Stepladders must be set level on all four feet, with spreader bars locked in place. Do not use a stepladder as a straight ladder. Persons will not work off the top two (2) steps of a stepladder.

## 7.0 PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to protect employees from hazards and potential hazards they are likely to encounter during site activities. The amount and type of PPE used will be based on the nature of the hazard encountered or anticipated. Respiratory protection will be utilized when an airborne hazard has been identified using real-time air monitoring devices, or as a precautionary measure in areas designated by the Director of Health and Safety or SSO.

Dermal protection, primarily in the form of chemical-resistant gloves and coveralls, will be worn whenever contact with the lead stabilization area. (e.g., soil/lead/fly ash mixing operations are being performed) without regard to the level of respiratory protection required.

WEI/WRT personnel will be provided with appropriate personal safety equipment and protective clothing. The SSO is to inform each worker about necessary protection and must provide proper training in the use of the safety equipment. The required PPE to be worn is described below.

### 7.1 Conditions Requiring Level D Protection

In general, site activities will commence in Level D PPE unless otherwise specified, or if the SSO determines on site that a higher level of PPE is required. Air monitoring of employee breathing zones will be routinely conducted using real-time air monitoring devices to

determine if upgrading more protective PPE is necessary. Level D PPE will be permitted as long as air monitoring data indicate that airborne concentrations of chemicals of concern are maintained below the site-specific action levels defined in Section 10.

It is important to note that dermal protection is required whenever contact with chemically affected soils or groundwater is anticipated. The following equipment is specified as the minimum PPE required to conduct activities at the Site:

- Work shirt and long pants;
- ANSI-approved steel-toed boots or safety shoes;
- ANSI-approved safety glasses;
- ANSI-approved hard hat; and
- ANSI-approved safety vest.

Other personal protection readily available for use, if necessary, includes the following:

- Outer nitrile gloves and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event);
- Chemical-resistant clothing (e.g., Tyvek or polycoated Tyvek coveralls) when contact with chemically affected soils or groundwater is anticipated;
- Apron;
- Safety shield;
- Safety goggles;
- Safety shoes/boots with protective over boots or knee-high polyvinyl chloride (PVC) polyblend boots when direct contact with chemically affected soils is anticipated;
- Hearing protection; and
- Sturdy work gloves.

## 7.2 Conditions Requiring Level C Protection

If air monitoring indicates that the site-specific action levels defined in Section 10 are exceeded, workers in the affected area(s) will upgrade PPE to Level C. In addition to the protective equipment specified for Level D, Level C also includes the following:

- National Institute for Occupational Safety and Health– (NIOSH-) approved half-face or full-face air-purifying respirator (APR) equipped with filter cartridges as specified in Section 10. Note: safety glasses are not required when wearing a full-face APR;
- chemical-resistant clothing (e.g., Tyvek, polycoated Tyvek, or Saranex coveralls) when contact with chemically affected soils or groundwater is anticipated;

- Outer nitrile gloves and inner nitrile surgical gloves when direct contact with chemically affected soils or groundwater is anticipated (nitrile surgical gloves may be used for collecting or classifying samples as long as they are removed and disposed of immediately after each sampling event); and
- Safety shoes/boots with protective over boots or knee-high PVC polyblend boots when direct contact with chemically affected soils is anticipated.

Respirators will be stored in clean containers (i.e., self-sealing bag) when not in use. Respirator cartridges will be replaced in accordance with the following change-out schedule.

Type of Cartridge	Cartridge Change-out Schedule
Particulate (i.e., High Efficiency Particulate Air = HEPA)	At least weekly or whenever the employee detects an increase in breathing resistance. This will occur as the filter becomes loaded with particulate matter.
Adsorbent (i.e., organic vapors)	At the end of each day’s use or sooner, if the respirator manufacturer change-out schedule software program dictates otherwise. The Director of Health & Safety must be consulted regarding gas/vapor cartridge change-out schedule.

Personnel who wear APRs must be trained in their use, must have successfully passed a qualitative respiratory fit test in accordance with 29 CFR 1910.134 within the last 12 months, and must have medical clearance for APR use.

### 7.3 Conditions Requiring Stoppage of Work

If air monitoring indicates that the site-specific action levels defined in Section 10 are exceeded, activities must cease, and personnel must evacuate the Exclusion Zone (see Section 9). The Project Manager and Director of Health and Safety will be contacted immediately.

## 8.0 SAFETY PROCEDURES AND SITE REQUIREMENTS

A daily morning briefing to cover safety procedures and contingency plans in the event of an emergency is to be included with a discussion of the day’s activities. These daily meetings will be recorded on WEI/WRT Daily Tailgate Safety Meeting Forms. A debriefing to cover the activities is to be held upon completion of the work. A copy of the Daily Tailgate Safety Meeting Form is included in **Appendix B**.

The SSO will conduct a safety inspection of the work site before each day’s activities begin, to verify compliance with the requirements of the HASP. Results of the inspection will be documented on the WEI/WRT Site Safety Checklist. A copy of the checklist is included in **Appendix B**.

Minimum emergency equipment maintained on site will include a fully charged 20-pound ABC dry chemical fire extinguishers, an adequately stocked first aid kit, and an emergency eyewash station.

## 8.1 Training Requirements

Site personnel, including subcontractors and visitors conducting work in controlled areas of the Site, must have completed the appropriate training as required by 29 CFR 1910.120. Further site-specific training will be conducted by the SSO prior to the initiation of project activities. This training will include, but will not necessarily be limited to, emergency procedures, site control, personnel responsibilities, and the provisions of this HASP.

General site workers (such as equipment operators, general laborers, and supervisory personnel) engaged in hazardous substance removal or other activities that could expose them to hazardous substances must have successfully completed an initial Hazardous Waste Operations and Emergency Response (HAZWOPER) training course. In addition, each employee must have attended an eight-hour annual HAZWOPER refresher training course within the past 12 months if their initial 40-hour HAZWOPER training course was completed more than 12 months prior.

## 8.2 Medical Surveillance Requirements

Site personnel, including subcontractors and site visitors, who will or may work in an area designated as an exclusion zone must have fulfilled the appropriate medical monitoring requirements in accordance with 29 CFR 1910.120(f). Each individual entering an exclusion zone must have completed an annual surveillance examination and/or an initial baseline examination within the last 12 months.

## 9.0 SITE CONTROL MEASURES

Procedures must be followed to maintain site control so that persons who may be unaware of site conditions are not exposed to hazards. The work area will be barricaded by tape, warning signs, or other appropriate means. Pertinent equipment or machinery will be secured and stored safely.

Access inside the specified work area will be limited to authorized personnel. Only WEI/WRT employees and designated subcontracted personnel, as well as designated employees of the client, will be admitted to the work site. Personnel entering the work area are required to sign the signature page of this HASP, indicating they have read and accepted the health and safety practices outlined in this plan.

## 9.1 Establishing Work Zones

In some instances it may be necessary to define established work zones: an Exclusion Zone, a Contamination Reduction Zone, and a Support Zone. Work zones may be established based



on the extent of anticipated contamination, projected work activities, and the presence or absence of non-project personnel. The physical dimensions and applicability of work zones will be determined for each area based on the nature of job activity and hazards present. Within these zones, prescribed operations will occur using appropriate PPE. Movement between zones will be controlled at checkpoints.

Considerable judgment is needed to maintain a safe working area for each zone, balanced against practical work considerations. Physical and topographical barriers may constrain ideal locations. Field measurements combined with climatic conditions may, in part, determine the control zone distances. Even when work is performed in an area that does not require the use of chemical-resistant clothing, work zone procedures may still be necessary to limit the movement of personnel and retain adequate site control.

Personnel entering the designated Exclusion Zone should exit at the same location. There must be an alternate exit established for emergency situations. In all instances, worker safety will take precedence over decontamination procedures. If decontamination of personnel is necessary, exiting the Site will include the decontamination procedures described below.

## 9.2 Decontamination Procedures

Despite protective procedures, personnel may come in contact with potentially hazardous compounds while performing work tasks. If so, decontamination needs to take place using an Alconox or TSP wash, followed by a rinse with clean water. Standard decontamination procedures for levels C and D are as follows:

- Equipment drop;
- Boot cover and outer glove wash and rinse;
- Boot cover and outer glove removal;
- Suit wash and rinse;
- Suit removal;
- Safety boot wash and rinse;
- Inner glove wash and rinse;
- Respirator removal;
- Inner glove removal; and
- Field wash of hands and face.

Workers should employ only applicable steps in accordance with level of PPE worn and extent of contamination present. The SSO shall maintain adequate quantities of clean water to be used for personal decontamination (i.e., field wash of hands and face) whenever a suitable washing facility is not located in the immediate vicinity of the work area. Disposable items will be disposed of in an appropriate container. Wash and rinse water generated from decontamination activities will be handled and disposed of properly. Non-disposable items

may need to be sanitized before reuse. Each site worker is responsible for the maintenance, decontamination, and sanitizing of his/her own PPE.

Used equipment may be decontaminated as follows:

- An Alconox or TSP and water solution will be used to wash the equipment; and
- The equipment will then be rinsed with clean water.

Each person must follow these procedures to reduce the potential for transferring chemically affected materials off site.

## 9.3 Sanitation at Temporary Workplaces

### 9.3.1 Potable Water

An adequate supply of potable water must be provided on the site. Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers. Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose. Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

The Site is provided with bottled, which will be available within the office building at the facility and unlimited access will be provided by facility management throughout each work day.

### 9.3.2 Toilet Facilities

Under temporary field conditions, WEI/WRT's SSO will make provisions so that not less than one toilet facility is available. Use of a nearby toilet facility is an acceptable arrangement for mobile crews having transportation readily available.

One restroom is located within the office building of the facility and unlimited access will be provided by facility management throughout each work day.

### 9.3.1 Buddy System

There will be no activities conducted onsite without sufficient backup personnel to permit operation of a buddy system. The buddy system is a method of organizing employees into work groups, in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. Both employees shall be in visible or verbal communication with each other at all times and shall be equipped with the personal protective equipment required to assist the buddy in case of an emergency. At a minimum, two persons must be present at the site at all times.



## 9.4 Site Communication Plan

Successful communication between field teams and contact with personnel in the support zone is essential. Visual, voice or radio communications must be maintained at all times.

One or more of the following communications systems will be available during activities at the site.

- Two way radio (if two person crews become separated) or a cellular telephone in the support zone;
- Compressed air horn;
- Hand signals;

<u>Signal</u>	<u>Definition</u>
Hands clutching throat	Out of air/cannot breath
Hands on top of head	Need assistance
Thumbs up	OK/I am alright/I understand
Thumbs down	No/ negative
Hands waving upright	Send backup support
Grip partners wrist	Exit area immediately

## 9.5 Site Security

Site security is necessary to prevent unintentional exposure of unauthorized or unprotected people. Good site security can also prevent theft and avoid interference with site activities.

The SSO will approve all visitors to the work site. Visitors must have a valid reason to visit the site, must have the appropriate PPE, must have appropriate medical surveillance, must have the proper level of hazardous waste site training, and must be accompanied by trained site personnel.

The SSO will also ensure that the exclusion zone is properly marked, fenced or otherwise barricaded and that these areas are secured at the end of the workday.

When no WEI/WRT workers are on site, security guards are on site and have emergency contact information and basic instructions for fire and emergency incidents.

## 9.6 Fire Prevention

There will be no smoking or other sources of combustion in any area where flammable or combustible liquids are used or stored. Combustible or flammable construction materials will be properly stored with liquids kept in UL-approved safety cans.

Any welding or cutting will be isolated from combustible or flammable materials. Daily cutting or welding will be stopped one-half hour before the end of the shift and a fire watch will be posted for one-half hour after the welding or cutting has stopped.

## 10.0 ACTION LEVELS

The following action levels were developed for exposure monitoring with real-time air monitoring instruments as specified in Section 5. Air monitoring data will determine the required respiratory protection levels at the Site during scheduled intrusive activities. The action levels are based on sustained readings indicated by the instrument(s).

If elevated concentrations are indicated, the monitoring frequency will be increased, as appropriate. If sustained measurements are observed during this time, the following actions will be instituted, and the Project Manager and Director of Health and Safety will be notified. For purposes of this HASP, sustained readings are defined as the average airborne concentration maintained for a period of one (1) minute.

TASK	ACTION LEVEL	LEVEL OF PROTECTION
Task 1 through Task 5	PEL/TLV	<p>If the PEL/TLV is exceeded a half-face respirator with organic vapor cartridges is required. If dust monitoring exceeds 5 mg/m<sup>3</sup> then combination cartridges are required.</p> <p>Disposable vinyl/rubber gloves are required when making direct contact with bio solids, soy whey, wastewater treatment sludge, petroleum, hydrocarbons and other materials containing residual chemicals.</p> <p>Work gloves shall be worn for cut protection when handling plastics, metals, concrete, drywall construction debris and other similar materials where cut hazards are present.</p> <p>Vapor monitoring will be conducted using Drager/Sensidyne tubes and the use of a MIRAN Infrared Spectrometer.</p>
Task 3 - Soil Stabilization of soil Containing lead	PEL/TLV	<p>Disposable booties and coveralls (i.e.: Tyvek) are required when walking on soil stabilized with fly ash containing Pb.</p> <p>Working gloves are required when this task is being performed. Working gloves must remain in the work area and/or in the work vehicle and not taken into the office or off-site. If dust levels exceed 0.050 mg/m<sup>3</sup> when monitoring with a direct reading particulate monitor (e.g., pdr-1000) respiratory</p>

		protection is required using HEPA cartridges.
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**Note:** Decontamination for Tasks 1-5 above will involve the disposal of Tyvek coveralls, booties, gloves in 3-Mil plastic trash bags. Good personal hygiene practices must be employed including hand washing prior leaving the site and prior to eating or drinking.

## 11.0 CONTINGENCY PROCEDURES

In the event of an emergency, site personnel will signal distress with three blasts of a horn (a vehicle horn will be sufficient), or other predetermined signal. Communication signals, such as hand signals, must be established where communication equipment is not feasible or in areas of loud noise.

It is the SSO's duty to evaluate the seriousness of the situation and to notify appropriate authorities. Section 12 of this plan contains emergency telephone numbers as well as directions to the hospital. Nearby telephone access must be identified and available to communicate with local authorities. If a nearby telephone is not available, a cellular telephone will be maintained on site during work activities.

Personnel should contact local emergency services in the event of an emergency (see Section 12). After emergency services are notified, the Project Manager and Director of Health and Safety will be notified of the situation as soon as possible. If personal injury, property damage, or equipment damage occurs, the Project Manager will be contacted as soon as practicable. An Incident Report form will be completed within 24 hours by the SSO, or other designated person. A copy of the WEI/WRT Incident Report form is included in Appendix B.

### 11.1 Injury/Illness

If an exposure or injury occurs, work will be temporarily halted until an assessment can be made of whether it is safe to continue work. The SSO, in consultation with the Director of Health and Safety, will make the decision regarding the safety of continuing work. The SSO will conduct an investigation to determine the cause of the incident and steps to be taken to prevent recurrence.

In the event of an injury, the extent and nature of the victim's injuries will be assessed and first aid will be rendered as appropriate. If necessary, the individual may be transported to the nearby medical center. The mode of transportation and the eventual destination will be based on the nature and extent of the injury. A hospital route map is presented in Appendix C.

In the event of a life-threatening emergency, the injured person will be given immediate first aid and emergency medical services will be contacted by dialing **911**. The individual rendering first aid will follow directions given by emergency medical personnel via telephone and will wear appropriate PPE to prevent direct contact with potential blood-borne

pathogens. When working in areas where medical services are not readily available, a person trained in first aid/CPR techniques will be present during field activities.

For those WEI/WRT staff that are working at a remote location in which emergency medical service is not in near proximity to the work site, someone working at the site must have First Aid/CPR training. OSHA's interpretation of emergency medical care "in near proximity" to the project work site is defined as follows:

- In areas where accidents resulting in suffocation, severe bleeding, or other life threatening or permanently disabling injury or illness can be expected, a **3 to 4 minute** response time, from time of injury to time of administering first aid, is required; and
- In other circumstances, i.e., where a life-threatening or permanently disabling injury is an unlikely outcome of an accident, a longer response time such as **15 minutes** is acceptable.

## 11.2 Fire

In the event of fire, personnel should contact the local fire department immediately by dialing 911. When representatives of the fire department arrive, the SSO, or designated representative, will advise the commanding officer of the location, nature, and identification of hazardous materials on site. Only trained, experienced fire fighters should attempt to extinguish substantial fires at the Site. Site personnel should not attempt to fight fires, unless it is safe to do so, and they are properly trained and appropriately equipped to do so.

Smoking is not permitted in controlled areas (i.e., exclusion or contamination reduction zones), near flammable or combustible materials, or in areas designated by the facility as non-smoking areas.

## 11.3 Underground Utilities

In the event that an underground conduit is damaged during excavation or drilling, mechanized equipment will immediately be shut off until the nature of the piping can be determined. Depending on the nature of the broken conduit (e.g., natural gas, water, or electricity), the appropriate local utility will be contacted. If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, or property, the excavator responsible shall **immediately** notify the utility operator and the 911 public safety answering point...and take immediate action to protect the public and property.

Contact the WEI/WRT Project Manager as soon as practical.

## 11.4 Evacuation

The SSO will designate evacuation routes and refuge areas to be used in the event of an emergency. Site personnel will stay upwind from vapors or smoke and upgrade from spills. If

workers are in an Exclusion or Contamination Reduction Zone at the start of an emergency, they should exit through the established decontamination areas whenever possible. If evacuation cannot be done through an established decontamination area, site personnel will go to the nearest safe location and remove contaminated clothing there or, if possible, leave it near the Exclusion Zone. Personnel will assemble at the predetermined refuge following evacuation and decontamination. The SSO, or designated representative, will count and identify site personnel to verify that all have been evacuated safely.

## 11.5 Hazardous Material Spill

All personnel responding to spills must have appropriate training and wear PPE appropriate for the situation. If a hazardous material spill occurs, properly trained and equipped site personnel should locate the source of the spill and determine the hazard to the health and safety of site workers and the public. Attempt to stop or reduce the flow if it can be done without risk to personnel. Isolate the spill area and do not allow entry by unauthorized personnel. De-energize sources of ignition within 100 feet of the spill, including vehicle engines. Should a spill be of the nature or extent that it cannot be safely contained, or poses an imminent threat to human health or the environment, an emergency cleanup contractor will be called out as soon as possible. Spill containment measures listed below are examples of responses to spills.

- Right or rotate containers to stop the flow of liquids. This step may be accomplished as soon as the spill or leak occurs, providing it is safe to do so;
- Sorbent pads, booms, or adjacent soil may be used to dike or berm materials, subject to flow, and to solidify liquids;
- Sorbent pads, soil, or booms, if used, shall be placed in appropriate containers after use, pending disposal; and
- Contaminated tools and equipment shall be collected for subsequent cleaning or disposal.

## 11.6 Buried Drums or Tanks

Leaks from buried drums or tanks shall be handled in the following manner:

If during the excavation of soil, an unanticipated buried drum (s) or tank are uncovered, work should stop immediately and workers should evacuate area.

The SSO will be notified at once about the discovery of the buried drums. The SSO will notify the Project Manager. The SSO will then survey the area to determine number of and damage to any drums. Level C Protection (minimum protection allowed) will be worn to survey the area. The SSO will use a PID, an FID or similar, to determine if there are any airborne hydrocarbons. Specific analysis shall be performed with calorimetric tubes if suspect chemicals are identified. Samples of the material will be collected and analyzed as directed by the Environmental Professional (LSP, LEP, etc.) of record for the Site.

The area will be taped off as an exclusion zone until the drums are removed by the Emergency Response personnel and the SSO deems the area safe to resume excavation.

If there is leakage or leakage potential from the drums, an Emergency Response team will be called immediately. The emergency responder will stop the leak and remove the drum (s) from the ground and place it in an overpack and store within an appropriate secondary containment structure at the Site.

Areas of suspected buried tanks or drums shall be restricted to Emergency Responder personnel working on excavation activities. Workers in the area shall don proper PPE before continuing excavation. The SSO will monitor other areas on site with the PID, FID or similar to determine if work can continue in those areas.

If undocumented tank(s) are encountered during the receiving process, stop work at once and notify the SSO. The SSO will notify the Project Manager. The SSO will survey the situation and provide direction.

Refer to the HAZWOPER standard for specific requirements on opening, sampling, handling, shipping and transporting drums or containers.

## 12.0 EMERGENCY CONTACTS

In the event a utility is damaged during the course of site work, contact the utility operator and emergency services. If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, or property, the excavator responsible shall **immediately** notify the utility operator and the 911 public safety answering point...and take immediate action to protect the public and property.

**Emergency Services (Police/Fire Department/Ambulance):** **911**

**Poison Control Center:** **(800) 222-1222**

**CHEMTREC:** **(800) 424-9300**

**National Response Center:** **(800) 424-8802**

**Cabazon Band of Mission Indians (Becky Ross, Compliance Manager):**

(760) 342-5000 ext. 84780

Mobile (760) 238-2001

**WEI/WRT Operations Manager:**

Adam Lerma

Cell Phone: (760) 457-6598

**WEI/WRT Site Safety Officer:**

Rick Diaz

Cell Phone: (760) 636-9041

**WEI/WRT Administration:**

Lindsey Goetz

Cell Phone: (760) 574-5912

**WEI/WRT Project Manager:**

Bill Carr

Cell Phone: (760) 578-8887

**Facility Address:**

62-150 Gene Welmas Dr. Mecca, CA 92254

**Nearest Hospital:**

JFK Memorial Hospital  
47111 Monroe St.  
Indio, CA 92201

Phone: (760) 775-8511

## SIGNATURE PAGE

The following signatures indicate that this Health and Safety Plan (HASP) has been read and accepted by WEI/WRT personnel as well as subcontractors and their personnel.

NAME	COMPANY	SIGNATURE	DATE

### **Important Notice to Subcontractor(s):**

This HASP has been prepared solely for the use of WEI/WRT personnel. It is supplied to you for informational purposes only and may not be relied upon for protection of your employees. The Subcontractor is responsible for providing, at its cost, all personal protective clothing and equipment required for its employees to perform their work in a safe manner and in compliance with all applicable state and federal OSHA regulations. Subcontractor is responsible for ensuring that such equipment is in good condition and is properly inspected and maintained. Subcontractors must, at a minimum, use the equipment and follow the procedures described in this HASP. Failure to do so may result in immediate termination of Subcontractor's services. This does not relieve Subcontractor of the responsibility to provide equipment and institute procedures affording a greater degree of protection than those specified in this HASP should Subcontractor determine such measures are necessary to protect the health and welfare of its employees, second-tier subcontractors, or others under its control or direction.



## APPENDIX A

### Chemical Descriptions

#### CHEMICAL DESCRIPTIONS:

The following chemical descriptions are to be used for chemicals that may be present at the Site. Each chemical description includes physical and odor recognition characteristics, the health effects associated with exposure, and exposure limits expressed as an 8-hour time-weighted average (TWA). Provided are federal Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs; located in 29 CFR 1910.1000); California OSHA (Cal/OSHA) PELs (located in 8 CCR 5155); and the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs). Short-term exposure limits (STELs) are short-term concentrations that must not be exceeded over a specified period of time (generally 15 minutes). Ceiling concentrations are limits that must not be exceeded during any part of the workday. These are expressed in parts per million (ppm), milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), or fibers per cubic centimeter (f/cc), as appropriate.

Odor thresholds cannot be used as the primary indicator for changing gas and vapor cartridges as a result of the OSHA standard, 29 CFR 1910.134. The program administrator and designated representative(s), using objective data and information, must establish chemical cartridge change schedules if a gas or vapor cartridge does not have an end-of-service life indicator. Odor thresholds can be a useful secondary or backup indicator for cartridge change-out. The primary references for odor threshold information were VOCBASE and an American Industrial Hygiene publication. The method of defining and determining odor thresholds varies widely, therefore, caution must be used in relying upon odor threshold as a warning of potentially hazardous exposure.

Cal/OSHA PELs are included as an additional reference.

#### NAPHTHALENE:

Naphthalene is a colorless to brown solid with an odor of mothballs. Poisoning may occur by inhalation, ingestion, or skin absorption. Naphthalene can cause nausea, headache, fever, anemia, liver damage, vomiting, convulsions, and coma. It is an experimental teratogen and a questionable carcinogen.

Naphthalene is flammable when exposed to heat or flame and reacts with oxidizing materials. It is explosive in the form of vapor or dust when exposed to heat or flame. When heated to decomposition, it emits acrid smoke and irritating fumes.

The odor threshold is 0.015 ppm. Caution should be used in relying on odor alone as a warning of potentially hazardous exposures.

- The OSHA PEL is listed as 10 ppm.
- The Cal/OSHA PEL is listed as 10 ppm.

## **ETHYLBENZENE:**

Ethylbenzene is a clear, colorless liquid. It is mildly toxic by inhalation and skin contact. Inhalation can cause eye, sleep, and pulmonary changes. It is an eye and skin irritant at levels as low as 0.1% (1,000 ppm) of the vapor in air. At higher concentrations, it is extremely irritating at first, then can cause dizziness, irritation of the nose and throat, and a sense of constriction in the chest. Exposure to high concentrations of ethylbenzene vapor may result in irritation of the skin and mucous membranes, dizziness, irritation of the nose and throat, and a sense of constriction of the chest.

The odor threshold is 2.3 ppm. Caution should be used in relying on odor alone as a warning of potentially hazardous exposures.

- The OSHA PEL is listed as 100 ppm.
- The Cal/OSHA PEL is listed as 100 ppm.

## **TOLUENE:**

Toluene is a colorless liquid with a benzol-like odor. Toluene can affect humans when breathed in and by passing through the skin. Toluene should be handled as a teratogen – handle with extreme caution. It may damage the developing fetus. Contact can irritate the skin and eyes. Breathing toluene can irritate the nose and throat causing coughing and wheezing. Exposure to toluene can affect the nervous system, causing trouble concentrating, headaches, and slowed reflexes. Higher levels can cause humans to feel dizzy, lightheaded, and to lose consciousness. Death may occur. Prolonged contact can cause drying of the skin and a skin rash. Repeated toluene exposure may cause liver, kidney, and brain damage. Toluene is a flammable liquid and a fire hazard.

The odor threshold is 0.16 ppm. Caution should be used in relying on odor alone as a warning of potentially hazardous exposures.

- The OSHA PEL is listed as 200 ppm.
- The Cal/OSHA PEL is listed as 50 ppm.

## DIESEL FUEL:

Diesel fuel is a gas oil fraction available in various grades as required by different engines. Composition of diesel varies in ratios of predominantly aliphatic, olefinic, cycloparaffinic, aromatic hydrocarbons, and additives.

It is a severe skin irritant and ingestion of diesel can lead to systemic effects such as gastrointestinal irritation, vomiting, diarrhea, and, in severe cases, drowsiness and central nervous system depression, progressing to coma and death. Absorption of diesel fuel can cause hemorrhaging and pulmonary edema, progressing to pneumonitis and renal involvement. It is combustible when exposed to heat or flame, and can react with strong oxidizing materials.

- No OSHA PEL or Cal/OSHA PEL is listed for diesel.
- The TLV is listed as 100 mg/m<sup>3</sup> as total hydrocarbons (vapor and aerosol).

## PETROLEUM HYDROCARBONS:

Petroleum distillates (naphtha) are mildly toxic by inhalation. They can cause unconsciousness, dyspnea, and a bluish tint to the skin. Recovery follows after removal from exposure. In mild form, intoxication resembles drunkenness. On a chronic basis, no true poisoning occurs; however, effects may include headache, lack of appetite, dizziness, sleeplessness, indigestion, and nausea. It is combustible when exposed to heat or flame and can react with oxidizing materials.

- The OSHA PEL is listed as 500 ppm (as petroleum distillates).
- The Cal/OSHA PEL is listed as 300 ppm (as VM&P naphtha), 100 ppm (as Stoddard solvent), and 300 ppm (as gasoline).

## LEAD (Pb):

Lead (inorganic) is a bluish-white, silver, or gray odorless solid. Short-term exposure to lead can cause decreased appetite, insomnia, headache, muscle and joint pain, colic, and constipation. Considerable data exist on the effects of lead exposure in humans. It is a poison by ingestion and a suspected human carcinogen of the lungs and kidneys. There are data to suggest that lead is a mutagen and can cause reproductive effects. Human systemic effects by ingestion and inhalation (the two routes of absorption) include loss of appetite, anemia, malaise, insomnia, headache, irritability, muscle and joint pains, tremors, flaccid paralysis without anesthesia, hallucinations and distorted perceptions, muscle weakness, gastritis, and liver changes. Recent experimental evidence suggests that blood levels of lead below 10 micrograms per deciliter (µg/dl) can have the effect of diminishing the IQ scores of children.

- The OSHA PEL is listed as 0.05 mg/m<sup>3</sup>. Refer to 29 CFR 1910.1025 for additional information.
- The Cal/OSHA PEL is listed as 0.05 mg/m<sup>3</sup>. Refer to Section 5198 for additional information.

## **BENZENE:**

Benzene is an aromatic hydrocarbon that is produced by the burning of natural products. It is a component of products derived from coal and petroleum and is found in gasoline and other fuels. Benzene is used in the manufacture of plastics, detergents, pesticides, and other chemicals. Research has shown benzene to be a carcinogen (cancer-causing). With exposures from less than five years to more than 30 years, individuals have developed, and died from, leukemia. Long-term exposure may affect bone marrow and blood production. Short-term exposure to high levels of benzene can cause drowsiness, dizziness, unconsciousness, and death.

- The OSHA PEL is listed as 1ppm
- The Cal/OSHA PEL is listed as 1 ppm.

## **M-XYLENE:**

There are three forms of xylene in which the methyl groups vary on the benzene ring: meta-xylene, ortho-xylene, and para-xylene (m-, o-, and p-xylene). These different forms are referred to as isomers. Xylene is a colorless, sweet-smelling liquid that catches on fire easily. It occurs naturally in petroleum and coal tar. Chemical industries produce xylene from petroleum. It is one of the top 30 chemicals produced in the United States in terms of volume. Xylene is used as a solvent and in the printing, rubber, and leather industries. It is also used as a cleaning agent, a thinner for paint, and in paints and varnishes. It is found in small amounts in airplane fuel and gasoline.

- The OSHA PEL is listed as 100 ppm.
- The Cal/OSHA PEL is listed as 100 ppm.

## **METHYL & ETHYL MERCAPTANS:**

Methyl & Ethyl mercaptan is a colorless gas with a smell like rotten cabbage. It is a natural substance found in the blood, brain, and other tissues of people and animals. It is released from animal feces. It occurs naturally in certain foods, such as some nuts and cheese.

Methyl mercaptan is released from decaying organic matter in marshes and is present in the natural gas of certain regions in the United States, in coal tar, and in some crude oils.

It is manufactured for use in the plastics industry, in pesticides, and as a jet fuel additive. It is also released as a decay product of wood in pulp mills.

- The OSHA PEL is not available

## HYDROGEN SULFIDE:

Hydrogen sulfide is an extremely hazardous, toxic compound. It is a colorless, flammable gas that can be identified in relatively low concentrations, by a characteristic rotten egg odor. The gas occurs naturally in coal pits, sulfur springs, gas wells, and as a product of decaying sulfur-containing organic matter, particularly under low oxygen conditions. It is therefore commonly encountered in places such as sewers, sewage treatment plants (H<sub>2</sub>S is often called sewer gas), manure stockpiles, mines, hot springs, and the holds of fishing ships. Industrial sources of hydrogen sulfide include petroleum and natural gas extraction and refining, pulp and paper manufacturing, rayon textile production, leather tanning, chemical manufacturing and waste disposal.

- The OSHA PEL is listed as 10 ppm
- The Cal/OSHA PEL is listed as 10 ppm.

## DIMETHYL SULFIDE:

Dimethyl Sulfide is an odorous, colorless to pale clear liquid and is used as a food additive. It has a sulfurous and vegetative smell and is highly flammable, harmful if swallowed and irritating to the respiratory system and skin. Can cause serious damage if exposed to the eyes.

- The OSHA PEL is listed as 10 ppm
- The Cal/OSHA PEL is not available

## AMINES:

Methylamine, Dimethylamine and Trimethylamine are colorless flammable gases with a fish – ammonia-like odor. Amines are harmful if inhaled or come into contact with the skin and eyes.

Despite this foul reputation, the amines are essential to life as constituents of amino acids. They occur in drugs and vitamins, and are essential starting materials for many synthetic processes. The aromatic amine aniline is the basis for the synthesis of a whole class of synthetic dyes. Synthetic amines such as benzedrine have medical applications.

- The OSHA PEL is listed as 10 ppm

- The Cal/OSHA PEL is not available

**APPENDIX B  
WEI/WRT Forms**



# AIR MONITORING FORM

page \_\_\_\_\_ of \_\_\_\_\_

Date \_\_\_\_\_ Project No. \_\_\_\_\_

Project Name \_\_\_\_\_ Type of Activities \_\_\_\_\_

Type of PID/FID \_\_\_\_\_ Serial No. \_\_\_\_\_

Initial Calibration Reading \_\_\_\_\_ End-of-Use Calibration Check \_\_\_\_\_

Calibration Standard/Concentration \_\_\_\_\_

Mini-RAM Serial No. \_\_\_\_\_ Zeroed in Z-Bag?  Yes  No

Time	Activity/Location	PID/FID (ppm)	Mini-RAM (mg/m <sup>3</sup> )
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____

Name (print) \_\_\_\_\_ Signature \_\_\_\_\_

Client:	Site Name:	Trucking Company Contact:
Client Address:	Site Address:	Excavation Company Contact:
Client Contact:	Site Contact:	Drilling Co. Contact:

US EPA ARCHIVE DOCUMENT

# SITE SAFETY CHECKLIST

Project Name \_\_\_\_\_ Project No. \_\_\_\_\_

Project Activities \_\_\_\_\_

	YES	NO	N/A
<b><u>HASP Review/Meeting</u></b>			
Written Health and Safety Plan (HASP) is on site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Addenda to the HASP are documented on site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information in the HASP matches conditions and activities at the site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HASP has been read and signed by all site personnel, including visitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Daily tailgate safety meetings have been held and documented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>Emergency Procedures</u></b>			
Established emergency communication procedure (cell phone, nearest pay phone)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emergency and first aid equipment is on site as described in the HASP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accessible phone is readily available for emergency use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>Tools/Equipment</u></b>			
Air monitoring equipment has been calibrated daily	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drinking water is readily available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tools and equipment are in good working order	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Extension cords are grounded and protected from water and vehicle traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>Personal Protective Equipment/Medical</u></b>			
Site personnel have appropriate training and medical clearance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decontamination procedures are followed and match the requirements of the HASP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decontamination stations (including hand/face wash) are set up and used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal protective equipment used matches HASP requirements	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hearing protection used where appropriate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respirators are properly cleaned and stored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b><u>Work Zone</u></b>			
Site zones are set up and observed where appropriate (EZ, CRZ, and SZ)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air monitoring is performed and documented as described in the HASP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to the work area is limited to authorized personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Traffic control measures have been implemented (barricades/traffic cones)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overhead utilities do not present a hazard to field equipment/personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trenches and excavations are in compliance with federal, state, and local safety requirements before worker entry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spoils are placed no closer than 2 feet from the edge of an excavation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper drum and material handling techniques are used	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drums and waste containers are labeled appropriately	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

US EPA ARCHIVE DOCUMENT

# SITE SAFETY CHECKLIST

US EPA ARCHIVE DOCUMENT

**Subsurface Investigation**

**YES      NO      N/A**

- Have you reviewed the Pre-Planning Subsurface Investigation Safety Checklist?  YES  NO  N/A
- Have Utilities been marked out:
  - Pink: temporary survey marking  YES  NO  N/A
  - Yellow: natural gas, oil, steam  YES  NO  N/A
  - Orange: communication  YES  NO  N/A
  - Green: sewer  YES  NO  N/A
  - Blue: water  YES  NO  N/A
  - Red: electric  YES  NO  N/A
  - White: proposed boring locations  YES  NO  N/A
- Have you photographed site marking prior to subsurface investigation?  YES  NO  N/A
- Traffic control measures have been implemented (barricades/traffic cones)  YES  NO  N/A
- Overhead utilities do not present a hazard to field equipment/personnel (Stay at least 10 feet away from shielded lines and 20 feet away from unshielded power lines)  YES  NO  N/A
- Has drilling subcontractor verified that drill rig is safe to operate? (cable/rope, kill switches, gauges/levers, and safety devices are operational & in good condition)  YES  NO  N/A
- Does driller have enough supplies to complete anticipated activities?  YES  NO  N/A
- If in remote area, is XXX staff or drilling staff CPR/First Aid trained?  YES  NO  N/A
- If not, have emergency medical service arrangements been made?  YES  NO  N/A

**Recommended distance guidelines for field activities**

- Are you 5 feet away from non-natural gas utilities?  YES  NO  N/A
- Are you 10 feet away from natural gas lines?  YES  NO  N/A
- Are you at least 3 feet away from concrete/asphalt scars/joints or repaved areas?  YES  NO  N/A
- Are you 10 feet away from fiber optic line mark-outs?  YES  NO  N/A

Notes (All "no" answers must be addressed and corrected immediately. Note additional health and safety observations here): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Conducted By: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**DAILY TAILGATE SAFETY  
MEETING FORM**

Date \_\_\_\_\_ Time \_\_\_\_\_ XXX Project No. \_\_\_\_\_

Project Name \_\_\_\_\_ Specific Location \_\_\_\_\_

Type of Work \_\_\_\_\_

Chemicals Present \_\_\_\_\_

**SAFETY TOPICS DISCUSSED**

*Protective Clothing/Equipment* \_\_\_\_\_  
\_\_\_\_\_

*Hazards of Chemicals Present* \_\_\_\_\_  
\_\_\_\_\_

*Physical Hazards* \_\_\_\_\_  
\_\_\_\_\_

*Special Hazards* \_\_\_\_\_  
\_\_\_\_\_

*Other Topics* \_\_\_\_\_  
\_\_\_\_\_

**ATTENDEES**

*Name (please print)*

*Signature*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**US EPA ARCHIVE DOCUMENT**

## ACCIDENT REPORTING FORM

I am reporting a work related: <input type="checkbox"/> Injury <input type="checkbox"/> Illness <input type="checkbox"/> Near miss	
Your Name:	
Job title:	
Supervisor:	
Have you told your supervisor about this injury/near miss? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Date of injury/near miss:	Time of injury/near miss:
Names of witnesses (if any):	
Where, exactly, did it happen?	
What were you doing at the time?	
Describe step by step what led up to the injury/near miss. (continue on the back if necessary):	
What could have been done to prevent this injury/near miss?	
What parts of your body were injured? If a near miss, how could you have been hurt?	
Did you see a doctor about this injury/illness? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, whom did you see?	Doctor's phone number:
Date:	Time:
Has this part of your body been injured before? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, when?	Employer:
Your signature (optional):	Date:

### Hazard Assessment and Correction Record

Inspector:	Date:
Location or Work Area:	
<b>Unsafe Condition or Work Practice</b>	
Description:	
<b>Correction Action Taken</b>	
Description:	

Inspector:	Date:
Location or Work Area:	
<b>Unsafe Condition or Work Practice</b>	
Description:	
<b>Correction Action Taken</b>	
Description:	

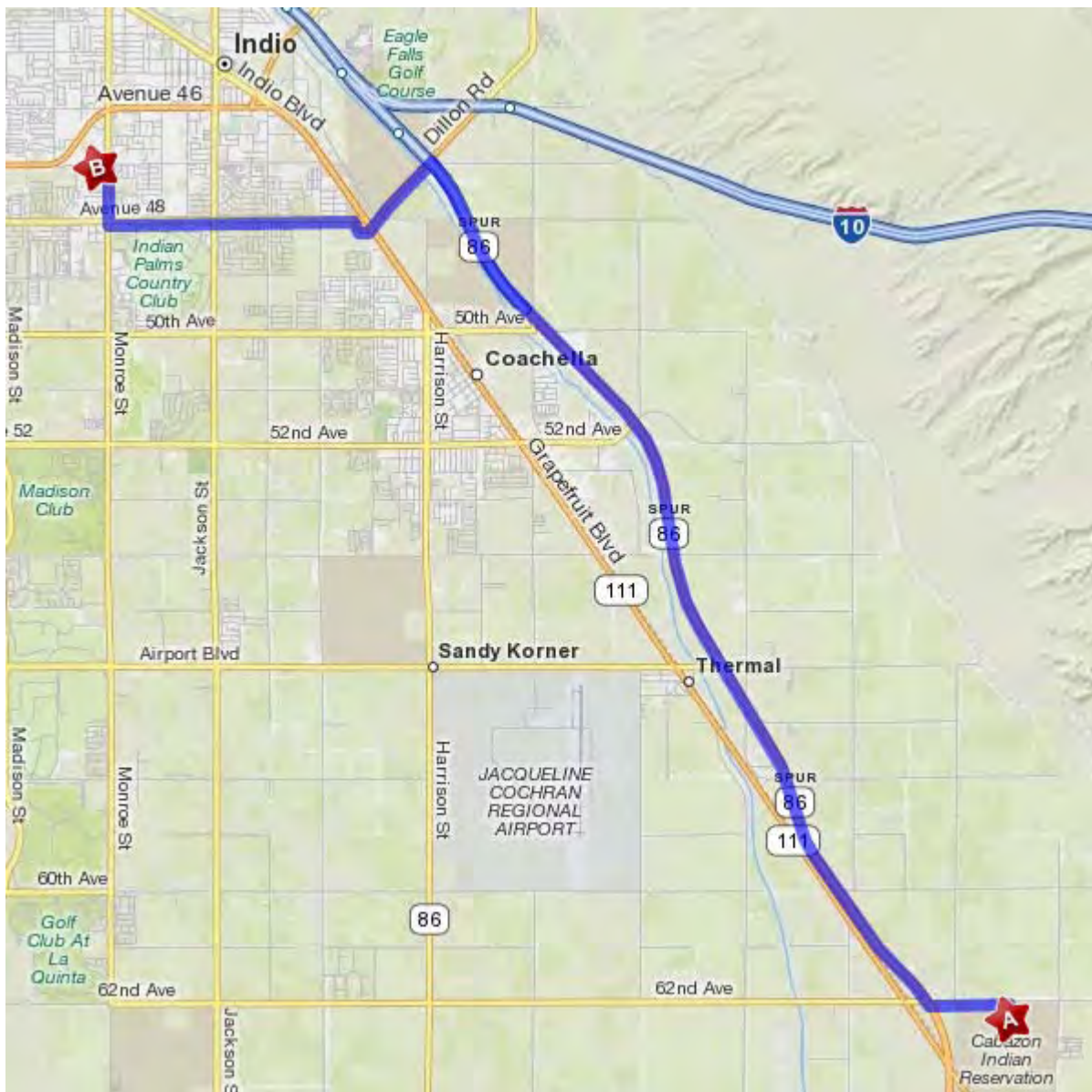
## WORKER TRAINING AND INSTRUCTION RECORD

Employee Name	Training Dates	Type of Training	Trainer(s)

**US EPA ARCHIVE DOCUMENT**



**APPENDIX C  
Hospital Route Map**





1. Start out going NORTH on GENE WELMAS WAY toward 62ND AVE.



2. Turn LEFT onto 62ND AVE.



3. Turn RIGHT onto CA-86-SPUR N.



4. Take the DILLON RD exit toward I-10 E.



5. Turn LEFT onto DILLON RD.



6. Turn LEFT onto AVENUE 48.



7. Turn RIGHT onto MONROE ST.



8. Turn LEFT onto DOCTOR CARREON BLVD.



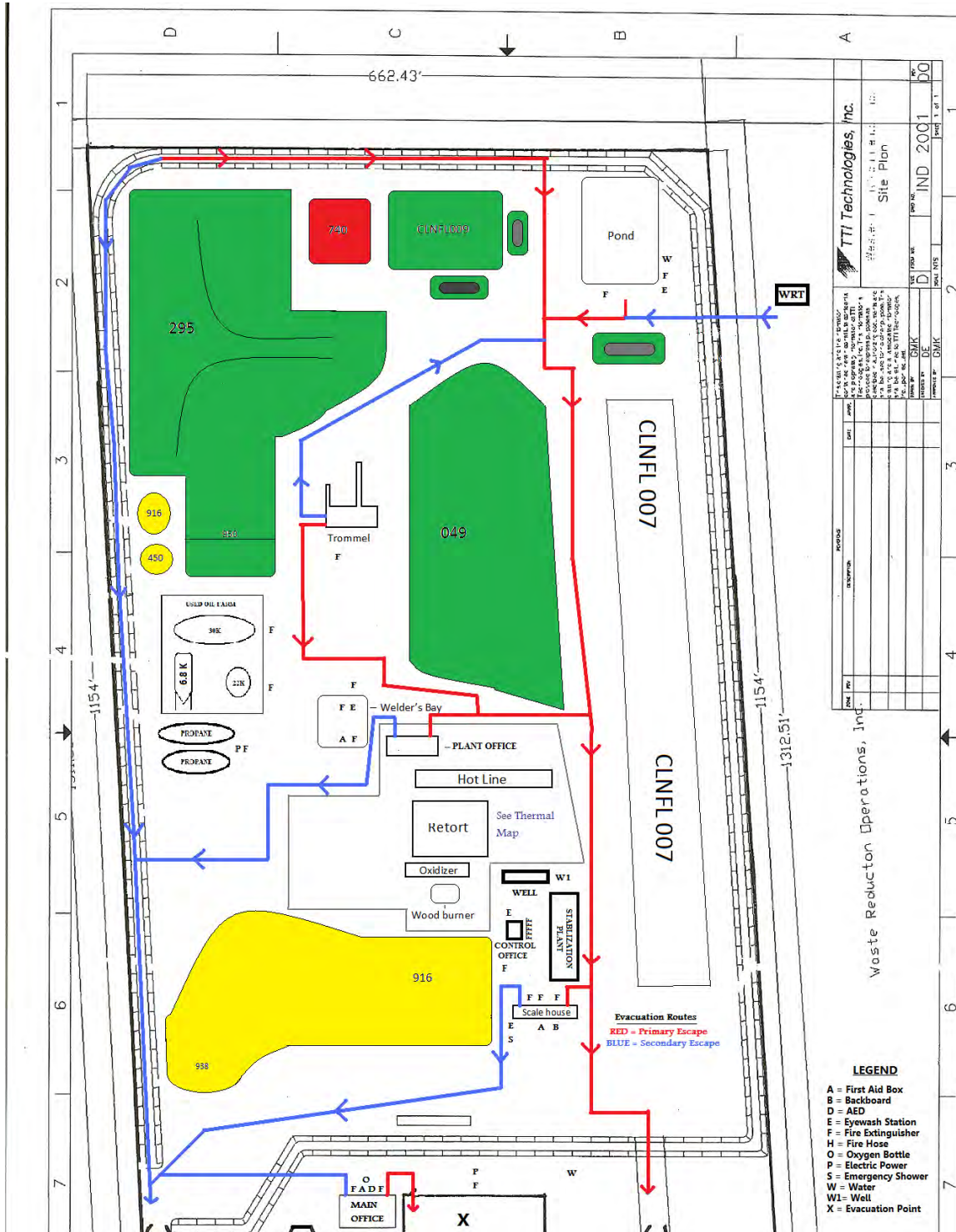
9. 81863 DOCTOR CARREON BLVD is on the LEFT.



**81863 Doctor Carreon Blvd** [Edit](#)

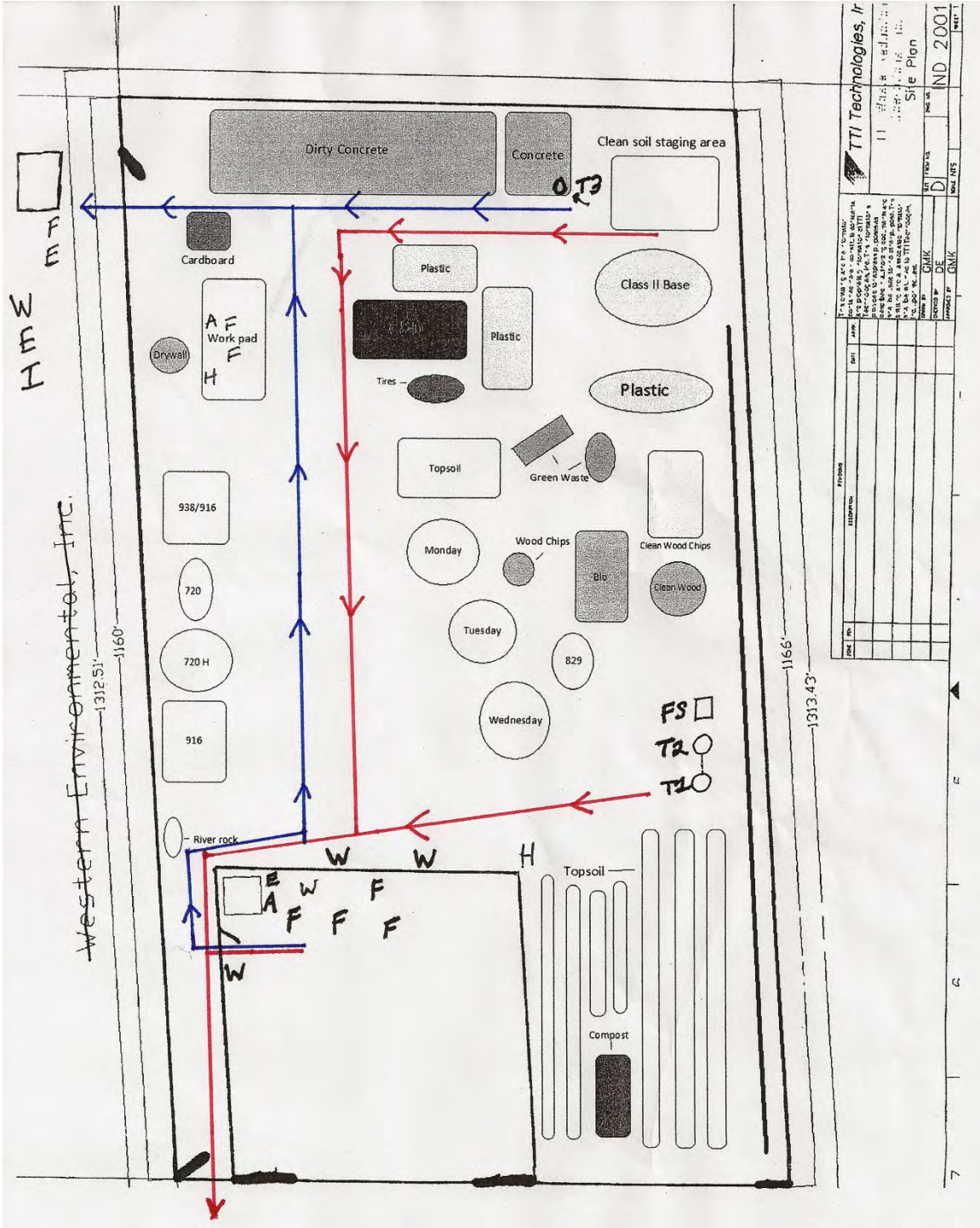
Indio, CA 92201-0603

**APPENDIX D**  
**Site Diagrams**



HASP Western Environmental, Inc. and Waste Reduction Technologies, LLC





## WEI Map Legend

- “A” Represents First Aid Box
  - “B” Represents Backboard w/ Neck Brace
  - “D” Represents Automated External Defibrillator
  - “E” Represents Eyewash Station
  - “F” Represents Fire Extinguishers
  - “H” Represents Fire Hoses on Station
  - “O” Represents Oxygen Bottle for Medical Use
  - “P” Represents Electric Power Station
  - “S” Represents Emergency Shower
  - “T” Represents Therm-O-Gel 5 Gallon Foam Concentrate
  - “W1” Represents Water well for filling Fire Water Vehicles
  - “W” Represents Additional Water Sources
  - “X” Represents Designated Evacuation Area for Employees
- Red Line** with Arrows represents Primary Route for Evacuation  
to Gene Welmas Drive
- Blue Line** with Arrows represents Secondary Route for Evacuation  
to Gene Welmas Drive



**TABLE 1**  
**Odor Screening Protocol**